

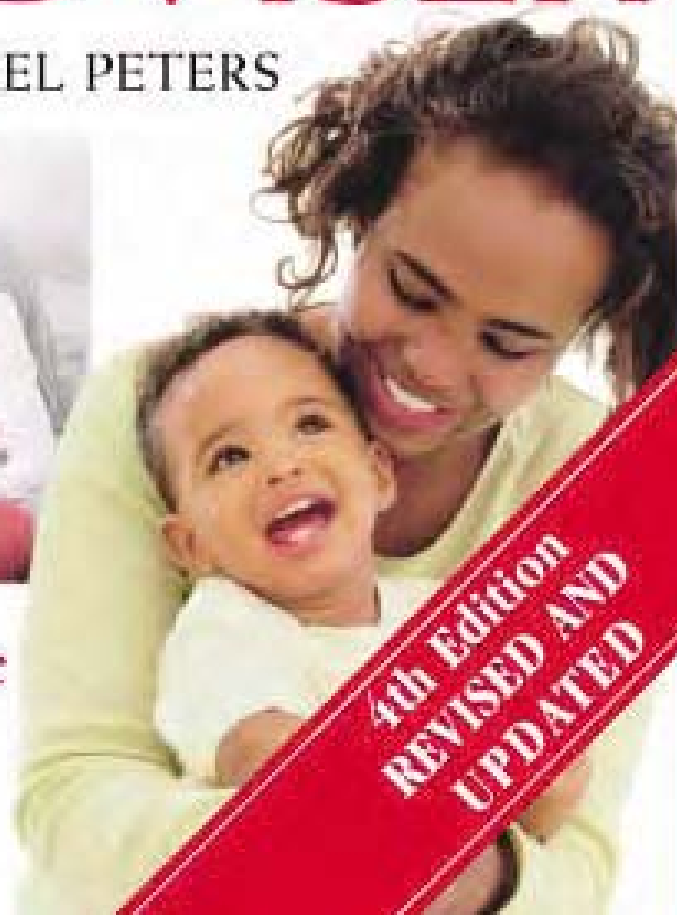
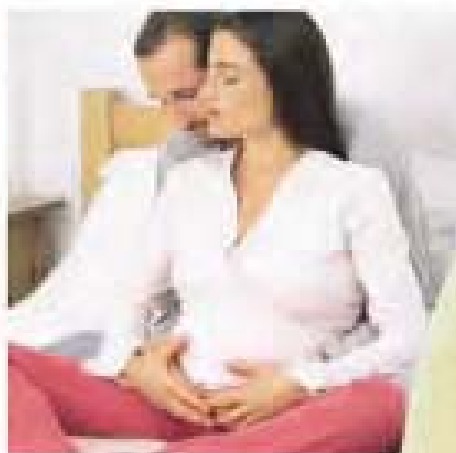


The British **BMA** 

Medical Association

# FAMILY DOCTOR HOME ADVISER

BMA Consulting Medical Editor DR MICHAEL PETERS



The practical **quick-reference**  
guide to symptoms and  
how to deal with them

4th Edition  
REVISED AND  
UPDATED



The British  
Medical Association

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NEW FAMILY  
DOCTOR  
HOME ADVISER

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The British  
Medical Association

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NEW FAMILY  
DOCTOR  
HOME ADVISER

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Medical Editors  
DR TONY SMITH & DR SUE DAVIDSON



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# FOREWORD

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Attitudes to illness have changed enormously in recent years. People now expect that treatment of even the most serious disorders is likely to be successful. In general, people are more knowledgeable about health. When they or their children become ill, they want to know the likely cause of their symptoms and how quickly they may expect to get better.

At the same time, we are now more self-reliant. Most of us realize that the majority of common, minor illnesses such as a cold or an attack of diarrhoea do not need expert medical assessment or complex drug treatments. These disorders are self-limiting – we can expect to get better, even if no treatment is given.

The problem for people without medical training is that some symptoms such as a headache or a cough may be the first warning of a serious illness. Few events can be more alarming or make a parent feel more helpless than the sudden illness of a child – especially in children too young to describe their symptoms clearly. For how long does a sensible person deal with the problem at home? When should you call your doctor or talk to an information service such as NHS Direct? And when do you need to make an urgent visit to the hospital's accident and emergency department?

Following the easy-to-read charts in this book will help you to tell the difference between minor problems and conditions that need immediate medical attention. No book can teach you how to make a medical diagnosis, and this is not a guide to being your own doctor. What it does do, however, is to tell you when and for how long you may safely wait for things to get better naturally. It gives practical advice on the use of home remedies and over-the-counter drugs and so encourages self-reliance when that makes sense. If you do need to see a doctor, the charts tell you whether you need emergency help, an urgent appointment, an appointment within 24 hours, or just a routine one. This book will give you the information you need to make the best use of your doctor.

The charts in this book have been developed by doctors and reviewed by medical experts. We hope that this book will make an important contribution to giving people more control over their own health.

The image shows two handwritten signatures in black ink. The first signature, on the left, is 'Tony Smith' with a long horizontal line extending from the end of the name. The second signature, on the right, is 'Sue Davidson'.

DR TONY SMITH & DR SUE DAVIDSON  
MEDICAL EDITORS

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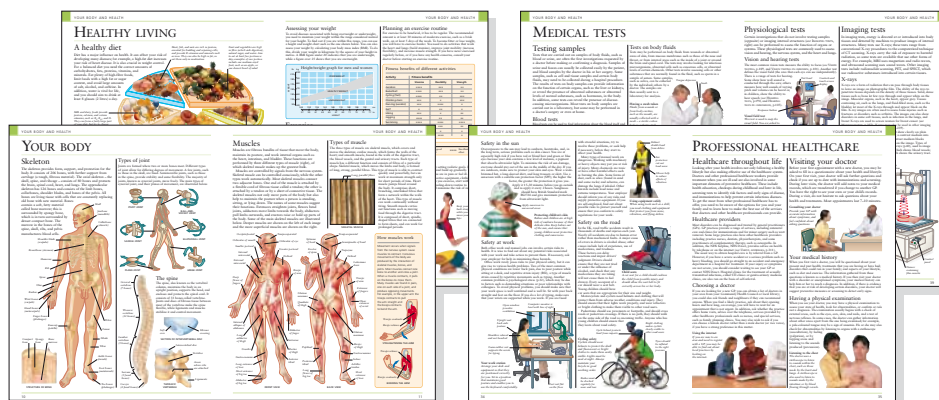
# HOW TO USE THIS BOOK

The major part of this book consists of 150 question-and-answer symptom charts, which help you determine the possible cause of a symptom and what to do. Background information on how the body works and how to keep it

healthy precedes the charts, and, after them, you can find information on dealing with major emergencies. The book concludes with useful information on drugs and how to contact support groups or find further health information.

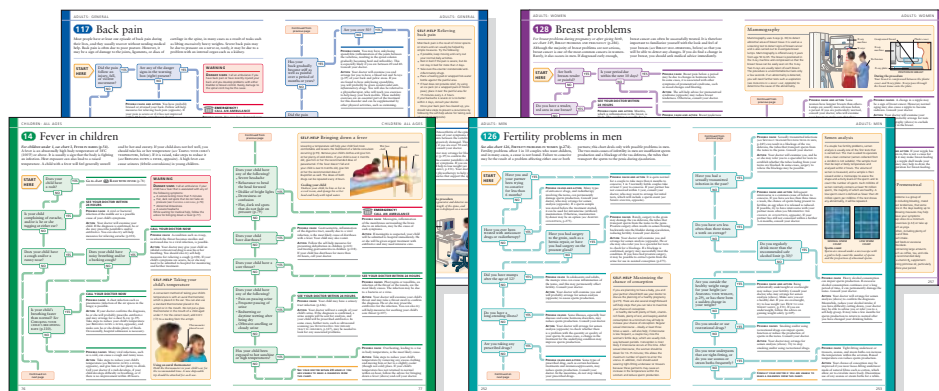
## Your body and health

You will find general information about the body and health in this highly illustrated section, which is divided into four parts. Your Body shows how major body systems function, and also covers pregnancy, birth, and child development. In Healthy Living, you can find out how to stay healthy and minimize the risks of common disorders. What to expect when you see your doctor and other healthcare professionals is covered in Professional Healthcare. Finally, Medical Tests covers procedures that doctors may use to diagnose and assess disorders.



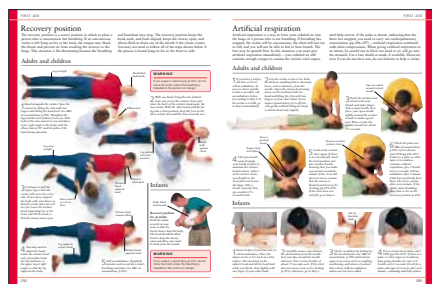
## Symptom charts

The Symptom Charts are grouped according to age and/or sex – there are charts for children of different ages, charts for all adults, and charts specifically for men and women. The charts help you find a possible cause of many symptoms that may affect you or your child and tell you what steps you should take, whether it involves professional help or self-help. At the start of the charts section, there are detailed instructions on how to use the charts, along with two types of “chartfinder” to help you find the most appropriate chart for a particular symptom.



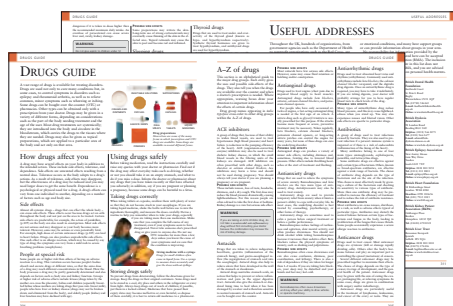
## First aid

Here you will find step-by-step instructions for dealing with major emergencies, ranging from giving artificial respiration to someone who has stopped breathing to how to staunch severe bleeding. Techniques are described for treating babies, children, and adults. To help you find the first-aid information quickly, all the pages in this section have a red bar running down the edge.



## Drugs guide and useful addresses

The Drugs Guide tells you how drugs work and how to use them safely and includes concise profiles of over 35 major drug groups, including their main side effects. Useful Addresses provides addresses, telephone numbers, and online sites of support groups for different conditions and sources for additional health information.



## Finding information

You can find the information that you need from this book in several ways:

**CONTENTS LISTS** The comprehensive contents (pp.6–7) lists every symptom chart as well as the main headings in the other sections of the book. In addition, at the start of each group of charts, there is a contents list of the charts in that group.

**CHARTFINDERS** The system-by-system chartfinder (pp.46–47) groups the charts by body system or process, and the symptom-by-symptom chartfinder (p.48) alphabetically lists all the symptoms and can direct you to the appropriate chart.

**CROSS-REFERENCES** Throughout the book, there are cross-references to take you to pages with further information.

**INDEX** If you still cannot find what you need, the index (pp.314–319) covers every subject within the book.

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# YOUR BODY & HEALTH

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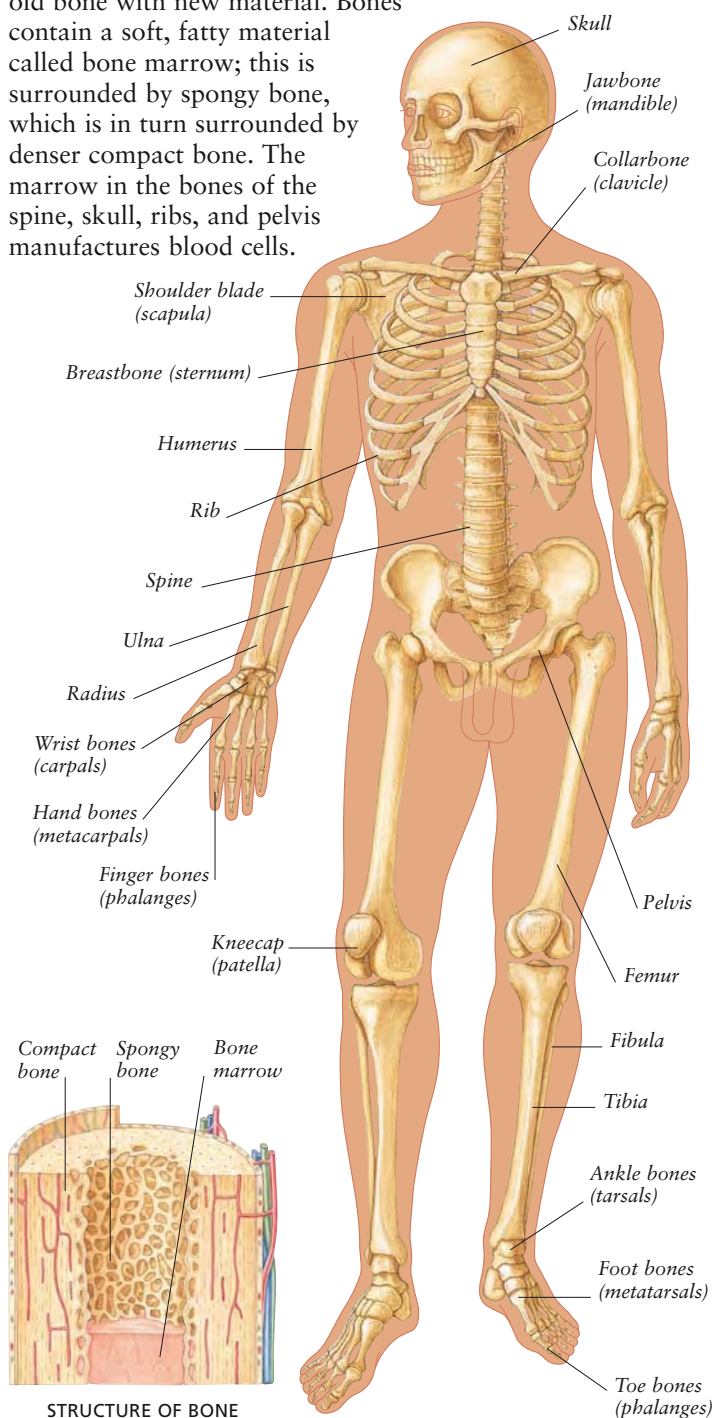
Understanding how your body works and how to look after yourself are essential if you want to stay healthy. This section starts by explaining the structure and function of the major body systems. It then looks at how you can modify your lifestyle to prevent health problems from developing. The final parts of the section describe how you can make the best use of the help that health professionals offer and how medical problems are investigated should they occur.



# YOUR BODY

## Skeleton

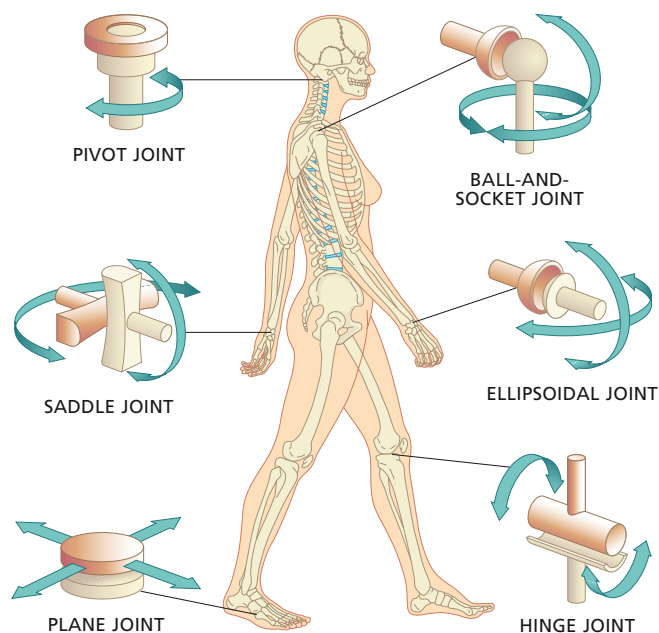
The skeleton provides form, support, and protection for the body. It consists of 206 bones, with further support from cartilage (a tough, fibrous material). The axial skeleton – the skull, spine, and ribcage – consists of 80 bones and protects the brain, spinal cord, heart, and lungs. The appendicular skeleton has 126 bones and consists of the limb bones, collarbones, shoulder blades, and bones of the pelvis. All bones are living tissue with cells that are constantly replacing old bone with new material. Bones contain a soft, fatty material called bone marrow; this is surrounded by spongy bone, which is in turn surrounded by denser compact bone. The marrow in the bones of the spine, skull, ribs, and pelvis manufactures blood cells.



STRUCTURE OF BONE

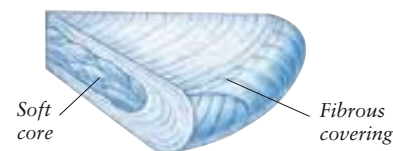
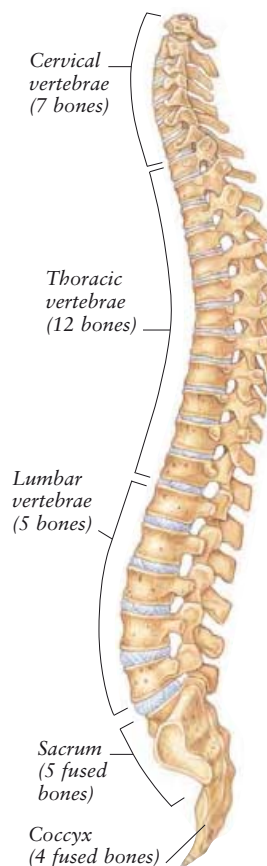
## Types of joint

Joints are formed where two or more bones meet. Different types of joint allow for differing degrees of movement. A few joints, such as those in the skull, are fixed. Semimovable joints, such as those in the spine, provide stability and some flexibility. The majority of joints, known as synovial joints, move freely. The main types of synovial joint, and their planes of movement, are illustrated below.

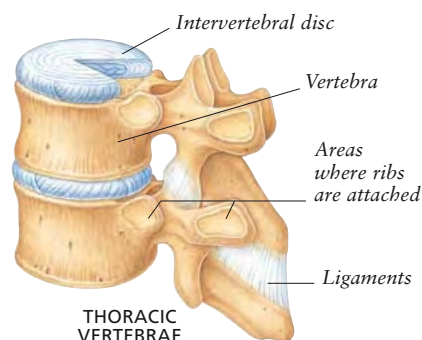


## The spine

The spine, also known as the vertebral column, maintains the body in an upright position, supports the head, and encloses and protects the spinal cord. It consists of 33 bones called vertebrae. Joints and discs of fibrous tissue between most of the vertebrae make the spine flexible, while ligaments and muscles stabilize it and control movement.



SECTION OF INTERVERTEBRAL DISC



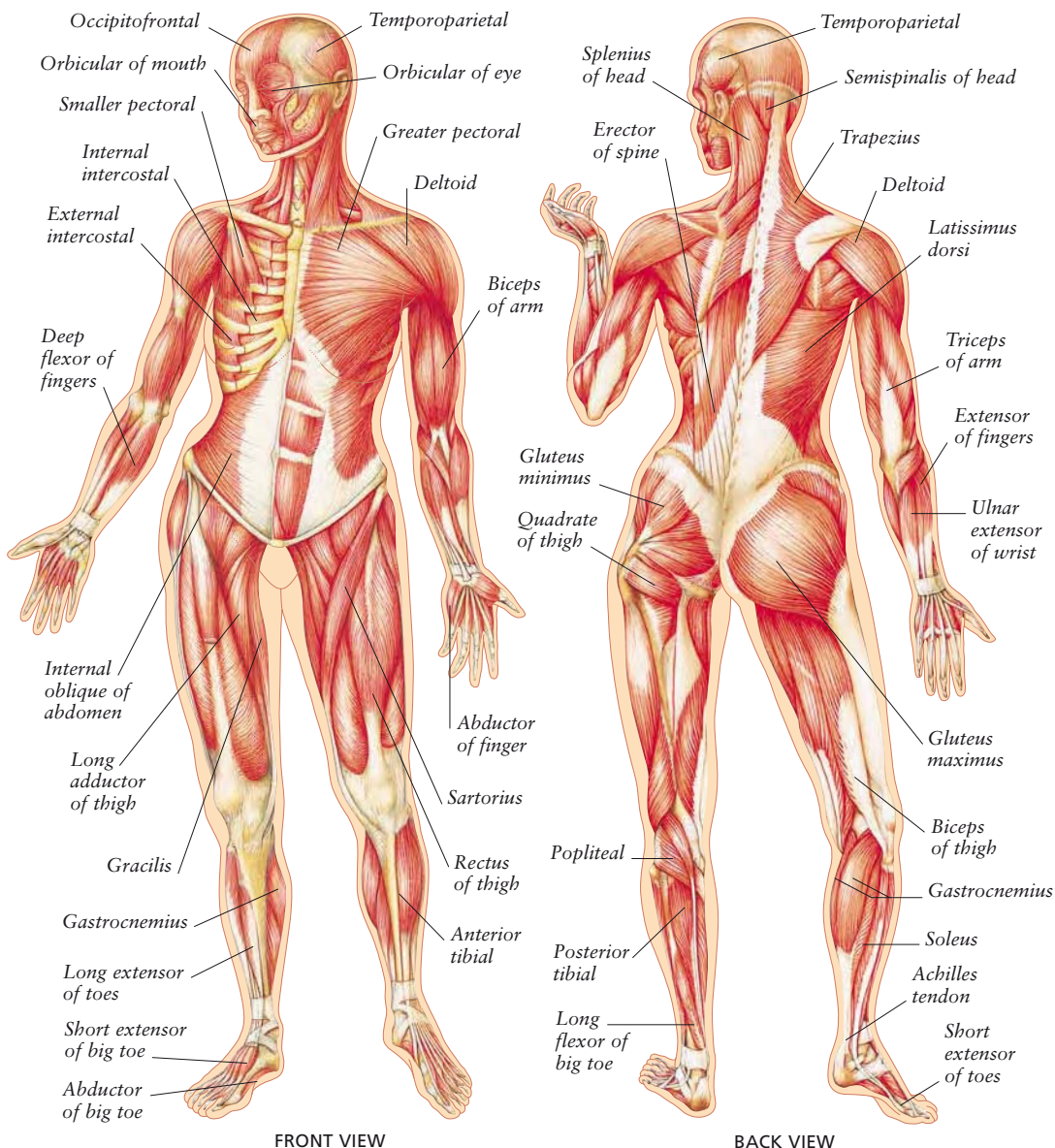
THORACIC VERTEBRAE



# Muscles

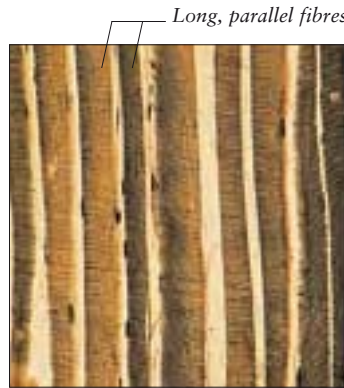
Muscles are fibrous bundles of tissue that move the body, maintain its posture, and work internal organs such as the heart, intestines, and bladder. These functions are performed by three different types of muscle (right), of which skeletal muscle makes up the greatest bulk.

Muscles are controlled by signals from the nervous system. Skeletal muscle can be controlled consciously, while the other types work automatically. Most skeletal muscles connect two adjacent bones. One end of the muscle is attached by a flexible cord of fibrous tissue called a tendon; the other is attached by a tendon or by a sheet of connective tissue. The skeletal muscles not only move parts of the body but also help to maintain the posture when a person is standing, sitting, or lying down. The names of some muscles suggest their functions. Extensors straighten joints, flexors bend joints, adductors move limbs towards the body, abductors pull limbs outwards, and erectors raise or hold up parts of the body. Some of the main skeletal muscles are illustrated below. Deeper muscles are shown on the left of each image and the more superficial muscles are shown on the right.



## Types of muscle

The three types of muscle are skeletal muscle, which covers and moves the skeleton; cardiac muscle, which forms the walls of the heart; and smooth muscle, found in the walls of the digestive tract, the blood vessels, and the genital and urinary tracts. Each type of muscle has a different function and consists of fibres of a particular shape. Skeletal muscle, which moves the limbs and body, is formed of long, strong, parallel fibres. This type of muscle is able to contract

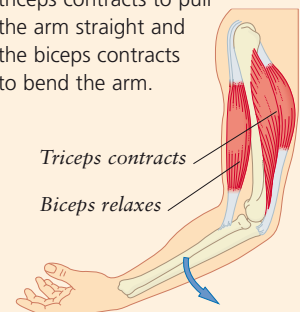


SKELETAL MUSCLE

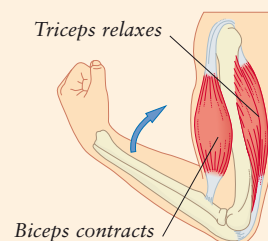
quickly and powerfully, but can work at maximum strength only for short periods of time. Heart muscle pumps blood around the body. It comprises short, branching, interlinked fibres that form a network within the walls of the heart. This type of muscle can work continually without tiring. Smooth muscle carries out functions such as moving food through the digestive tract. It is composed of short, spindle-shaped fibres that are connected to form sheets, and can work for prolonged periods.

## How muscles work

Movement occurs when signals from the nervous system cause muscles to contract. Conscious movements of the body are produced by the interaction of skeletal muscles, bones, and joints. Most muscles connect one bone to another and cross a joint. When a muscle contracts, it pulls on the bones to move them. Many muscles are found in pairs, one on each side of a joint, and produce opposing movements. For example, in the upper arm the triceps contracts to pull the arm straight and the biceps contracts to bend the arm.



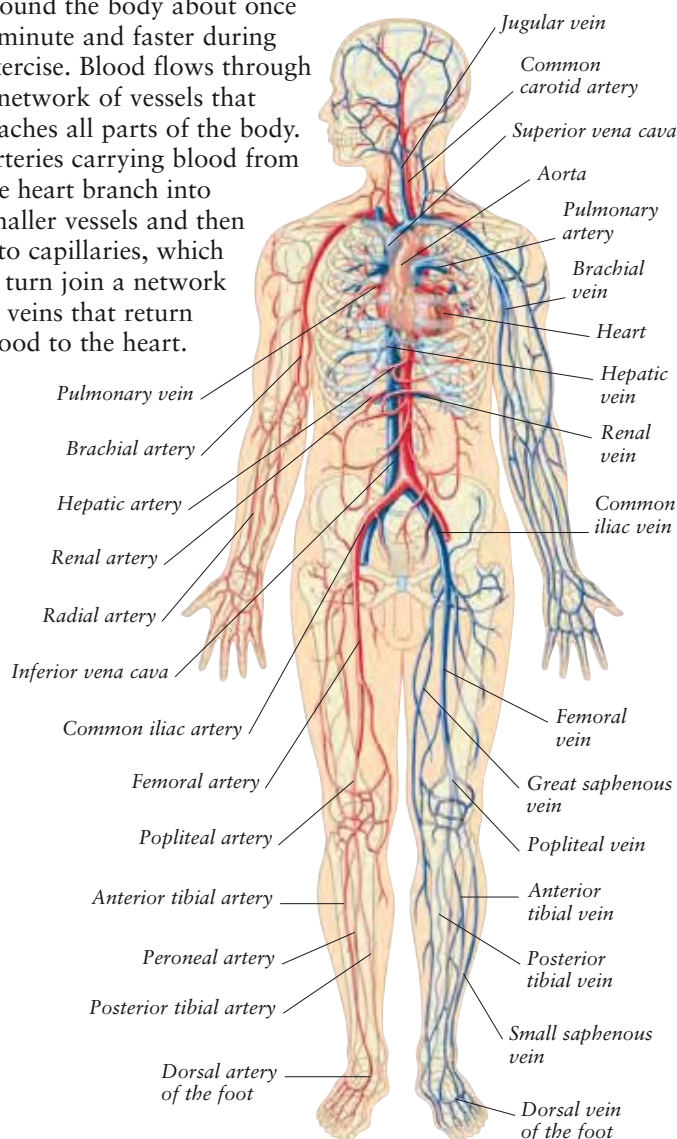
STRAIGHTENING THE ARM



BENDING THE ARM

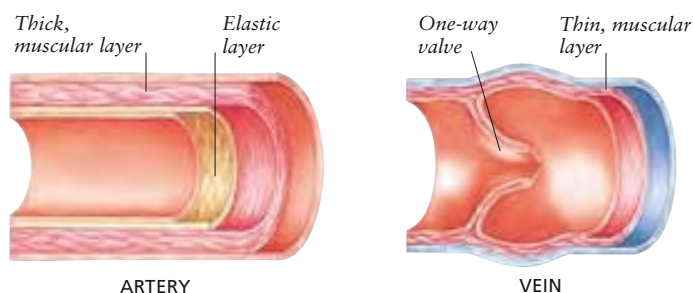
# Cardiovascular system

The cardiovascular system transports blood around the body, taking oxygen and nutrients to body tissues and removing waste products. The heart is a hollow, muscular organ that pumps all the body's blood – roughly 5 litres (9 pints) – around the body about once a minute and faster during exercise. Blood flows through a network of vessels that reaches all parts of the body. Arteries carrying blood from the heart branch into smaller vessels and then into capillaries, which in turn join a network of veins that return blood to the heart.



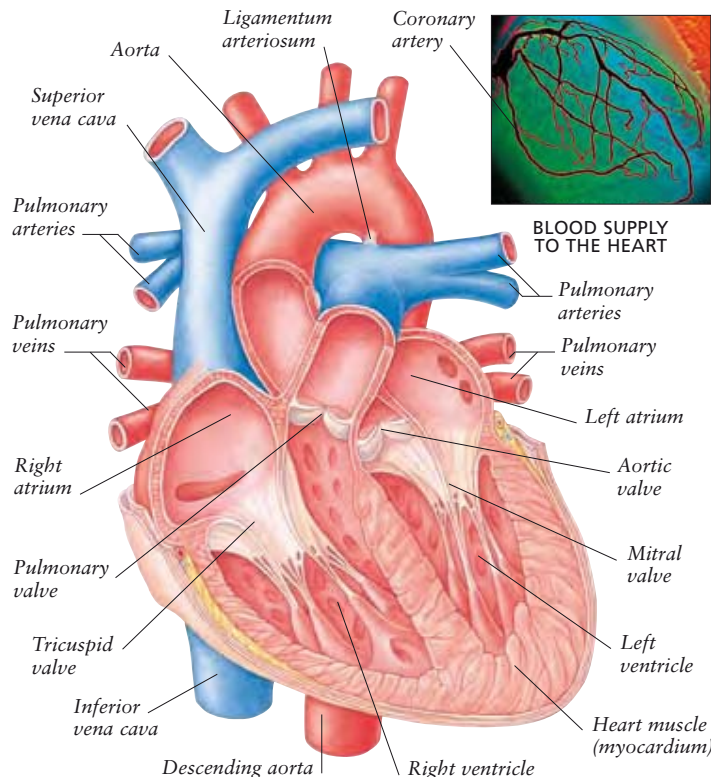
## Arteries and veins

Arteries have thick, muscular, elastic walls to withstand the high pressure of blood pumped out of the heart. Veins return blood to the heart. They have thinner walls that stretch easily, allowing them to expand and hold large volumes of blood when the body is at rest. The linings of many large veins have folds that act as one-way valves to stop blood from flowing the wrong way.



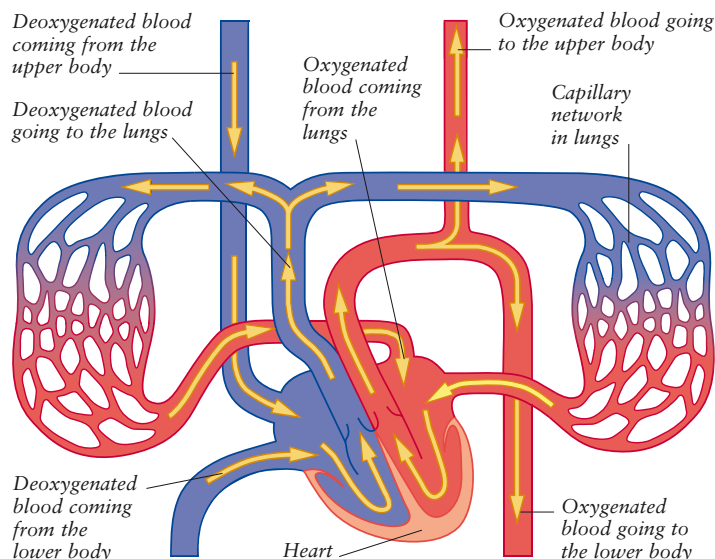
## Structure of the heart

The heart is a double pump consisting mainly of muscle called myocardium. On each side, blood flows through veins into an upper chamber (atrium), then passes into a lower chamber (ventricle), which pumps the blood into the arteries. Blood flow through the chambers is controlled by one-way valves. The right side of the heart pumps blood into the pulmonary arteries and so to the lungs, and the left side pumps blood into the aorta and around the body.



## Blood circulation

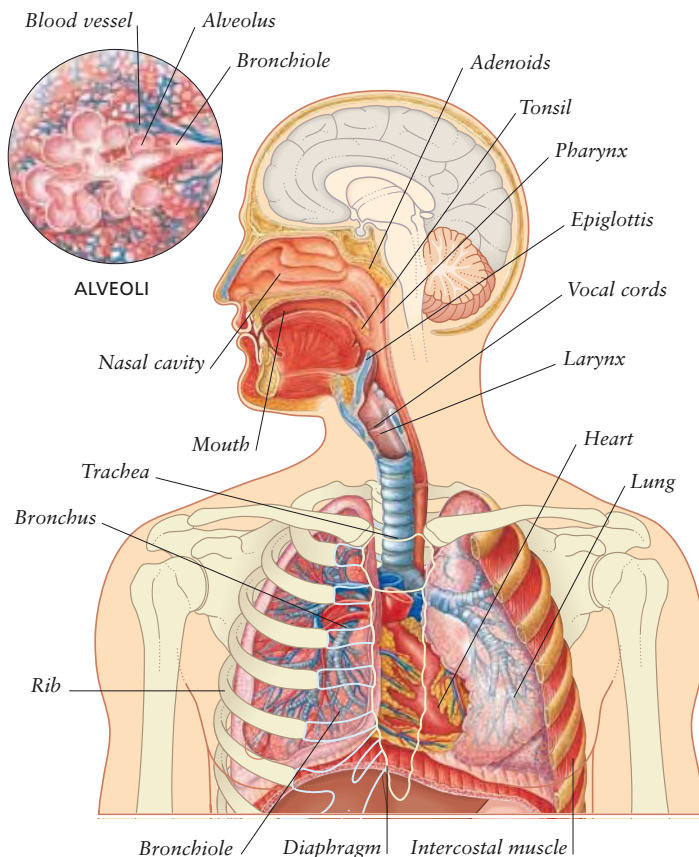
The heart pumps blood into two linked circuits: the pulmonary and the systemic. The pulmonary circuit takes deoxygenated blood to the lungs, where it absorbs oxygen and releases carbon dioxide (a waste gas) through a network of capillaries; the oxygenated blood is then returned to the heart. The systemic circuit takes oxygenated blood to body tissues, where it releases oxygen and nutrients through capillary walls; carbon dioxide and other wastes pass from the tissues into the blood, and the deoxygenated blood is returned to the heart.





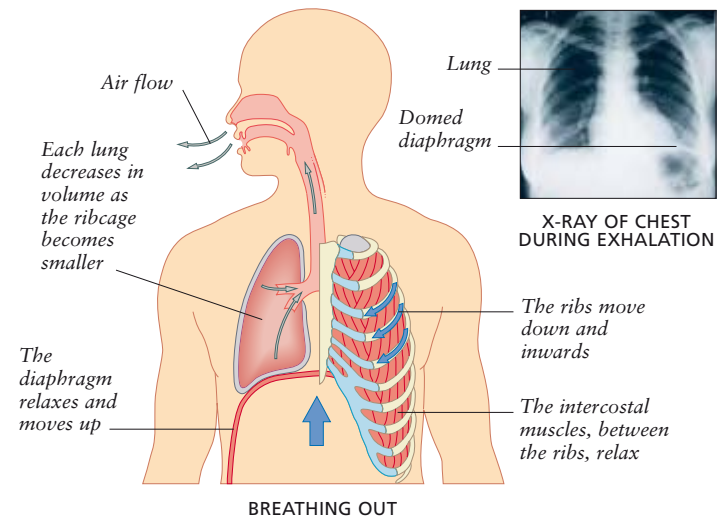
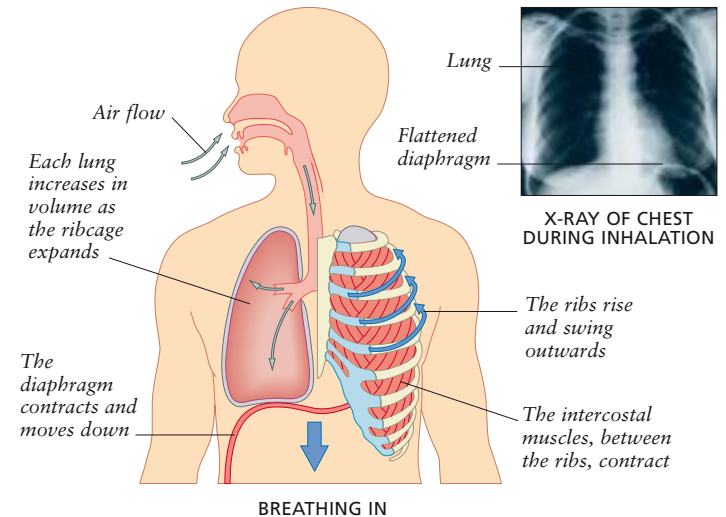
# Respiratory system

Respiration is the process by which the body obtains oxygen, which it uses to produce energy, and expels carbon dioxide, the main waste product. Air breathed in through the nose or mouth passes down the trachea (windpipe) into the bronchi (lower airways), then into bronchioles (smaller airways) in the lungs. The bronchioles end in sacs called alveoli, which are surrounded by blood vessels. Here, oxygen passes into the blood and carbon dioxide enters the lungs to be breathed out. Breathing is powered by the diaphragm (a muscle) and the intercostal muscles. The respiratory system also includes the pharynx (throat), larynx (voicebox), and epiglottis. The tonsils and the adenoids in the pharynx help to fight infection. The larynx contains the vocal cords, which vibrate to produce sounds. The epiglottis seals the trachea during swallowing.



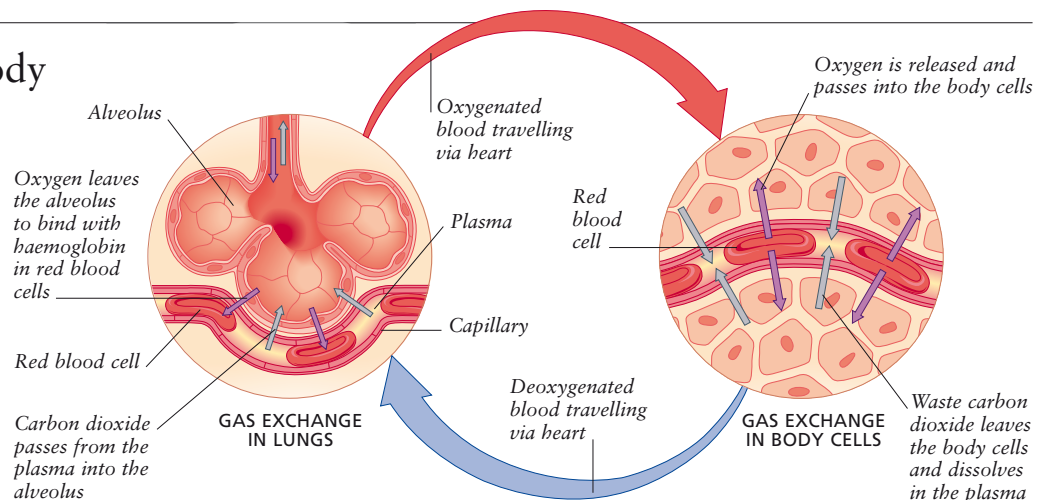
## How breathing works

Breathing is the act by which the body takes in and expels air. The flow of air in and out of the body occurs because air moves from areas of high pressure to areas of low pressure. To breathe in (inhale), the diaphragm and the muscles between the ribs contract, causing the chest to enlarge. As a result the air pressure in the lungs decreases so that it is lower than the atmospheric pressure, and air is drawn into the lungs. To breathe out (exhale), the muscles relax, decreasing the volume of the lungs. The air pressure in the lungs becomes higher than that in the atmosphere, causing air to leave the body.



## Gas exchange in the body

The body's tissues constantly take up oxygen from the blood and release carbon dioxide back into the blood. Oxygen is breathed into the lungs, and passes from the alveoli (tiny sacs) into blood vessels called capillaries, where it binds to a substance called haemoglobin in the red blood cells. At the same time, carbon dioxide passes from the blood plasma (the fluid part of the blood) into the alveoli to be breathed out. In the capillaries in tissues, the red blood cells release oxygen, while carbon dioxide is absorbed into the plasma.

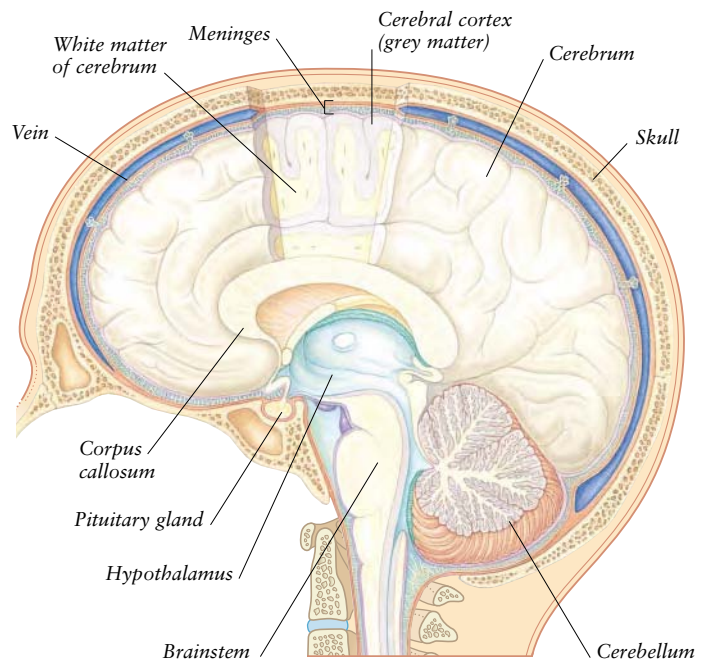


# Nervous system

The nervous system gathers, analyses, stores, and transmits information. It controls vital body functions and interacts with the outside world. There are two parts: the central nervous system, which comprises the brain and spinal cord, and the peripheral nervous system, which is made up of nerves that branch from the brain and spinal cord to all areas of the body. Signals, in the form of tiny electrical impulses, are transmitted through the nervous system from the brain to the rest of the body and vice versa. The brain controls almost all activities – both conscious activities, such as movement, and unconscious functions, such as maintaining body temperature. It also receives information from the nerves about the environment and the condition of other parts of the body. For example, the nerves leading from the eyes register visual information and nerves beneath the surface of the skin transmit sensations such as pain. In addition, the brain is capable of complex processes such as learning, memory, thought, and emotion, and can instruct the body to act on the basis of these processes.

## Structure and function of the brain

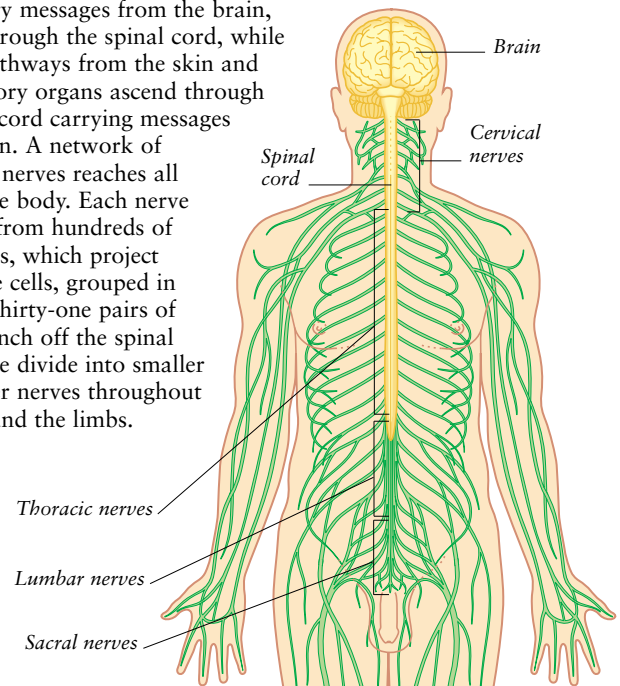
The brain is the most complex organ in the body. It has more than 100 billion nerve cells and billions of pathways. The largest part of the brain is the cerebrum. It is divided into two halves (hemispheres), which are connected by a bundle of nerve fibres called the corpus callosum. The outer layer (cerebral cortex) consists of tissue called grey matter, which generates and processes nerve signals. The inner layer consists of white matter, which transmits the signals. The cerebrum controls conscious thought and movement and interprets sensory information; different parts govern specific activities such as speech and vision. A structure at the base of the brain called the cerebellum controls balance, coordination, and posture. The brain is connected to the spinal cord by the brainstem, which controls vital functions such as respiration. Just above the brainstem is the hypothalamus, which links the nervous system and the endocrine system and helps to regulate body temperature, sleep, and sexual behaviour. The brain is protected by the skull and by membranes called meninges. Clear cerebrospinal fluid cushions the brain and spinal cord from injury.



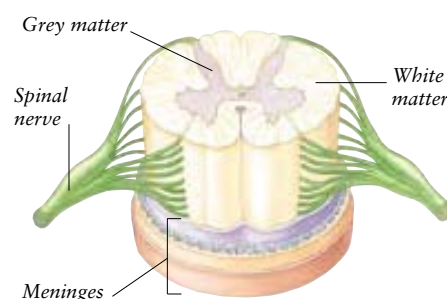
CROSS SECTION OF THE BRAIN

## Organization of the nervous system

The central nervous system, comprising the brain and spinal cord, processes and coordinates nerve signals. The spinal cord forms the link between the brain and the rest of the body. Motor pathways, which carry messages from the brain, descend through the spinal cord, while sensory pathways from the skin and other sensory organs ascend through the spinal cord carrying messages to the brain. A network of peripheral nerves reaches all parts of the body. Each nerve is formed from hundreds of nerve fibres, which project from nerve cells, grouped in bundles. Thirty-one pairs of nerves branch off the spinal cord. These divide into smaller and smaller nerves throughout the torso and the limbs.

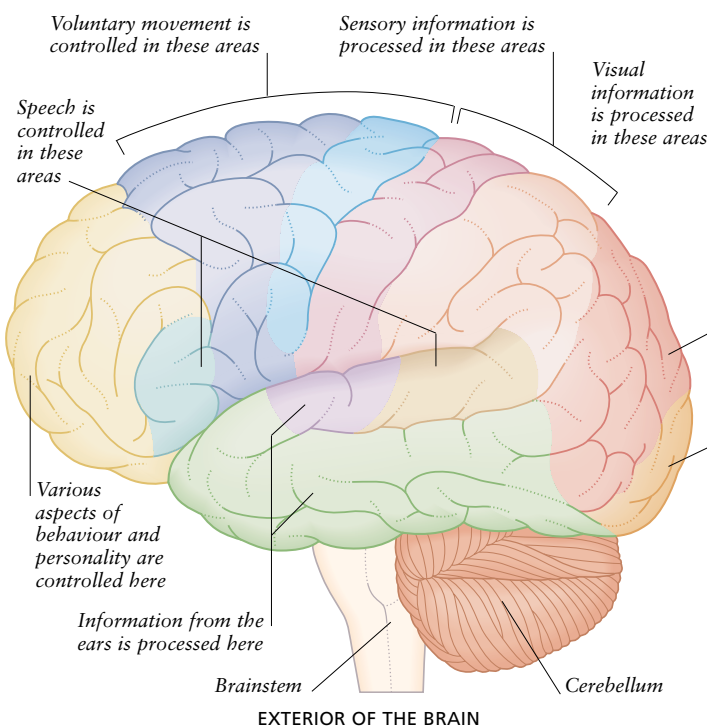


MAJOR SPINAL NERVES



### Structure of the spinal cord

The spinal cord is made up of grey matter, which contains nerve cells and supporting cells, and white matter, which contains nerve fibres. The cord is enclosed by protective membranes called meninges.



EXTERIOR OF THE BRAIN

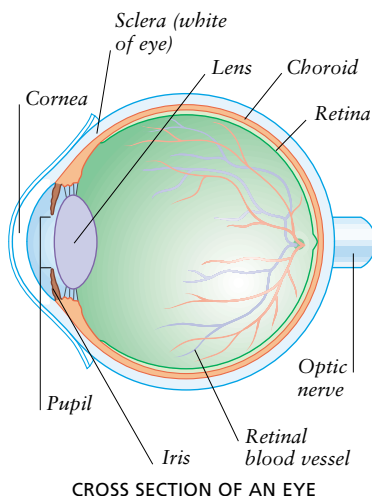


# The senses

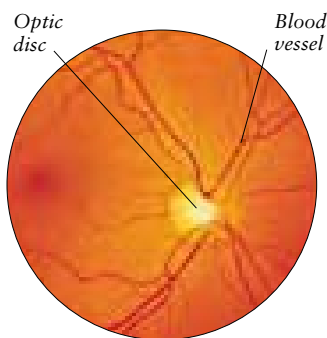
Our senses enable us to monitor all aspects of our environment. The eyes provide visual information; the ears detect sound and also aid balance; the nose and tongue respond to different smells and tastes respectively; and the sensory nerves in the skin allow us to feel physical contact (touch), changes in temperature, and pain. In each case, information about the environment detected by the sense organs is transmitted by nerves to the brain, where it is then analysed.

## Vision

The organs of vision are the eyes. Light rays entering each eye are focused by the cornea and the lens so that they fall on the retina, producing an upside-down image on it. Cells in the retina convert this image into electrical impulses that pass along the optic nerve to the brain, where they are decoded to create vision. The iris alters the size of the pupil to control the amount of light reaching the retina. Blood vessels in the retina and a layer called the choroid supply the eye with nutrients.



CROSS SECTION OF AN EYE



### View of the retina

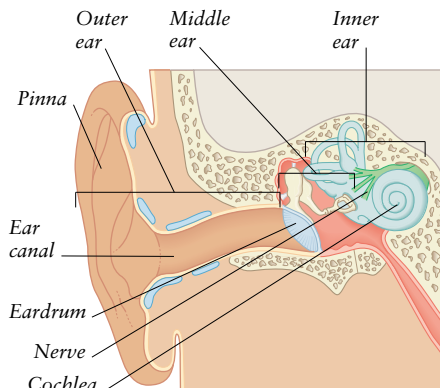
The cells in the retina register colour and light intensity. At the back of the retina is the optic disc, where nerve fibres converge to form the optic nerve and where blood vessels enter the eye. The disc contains no light-sensitive cells and is called the "blind spot". This photograph was taken through an ophthalmoscope, which magnifies and illuminates the inside of the eye.

## Hearing and balance

The ear is concerned not only with hearing but also with balance. It has outer, middle, and inner parts. The outer ear directs sound waves to the eardrum, causing it to vibrate. The bones of the middle ear transmit these vibrations to the inner ear, where they are converted into electrical signals. The signals pass along nerve cells to the brain, where they are analysed. The inner ear also contains structures that aid balance by detecting the position and movements of the head, allowing us to stay upright and move without falling over.

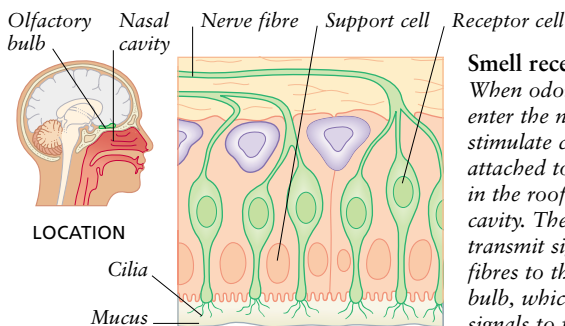
### Structure of the ear

The outer ear comprises the pinna (the visible part) and the ear canal, which leads to the eardrum. The middle ear contains three tiny bones that connect the eardrum to a membrane separating the middle and inner ears. The inner ear houses the cochlea, which contains the sensory receptor for hearing, and structures that regulate balance.



## Smell

Smells are detected by specialized receptor cells in the roof of the nasal cavity. These receptor cells detect odour molecules in the air and convert the information into tiny electrical impulses. These impulses are transmitted along the olfactory nerve to the olfactory bulb (the end of the olfactory nerve) and then to the brain, where they are analysed. The human sense of smell is highly sensitive, allowing us to detect more than 10,000 different odours.

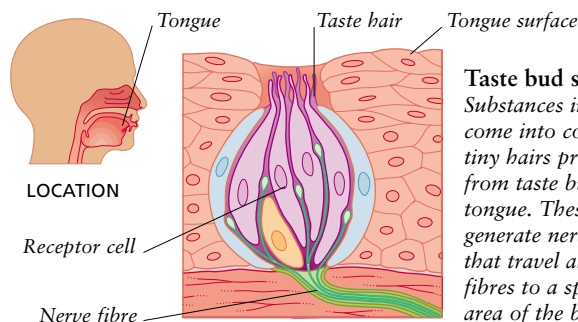


### Smell receptors

When odour molecules enter the nose, they stimulate cilia (tiny hairs) attached to receptor cells in the roof of the nasal cavity. The receptors transmit signals via nerve fibres to the olfactory bulb, which passes the signals to the brain.

## Taste

Tastes are detected by the taste buds. These structures are located in the mouth and throat, with most – about 10,000 – on the upper surface of the tongue. They can distinguish only four basic tastes: sweet, sour, salty, and bitter. Each taste is detected by taste buds in a specific area of the tongue: bitterness is registered at the back, sourness at the sides, saltiness at the front, and sweetness at the tip. It is our sense of smell, in combination with these four basic tastes, that allows us to differentiate a great range of more subtle flavours.



### Taste bud structure

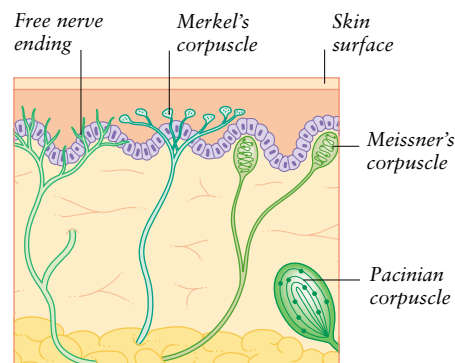
Substances in the mouth come into contact with tiny hairs projecting from taste buds in the tongue. These hairs generate nerve impulses that travel along nerve fibres to a specialized area of the brain.

## Touch

The sense of touch includes sensations such as pain, pressure, vibration, and temperature. These sensations are detected by two types of receptor under the surface of the skin: free (uncovered) nerve endings, and enclosed nerve endings called corpuscles. Different types of nerve ending or corpuscle monitor particular sensations. The number of receptors varies around the body: for example, the fingertips are highly sensitive and have many receptors, whereas the middle of the back has fewer receptors.

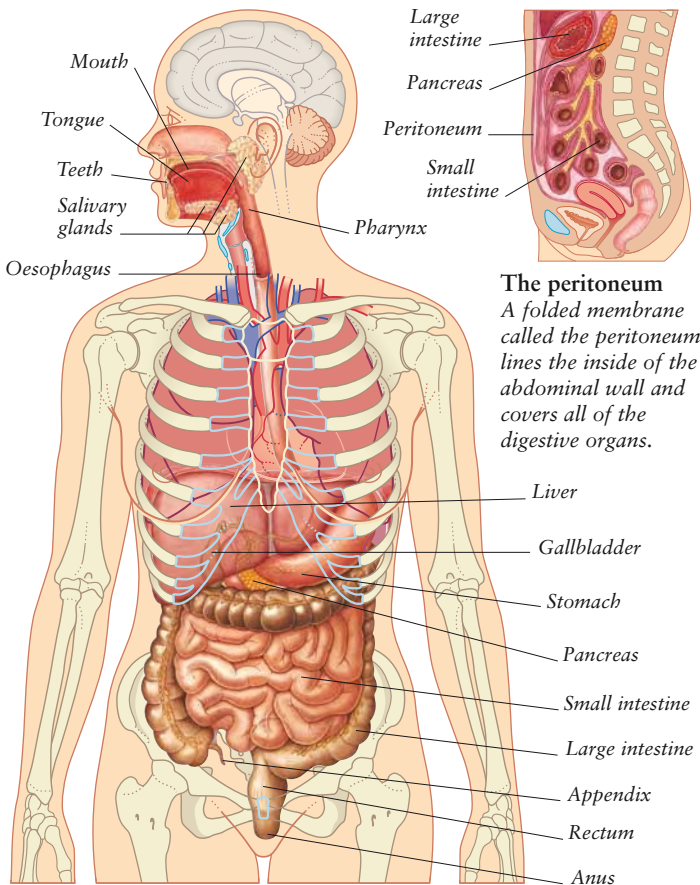
### Touch receptors

Touch is detected by various receptors at different levels within the skin. Free (uncovered) nerve endings, near the skin surface, respond to touch, pain, pressure, and temperature. Merkel's and Meissner's corpuscles detect light touch, and Pacinian corpuscles detect deep pressure and vibration.



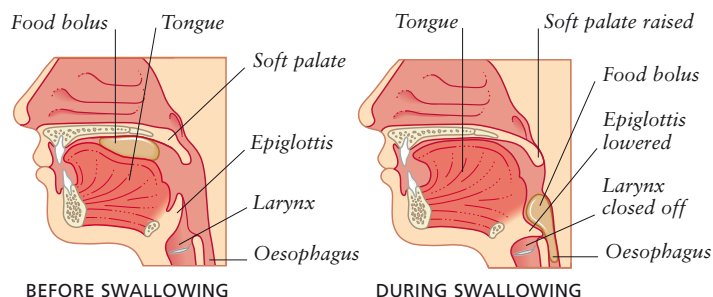
# Digestive system

The digestive system consists of the digestive tract and its associated organs. The digestive tract is a convoluted tube about 7 m (24 ft) long through which food passes while it is being broken down. The tract consists of the mouth, pharynx (throat), oesophagus, stomach, small and large intestines, rectum, and anus. The associated digestive organs include three pairs of salivary glands, the liver, the pancreas, and the gallbladder. The digestive system breaks down food into simpler components that can be used by the cells of the body and eliminates the remaining substances as waste.



## Mouth and oesophagus

The process of digestion begins in the mouth. The action of the teeth and tongue during chewing breaks food into small, soft pieces for swallowing, while substances in the saliva start to break down carbohydrates in the food. When you swallow, the tongue pushes the mixture of food and saliva, known as a bolus, down the throat into the oesophagus. At the same time, the soft palate closes off the nasal cavity, and the epiglottis, a small flap of cartilage at the back of the tongue, moves to close off the larynx.



## Stomach

Food moves down the oesophagus into the stomach. There, it may spend up to 5 hours being churned and partially broken down by digestive juices until it becomes a semi-liquid substance called chyme. Swallowed fluids, such as water and alcohol, pass straight through the stomach and into the intestine in a few minutes.

## Small intestine

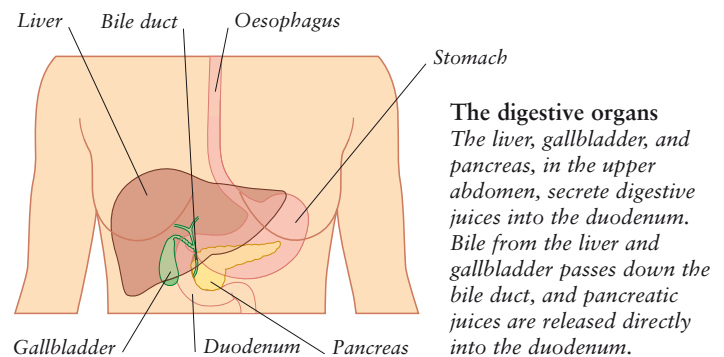
Chyme enters the duodenum (the first part of the small intestine) and is further broken down by digestive juices from the liver and pancreas. The final stage of digestion takes place in the rest of the small intestine. Here, digestive juices released from the intestinal walls split nutrients into chemical units small enough to pass through the wall of the intestine into the surrounding network of blood vessels.

## Large intestine

After nutrients have been absorbed in the small intestine, the remaining material passes into the large intestine. Most of the water content is absorbed back into the body, and the semi-solid waste that remains is called faeces. It moves down into the rectum, where it is stored until it is released through the anus as a bowel motion.

## Liver, gallbladder, and pancreas

The liver, gallbladder, and pancreas all help to break down food chemically. The liver uses the products of digestion to manufacture proteins such as antibodies (which help to fight infection) and blood clotting factors. It also breaks down worn-out blood cells and excretes the wastes as bile, which is stored in the gallbladder and plays a part in the digestion of fats. The entry of food into the duodenum (the first part of the small intestine) stimulates the gallbladder to release the bile into the duodenum via the bile duct. The pancreas secretes powerful digestive juices, which are released into the duodenum when food enters it. Together with digestive juices produced by the intestinal lining, they help to break down nutrients into substances that are absorbed into the blood and carried to the liver.

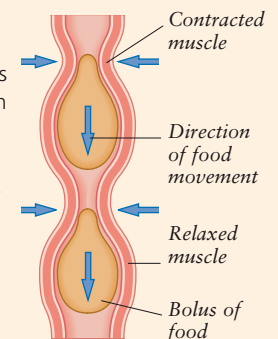


## Peristalsis

Food is propelled along the digestive tract by a continuous sequence of muscular contractions known as peristalsis. The walls of the digestive tract are lined with smooth muscle. To move a piece of food (bolus) forwards, the muscle behind the food contracts while the muscle in front relaxes.

### Peristaltic wave

To move pieces of food through the digestive tract, the muscles in the walls contract and relax in a sequence known as a peristaltic wave.

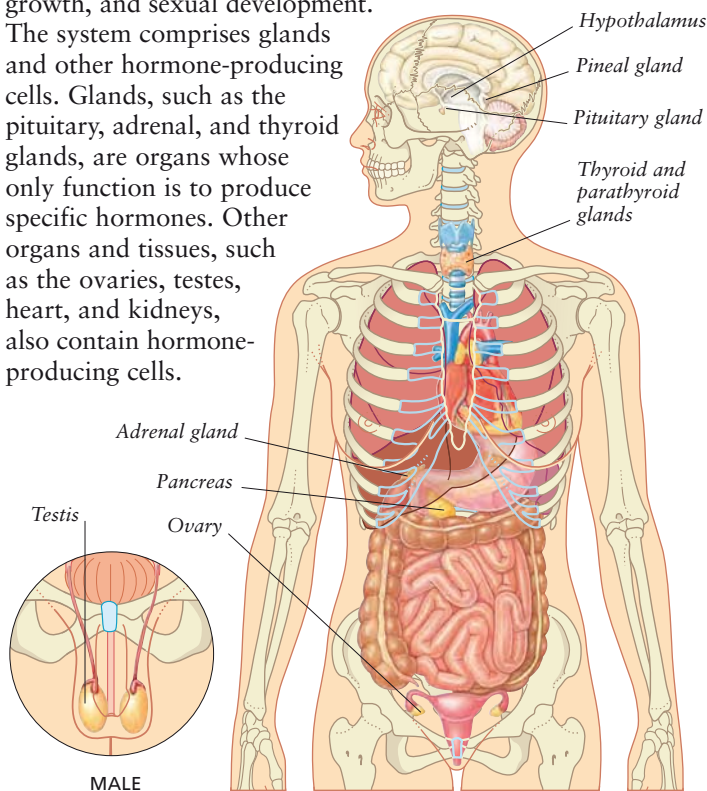




# Endocrine system

The endocrine system produces hormones – chemicals that are carried in the bloodstream and control processes in other parts of the body. Such processes include metabolism (the chemical reactions constantly occurring in the body), responses to stress, growth, and sexual development.

The system comprises glands and other hormone-producing cells. Glands, such as the pituitary, adrenal, and thyroid glands, are organs whose only function is to produce specific hormones. Other organs and tissues, such as the ovaries, testes, heart, and kidneys, also contain hormone-producing cells.



## Pituitary gland and hypothalamus

The pituitary gland lies at the base of the brain. It is known as the “master gland” because it produces hormones that stimulate and control endocrine tissue in other glands and organs. It also secretes hormones that control growth, the volume of urine passed, and the contraction of the uterus during labour. The hypothalamus is a part of the brain that is linked to the pituitary gland. It secretes hormones called releasing factors that control the function of the pituitary, and also acts as a link between the nervous and endocrine systems.

## Pineal gland

The pineal gland is situated deep inside the brain. Its precise function has yet to be clarified. However, the gland is known to produce a hormone called melatonin, which is thought to be associated with the daily cycle of sleep and waking.

## Thyroid and parathyroid glands

The thyroid gland, in the neck, produces hormones that control metabolism. Some thyroid cells also secrete the hormone calcitonin, which lowers the blood level of calcium. The four parathyroid glands, behind the thyroid, produce a hormone that controls blood levels of calcium and phosphate. Calcium is vital for healthy bones and, with phosphate, plays an important part in nerve and muscle function.

## Adrenal glands

The adrenal glands lie on top of the kidneys. Each gland has a cortex (outer layer) and a medulla (core). The cortex produces corticosteroid hormones, whose roles include helping to regulate blood levels of salt and glucose, and tiny amounts of male sex hormones, which promote

the development of certain male sexual characteristics. The medulla secretes epinephrine (adrenaline) and norepinephrine (noradrenaline), which increase the heart rate and blood flow to the muscles in response to stress (a reaction called the “fight or flight response”).

## Pancreas

The pancreas lies behind the stomach. It produces digestive juices that help to break down food. It also releases the hormones insulin and glucagon, which play an important part in regulating the level of glucose, a sugar that forms the body’s main energy source.

## Ovaries

The ovaries lie on either side of the uterus. They release eggs and produce the female sex hormones progesterone and oestrogen, which regulate the menstrual cycle. Oestrogen also encourages the development of some female sexual characteristics, such as enlargement of the breasts.

## Testes

The testes hang in a bag of skin and muscles called the scrotum. They produce sperm and secrete the male sex hormone testosterone. This hormone is responsible for the onset of puberty and the development of male secondary sexual characteristics, such as facial hair.

# Lymphatic system

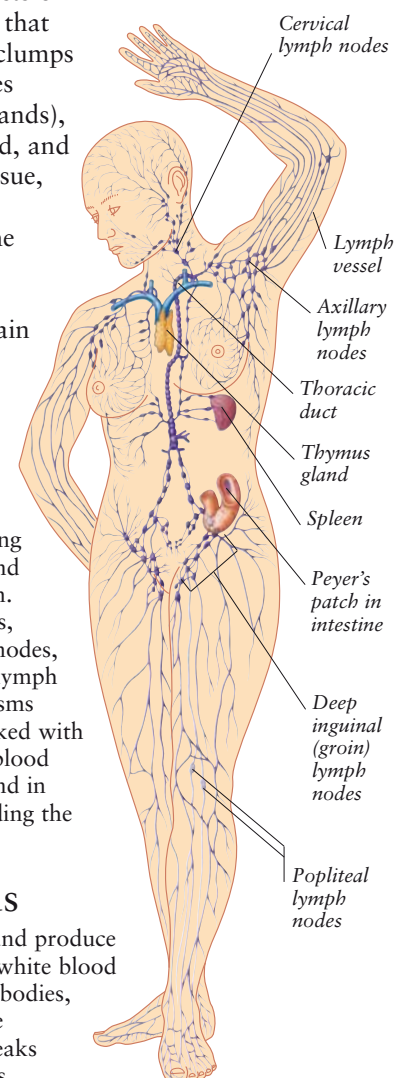
The lymphatic system consists of a network of lymph vessels that runs throughout the body, clumps of bean-shaped lymph nodes (commonly called lymph glands), the spleen, the thymus gland, and other areas of lymphatic tissue, such as Peyer’s patches in the wall of the intestine. The lymphatic system helps to defend the body against infection and also to maintain the balance of body fluids.

## Vessels and nodes

Lymph vessels carry a fluid called lymph around the body. Lymph helps to maintain the body’s fluid balance by collecting excess fluid from the tissues and returning it to the bloodstream. It also carries white blood cells, which fight infection. Lymph nodes, situated at junctions between lymph vessels, filter infectious organisms from the lymph. They are packed with lymphocytes, a type of white blood cell. Clusters of nodes are found in many parts of the body, including the neck, armpits, and groin.

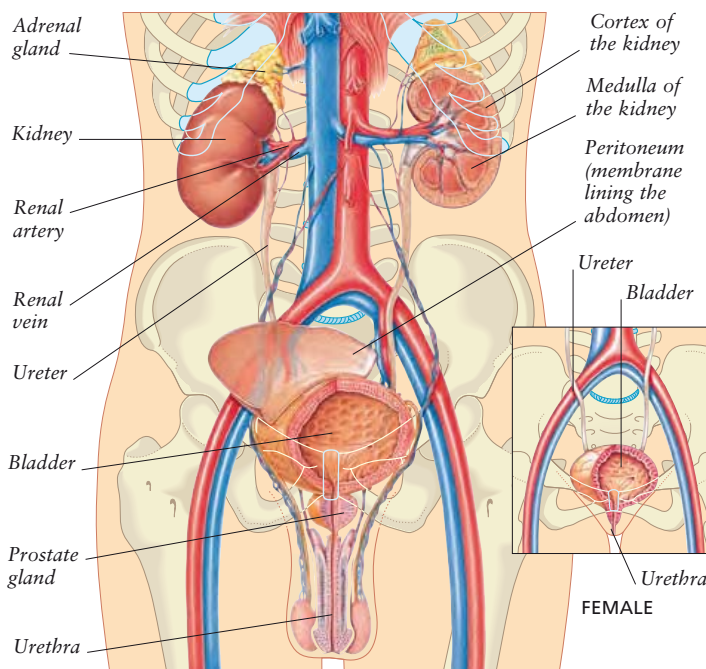
## Spleen and thymus

The spleen and the thymus gland produce certain types of lymphocytes (white blood cells). These cells produce antibodies, which help to destroy infective organisms. The spleen also breaks down worn-out red blood cells.



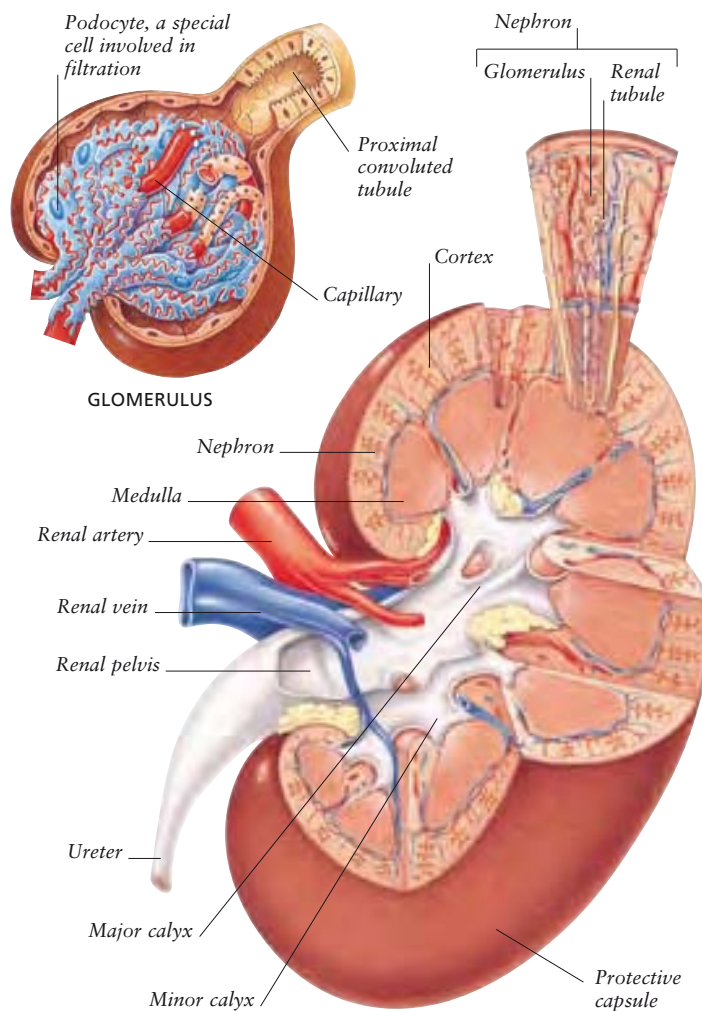
# Urinary system

The urinary system filters wastes from the blood, eliminating them together with excess water as urine. It also regulates body fluid levels and maintains the body's acid-alkali balance. The system consists of a pair of kidneys; the bladder; the ureters, which connect each kidney to the bladder; and the urethra, the tube through which urine leaves the body. The kidneys are red-brown, bean-shaped organs lying at the back of the abdomen, one on either side of the spine. They contain units called nephrons that filter the blood circulating through the kidneys and produce urine, which then passes down the ureters into the bladder. The bladder is kept closed by a ring of muscle (a sphincter) around its lower opening. This muscle can be relaxed voluntarily to allow urine to be expelled through the urethra. The male urethra is longer than the female urethra and also provides an outlet for semen (fluid that contains sperm and that is released during sexual activity). Because the female urethra is shorter and opens close to the vagina and anus, women are more prone to urinary infections than men.



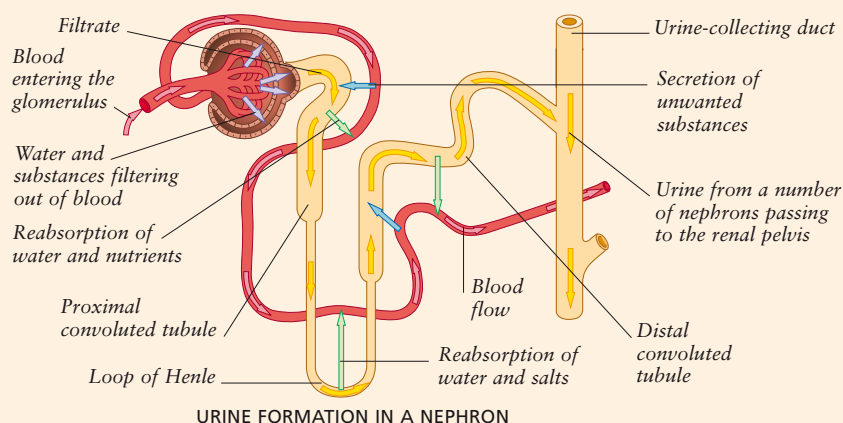
## Structure of the kidney

Inside the kidney, there are three regions: the cortex (outer layer), the medulla (middle layer), and the renal pelvis (inner region). The cortex contains functional units called nephrons. Each nephron consists of a glomerulus, a cluster of specialized capillaries in which the blood is filtered, and a renal tubule, through which the resulting waste fluids pass as they are turned into urine. The medulla consists of groups of urine-collecting ducts. Urine from these ducts passes into minor calyces and then into major calyces, which open into the renal pelvis. From here, the urine is funnelled into the ureter.



## How urine is made

Urine is composed of substances that have been filtered from the blood in the nephrons. A kidney has about a million nephrons. Each consists of a cluster of tiny capillaries called a glomerulus and a tube called the renal tubule. This has three parts: the proximal convoluted tubule, the loop of Henle, and the distal convoluted tubule. Blood first passes through the glomerulus. The capillary walls have pores that allow water and small particles (such as salts) to pass through, while retaining larger particles, such as proteins and red blood cells. The fluid that has been removed from the blood, called filtrate, enters the renal tubule, where water, and other useful substances such as glucose and salts, are reabsorbed into the bloodstream as necessary.



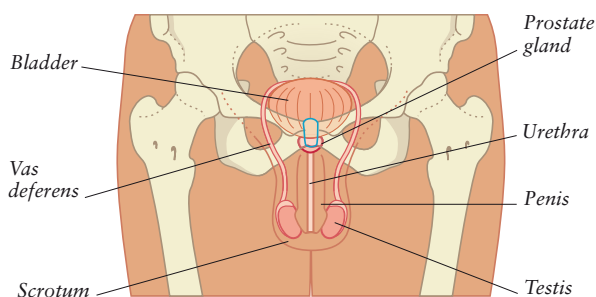
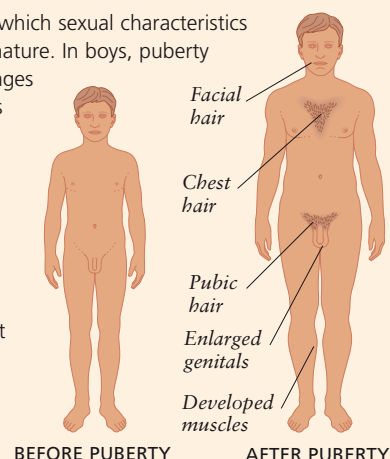


# Male reproductive system

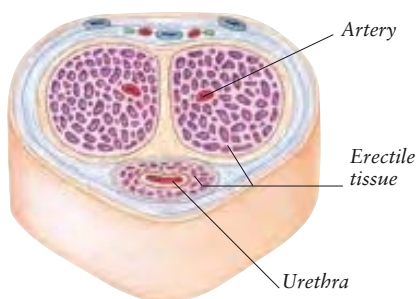
The male reproductive system produces sperm – cells that can fuse with eggs from a woman to form offspring. It also makes the male sex hormones needed for sperm production and for sexual development at puberty. The male genitals consist of the penis, the testes, and the scrotum, in which the testes are suspended. Each testis is packed with seminiferous tubules, which make sperm. The sperm are stored in the epididymis, a coiled tube that lies behind each testis. Another tube, the vas deferens, connects each epididymis to an ejaculatory duct, which in turn is connected to the urethra. Three glands – a pair of seminal vesicles and the prostate gland – secrete fluids to transport and nourish the sperm; the secretions and sperm form a fluid called semen. During sexual activity, the erectile tissue in the penis fills with blood, making the penis lengthen and stiffen in order to enter the woman's vagina. At orgasm, muscular contractions force semen along each vas deferens, down the urethra, and out of the penis.

## Changes in boys during puberty

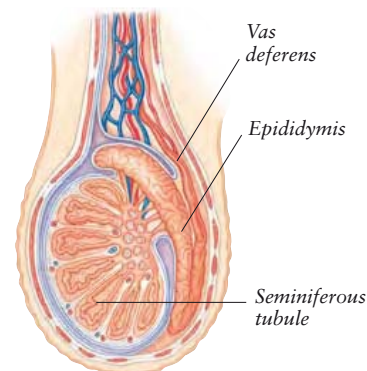
Puberty is the period during which sexual characteristics develop and sexual organs mature. In boys, puberty usually begins between the ages of about 12 and 15 and lasts for 3–4 years. The pituitary gland, at the base of the brain, starts to secrete hormones that stimulate the testes to produce the male sex hormone testosterone. This hormone stimulates changes such as enlargement of the genitals and the growth of body hair, and, later, sperm production and increased sex drive.



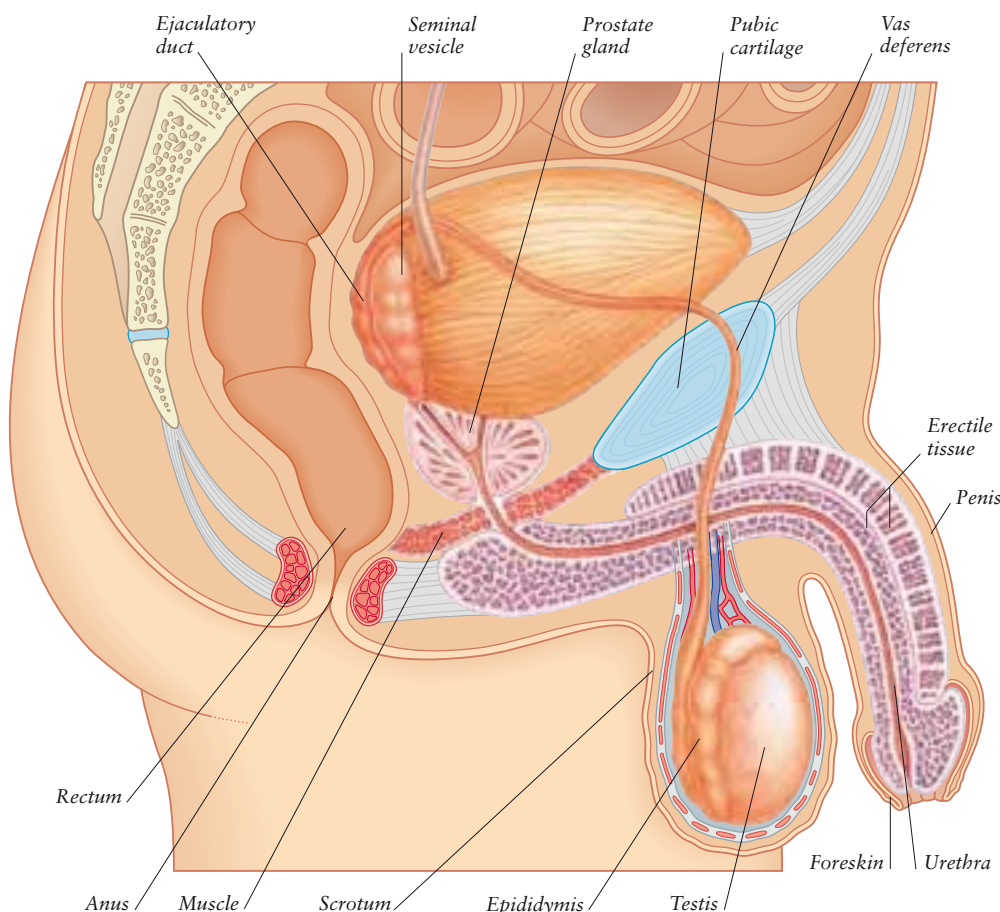
FRONT VIEW



SECTION THROUGH THE PENIS

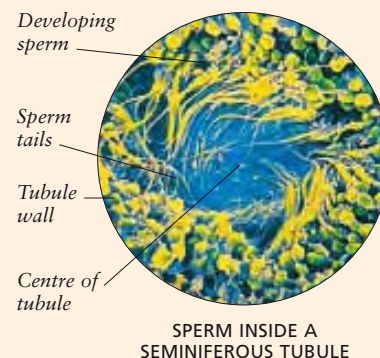


CROSS SECTION OF A TESTIS



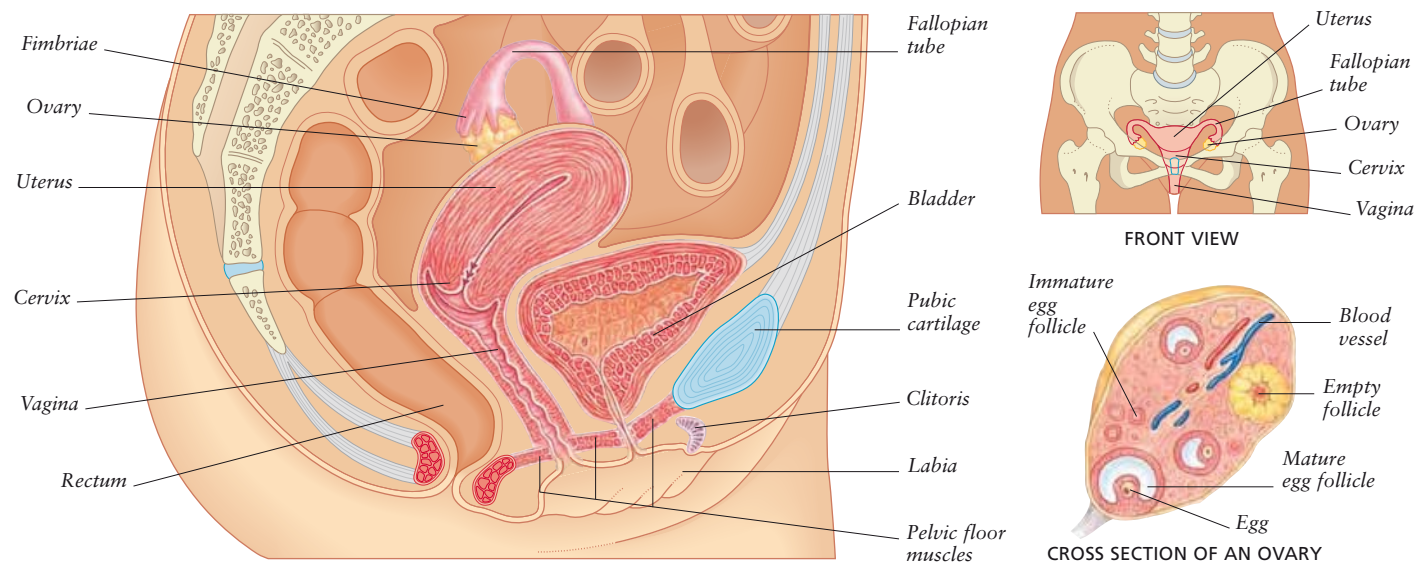
## Sperm production

Once puberty has been reached, sperm are manufactured continuously in the testes at a rate of about 125 million each day. The sperm develop around the walls of the seminiferous tubules; their tails, which enable them to swim, point towards the centre of the tubules. Mature sperm are stored in a coiled tube called the epididymis, situated behind each testis. The sperm are eventually ejaculated during sexual activity or are reabsorbed into the body.



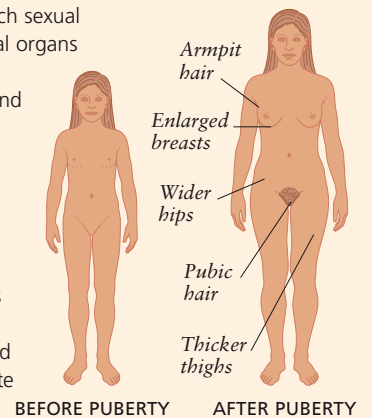
# Female reproductive system

The internal structures of the female reproductive system – the ovaries, fallopian tubes, uterus, and vagina – lie in the lower third of the abdomen. The ovaries contain follicles that store eggs, cells that can fuse with sperm from a man to form offspring. Each month an egg matures and is released from an ovary; the fimbriae guide the egg into a fallopian tube, which propels it towards the uterus. The vagina, a passage with muscular walls, connects the uterus to the outside of the body. The external structures, collectively known as the vulva, include the sensitive clitoris and folds of skin called the labia, which protect the entrances to the vagina and the urethra. Just inside the vaginal entrance lie the Bartholin's glands, which secrete a fluid for lubrication during sexual intercourse.



## Changes in girls during puberty

Puberty is the period during which sexual characteristics develop and sexual organs mature. In girls, puberty begins between the ages of about 10 and 14 and lasts for 3–4 years. The pituitary gland starts to secrete hormones that stimulate the ovaries to produce the female sex hormones oestrogen and progesterone. These hormones prompt physical changes such as enlargement of the breasts and hips and the growth of pubic and underarm hair. Later, they stimulate ovulation and menstruation.

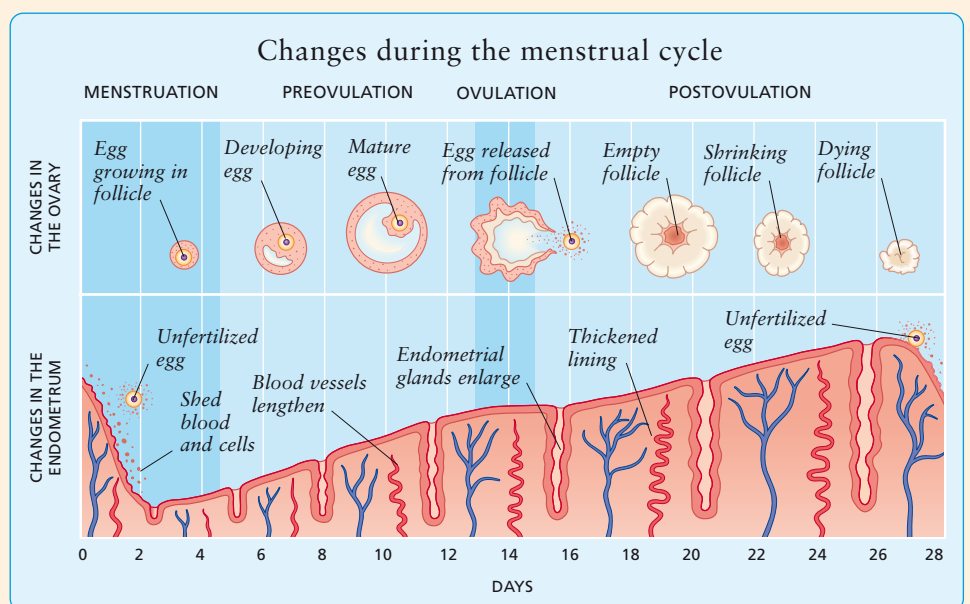


## The menstrual cycle

During the menstrual cycle, a woman's body is prepared for the possibility of pregnancy. The cycle is regulated by four sex hormones. Follicle-stimulating hormone and luteinizing hormone, which are secreted by the pituitary gland, cause an egg to mature in a follicle and be released. The egg and its follicle secrete oestrogen and progesterone, which make the uterus lining thicken. If an egg is fertilized, it embeds itself in the lining. If it is not fertilized it passes out of the body, together with blood and cells from the lining, during menstruation. The cycle lasts about 28 days but this can vary from month to month and from woman to woman.

### A complete menstrual cycle

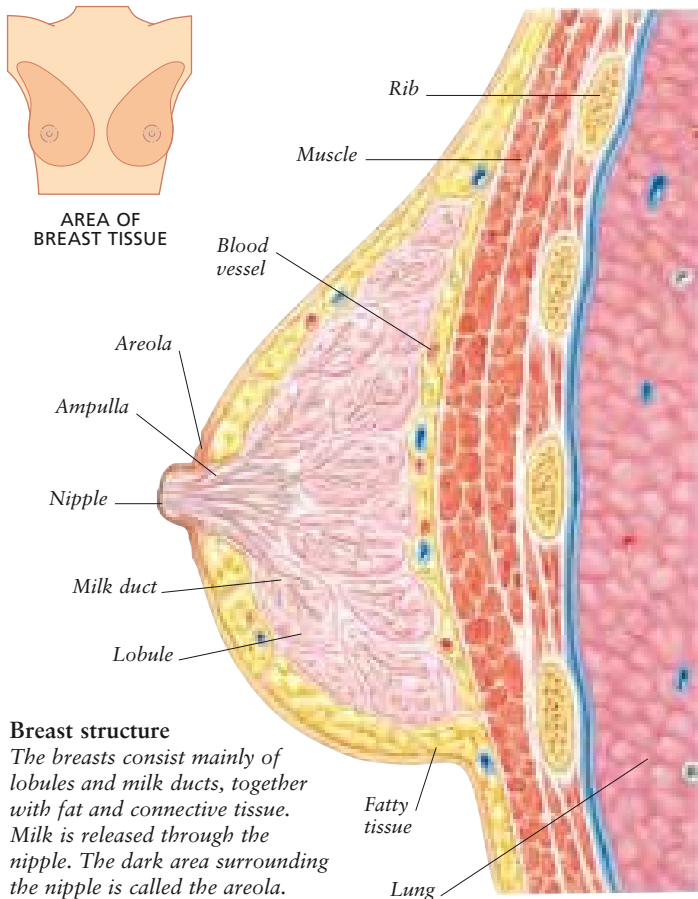
The chart shows changes that occur in the endometrium (uterus lining) and the ovary during a menstrual cycle. The egg can be fertilized by a sperm at ovulation, the time when it is released from its follicle.





## Role of the breasts

Breasts play a part in sexual arousal, but their main role is to produce milk for babies. During puberty the hormone oestrogen causes the breasts to grow and develop. During pregnancy, hormonal changes make the breasts enlarge further and, in late pregnancy, stimulate milk production in glands called lobules. These glands are connected to ducts that lead to channels called ampullae, which open on to the surface of the nipple. The rest of the breast tissue is mostly fat, with a small amount of connective tissue, which helps to support the breasts.

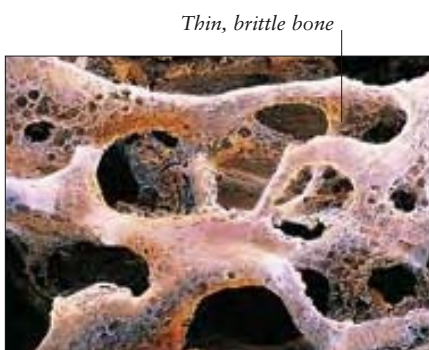


### Breast structure

The breasts consist mainly of lobules and milk ducts, together with fat and connective tissue. Milk is released through the nipple. The dark area surrounding the nipple is called the areola.

## The menopause

The menopause is the time when menstrual cycles cease. It usually occurs between the ages of 45 and 55. The ovaries stop responding to follicle-stimulating hormone and produce less of the female sex hormones oestrogen and progesterone. As a result ovulation and menstruation end, and once a woman has reached the menopause she is no longer fertile. In the years just before and after the menopause, hormone changes produce symptoms such as mood swings, hot flushes, vaginal dryness, and night sweats. The menopause may also result in long-term physical changes, such as osteoporosis.



### Osteoporotic bone

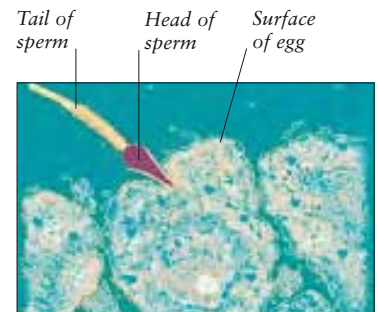
The sex hormone oestrogen is needed to give bones strength. Low oestrogen levels after the menopause can result in osteoporosis, a condition in which the bones lose density and may become thin and brittle, as shown in this microscopic image.

## Conception and pregnancy

All organisms reproduce. In human beings, reproduction involves two types of cell: sperm, produced by the testes in men, and eggs, produced by the ovaries in women. These cells each contain half a set of DNA (genetic material). They are brought together by sexual intercourse; if a sperm penetrates and fertilizes an egg, the man's and woman's DNA combine to form new cells. Conception occurs when these cells embed themselves in the uterus. During pregnancy, which lasts for about 40 weeks (9 months), the cells develop into a baby.

### Fertilization

During sexual intercourse, sperm are expelled into the woman's vagina, then swim up through the uterus and into the fallopian tubes. If the sperm meet an egg, they try to pierce its coating. If a sperm succeeds, it sheds its tail and fuses with the nucleus of the egg, while chemical changes in the egg stop any more sperm from entering. In this way a new cell is formed, combining DNA from the man and the woman.

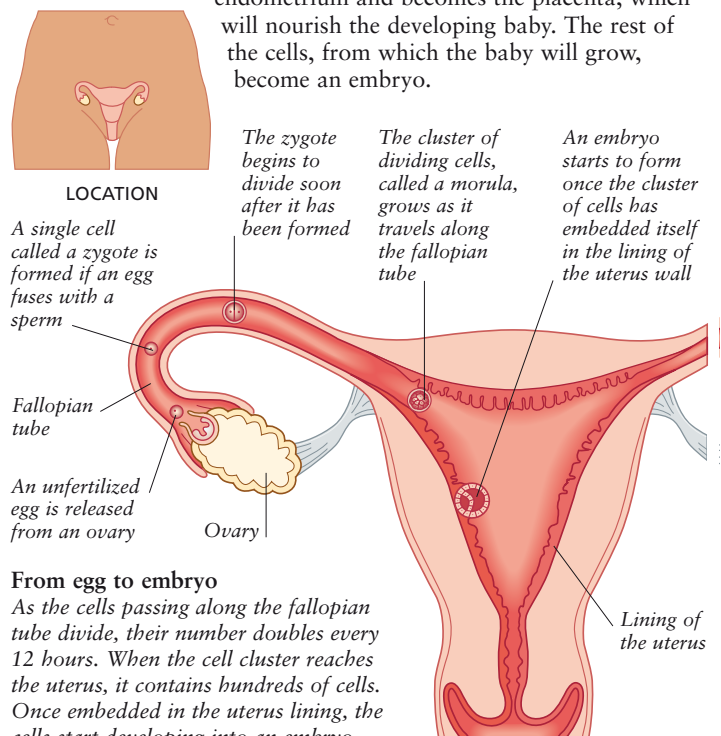


### Sperm penetrating egg

The head of the sperm pushes through the egg's outer coating in order to reach the nucleus.

### Beginning of pregnancy

The cell produced by the fusion of the egg and sperm is called a zygote. Within 2 days of fertilization, the zygote starts its journey along the fallopian tube towards the uterus, propelled by the muscular action of the tube's walls. At the same time, the zygote divides itself repeatedly to form a cluster of cells, which is called a morula. After 5–7 days, the cell cluster reaches the uterus. It embeds itself securely in the endometrium (the lining of the uterus) and continues to grow. From this moment onwards, the pregnancy is properly established. One part of the cell cluster grows into the endometrium and becomes the placenta, which will nourish the developing baby. The rest of the cells, from which the baby will grow, become an embryo.

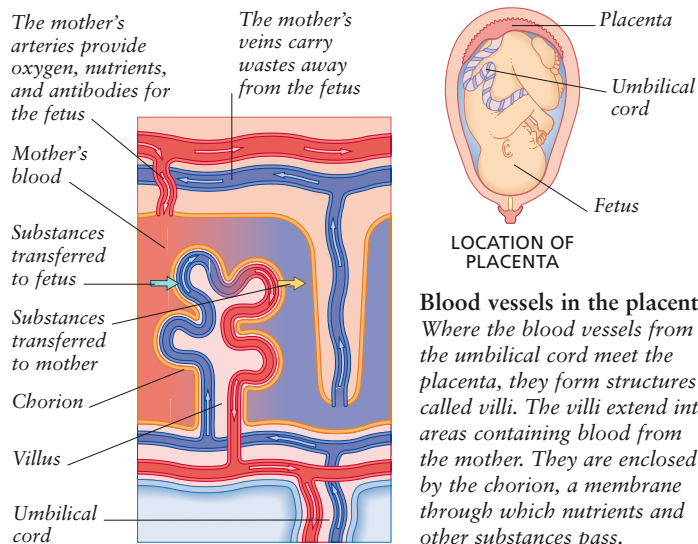


### From egg to embryo

As the cells passing along the fallopian tube divide, their number doubles every 12 hours. When the cell cluster reaches the uterus, it contains hundreds of cells. Once embedded in the uterus lining, the cells start developing into an embryo.

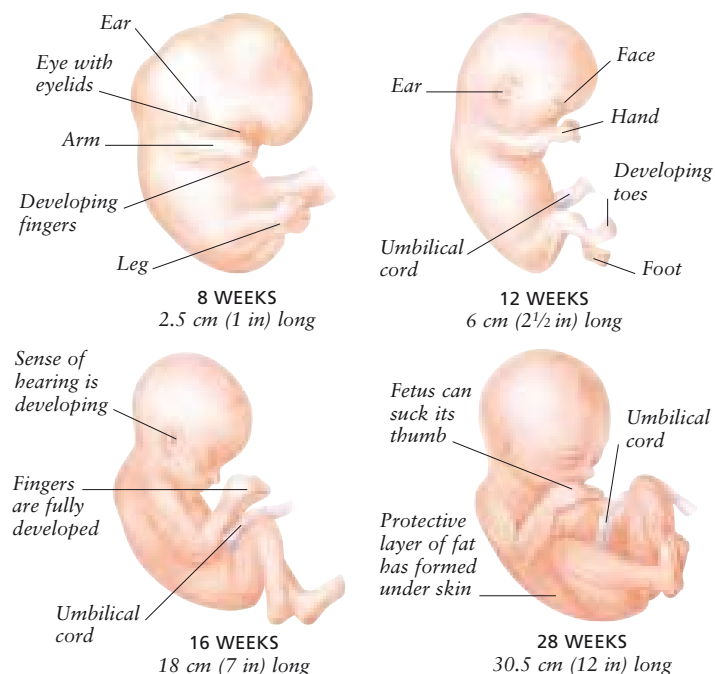
## How the baby is nourished

An unborn baby depends on its mother to supply it with oxygen, nutrients, and antibodies against infection, and to remove its waste products. These substances pass between the mother's blood and the baby's blood inside the placenta, an organ that is attached to the uterus lining and is connected to the baby by the umbilical cord. In the placenta, the mother's and baby's blood supplies are brought close together, although they do not actually mix.



## The baby's development

The baby develops in a sac in the uterus. It is cushioned by amniotic fluid and nourished by blood from the umbilical cord. In the first 8 weeks, the baby is known as an embryo. During this time the limbs, head, and facial features appear, most of the organs form, and the heart begins to beat. From week 8, the baby is called a fetus. The body structures continue to develop throughout the pregnancy.



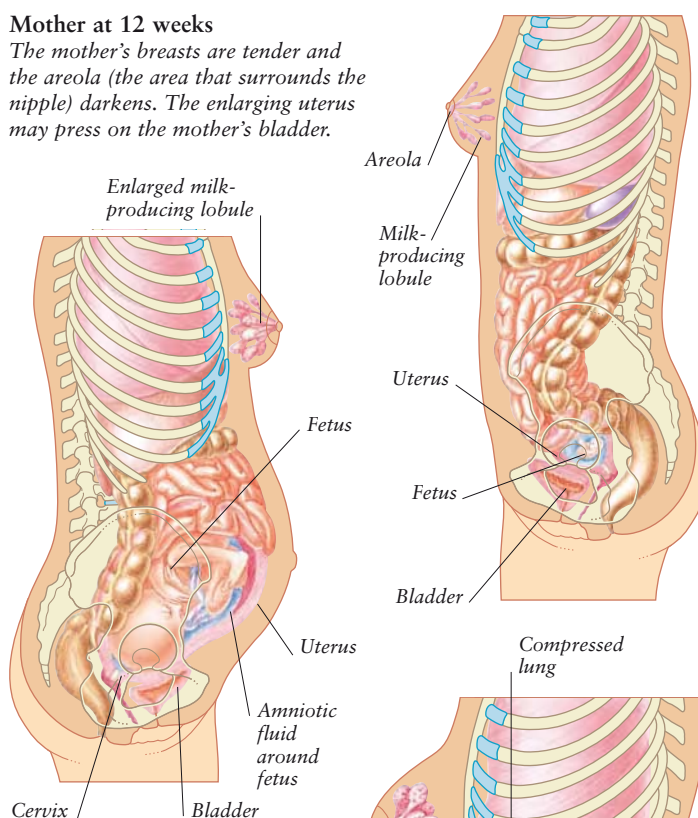
## Changes in the mother's body

Pregnancy is divided into three stages (trimesters), each about 3 months long. During pregnancy, the mother's body undergoes major changes. The most noticeable are the swelling of the abdomen as the baby grows and the enlargement of the breasts as they prepare to produce milk. In addition, specific changes occur in each trimester.

In the first trimester, there are few visible changes. However, the mother's heart rate increases by about 8 beats per minute in order to increase the blood circulation. Changes in hormone levels may cause symptoms such as nausea. During the second trimester, the mother may begin to experience backache due to the weight of the fetus. Her appetite may increase. By 18–20 weeks the fetus starts to make noticeable movements, producing fluttering feelings in the mother's abdomen. In the third trimester, the mother rapidly gains weight as the fetus undergoes a growth spurt. The uterus eventually becomes so large that the top reaches almost to the mother's breastbone. In the last weeks the fetus changes position so that it is lying with its head pointing downwards, ready for birth.

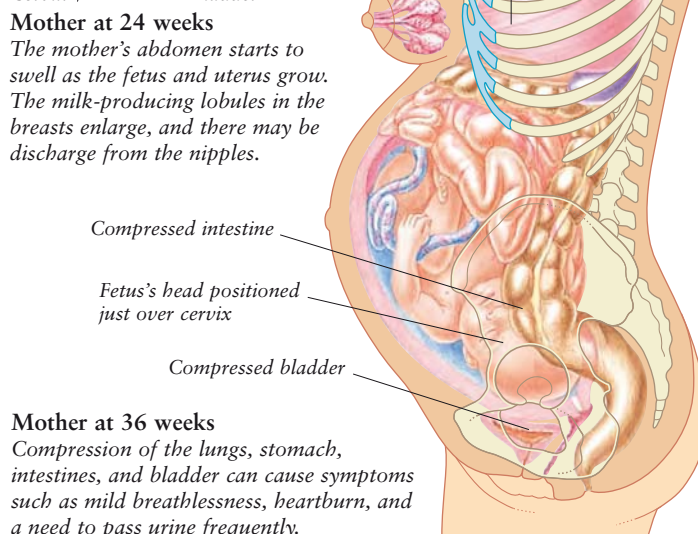
### Mother at 12 weeks

The mother's breasts are tender and the areola (the area that surrounds the nipple) darkens. The enlarging uterus may press on the mother's bladder.



### Mother at 24 weeks

The mother's abdomen starts to swell as the fetus and uterus grow. The milk-producing lobules in the breasts enlarge, and there may be discharge from the nipples.



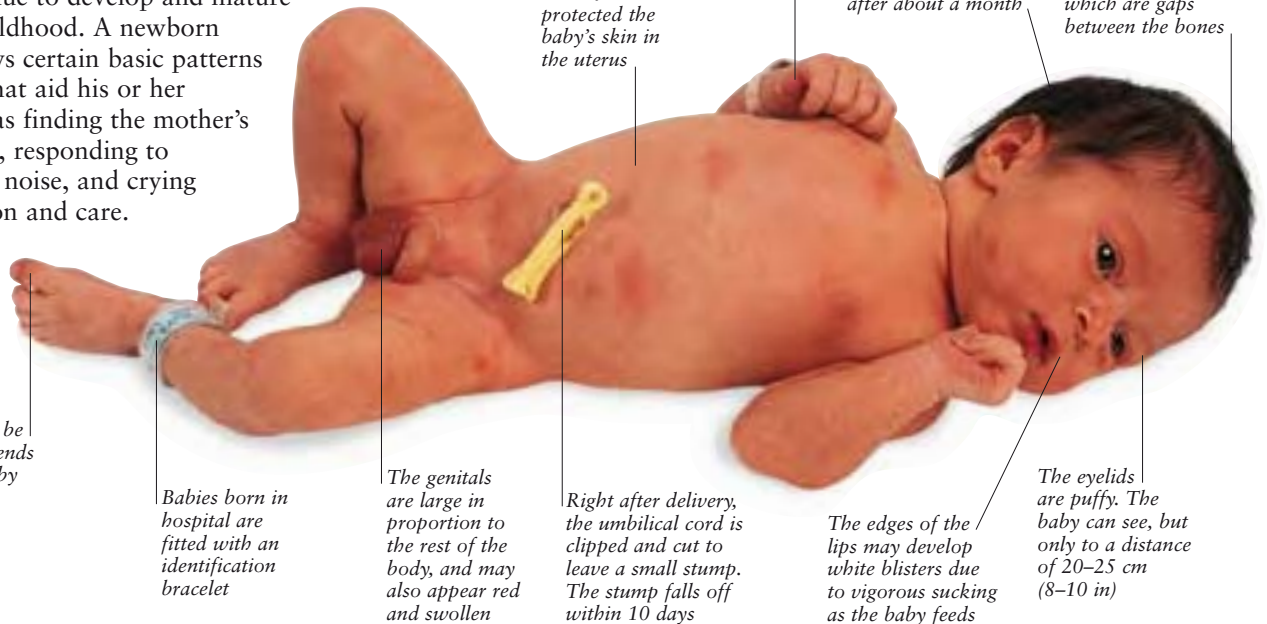
### Mother at 36 weeks

Compression of the lungs, stomach, intestines, and bladder can cause symptoms such as mild breathlessness, heartburn, and a need to pass urine frequently.



# The newborn baby

A newborn baby has to cope with dramatic physical changes as it leaves the total protection of the mother's uterus. In particular, the baby's body has to adapt in order to breathe air and function independently of the mother. The body systems can carry out the basic functions necessary for life, but they continue to develop and mature throughout childhood. A newborn baby also shows certain basic patterns of behaviour that aid his or her survival, such as finding the mother's breast, sucking, responding to stimuli such as noise, and crying to gain attention and care.



## Reflex actions and movements

Babies are born with certain automatic patterns of behaviour. Some of these activities are involuntary actions, such as breathing and passing urine and faeces, and others are reflex actions, instinctive movements designed to protect and to aid survival. Some reflex actions, such as sucking and “rooting” (searching for the mother's breast), obviously aid survival. Others may be relics from a more primitive stage of human evolution; for example, the grasp reflex is thought to have originated with our ape ancestors, whose babies had to cling to their mothers as they were carried. The reflex actions, and involuntary actions such as passing urine, are eventually replaced by voluntary, controlled actions as the baby's nervous system and muscles mature. Two typical reflex responses are shown below.

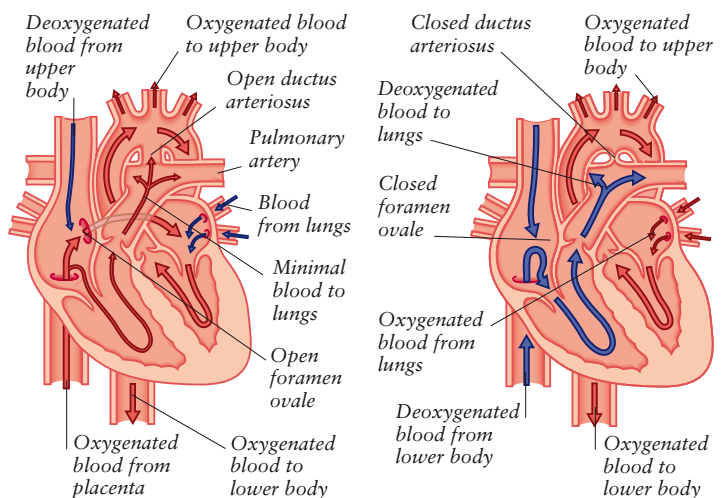
### Walking reflex

If a newborn baby is held upright with the feet on a firm surface, he or she will make movements that resemble stepping or walking.



## The heart before and after birth

In the fetus, the task of adding oxygen to the blood and filtering out waste gases is done by the placenta, but at birth the baby has to start breathing, obtaining oxygen from the lungs. Before birth, the fetus's heart pumps blood around the body and to the umbilical cord, but most of the blood bypasses the pulmonary arteries (the vessels leading to the lungs) by flowing through two special openings in the heart. With a baby's first breath the lungs expand and take in air; this triggers changes in the heart and circulation, causing the two openings in the heart to close so that all blood from the rest of the body then flows through the pulmonary arteries to the lungs to be oxygenated.



### Circulation in the fetal heart

An opening called the foramen ovale and a channel called the ductus arteriosus divert most blood from the heart passes to the lungs away from the pulmonary arteries.

### Circulation in the heart at birth

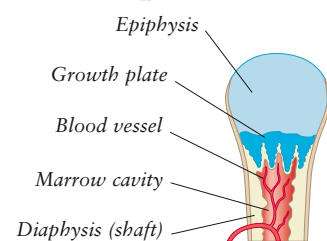
The foramen ovale and ductus arteriosus close, so that all blood from the heart passes to the lungs to be oxygenated.

## The growing child

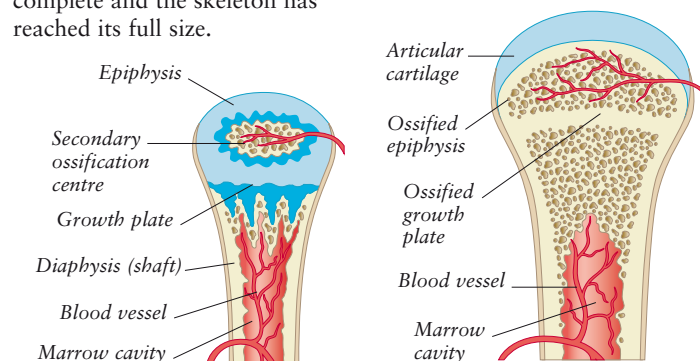
Childhood is a time of dramatic physical, mental, and social development, during which a person grows from a dependent baby into a mature, self-sufficient individual. In addition, the child learns skills that allow him or her to interact with other people and with the environment. The rate of growth is fastest during the first year of life, and there is another period of rapid growth at puberty, the transition from childhood to adulthood. Children acquire many of the necessary physical, mental, and social skills during their first 5 years, but the learning process continues throughout life.

## How bones grow and develop

At birth, much of the skeleton consists of tissue known as cartilage, with bone tissue only in the shafts of the largest bones. During childhood, the cartilage is gradually replaced by bone – a process called ossification. In the long bones of the limbs, areas called growth plates produce more cartilage to extend the bones, and this cartilage then turns to bone. By the beginning of adulthood, ossification is complete and the skeleton has reached its full size.



**Long bone in a newborn baby**  
The diaphysis (shaft) is made of bone, while the epiphyses (ends) are made of cartilage.

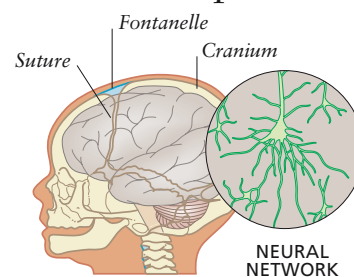


**Long bone in a child**  
Growth and ossification (bone formation) take place in the ends of the long bone.

**Long bone in an adult**  
All of the cartilage inside the bone has ossified. A layer of cartilage protects the ends of the bone.

## How the skull and brain develop

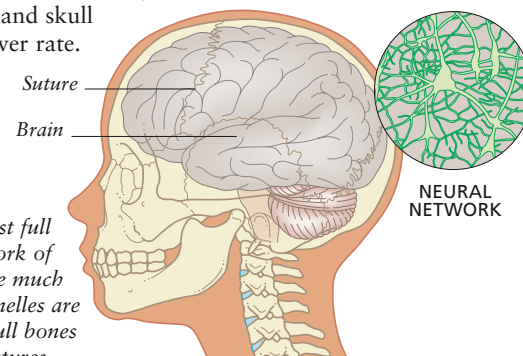
A newborn baby has a full set of neurons (nerve cells), but the network of pathways between these cells is not yet mature. In the first 6 years, the brain grows and the neural (nerve) network rapidly becomes more complex, allowing a child to learn a wide range of skills and behaviour. To allow for this expansion, the cranium (the part of the skull covering the brain) grows at soft gaps called fontanelles and at seams called sutures; these areas gradually turn to bone. During the rest of childhood the brain, neural network, and skull develop at a slower rate.



**Brain and skull at birth**  
The neural network is only partially developed. The skull bones are separated by sutures (seams) and fontanelles (soft gaps).

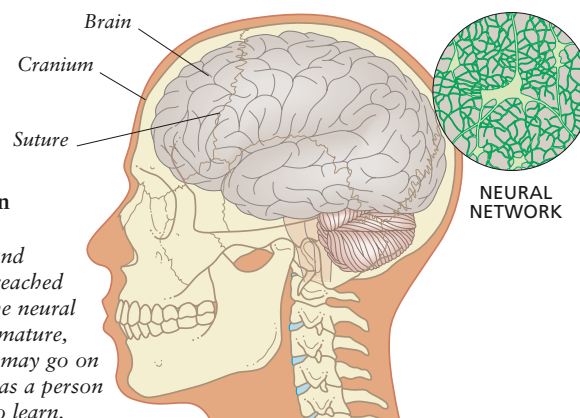
### Brain and skull at 6 years

The brain is almost full size and the network of nerves has become much denser. The fontanelles are closed and the skull bones are fixed at the sutures.



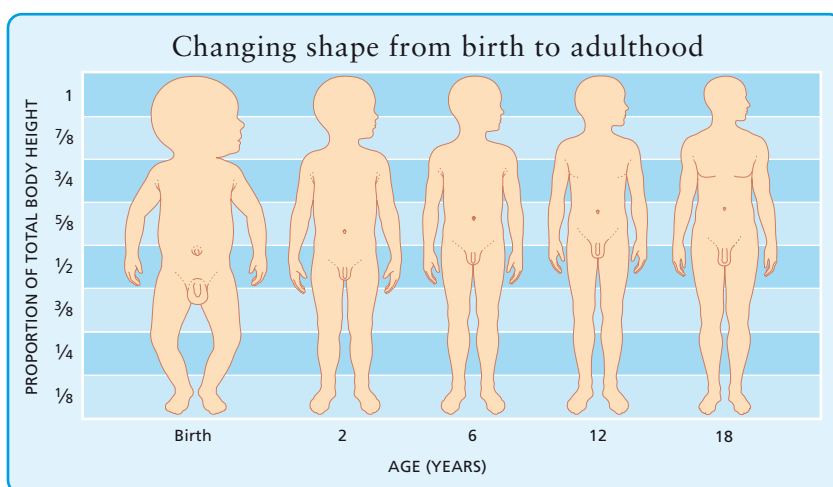
### Adult brain and skull

The brain and skull have reached full size. The neural network is mature, although it may go on developing as a person continues to learn.



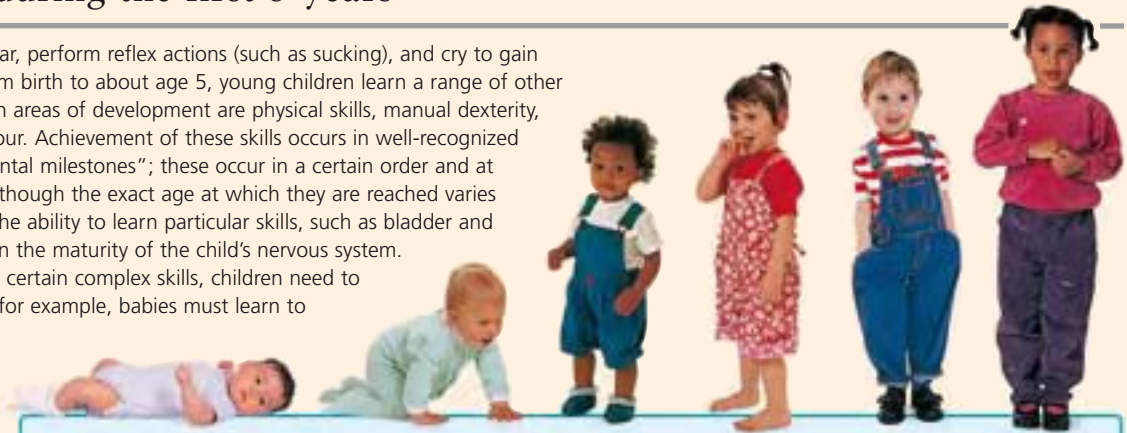
## The growing body

Growth in childhood is controlled by hormones, and is also influenced by factors such as diet and general health. A child's body grows continuously, but the rate of growth varies depending on the stage of life: the most rapid overall growth occurs during infancy and puberty. In addition, some parts of the body develop faster than others, causing the body proportions to alter as the child grows. At birth, the head makes up about a quarter of the total body length, and until about age 6 it continues to grow quickly. The facial features change during childhood, as the face becomes larger in relation to the rest of the skull. The limbs, during infancy, are small in relation to the body and head, and lengthen as the child grows older, with especially rapid growth occurring during puberty. The body finally reaches its full size at around age 18. By this time, the head represents only about an eighth of the body length, while the legs comprise about a half.



## Gaining skills during the first 5 years

Newborn babies can see, hear, perform reflex actions (such as sucking), and cry to gain their mother's attention. From birth to about age 5, young children learn a range of other essential skills. The four main areas of development are physical skills, manual dexterity, language, and social behaviour. Achievement of these skills occurs in well-recognized steps known as "developmental milestones"; these occur in a certain order and at roughly predictable times, although the exact age at which they are reached varies from one child to another. The ability to learn particular skills, such as bladder and bowel control, depends upon the maturity of the child's nervous system. In addition, before acquiring certain complex skills, children need to develop a lesser ability first; for example, babies must learn to stand before they can walk.



### Physical skills

*The most important skills are control of posture, balance, and movement. Babies first learn how to lift and turn their heads, then to sit up. They later learn how to crawl, stand, walk, and run.*

### Manual dexterity and vision

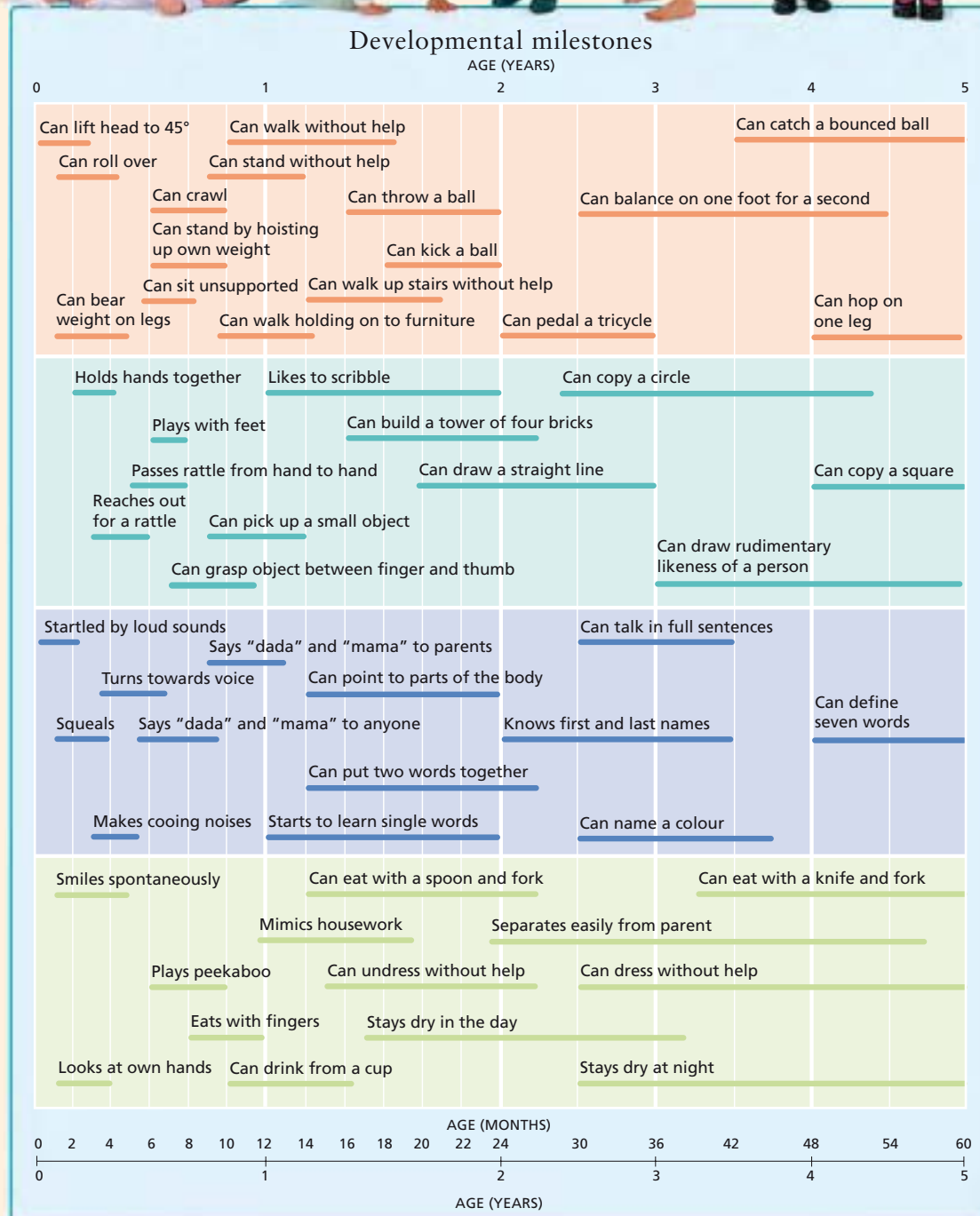
*Children have to learn how to coordinate their hand movements and vision so that they can perform tasks such as picking up objects or drawing shapes.*

### Hearing and language

*Early on, babies turn towards voices and respond to sounds by cooing. At about 1 year, children can speak their first word and begin to understand the meaning of words. They later learn to form sentences.*

### Social behaviour and play

*The first social skill that babies master is smiling at people. They later learn to play with other children and tolerate separation from their parents. Children also acquire practical skills such as feeding and dressing themselves.*





# Growth charts

Children have regular health checks during which their rate of growth is assessed. The weight and height (or, in a child under 2 years, length and head circumference), and the age, are plotted on charts with a shaded band to show the normal range of growth. There are different charts for boys and girls. Most children's measurements fall inside the band; if they fall outside, there may be a problem. You can also plot your child's growth yourself by measuring his or her height or, for babies, using measurements from the clinic.

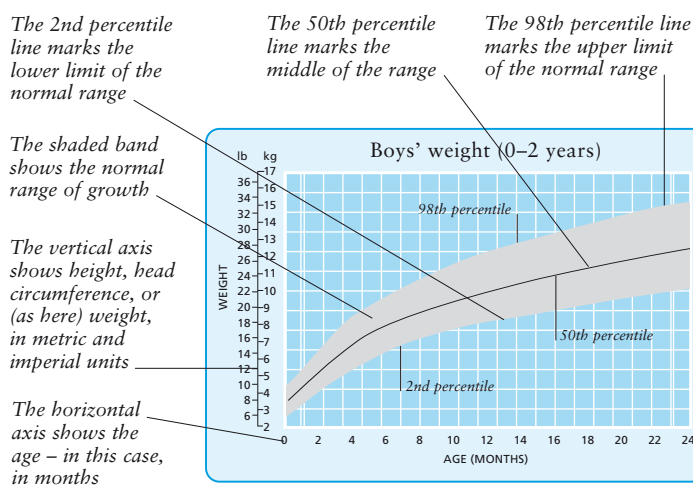


## Measuring your child's height

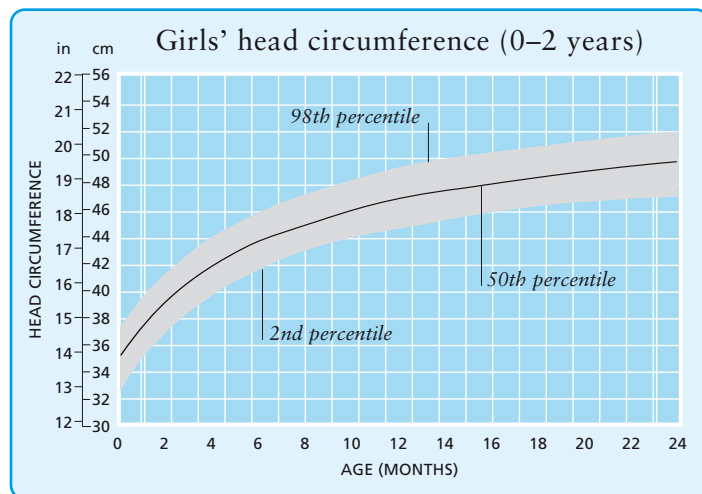
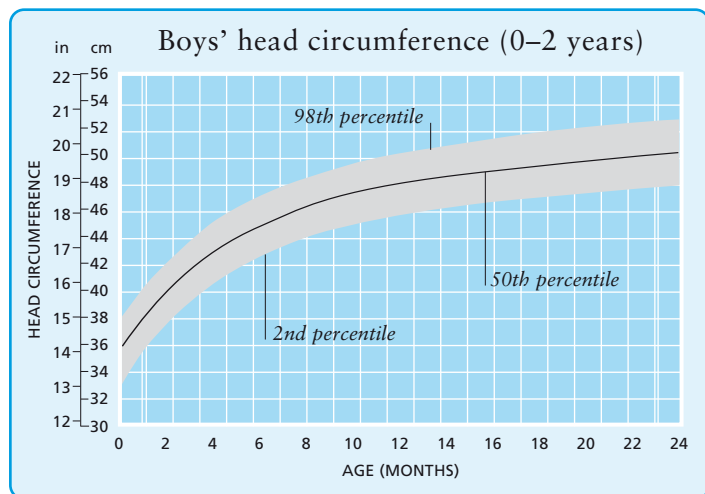
To measure your child, ask him or her to take off his or her shoes and stand against a wall. Rest a flat object, such as a book, vertically on your child's head. Mark where the base meets the wall. Measure the distance from the mark to the floor.

## Using the charts

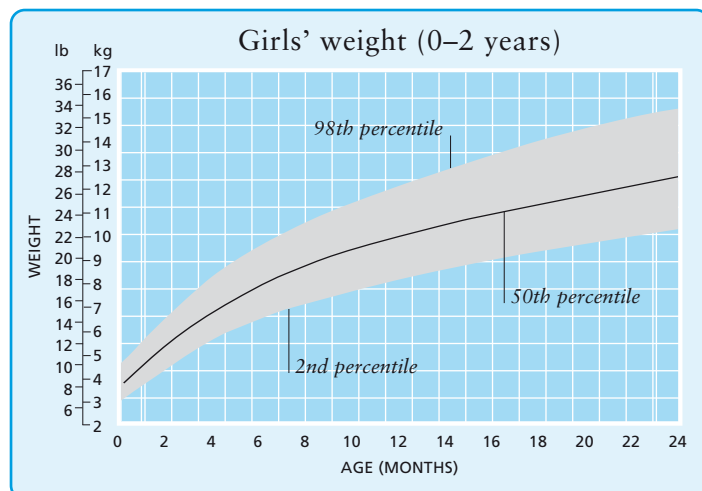
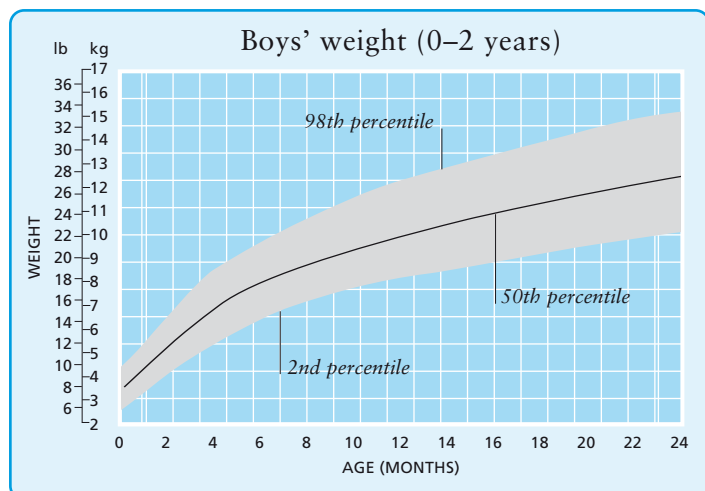
Find your child's age on the bottom of the chart and follow a vertical line up, then find the height, head circumference, or weight on the left of the chart and follow a horizontal line across. Mark the point at which these lines cross. If you plot these points at regular intervals, the points will form a curve showing your child's growth.



## Children's head circumference 0–2 years

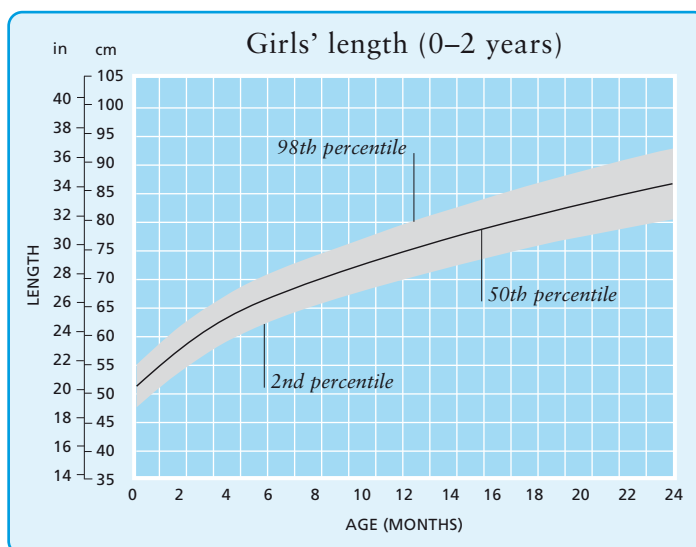
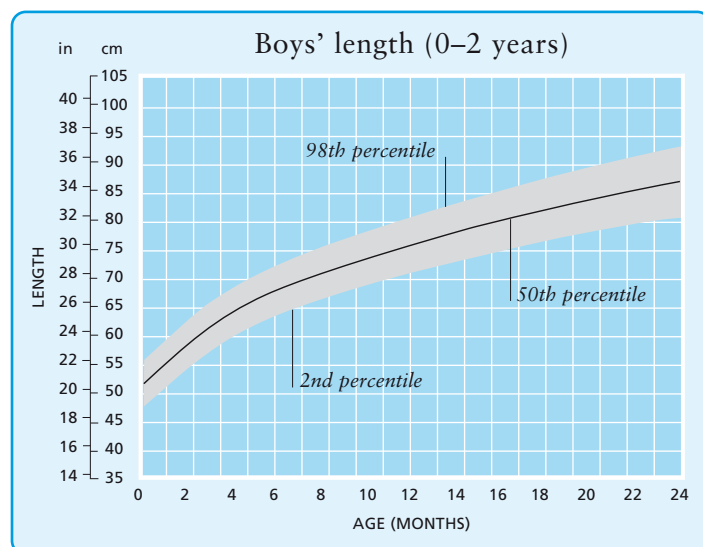


## Children's weight 0–2 years

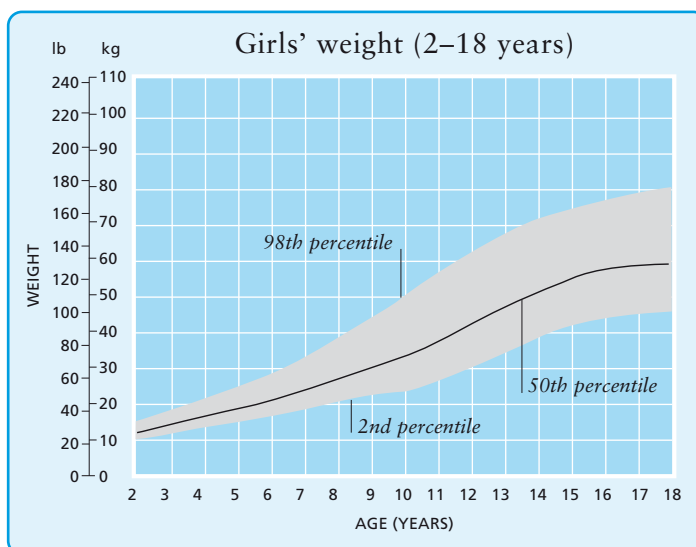
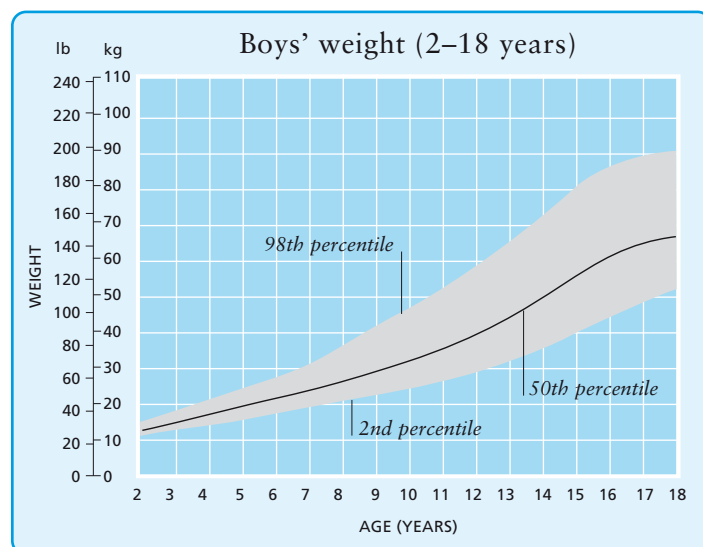




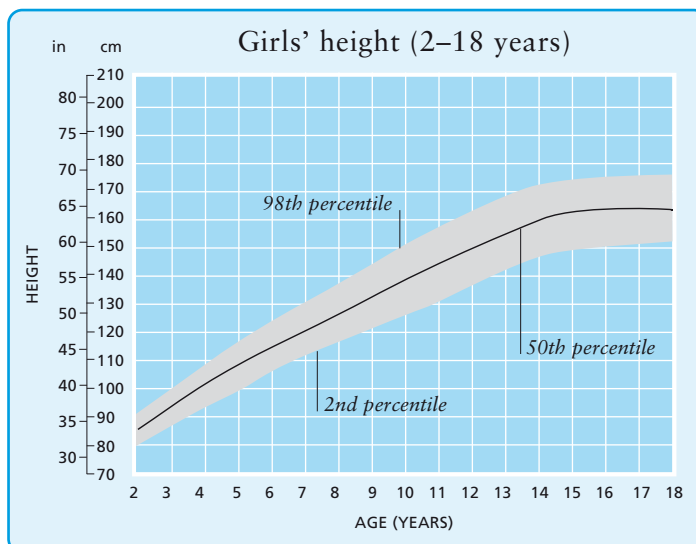
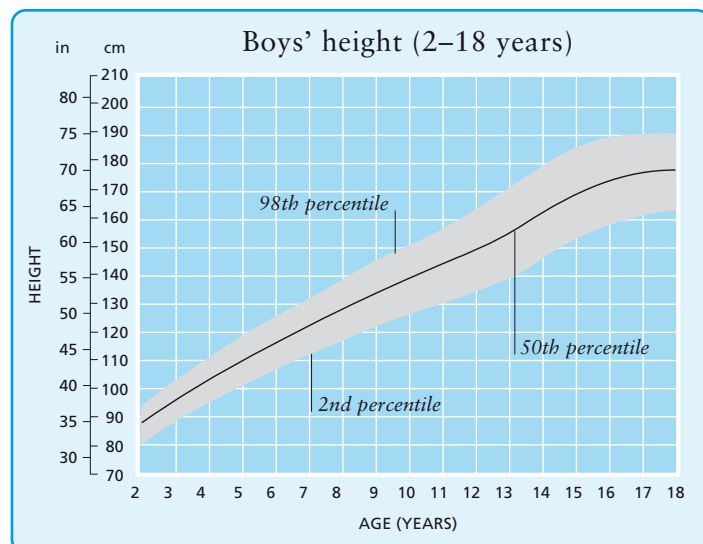
## Children's length 0–2 years



## Children's weight 2–18 years



## Children's height 2–18 years



# HEALTHY LIVING

## A healthy diet

Diet has a major influence on health. It can affect your risk of developing many diseases; for example, a high-fat diet increases your risk of heart disease. It is also crucial in weight control. For a balanced diet you need the correct amounts of carbohydrates, fats, proteins, vitamins, and minerals. Eat plenty of high-fibre foods, limit foods with a high fat or sugar content, and avoid large amounts of salt, alcohol, and caffeine. In addition, water is vital for life, and you should aim to drink at least 8 glasses (2 litres) a day.

*Milk and dairy foods provide protein, calcium, and certain vitamins, such as B<sub>2</sub>, B<sub>12</sub>, and D. They can form a fairly large part of your diet, but try to choose low-fat varieties so that you maintain a healthy weight*

### Food groups

*This pie chart shows the five main food groups and the proportion of your diet that each group should form. Foods in the larger segments of the chart should form a greater part of your diet than those in the smaller slices.*



## Vitamins and minerals

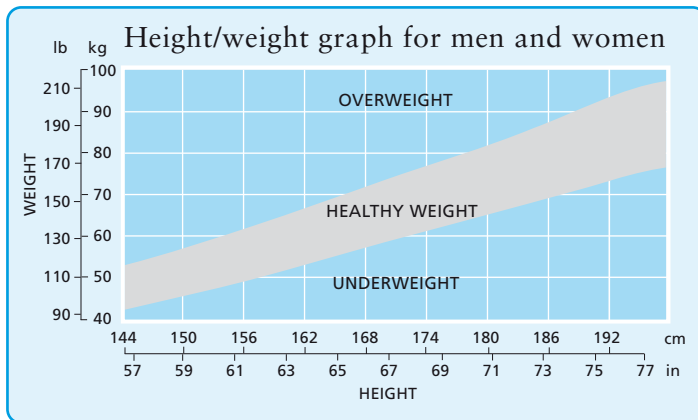
The body requires a range of vitamins and minerals because these substances play vital roles in growth and metabolism (the chemical processes that occur in the body). Vitamins D and K can be made in the body, but the other vitamins, and all minerals, must come from food. In affluent countries such as the UK, most people's diets supply the recommended daily allowances (RDAs) of vitamins and minerals, but certain people may need supplements. For example, pregnant women need extra folic acid for the health of the fetus, and vegans need extra vitamin B<sub>12</sub> because they do not eat meat or other animal products (the usual source of this vitamin). Do not take more than the recommended amounts of vitamins A, D, E, and K, because the body stores these substances and they can become toxic if excessive amounts build up in body tissues. In addition, pregnant women should avoid foods that contain high levels of vitamin A because of potential harmful effects on the developing fetus.

### Good sources of vitamins and minerals

Vitamin or mineral	RDA	Food sources	Necessary for
Vitamin A	1 mg	Eggs, carrots, liver	Eyes, hair, skin, bones
Vitamin B <sub>1</sub>	1 mg	Meat, peas, grains, cereals, breads	Energy production, nervous system
Vitamin B <sub>2</sub>	1.5 mg	Eggs, meat, dairy products, leafy green vegetables	Nervous system, muscles
Vitamin B <sub>3</sub>	15–20 mg	Fish, whole grains, peanuts, peas	Energy production, skin
Vitamin B <sub>6</sub>	1.5 mg	Meat, fish, whole grains, bananas	Blood formation, nervous system
Vitamin B <sub>12</sub>	1 µg	Milk, fish, meat, eggs, yeast	Blood formation, nervous system
Vitamin C	40–60 mg	Many fruits and vegetables	Body's use of iron, immune system
Vitamin D	5 µg	Dairy products, oily fish	Teeth and bones
Vitamin E	10 mg	Vegetables, eggs, fish, margarine	Maintaining cell membranes
Vitamin K	70 µg	Leafy green vegetables, formed by bacteria in intestines	Blood clotting, bone formation
Folic acid	200 µg	Leafy green vegetables, organ meats, whole grains, breads, nuts	Fetal nervous system, keeping cells and blood healthy
Calcium	at least 800 mg	Dairy products, eggs, peas, dry beans, edible fish bones	Bones, teeth, muscles, nervous system
Iron	14 mg	Eggs, meat, dairy products, leafy green vegetables	Red blood cell formation, muscles

## Assessing your weight

To avoid diseases associated with being overweight or underweight, you need to maintain your weight within the range considered normal for your height. To find out if you are within this range, you can use a height and weight chart such as the one shown below. You can also assess your weight by calculating your body mass index (BMI). To do this, divide your weight in kilograms by the square of your height in metres. A BMI figure under 20 indicates that you are underweight, while a figure over 25 shows that you are overweight.

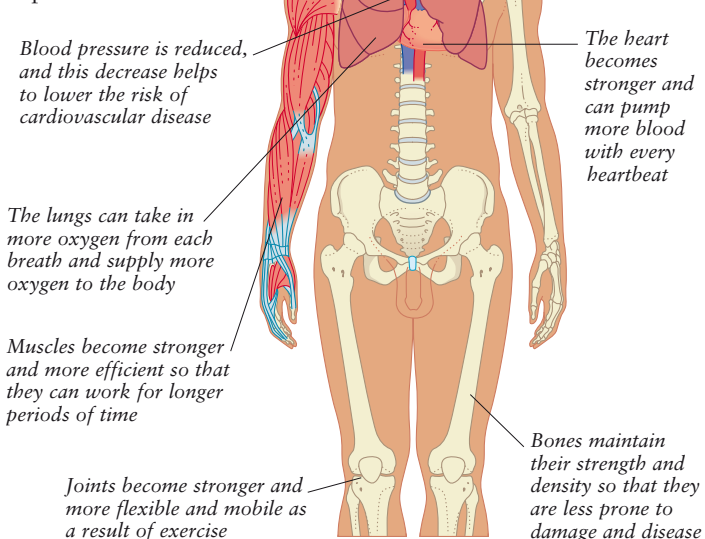


## Exercise

Most people know that exercise is an important part of a healthy lifestyle. Regular exercise protects physical and mental health. It can also reduce your risk of developing long-term disease, increase your life expectancy, and improve your quality of life in later years. When you make exercise a part of your daily routine, you will probably find that you have a lot more energy for ordinary daily activities such as shopping, housework, child care, and gardening.

### How exercise benefits health

Regular exercise benefits most of the body's systems, especially the cardiovascular, musculoskeletal, and respiratory systems. It can also benefit mental health by providing pleasure, reducing stress, and producing physical changes that improve mood.



## Planning an exercise routine

For exercise to be beneficial, it has to be regular. The recommended amount is at least 30 minutes of moderate exercise, such as a brisk walk, on at least 5 days of the week. To become fitter or lose weight, you will have to exercise harder. You need to do activities that work the heart and lungs (build stamina), improve joint mobility (increase flexibility), and increase muscle strength. If you have never exercised regularly before, or if you have any health concerns, consult your doctor before starting an exercise routine.

### Fitness benefits of different activities

Activity	Fitness benefits		
	Stamina	Flexibility	Strength
Aerobics	★★★★	★★★	★★
Basketball	★★★★	★★★	★★
Cycling (fast)	★★★★	★★	★★★
Climbing stairs	★★★	*	★★★
Dancing (aerobic)	★★★	★★★★	*
Golf	*	★★	*
Hiking	★★★	*	★★
Jogging	★★★★	★★	★★
Swimming	★★★★	★★★★	★★★★
Tennis	★★	★★★	★★
Walking (briskly)	★★	*	*
Yoga	*	★★★★	*

#### KEY

★ Small effect

★★ Good effect

★★★ Very good effect

★★★★ Excellent effect

## Exercising safely

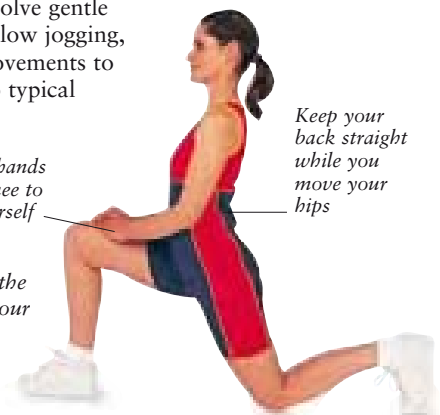
To avoid overexertion or injury, start by setting realistic goals. If you are not fit, begin exercising slowly and build up gradually. Take care not to overexert yourself so that you are in pain or feel ill. Make sure that you use the correct protective equipment, clothing, and footwear for your sport. Every time you exercise, start with a warming-up routine and finish with a cooling-down routine to prevent muscle cramps and stiffness and minimize the risk of injury. These types of routine involve gentle aerobic exercise, such as slow jogging, followed by a series of movements to stretch your muscles. Two typical stretches are shown here.

### Hip and thigh stretch

Kneel, then put one foot on the floor in front of you. Push your hips down and forwards to stretch the back thigh. Repeat for the other thigh.

*Rest your hands on your knee to steady yourself*

*Keep your back straight while you move your hips*



### Lower back stretch

Kneel, sitting on your heels. Stretch your arms above your head, bend forwards, and put your hands on the floor. Keep your arms, head, and body aligned.



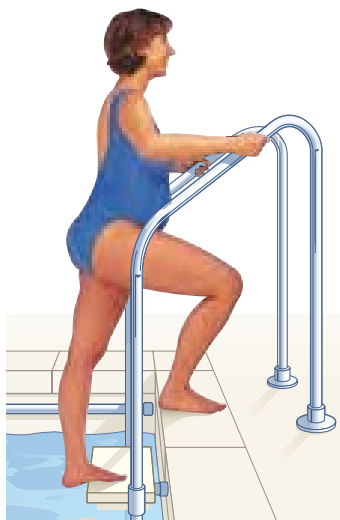


## Exercising at different ages

Most people, whatever their age, can derive physical and mental benefits from exercise. Apart from the overall improvements to your flexibility, strength, and stamina, exercise has different benefits for people at different stages of life. In children, it helps to build strong bones and muscles, improves coordination, and can also be fun. In adults, exercise helps to minimize the risk of heart disease. In older people, it helps to slow processes associated with aging, such as loss of bone density, and enables people to stay mobile for longer. Regular exercise can also enable pregnant women to cope better with the demands of pregnancy and childbirth.

### Activities for children

Games such as football can improve physical aspects such as strength, balance, and coordination. Such games can also be fun and enable children to make new friends with the other players.



### Pregnant women

During pregnancy, gentle swimming can allow you to stretch and exercise your muscles while the water supports your weight.



### Older people

Activities such as walking can help to lessen the effects of aging by maintaining your bone and muscle strength and joint flexibility.

## Alcohol

Alcohol is a drug that alters your mental and physical state, reducing tension and facilitating social interaction. For this reason, it has been used socially for centuries. However, in excess, alcohol may cause loss of control over behaviour and in the long term, physical, psychological, and social problems.

## Harmful effects of alcohol

Although moderate alcohol consumption makes you feel relaxed and can have a beneficial effect on health, excessive use of alcohol over a long period can result in serious health problems. When you have a drink, the alcohol is absorbed into the blood through the stomach and small intestine, reaching its maximum concentration in the blood 35–45 minutes afterwards. This level depends on factors such as your weight and whether you have drunk the alcohol with food or on an empty stomach; if you take alcohol with food, your body will absorb the alcohol at a slower rate. Alcohol is broken down by

the liver at an average rate of about 1 unit per hour (see VOLUME OF DRINK EQUAL TO 1 UNIT OF ALCOHOL, below). Your body cannot alter this rate, so that the more you drink, the longer it takes for your body to break down the alcohol. If you drink heavily at night, you may still be intoxicated the next morning. This situation can be dangerous if you plan to drive a vehicle or operate machinery.

In the short term, excessive drinking can cause intoxication and hangovers. In the longer term, alcohol damages most body systems. Regular, excessive drinking can also lead to alcohol dependence and social problems including domestic violence and vagrancy.

The brain's control of inhibitions and coordination is impaired by alcohol. Long-term drinking damages brain cells that control learning and memory

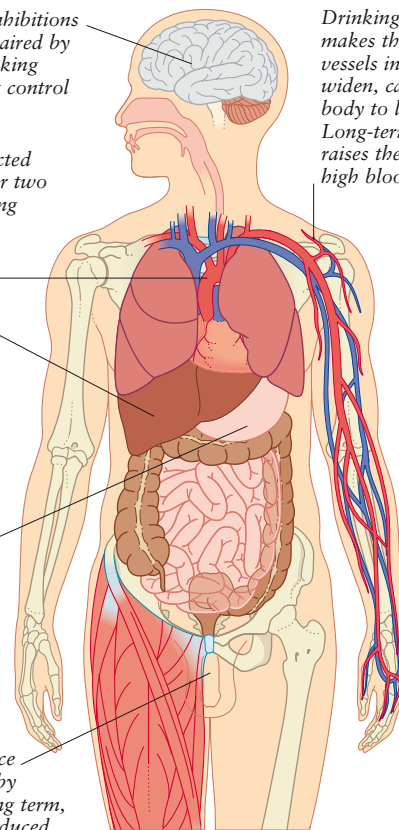
The heart may be protected against disease by one or two drinks a day, but drinking more than this amount will increase the risk of cardiovascular disease

The liver may become inflamed (hepatitis) by excessive consumption of alcohol. Long-term drinking can seriously damage the liver and cause diseases such as cirrhosis and cancer

The stomach and the duodenum (the first part of the small intestine) may become ulcerated as a result of long-term drinking. In addition, stomach cancer is a risk

Sexual performance may be impaired by alcohol. In the long term, fertility may be reduced

Drinking alcohol makes the blood vessels in the skin widen, causing the body to lose heat. Long-term drinking raises the risk of high blood pressure



## Safe alcohol limits

To drink alcohol safely, you should limit your intake. Alcohol consumption is measured in units. Current guidelines in the UK set by the medical profession state that, in general, men should drink no more than 3 units a day, and women no more than 2 units. Try to keep within these limits and have at least one or two alcohol-free days a week. The volume of a drink containing 1 unit depends on the percentage of alcohol by volume (abv). The higher the abv, the smaller the volume equivalent to 1 unit. The box below shows a selection of alcoholic drinks, each equal to 1 unit. Measures served at home or in bars may be larger than those shown here.

### Volume of drink equal to 1 unit of alcohol



HALF A PINT  
OF BEER  
(250 ml/10 fl oz;  
abv 3.5–4%)



SMALL GLASS  
OF WINE  
(75 ml/3 fl oz;  
abv 13%)



SMALL GLASS  
OF SHERRY  
(50 ml/2 fl oz;  
abv 20%)



SINGLE MEASURE  
OF A SPIRIT  
(25 ml/1 fl oz;  
abv 40%)

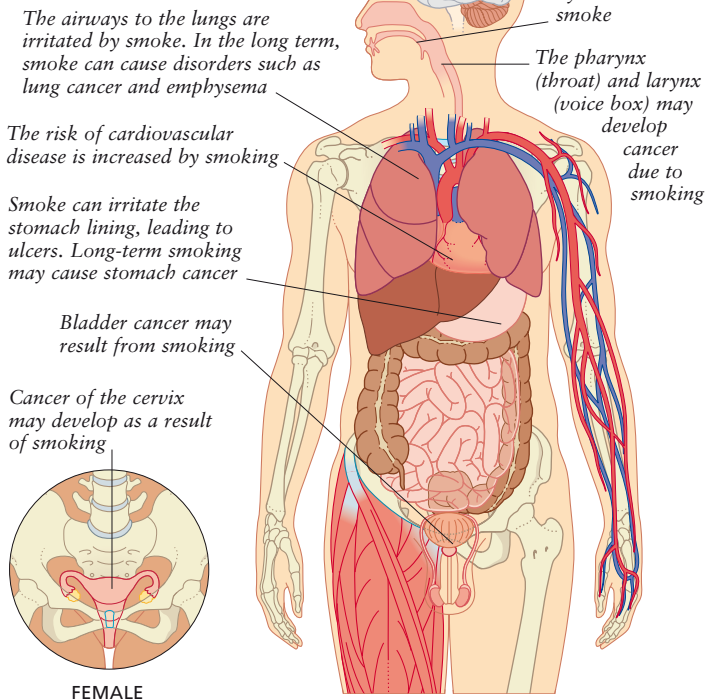
# Tobacco

Tobacco is most commonly smoked in cigarettes but can also be smoked in cigars and pipes, inhaled as snuff, or chewed. However it is used, tobacco is harmful to health. In the UK, smoking is one of the main causes of death in people under the age of 65. Smoking also damages the health of “passive smokers”, who inhale other people’s smoke. The only way to avoid these health risks is to avoid smoking or coming into contact with other people’s smoke.

## Health hazards of smoking

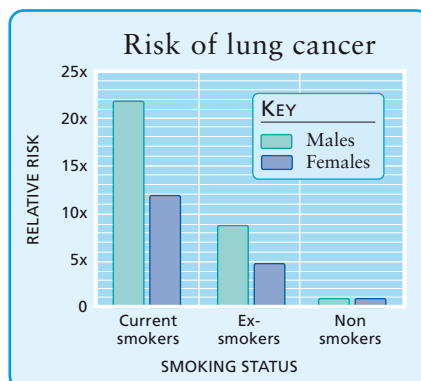
Tobacco smoke contains many substances damaging to health, such as tar, carbon monoxide, and nicotine. Tar irritates the airways; carbon monoxide attaches itself to red blood cells, reducing their ability to carry oxygen; and nicotine is addictive. Tobacco smoke also contains cancer-causing substances that can harm the lungs and other organs.

Inhaling smoke from smokers’ cigarettes and exhalations is known as passive smoking. The smoke can irritate the eyes, nose, and throat. In the long term, it may cause lung cancer and cardiovascular disease. In children, exposure to smoke increases the risk of infections, such as ear infections, and can trigger asthma and allergies. Babies born to mothers who smoke are likely to be smaller than average and at greater risk of sudden infant death syndrome (cot death).



### Smoking and lung cancer

This graph shows that male and female smokers are, respectively, over 20 and 10 times more likely to develop lung cancer than those who have never smoked. Ex-smokers have a much lower risk than current smokers; 15 years after giving up, they will have reduced their lung cancer risk by more than half.



## Giving up smoking

You can help to prevent heart or lung disease by not smoking or by giving up before you begin to develop the diseases. No matter how long you have been smoking, you can prevent further damage to your health by giving up. If you need help in giving up, consult your doctor for advice. If you want to try on your own, list the reasons why you want to stop smoking, then work out the reasons why you smoke. Plan ways to cope with temptation and ask your family and friends for support. Telephone helplines staffed by ex-smokers can be helpful. Choose a fairly stress-free day on which to stop smoking completely and throw away cigarettes, lighters, and ashtrays. You may have withdrawal symptoms, such as irritability, and crave nicotine. Aids such as nicotine patches or gum can help to stop cravings. If you relapse, work out why it has happened, refer to your reasons for giving up, and try again.

*Nicotine patch in place*



### Using a nicotine patch

Nicotine patches deliver a constant supply of nicotine through the skin, helping to stop cravings for cigarettes.

## Drugs

A drug is any chemical that alters the function of an organ or a biochemical process in the body. Drugs that are used to improve body functions or to treat diseases and disorders are known as medicines. Certain drugs, such as the sleeping drug temazepam, may be both used as medicines and abused for recreation. Other drugs, such as ecstasy, have no medicinal value and are used only for recreational purposes. Drug abuse can cause serious physical and mental problems, particularly if the abuser becomes dependent on a drug or takes an overdose, and may even cause death. In addition, the use of recreational drugs is illegal.

## Effects of drug use on the body

People use recreational drugs to alter their mood. The main types of drug are classified according to the usual mood change that they cause, but often they have a mixture of effects. Stimulants, such as cocaine, increase mental and physical activity; relaxants, such as marijuana and heroin, produce a feeling of calm; intoxicants, such as glue, make users feel giggly and dreamy; and hallucinogens, such as lysergic acid diethylamine (LSD), alter perception and cause hallucinations (seeing or hearing things that do not exist).

## Extreme reactions and risks of drugs

Drugs pose serious health risks. Overdoses of drugs such as heroin and cocaine can be fatal; other drugs, such as ecstasy, can also cause death. Some drugs affect vital functions; for example, heroin can slow breathing and heart rate. In addition, extreme reactions or adverse interactions with substances such as alcohol may occur. Another common effect is dependence, a condition in which users experience physical and mental cravings when they do not take a drug. Some problems may arise soon after taking a drug (even for the first time); others are associated with long-term abuse. Injected drugs carry additional risks associated with the use of nonsterile needles, such as HIV infection, hepatitis B or C, or blood poisoning. If you or someone close to you abuses drugs, ask your doctor for information on health risks and advice on counselling and treatment.

## Sex and health

Puberty, when the body makes the change from childhood to adulthood, prepares you physically for sexual activity and reproduction. The development of emotional maturity often takes much longer, and involves both learning about yourself and gaining experience in dealing with other people.

Sex can be an intensely pleasurable experience that boosts the feeling of wellbeing. In addition, regular sex can improve cardiovascular fitness and help prolong life. However, you should be aware of the health risks of sex, such as unwanted pregnancy and diseases, called sexually transmitted infections (STIs), that are spread only or mainly by sexual intercourse.

### Sexual relationships

Sexual fulfilment depends on a blend of physical and psychological factors, and what is right for one person or couple may not suit another. You and your partner should be happy with the frequency of sexual activity, and should be able to discuss which activities you enjoy or find unappealing. Anyone in a sexual relationship should be aware of transmitted infections (STIs) and understand how to minimize the risk of exposure to such conditions by practising safe sex (below). In addition, to avoid an unwanted pregnancy, you should be familiar with the options for contraception (see CONTRACEPTION CHOICES FOR MEN, p.254, and CONTRACEPTION CHOICES FOR WOMEN, p.276).

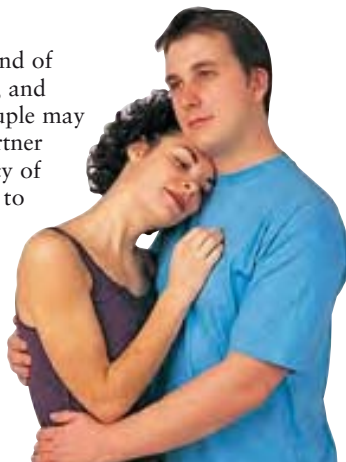
It is common to experience a temporary lack of sexual desire or inability to perform sexually (see LOW SEX DRIVE IN MEN, p.250, and LOW SEX DRIVE IN WOMEN, p.272). Such problems are often due to stress or emotional difficulties, or to the use of alcohol, recreational drugs, or certain medications. Disorders such as diabetes mellitus can cause longer-term sexual problems. It is important to discuss concerns with your partner. Talk to your doctor if the problem is persistent.

### Practising safe sex

Sexually transmitted infections (STIs) are usually spread by contact with infected skin or body fluids such as semen, blood, and vaginal secretions. Many STIs are uncomfortable but fairly minor problems, but some, such as HIV infection, are life-threatening. You can take simple steps to protect yourself. If you have sex with someone whom you do not know to be free of infection, use a condom, which gives protection against most STIs (apart from genital warts and pubic lice, which can affect body areas that are not covered by a condom). If you develop an STI, you should avoid sexual activity until you have been treated and are free of infection.

## Stress

Stress is a physical or mental demand that provokes certain responses in us, allowing us to meet challenges or escape from danger. A moderate amount of stress can improve your performance in situations such as sports and work, but excessive stress can harm your health. You can minimize harmful stress by identifying situations that you find stressful and developing ways to cope with them.



**Physical and emotional benefits**  
*Good sexual relationships fulfil both partners' needs for comfort and closeness as well as satisfying their physical desires.*

### Stress ratings of different life events

Very high	High
Death of a spouse	Retirement
Divorce or marital separation	Serious illness of family member
Personal injury or illness	Pregnancy
Loss of job	Change of job
Moving house	Death of close friend
Moderate	Low
Big mortgage	Change in work conditions
Legal action over debt	Change in schools
Trouble with in-laws	Small mortgage or loan
Spouse begins or stops work	Change in eating habits
Trouble with boss	Christmas or other holidays

### Sources of stress

Stress may result from external events or circumstances, your personal reactions to pressure, or a combination of these factors. Major external sources of stress include long-term problems, such as an unhappy relationship, debilitating illness, or unemployment; major changes, even desirable ones, such as marriage or moving house; and a build-up of everyday stresses, such as being late for work or getting caught in a traffic jam. Behaviour patterns that cause or aggravate stress include impatience and aggression, lack of confidence, and suppressing feelings of tension or anxiety.

### Recognizing signs of stress

If signs of stress are recognized early, action can be taken to prevent health problems. These signs may include having less energy than usual, a reduced appetite, or eating more than you do normally. You may have headaches, mouth ulcers, or be unusually susceptible to minor infections, such as colds. If you feel very stressed, you may be anxious, tearful, irritable, or low in spirits. Sleep may be disrupted, and relationships may suffer. To distract yourself, you may rely on alcohol, tobacco, or drugs. If stress is causing any of these problems, seek help from your family, friends, or doctor.

### Making lifestyle changes

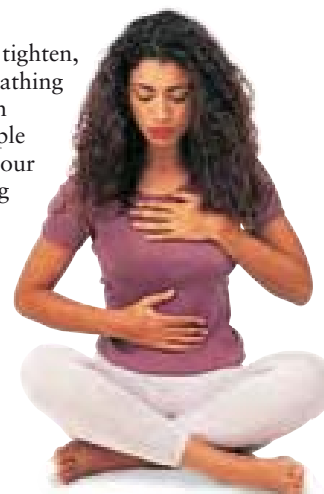
If your lifestyle is stressful, try to minimize the harmful effects that stress may cause. Find time to keep up with your family and friends, and take up leisure activities. Exercising regularly can help to relieve physical tension, as may learning to relax your body consciously (see RELAXATION EXERCISES, below). Break stressful tasks down into small, easy parts. Concentrate on important tasks and limit the number of less urgent ones to conserve your time and energy. If people make heavy demands on you, try to set limits on these demands.

### Relaxation exercises

If you are under stress, your muscles tighten, the heart beats more rapidly, and breathing becomes fast and shallow. Relax both your mind and body by learning simple relaxation routines that slow down your body's stress responses. The breathing technique shown here may help to reduce stress. For more information, ask your doctor if he or she can recommend any relaxation classes.

#### Breathing to relax

*Breathe slowly and deeply, using your diaphragm and abdominal muscles. Rest one hand on your chest and one on your abdomen: the lower hand should move more than the upper one.*





# Safety and health

Your environment, like your personal habits, can affect your health but can be modified to some extent. Accidents are a major cause of death and serious injury, particularly in elderly people and small children. Other health hazards include factors such as certain weather conditions and features of your environment at home or work. However, you can easily avoid many risks to health and safety, whether at home, at work, or when travelling, by identifying potential hazards and taking steps to avoid them.

## Home safety and health

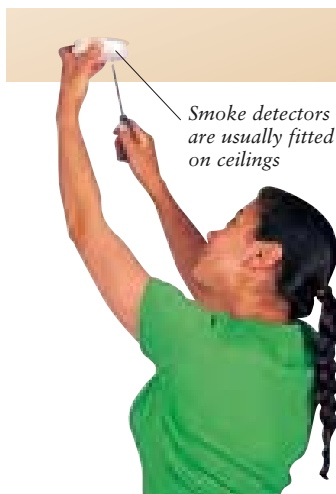
Accidents are a major hazard to health. Almost half of all serious accidents happen in the home, with elderly people and young children having the highest rates of injury. Elderly people are particularly vulnerable to falling, while children are at significant risk from poisoning by toxic household substances. Fire is another hazard. A significant risk to health is posed by poor kitchen hygiene, which can lead to food poisoning.

To prevent falls, install bright lighting, make rugs and mats secure, and keep floors tidy. If you have a small child, fit stair gates to stop the child from falling down the stairs.

Poisonous substances include drugs, cleaning fluids, carbon monoxide (a gas that is released by burning fuels), and lead. You should keep toxic substances out of reach of children. To prevent the build-up of carbon monoxide, have chimneys, heating systems, and gas appliances inspected yearly, and never run machines with petrol engines in a closed garage. To prevent lead poisoning, have lead pipes replaced and lead-based paint removed professionally.

Use fire or hot items with care; for example, if you are a smoker, be sure to put out cigarettes and matches once you have finished with them. To prevent electrical fires, do not overload electrical sockets. Store flammable materials, such as paints, in a shed or a garage. In addition, keep a fire blanket or extinguisher in the kitchen, and fit smoke detectors throughout your home, in case a fire breaks out.

To avoid food poisoning, keep your kitchen clean, cook food thoroughly, and store perishable foods in a refrigerator. Keep food in airtight containers, and use it by the recommended expiry date.



### Fitting smoke detectors

*Fit smoke detectors on every storey of your home. Take care to keep them free of dust and test the batteries once a month.*



### Using a stair gate

*If you have young children, fit gates at both the top and the bottom of staircases to help prevent falls. Check that the gates are too high for your children to climb over.*

## Safety in the garden

The greatest risks associated with gardens are from ponds or pools, poisonous plants and chemicals, garden tools, barbecues, and play equipment. Ponds can pose a risk to small children, who can drown even in shallow water. Take care to supervise children when they are playing around these areas. Toxic plants may cause symptoms such as skin irritation and, if swallowed, internal irritation and vomiting. A few plants may be lethal. Teach children that touching or eating plants may be dangerous. If a child does eat anything poisonous, call your doctor immediately, or take the child to hospital together with a sample of the plant. If you use poisonous garden chemicals, store them in a locked shed or cabinet. Consider safe alternatives, such as removing weeds by hand or applying chemical-free pesticides. Never leave dangerous machines or sharp tools where children can find them. When using such equipment yourself, wear the necessary protective clothing.

Insects such as bees, wasps, and mosquitoes can bite or sting. The venom may cause an allergic reaction. An extreme allergic reaction (anaphylaxis) can be life-threatening. To protect yourself, keep your arms and legs covered, and apply insect repellent to your skin.



## Pets and safety

Animals can cause allergies, and some infections and infestations may spread to people. Cat and dog faeces may contain dangerous organisms such as the eggs of the toxocara worm. If ingested, these eggs may cause toxocarasis, a disease that may lead to blindness. Cat faeces may also contain toxoplasma protozoa, which may cause serious harm to fetuses in pregnant women. Worm your pets regularly and dispose of their faeces hygienically. Teach children to wash their hands after touching animals. Because pets such as dogs can bite, they should never be left alone with young children.

### Handling dogs safely

*Teach children how to approach and stroke dogs correctly. Even a normally friendly dog may bite if provoked.*



## Safety in the sun

Overexposure to the sun may lead to sunburn, heatstroke, and, in the long term, serious problems such as skin cancer. You are at especially high risk if you have red or blond hair and green or blue eyes because your skin contains a low level of melanin, a pigment that absorbs ultraviolet light. To minimize the risk of sun damage, everyone should stay out of the sun in the middle of the day. If you are outdoors, make sure to protect your skin and eyes. Wear a wide-brimmed hat, a long-sleeved shirt, and long trousers or skirt. Use a sunscreen with a suitable sun protection factor (SPF); the higher the factor, the greater the protection it gives you.

Apply it 15–30 minutes before you go outside and re-apply it every 2 hours. Sunglasses should have British Standard mark BS2724 and give maximum protection from ultraviolet light.



Apply sunscreen to uncovered areas

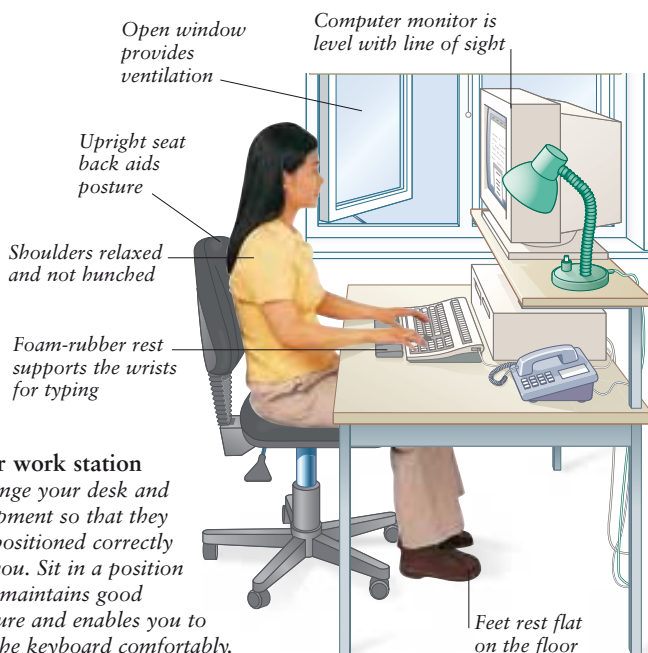
### Protecting children's skin

Babies and children are at high risk of sunburn because of their delicate skin. Keep babies out of the sun, and ensure that young children wear protective clothing and sunscreens.

## Safety at work

Both office work and manual jobs can involve certain risks to health. It is wise to find out about any potential risks associated with your work and take action to prevent them. If necessary, ask your employer for help in minimizing these hazards.

Office work rarely poses risks to your physical safety, but it can give rise to various health problems. Two of the most common physical conditions are lower back pain, due to poor posture while sitting at a desk, and repetitive strain injury (RSI), a type of muscle strain caused by repetitive movements such as typing. Another common problem is psychological stress (p.32), which may be due to factors such as demanding situations or poor relationships with colleagues. To avoid physical problems, you should make sure that your work space is well ventilated and is well lit. Sit with your back straight and feet on the floor. If you do a lot of typing, make sure that your wrists are supported while you work. If you are faced



Open window provides ventilation

Computer monitor is level with line of sight

Upright seat back aids posture

Shoulders relaxed and not hunched

Foam-rubber rest supports the wrists for typing

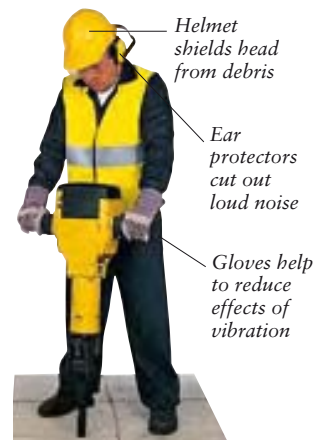
### Your work station

Arrange your desk and equipment so that they are positioned correctly for you. Sit in a position that maintains good posture and enables you to use the keyboard comfortably.

Feet rest flat on the floor

with stressful situations, try to resolve these problems, or seek help if necessary, before they start to affect your health.

Many types of manual work are dangerous. Working with machinery or heavy objects may put you at risk of injury. Many chemicals are toxic or have other harmful effects such as burning the skin. Some forms of dust, such as silica (found in sand and some rocks) and asbestos, can damage the lungs if inhaled. Other hazards include loud noise and extreme temperatures. Your employer should inform you of any risks and supply protective equipment. If you are self-employed, find out about possible risks to protect yourself and ensure that you conform to safety regulations for your work.



Helmet shields head from debris

Ear protectors cut out loud noise

Gloves help to reduce effects of vibration

### Using equipment safely

When using tools such as a drill, you need clothing and equipment that protect you from noise, vibration, and flying debris.

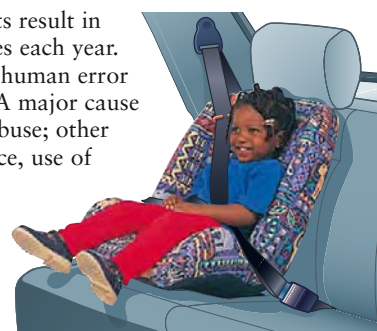
## Safety on the road

In the UK, road traffic accidents result in thousands of deaths and injuries each year. Nearly all accidents are due to human error rather than mechanical faults. A major cause of errors in drivers is alcohol abuse; other causes include lack of experience, use of medications, and tiredness.

These factors can delay reactions and impair drivers' judgment. Drivers should ensure that they are not tired or under the influence of alcohol, and check that any medications they are taking will not cause them to feel drowsy. Every occupant of a car should wear a seat belt. Young children should have car seats that are appropriate for their size and weight.

Motorcyclists and cyclists need helmets and clothing that will protect them from adverse weather conditions and injury. They should ensure that their lights work properly, and wear reflectors or bright clothing to make them visible to other road users.

Pedestrians should use pavements or footpaths, and should cross roads at pedestrian crossings. If there is no path, they should walk on the same side of the road as oncoming traffic. Anyone who has young children should ensure that they learn about road safety.



### Child seats

A car seat for a child should cushion the child from possible injury and should allow the seat belt to fit correctly across his or her body.

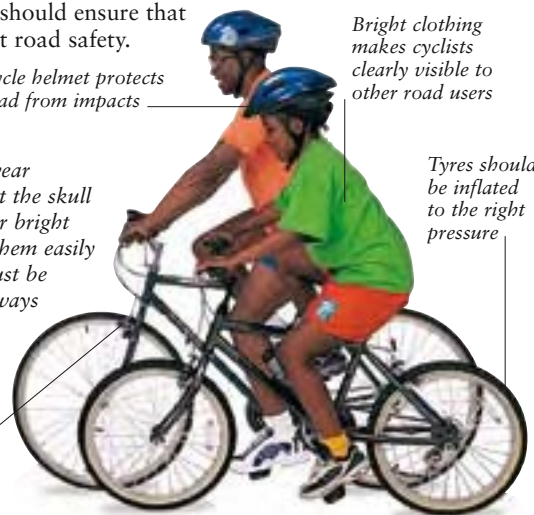
Cycle helmet protects head from impacts

Bright clothing makes cyclists clearly visible to other road users

### Cycling safety

Cyclists should wear helmets to protect the skull and fluorescent or bright clothes to make them easily visible. Lights must be used at night. Always maintain your bicycle in good working order.

Brakes must be checked regularly for wear and tear



Tyres should be inflated to the right pressure



# PROFESSIONAL HEALTHCARE

## Healthcare throughout life

Looking after your health involves not only following a healthy lifestyle but also making effective use of the healthcare system. Doctors and other professional healthcare workers provide treatment when you are ill and are also involved in some important elements of preventive healthcare. These include health education, checkups during childhood and later in life, screening tests to identify risk factors and early signs of disease, and immunizations to help prevent certain infectious diseases. To get the most from what professional healthcare has to offer, you need to be aware of the options for you and your family and to learn how to make the best use of the services that doctors and other healthcare professionals can provide.

## Healthcare providers

Most disorders can be diagnosed and treated by general practitioners (GPs). GP practices provide a range of services, including antenatal care and clinics for immunizations and for minor surgery such as wart removal. Some large practices also have other healthcare providers including practice nurses, dentists, physiotherapists, and some practitioners of complementary therapy, such as osteopaths. In addition, the NHS helpline, NHS Direct, provides advice on health by telephone or on the internet (see USEFUL ADDRESSES, p.311).

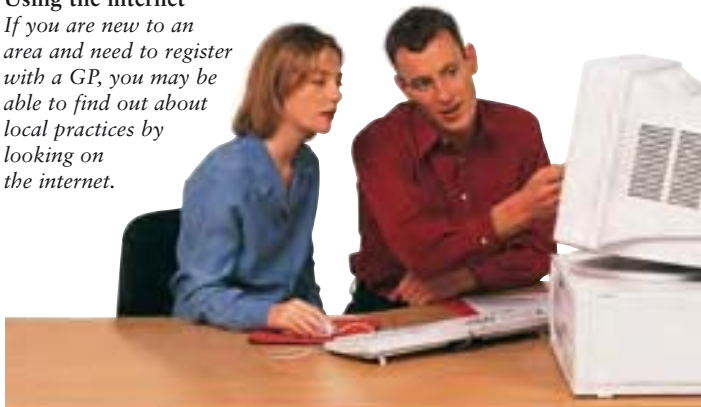
The usual way to obtain hospital care is by referral from a GP. However, if you have a severe accident or a serious problem such as heavy bleeding, you should go straight to an accident and emergency department in a hospital for treatment. If your injury or symptoms are not severe, you should consider waiting to see your GP or contact NHS Direct. Hospital clinics for the treatment of sexually transmitted infections, called STI clinics or genito-urinary medicine clinics, are also run on the basis of self-referral.

## Choosing a doctor

If you are looking for a new GP, you can obtain a list of doctors in your area from your Community Health Council or local library; you could also ask friends and neighbours if they can recommend anyone. When you find a likely practice, ask about their opening hours and how long, on average, you will have to wait for an appointment that is not urgent. In addition, ask whether the practice offers home visits, advice over the telephone, services provided by other healthcare professionals such as nurses, and special services, such as family planning clinics. You may also wish to ask if you can choose a female doctor rather than a male doctor (or vice versa), if you have a strong preference in this matter.

### Using the internet

*If you are new to an area and need to register with a GP, you may be able to find out about local practices by looking on the internet.*

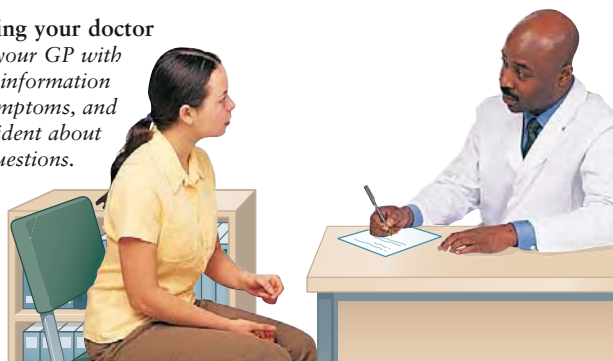


## Visiting your doctor

Before your first appointment with a new doctor, you may be asked to fill in a questionnaire about your health and lifestyle. On your first visit, your doctor will ask further questions and check if you are up to date with immunizations and screening. During later visits, the doctor will add notes to your medical records, which are transferred if you change to another GP. You have the right to see your own or your child's records. During a visit, do not hesitate to ask questions about your health and treatments. Most appointments last 7–10 minutes.

### Consulting your doctor

*Provide your GP with accurate information about symptoms, and feel confident about asking questions.*



## Your medical history

When you first visit a doctor, you will be questioned about your present and past health; treatments that you are having or have had; disorders that could run in your family; and aspects of your lifestyle, such as diet and exercise. The information gathered from these questions is known as a medical history. If you then visit your doctor with a disorder or unexplained symptoms, your medical history can help him or her to reach a diagnosis. In addition, if there is evidence that you are at risk of developing certain disorders, your doctor will suggest preventive measures or screening to detect early signs.

## Having a physical examination

When you see your doctor, you may have a physical examination to assess your state of health, look for abnormalities, or confirm or rule out a diagnosis. The examination usually begins with a check of external areas, such as the eyes, ears, skin, and nails, and a test of nervous reflexes. In some cases, the doctor can gather information about other areas apart from the one being examined; for example, a pale-coloured tongue may be a sign of anaemia. He or she may also check for abnormalities by listening to organs with a stethoscope (auscultation), by feeling (palpation), or by tapping areas and listening to the sounds produced (percussion).

### Listening to the chest

*The doctor uses a stethoscope to listen to sounds within the chest, such as those made by the heart and lungs. A stethoscope is also used to listen to sounds made by the intestines or by blood flowing through vessels.*



# Health checks and screening

Health checks provide an opportunity to discuss with your doctor or health visitor your or your child's general health. In the UK, children are offered routine checks that focus on healthy growth and development. In adults, health checks usually are given after registering with a new doctor, for insurance purposes, or when starting a new job. In addition, pregnant women and those with a long-term illness, such as diabetes mellitus, are offered regular checks. Health checks for adults usually involve a physical examination (p.35) and basic screening, such as blood pressure measurement. Screening is important in preventing disease by looking for factors that increase the risk of disease and in detecting disease at an early stage when there is the greatest chance of treatment being successful. In some cases, screening may also be used to detect a rare inherited disease that may affect you or your children. Some tests may only be appropriate at certain ages: for example, newborn babies are screened for certain metabolic disorders; and the faecal occult blood test, which screens for colorectal cancer, is being used increasingly often for people over the age of 50.

## Screening babies and children

In the uterus, babies may be tested for genetic disorders such as Down's syndrome. Immediately after birth, a baby's appearance and responses are checked for abnormalities, and a few days later, a blood sample is taken from the heel to look for hypothyroidism (underactivity of the thyroid gland) and phenylketonuria (a metabolic defect that can cause brain damage). In early childhood, the acquisition of certain skills, known as developmental milestones, is monitored (see **GAINING SKILLS DURING THE FIRST 5 YEARS**, p.25), and, throughout childhood, growth is checked (see **GROWTH CHARTS**, pp.26–27). Children should also have regular eye and ear tests (see **VISION TESTING IN CHILDREN**, p.101, and **HEARING TESTS IN CHILDREN**, p.105).

Blood smeared on a test card



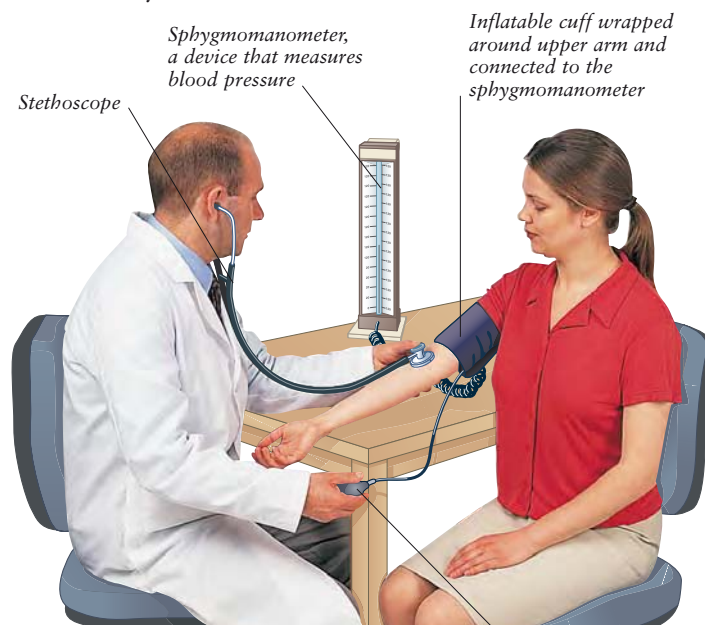
### Heel-prick test

The baby's heel is pricked with a small needle and a few drops of blood are smeared on to an absorbent card. The card is then sent to a laboratory for analysis. The results are available within a week or two.

## Screening adults

Some screening tests are offered to adults at stages of life when the risk of certain diseases increases. For example, screening for early signs of breast cancer and cancer of the cervix is offered on the NHS to women in specific age groups (see **COMMON SCREENING TESTS**, right). Screening tests for other cancers, such as colorectal cancer and prostate cancer, are available, but these tests are not yet offered routinely in the UK. One of the most common screening tests is blood pressure measurement. Usually, high blood pressure, or hypertension, does not produce symptoms but is a major risk factor for heart disease and stroke. Other screening tests that are recommended for adults include tests to check blood cholesterol

levels, which also affect your risk of heart disease and stroke, and eye pressure measurement, to check for glaucoma, a disorder that may cause blindness if left untreated. People with long-term disorders are usually offered regular screening to detect early signs of complications. For example, people with diabetes mellitus have regular screening for kidney disease, cardiovascular disorders, nerve damage, and problems in the blood vessels of the eye, which left untreated may lead to blindness.



### Blood pressure measurement

To measure blood pressure, the doctor wraps an inflatable cuff around the upper arm and inflates it. The cuff is slowly deflated while the doctor listens to blood flow through an artery by using a stethoscope.

Bulb for inflating and deflating cuff

## Common screening tests

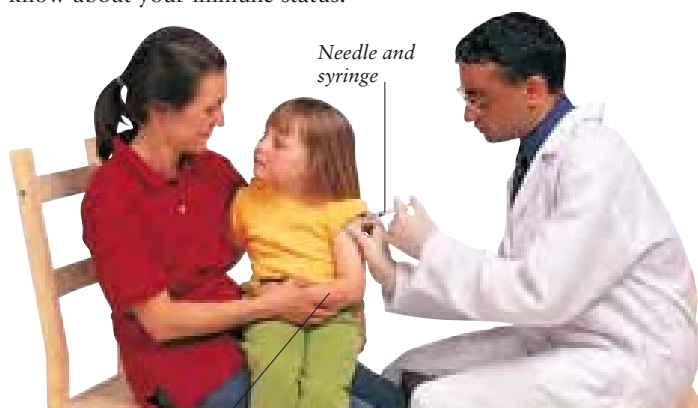
Test	When recommended	What it screens for
Heel-prick test (left); a blood sample is taken from the baby's heel	Shortly after birth	Hypothyroidism and phenylketonuria (a rare metabolic disorder)
Blood pressure measurement (above)	Every 5 years from about age 20	Hypertension (high blood pressure)
Blood cholesterol test; involves giving a blood sample for analysis	Every 5 years from about age 20	High blood cholesterol
Cervical smear test (p.264); a sample of cells is scraped from the cervix	Every 3–5 years for women between the ages of 20 and 64	Precancerous changes in cells of the cervix or cancer of the cervix
Faecal occult blood test; involves providing a sample of faeces for testing	Every year from age 50 on request from doctor	Colorectal cancer
Mammography (p.257); an X-ray of the breasts is taken	Every 3 years for women between 50 and 64 years old	Breast cancer
Screening for glaucoma (p.188); the pressure inside the eye is measured	Every 2 years from age 40; carried out by an optician	Glaucoma

# Immunization

Immunization protects you from infectious disease for several months or years, or even for life. It can be conferred by using either vaccines or immunoglobulins. A vaccine contains a tiny amount of either a killed or modified infectious organism or a modified toxin (poison produced by bacteria). Once inside the body, the vaccine stimulates the immune system to make antibodies, proteins that help to destroy the organism or toxin if encountered in the body. Immunoglobulins contain antibodies taken from the blood of a person or animal who has overcome a certain infection and give useful short-term protection. Most vaccines involve several injections over a period of months or years to build up adequate protection. Immunizations may have side effects, such as mild fever. However, serious side effects are extremely rare.

## Routine immunizations

Most routine immunizations are given during infancy and childhood according to an immunization schedule (below). The immunization schedule begins shortly after birth because it is important to protect babies against infectious diseases that may be life-threatening in infancy. You should keep records of all your immunizations and those of your children in case a doctor other than your GP needs to know about your immune status.



### Immunization

Most immunizations are given by injection, but a few, such as the one for the viral infection poliomyelitis, are given orally.

## Routine immunization schedule

Disease	Timing of immunization						
	Age (months)				Age (years)		
	2	3	4	12–15	3–5	10–14	16–18
Diphtheria*	✓	✓	✓		✓		✓
Tetanus*	✓	✓	✓		✓		✓
Pertussis*	✓	✓	✓				
Poliomyelitis	✓	✓	✓		✓		✓
Haemophilus influenzae type b (Hib)	✓	✓	✓				
Meningitis C (Meningococcus C)	✓	✓	✓				✓†
Measles, mumps, rubella (MMR)				✓	✓		
Tuberculosis (BCG)						✓	

\*Given as one vaccine to babies up to 4 months †If not given previously

## Immunizations for adults

The immunity given by some immunizations wears off after several years, so it is important for adults to have repeat doses known as boosters. For example, you need a booster immunization for tetanus every 10 years; the bacterium responsible for this disease is very common in the environment and you are at risk of infection if you sustain a dirty or deep cut. In addition, make sure that you have been immunized for poliomyelitis if you missed out in childhood. Immunizations are often given to adults who are travelling to areas where certain diseases are common (see TRAVEL IMMUNIZATIONS, below) or if there is a high risk of an infectious disease for health or work reasons (see IMMUNIZATIONS FOR SPECIAL CASES, below).

## Travel immunizations

The immunizations that you need before travelling depend on your destination, state of health, and current immune status, and the duration, type, and purpose of your travel. If you are planning to travel, make sure that you have been immunized against tetanus and poliomyelitis, and have booster doses if necessary. Most countries do not require visitors to have specific immunizations, but some may ask for a certificate showing that you have been immunized for yellow fever, a viral infection that can cause severe jaundice. Consult your doctor or local travel clinic about necessary immunizations at least 8 weeks before you travel because some immunizations require more than one dose to become effective. The table below shows the most common travel immunizations. Advice on immunizations for foreign travel changes frequently; always obtain current information.

### Common travel immunizations

Disease	Dosage	Destination
Diphtheria	1 injection	Former USSR or developing countries
Hepatitis A	1 injection (immunoglobulin)	Mediterranean or developing countries (single visit)
	2 injections (vaccine)	Mediterranean or developing countries (frequent visits)
Hepatitis B	3 injections over 6 months	Areas where hepatitis B is endemic; necessary if you may need to receive medical or dental treatment in a developing country
Japanese B encephalitis	2–3 injections 1–2 weeks apart	Rural areas of the Indian subcontinent, China, Southeast Asia, and the Far East
Meningitis A and C	1 injection	Saudi Arabia, Sub-Saharan Africa, Nepal, Brazil; immunization certificate needed if travelling to Mecca
Rabies	3 injections over 4 weeks	Areas where rabies is endemic; necessary if you will be working with animals or travelling in remote areas
Typhoid	1 or 2 injections or 3 oral doses	Areas with poor sanitation
Yellow fever	1 injection	Parts of Africa and South America

## Immunizations for special cases

In some circumstances, specific groups of people may need to be given immunizations that are not normally offered to most people. These immunizations are usually offered because these groups are at increased risk of developing a serious illness if they become infected. For example, immunizations against influenza and pneumococcal pneumonia are commonly given to people over the age of 65; to those who have reduced immunity, such as people with diabetes mellitus, HIV infection, or AIDS; and to those with long-term heart or lung disease. In addition, some people may need immunization if their type of work puts them at increased risk of an infectious disease. For example, people who work with animals may need to be vaccinated against the virus that causes rabies.



# MEDICAL TESTS

## Testing samples

Tests that are carried out on samples of body fluids, such as blood or urine, are often the first investigations requested by a doctor before making or confirming a diagnosis. Samples of urine and faeces can usually be collected easily by the patient, and blood samples by the doctor in his or her surgery. Some samples, such as cell and tissue samples and certain body fluids, may need to be collected during a hospital procedure. The results of tests on body samples can provide information on the function of certain organs, such as the liver or kidneys, or reveal the presence of abnormal substances or abnormal levels of normal substances, such as hormones, in the body. In addition, some tests can reveal the presence of disease-causing microorganisms. Most tests on body samples are carried out in a laboratory, but some may be performed in a doctor's surgery or even at home.

## Blood tests

Blood tests can be used to find information about the blood itself and to assess the function of other parts of the body, such as the liver. The samples are usually taken from a vein, but may also be taken from capillaries (tiny blood vessels) by a finger prick or occasionally from an artery. The most common blood tests performed are blood cell tests and blood chemistry tests. Blood cell tests include measuring the numbers of red and white blood cells and of platelets (cells that help blood to clot). Blood carries many substances apart from cells, and blood chemistry tests can measure the levels of these substances. These tests are used to detect kidney, liver, and muscle damage, certain bone disorders, and inflammation. One type is carried out to measure the level of cholesterol in the blood. In addition, blood chemistry tests are performed to see if a gland, such as the thyroid gland in the neck, is producing abnormal amounts of a hormone.

## Urine tests

Urine is most commonly tested for evidence of urinary tract infections or diabetes, and can also be used to assess kidney function. Most urine tests are dipstick tests, which involve dipping a chemically treated stick into a sample of urine to show the presence or concentration of specific substances, such as glucose, or the presence of infectious organisms. Dipstick tests are usually performed in a doctor's office. If the test suggests an infection, the sample may be sent to a laboratory to grow and identify the microorganism. A specific test for a hormone produced in pregnancy is the basis of the urine pregnancy test, which can be performed at home (see HOME PREGNANCY TEST, p.260).

The intensity of each colour shows the concentration of a certain substance

The chart shows possible test results



**Testing with a dipstick**  
When a dipstick is put into a urine sample, chemicals in the squares along the stick react and cause a colour change. Each square on the stick tests for a different chemical. After a specified amount of time, the colours of the squares, which indicate the concentration of substances in the urine, are compared to a chart.

## Tests on body fluids

Tests may be performed on body fluids from wounds or abnormal areas of skin, from mucous membranes such as those of the nose and throat, or from internal areas such as the inside of a joint or around the brain and spinal cord. The tests may involve looking for infectious microorganisms, abnormal cells such as cancerous cells, or abnormal levels of certain chemicals. Other tests involve assessing cells or other substances that are normally found in the fluid, such as sperm in a sample of semen. Some samples, such as saliva, can be collected by the individual; others by a doctor. The samples are then usually sent to a laboratory for analysis.

### Having a swab taken

Fluids from wounds or from body cavities, such as the mouth, are usually collected with a swab – a sterile cotton bud on a plastic stick.



## Tests on faeces

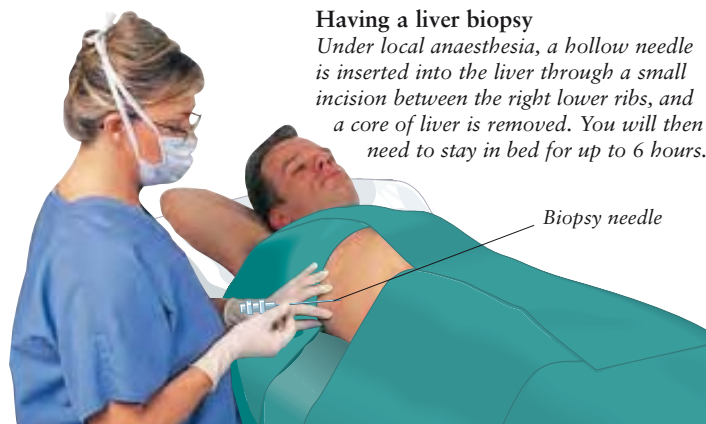
Samples of faeces may be tested for infectious microorganisms or for evidence of digestive disorders. One common test is the faecal occult blood test, which can reveal tiny amounts of blood invisible to the naked eye. This test may be carried out if the doctor suspects that there may be bleeding in the digestive tract. The test may also be used to screen for colorectal cancer. Tests on samples of faeces are usually carried out in a laboratory.

## Cell and tissue tests

Microscopic studies of individual cells, or of a larger sample of tissue containing a variety of cells, can give a definitive diagnosis for many disorders. Tests on cells are often used to diagnose cancer or screen for genetic disorders. Cells may be obtained from body fluids such as sputum (fluid coughed up from the lungs) or scraped from tissue surfaces such as the cervix (see CERVICAL SMEAR TEST, p.264). Cells may also be withdrawn from the body using a needle and syringe. This process, called aspiration, is often used to take cells from the lungs, thyroid gland, or breasts (see ASPIRATION OF A BREAST LUMP, p.256). Tissue tests are used to detect areas of abnormal tissue such as cirrhosis of the liver or tumours. Samples are taken by biopsy, in which a small piece of tissue is removed from parts of the body such as the skin (see SKIN BIOPSY, p.183) or the liver (below).

### Having a liver biopsy

Under local anaesthesia, a hollow needle is inserted into the liver through a small incision between the right lower ribs, and a core of liver is removed. You will then need to stay in bed for up to 6 hours.





## Physiological tests

Certain investigations that do not involve testing samples (opposite) or imaging internal structures (see IMAGING TESTS, right) can be performed to assess the function of organs or systems. These physiological tests are commonly used to assess vision and hearing, the nervous system, and the heart and lungs.

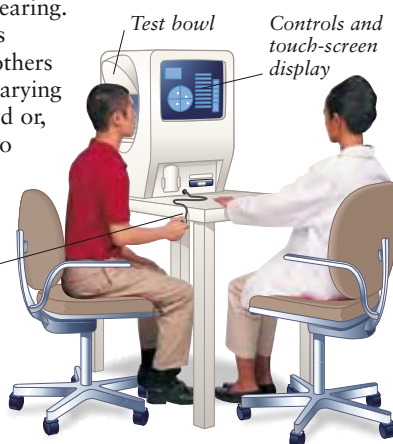
### Vision and hearing tests

The most common vision tests measure the ability to focus (see VISION TESTING, p.189, and VISION TESTING IN CHILDREN, p.101). Another test defines the visual field (the area that each eye can see independently). There is a range of tests for hearing. Some show how well sound is conducted through the ears; others measure how well sounds of varying pitch and volume can be heard or, in children, show the ability to hear speech (see HEARING TESTS, p.190, and HEARING TESTS IN CHILDHOOD, p.105).

Response button

#### Visual field test

*This test is used to map the visual field. You are asked to look at a screen and press a button when you see flashes in different areas of the screen.*



### Nervous system tests

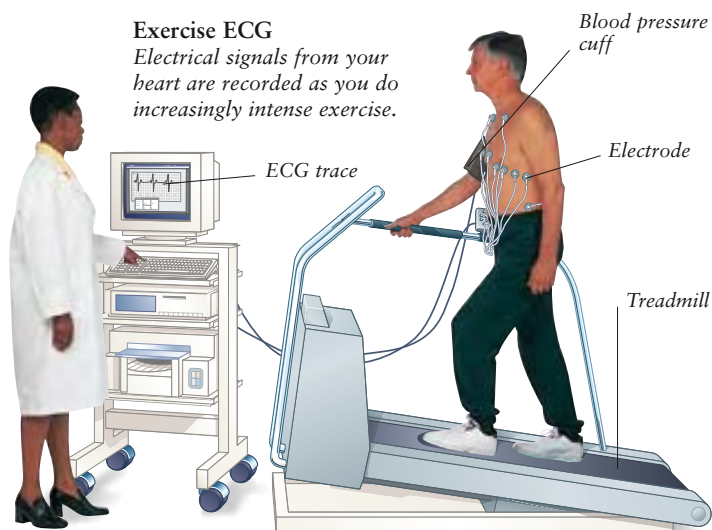
Some tests are used to establish whether nerves are able to conduct impulses normally. Abnormalities may be the result of something compressing a nerve or a disease such as diabetes mellitus. Another test, known as EEG, records the electrical activity produced in the brain and is useful for the diagnosis of disorders such as epilepsy.

### Heart and lung tests

Heart rhythm and rate can be monitored by tests in which the electrical activity in the heart muscle is recorded: electrocardiography (p.203), ambulatory electrocardiography (p.205), and exercise ECG (below). Lung function can be tested in various ways. The simplest is measuring peak flow rate (p.197), which is the maximum rate at which you can breathe out. More complex tests show how quickly the lungs fill and empty (to detect narrowed airways), show lung capacity (to check for disorders that cause the lungs to shrink), and measure blood levels of oxygen (see MEASURING BLOOD OXYGEN, p.201).

#### Exercise ECG

*Electrical signals from your heart are recorded as you do increasingly intense exercise.*



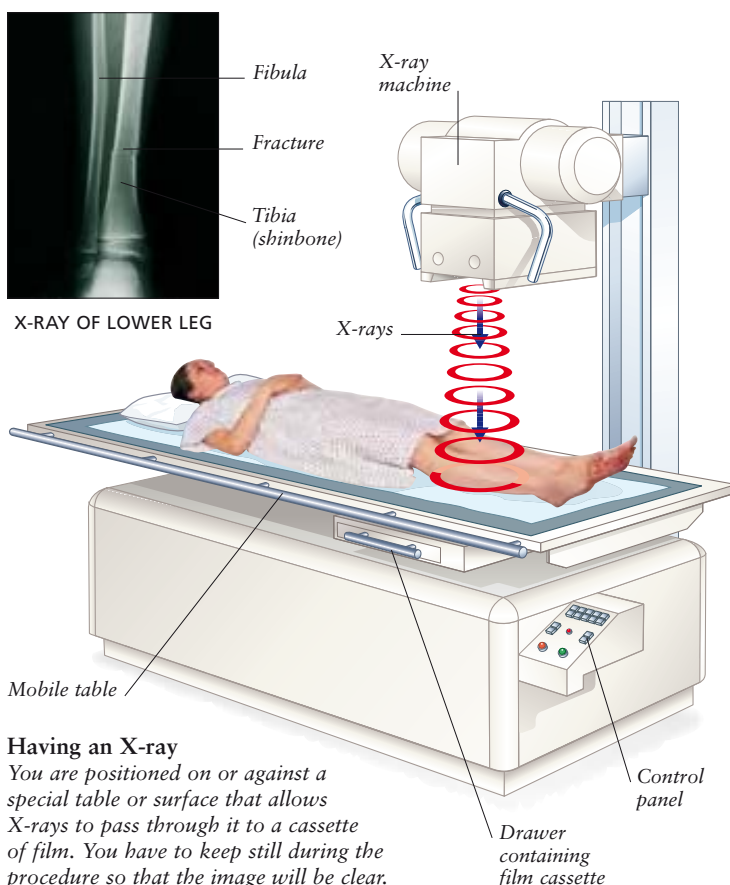
## Imaging tests

In imaging tests, energy is directed at or introduced into body tissues and detected by machines to produce images of internal structures. Many tests use X-rays; these tests range from conventional X-ray procedures to the computerized technique of CT scanning. X-rays carry the risk of exposure to harmful radiation, so some tests are available that use other forms of energy. For example, MRI uses magnetism and radio waves, and ultrasound scanning uses sound waves. Other imaging tests include radionuclide scanning, PET, and SPECT, which use radioactive substances introduced into certain tissues.

### X-rays

X-rays are a form of radiation that can pass through body tissues to leave an image on photographic film. The ability of the rays to penetrate tissues depends on the density of those tissues. Solid, dense tissues such as bone let few rays through and appear white on the image. Muscular organs, such as the heart, appear grey. Tissues containing air, such as the lungs, and fluid-filled areas, such as the bladder, let most of the X-rays through and appear black on the film. X-ray images are often used to assess bone injuries such as fractures or disorders such as arthritis. The images can also show disorders in some soft tissues, such as infection in the lungs, and breast X-rays are used to screen women for breast cancer (see MAMMOGRAPHY, p.257). X-rays may also be used in other imaging techniques, such as bone densitometry (p.239).

Hollow or fluid-filled structures do not show clearly on plain X-rays but can be imaged by introducing a contrast medium into the area before taking the X-ray. The contrast medium blocks X-rays and makes the area appear white on the image. Types of contrast X-ray include barium contrast X-rays (p.40), used to image the digestive tract; angiography (p.40), which shows blood vessels; and intravenous urography (p.227), which shows the urinary tract.



#### Having an X-ray

*You are positioned on or against a special table or surface that allows X-rays to pass through it to a cassette of film. You have to keep still during the procedure so that the image will be clear.*

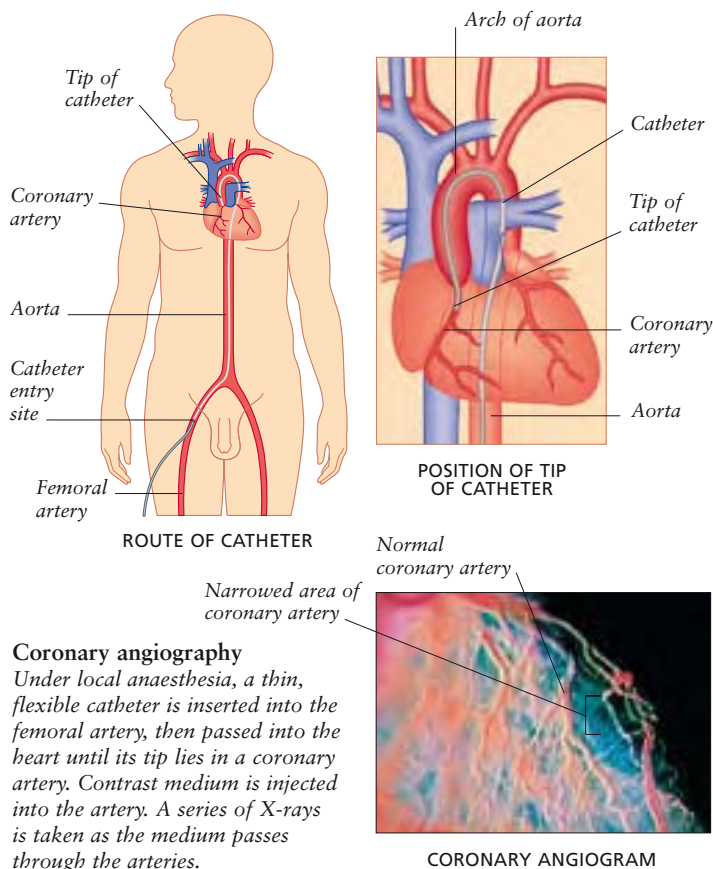
## Barium contrast X-rays

Parts of the digestive tract that are not visible on plain X-rays (p.39) can be imaged with barium contrast X-rays. Barium sulphate, which is a contrast medium (a substance that blocks X-rays), is introduced into the tract, then an X-ray is taken. If the oesophagus, stomach, or duodenum is to be investigated, the barium is swallowed in a drink, a procedure known as a barium swallow or meal. If the colon is to be viewed, the barium is given as an enema. These X-rays can reveal abnormalities such as tumours and narrowed or blocked areas.



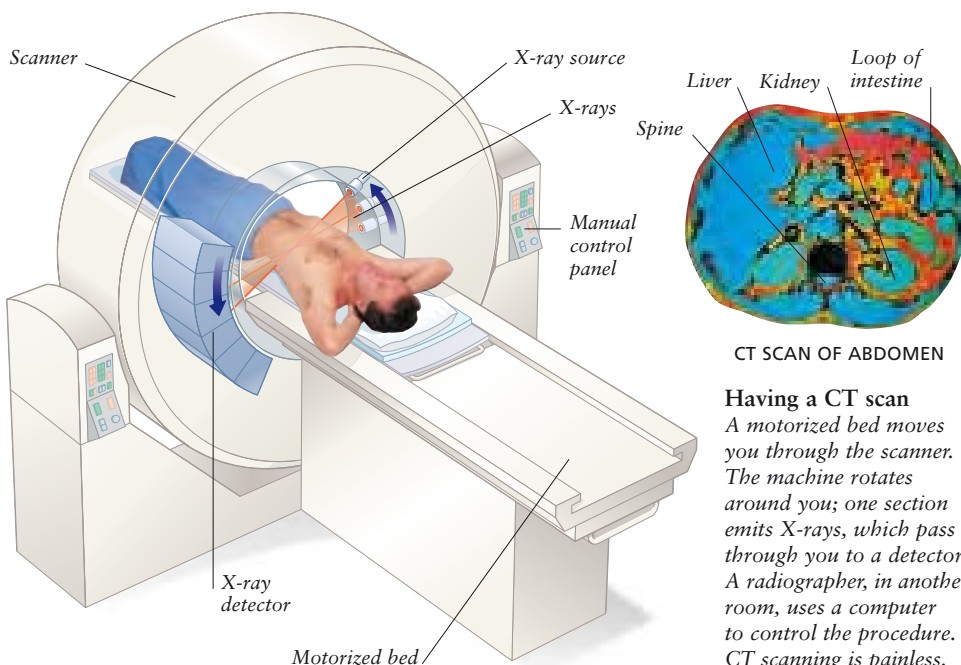
## Angiography

In angiography, a dye is introduced into arteries to make them visible on X-rays (p.39) and reveal problems such as narrowed areas. First, a catheter is inserted into an artery some distance away and passed through the body, under X-ray control, until it reaches the artery to be imaged. The dye is injected through the catheter directly into the vessel, so that it is not diluted by the blood, and a series of X-rays is taken. Coronary angiography (below) shows the arteries supplying the heart muscle. Femoral angiography (p.233) shows arteries in the legs.



## CT scanning

Computerized tomography (CT) scanning is an X-ray-based technique that produces detailed cross-sectional images of the body. The images show a wide range of tissues of varying densities that do not show clearly on plain X-rays. CT scans reveal the anatomy of organs and other body structures, as well as abnormalities such as tumours or scar tissue inside organs. The scanner moves around the body; one section emits X-rays, which pass through the body to a detector on the other side of the machine. This X-ray detector transmits data to a computer, which creates an image that is shown on a monitor or reproduced on X-ray film. Hollow or fluid-filled areas usually appear black on the images but can be shown with a contrast medium, which blocks the passage of X-rays. In some cases, data from the scans can be used to create three-dimensional images. CT scans are most commonly used to investigate the brain or the solid abdominal organs but may also be carried out to view the lungs.





## MRI

Magnetic resonance imaging (MRI) uses magnetic force and radio waves to create images of internal structures and tissues. MRI can reveal fine details and abnormalities more clearly than other forms of imaging. The scanner contains two powerful magnets and a radiofrequency source. One magnet creates a powerful magnetic field, which causes hydrogen atoms throughout the body to line up. The radiofrequency source emits radio waves that briefly knock the atoms out of alignment. As the atoms realign, they emit signals (resonance) that are picked up by the other magnet placed around the area being scanned. Information about the signals is transmitted to a computer, which produces an image on a monitor. MRI is often used to examine the brain and spinal cord. It is also used to investigate sports injuries such as torn tendons.

### Having an MRI scan

A motorized bed moves you into the scanner, and several scans are taken. You may be given earplugs because the machine is noisy. Some people find the machine claustrophobic, and if you feel nervous, you may be allowed to have someone with you.

Receiving magnet

Magnet that creates powerful magnetic field

Radiofrequency source, which emits radio waves

Skin

Patella (kneecap)

Fat

End of femur (thigh bone)

Cartilage within joint

End of tibia (shinbone)

MRI SCAN OF KNEE JOINT

Scanner

Manual control panel

Companion for patient

Motorized bed

## Ultrasound scanning

In ultrasound scanning, images are created using ultrasound waves (high-frequency, inaudible sound waves). A device called a transducer is moved over the skin or, in some cases, inserted into a body opening such as the vagina or rectum, and sends ultrasound waves into the body. Where tissues of different densities meet, or where tissue meets fluid, the waves are reflected; the transducer picks up the echoes and passes them to a computer, which creates an image on a monitor. The images are updated continually so that movement can be seen. Doctors often use ultrasound to look at fetuses in the uterus (see *ULTRASOUND SCANNING IN PREGNANCY*, p.280) or the walls and valves of the heart, or to detect abnormalities such as cysts and kidney stones. A technique called Doppler ultrasound scanning (p.235), which shows the direction and speed of blood flow, is used to detect problems such as narrowed arteries or clots in veins.

Ultrasound gel

Computer-generated image

Transducer

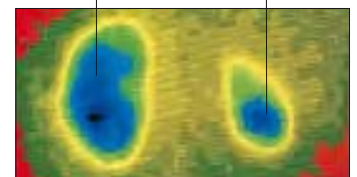
### Having an ultrasound scan

A gel is applied to the skin to improve contact with the transducer. The device is then moved across this area. The images of the internal structures appear on a monitor.

## Radionuclide scanning

Radionuclides are radioactive substances, and the radiation they emit can be used to create images. In radionuclide scanning, a tiny amount of the radionuclide is introduced into the body, usually by injection, then taken up by a specific type of tissue; for example, iodine is taken up by the thyroid gland. A device called a gamma camera detects the radiation and transmits data to a computer, which shows the tissue as areas of colour. The higher the level of cell activity in the tissue, the more radiation is emitted and the more intensely coloured the area appears. Radionuclide scans can show areas where cell activity is abnormally high, such as in tumours, or abnormally low, such as in damaged organs or cysts.

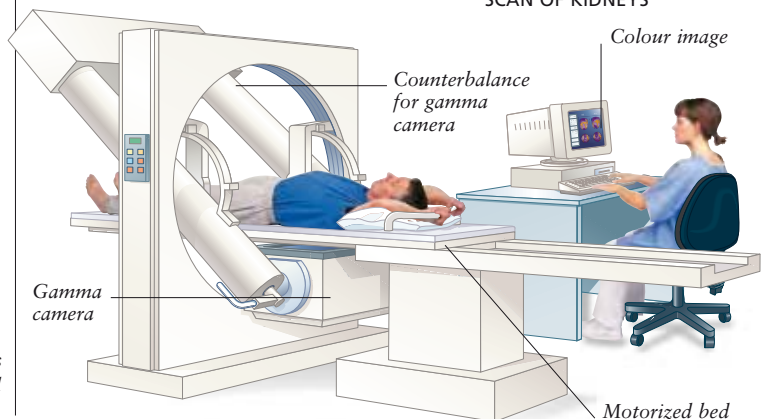
Normal kidney Damaged kidney



SCAN OF KIDNEYS

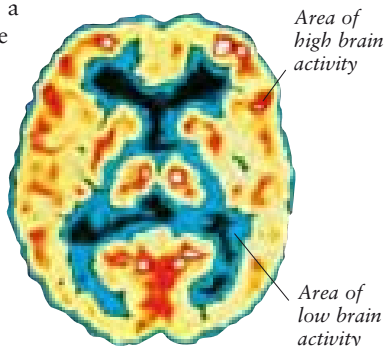
### Having a radionuclide scan

Once your body has absorbed the radionuclide, you lie on a motorized bed that positions you over the gamma camera, which detects the radiation from the radionuclide. A computer interprets this as an image.



## PET and SPECT scanning

Positron emission tomography (PET) and single-photon-emission computerized tomography (SPECT) are forms of radionuclide scanning (p.41). In both, a radionuclide (radioactive substance) is introduced into the body and taken up by tissues, and the radiation emitted is detected by a scanner. PET uses a radionuclide attached to glucose or other molecules essential to cell metabolism and can show the functioning of individual cells within tissues. It is mainly used to assess the heart and the brain. SPECT uses radionuclides that emit photons (a form of energy), whose movements can be traced by the scanner. The technique can show blood flow within organs and is used to assess if they are functioning normally. SPECT is chiefly used to assess the brain, heart, liver, and lungs.



**PET scan of normal brain**

*In this cross section of the brain, the yellow and red patches are highly active areas and the blue and black patches are less active areas.*

## Endoscopy

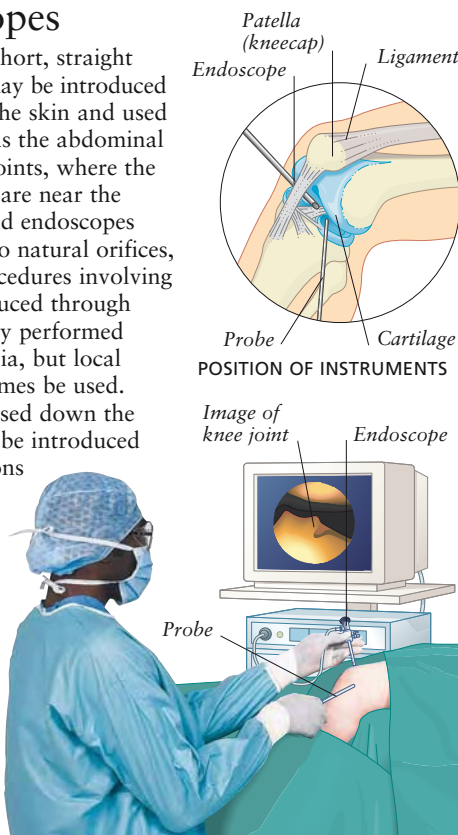
Endoscopy is a procedure in which a doctor views internal structures using a tube-like instrument called an endoscope, which includes a fiberoptic light source and magnifying lenses. The tip of the endoscope is passed through a natural body opening, such as the mouth, or a small incision in the skin. A rigid or flexible endoscope may be used, depending on the area to be examined. The view may be seen directly through an eyepiece or shown on a monitor. Endoscopy may be used for diagnosis or for treatments.

### Rigid endoscopes

A rigid endoscope is a short, straight metal viewing tube. It may be introduced through an incision in the skin and used to examine areas such as the abdominal cavity or the inside of joints, where the structures to be viewed are near the surface of the skin. Rigid endoscopes may also be inserted into natural orifices, such as the rectum. Procedures involving rigid endoscopes introduced through skin incisions are usually performed under general anaesthesia, but local anaesthesia may sometimes be used. Instruments may be passed down the endoscope or they may be introduced through separate incisions made in the skin.

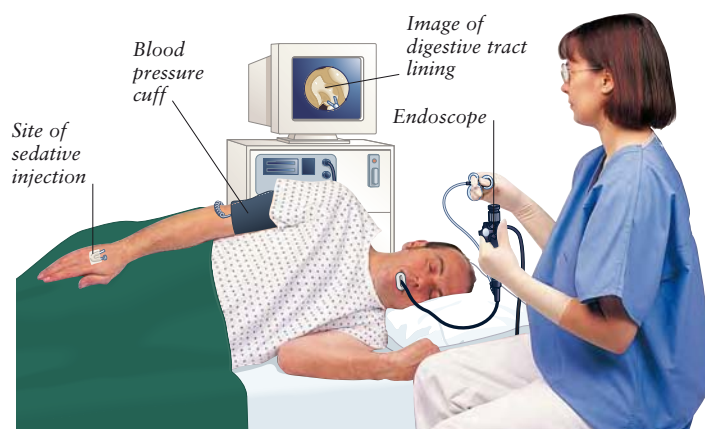
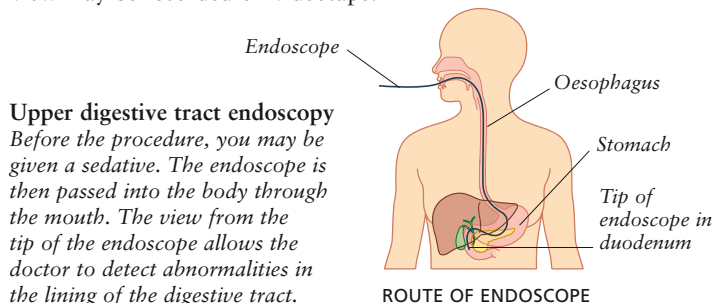
#### Endoscopy of the knee

*Small incisions are made on either side of the knee. The endoscope is inserted through one incision, and a probe is inserted through the other. The probe is used to move tissues so that certain structures can be viewed more clearly.*



## Flexible endoscopes

A flexible endoscope has a long, thin tube that can be steered round bends in internal passages, such as the oesophagus and the colon, and enter deep into the body. These endoscopes are often used for viewing inside the digestive and respiratory tracts. The instrument is inserted through a natural opening such as the mouth or anus; the person undergoing the procedure is first given a sedative or a local anaesthetic, for example, sprayed on to the back of the throat. The endoscope incorporates a system of lights, lenses, and optical fibres, and usually a video camera at the tip, allowing the doctor to view structures either directly through an eyepiece or on a video screen. If procedures, such as taking tissue samples, need to be carried out, very fine instruments can be passed down the tube, and the doctor can use the view from the tip as a guide during the procedure. The view may be recorded on videotape.

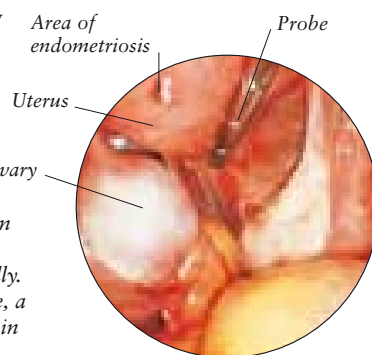


## Endoscopic treatments

Endoscopy can be used for surgical treatments, often referred to as minimally invasive surgery. These treatments may even occur at the same time as the endoscopy is being used to make a diagnosis. The surgery is performed by using instruments passed down the endoscope. Endoscopic treatments include removal of intestinal polyps or diseased tissue (such as an inflamed gallbladder) and laser surgery to treat endometriosis. The doctor uses the endoscopic view as a guide during the procedure. Such operations are usually better for the patient than conventional surgery because the patient recovers faster and spends less time in hospital. In some procedures, such as laparoscopy (investigation of the abdomen), gas may be pumped into the abdomen to create more space and provide a better view.

#### View of endometriosis

*Endometriosis, in which tissue from the uterus lining grows outside the uterus, can be treated endoscopically. In this view through the endoscope, a probe holds tissues out of the way in preparation for laser surgery.*





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# SYMPTOM CHARTS

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The charts help you identify the possible causes of a symptom, tell you when to seek medical help, and, if appropriate, suggest how you can treat the symptom or its cause yourself. The section consists of charts for children of different ages, charts for all adults, and charts specifically for men and for women. The information at the beginning of the section explains how to use the charts most effectively and how to identify the most appropriate chart for your symptom.



# HOW TO USE THE CHARTS

Each of the 150 charts in this section covers a symptom or group of related symptoms and is similar to the example below. The chartfinders on pages 46–48 will help you find the chart you need for your symptom. If you have more than one symptom, choose the chart that deals with the symptom that bothers you the most. To use a chart, follow the pathway of questions with yes/no answers

until it leads to a possible cause or causes (there may be several possible diagnoses for a given set of symptoms) and action. The action tells you what your doctor may do or what might happen in hospital and, if self-help measures are appropriate, what you can do yourself. Many charts have boxes that give further self-help advice or provide information about disorders, tests, or treatments.

## Warning box

This box highlights danger signs that need urgent medical attention or provides key information. Read the box first before working through the chart

## Starting point

The starting point for each chart is always located in the top left corner of the page

## Question boxes

These boxes ask for further information about your symptoms and can be answered YES or NO. Make sure that you read the questions carefully

## Yes and No options

You can leave each question box by answering either YES or NO. YES is always to the right of a box, and NO is always at the bottom of a box

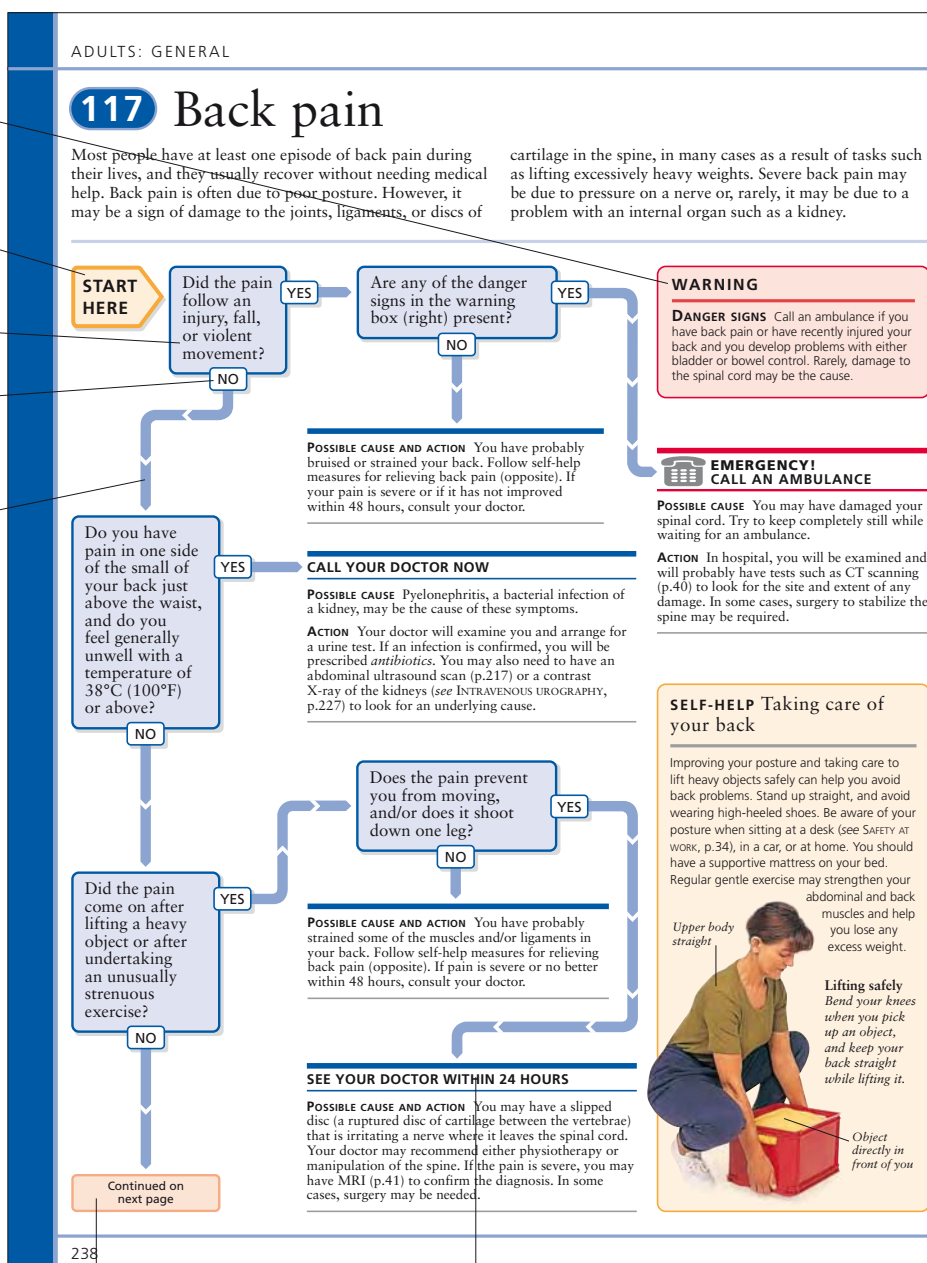
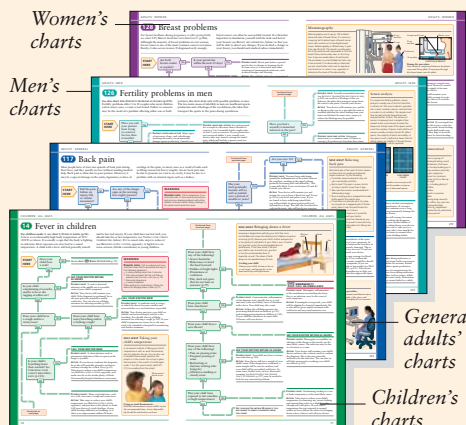
## Pathway

The arrowed pathways lead you from one question to the next and eventually to a possible diagnosis

## How the charts are organized

The charts are divided into four groups, each group indicated by a different colour bar down the edge of the page. The groups are:

- Charts for children: problems affecting children of all ages, as well as charts specifically for babies under one and adolescents.
- General charts for adults: problems that can affect both men and women
- Charts for men: specific problems affecting men
- Charts for women: specific problems affecting women, including symptoms during pregnancy.



## Continuation box

On two-page charts, these boxes show that the pathway continues on the second page. Another box appears on the second page in a matching colour to tell you where to pick up the pathway

## Instructions for obtaining urgent medical help

These instructions tell you what to do when you need prompt medical help rather than a routine appointment with your doctor. They say whether to call an ambulance or how quickly to get in touch with your doctor

**Possible cause or causes**

This text tells you which condition or conditions are most likely to be responsible for your symptoms and whether you should consult your doctor

**Action**

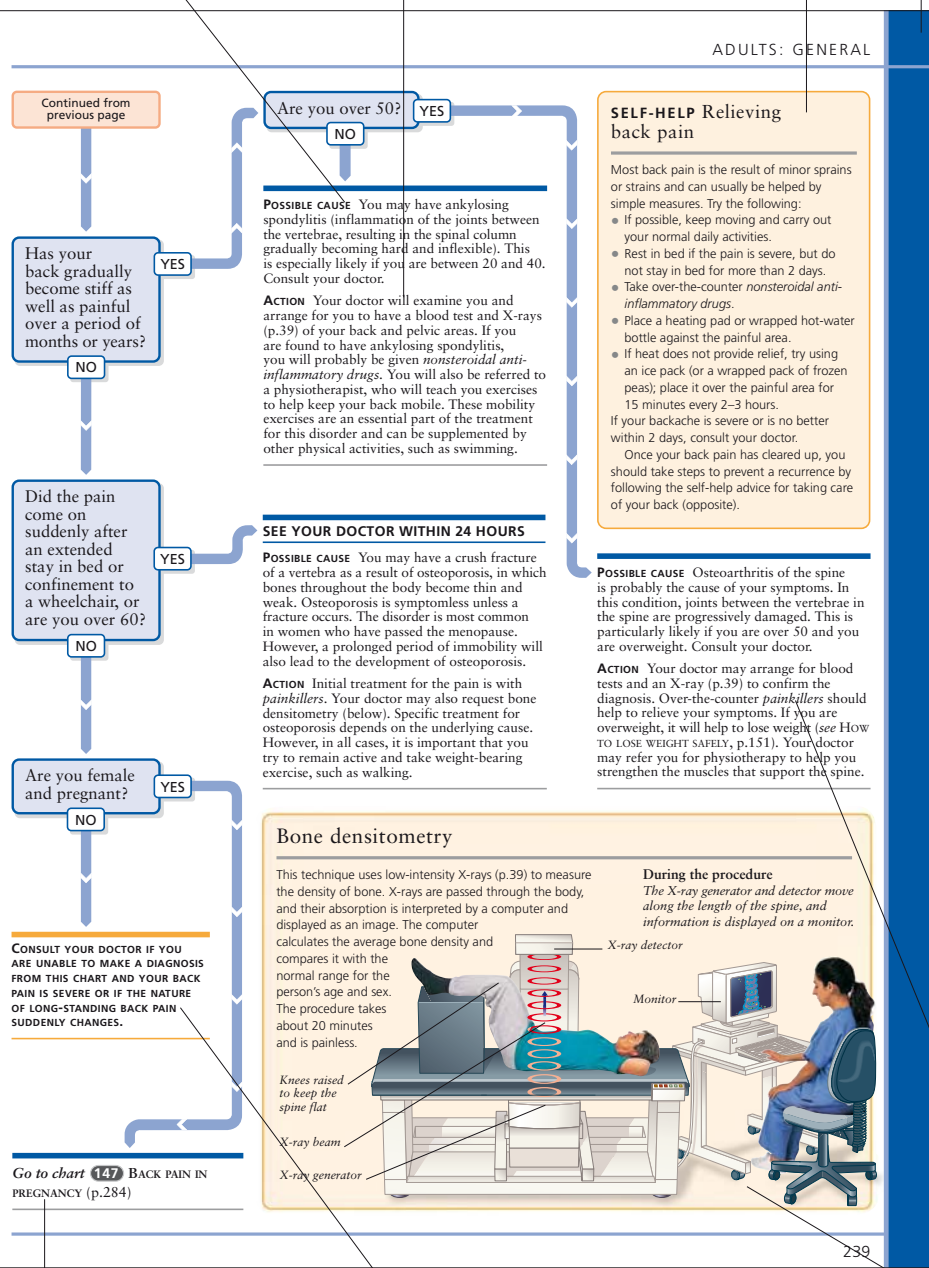
This text tells you what can be done for your condition. If medical help is needed, it will tell you about tests you may have and likely treatments. If medical help is not necessary, information may be given on what you can do yourself

**Colour bar**

Each group of charts is identified by a colour bar, helping you to find the chart you want more easily

**Self-help box**

This type of box may outline practical measures that you can take to relieve symptoms or cope with your problem. Alternatively, there may be advice on how to assess the severity of a symptom; for example, by taking body temperature during a fever

**Consult another chart**

These instructions send you to another chart in the book that may be more appropriate for your symptoms or may give you additional information

**Cause not identified**

If you have not been able to find an explanation for your symptoms, you will usually be told to consult your doctor. In some cases, you will be given a suggested time, such as 48 hours, within which to consult your doctor if symptoms are no better

**Instructions for obtaining urgent medical help**

If your symptoms suggest that you need urgent medical attention rather than just a routine appointment with your doctor, the instructions at the end of a pathway will tell you what to do. There are three different levels of urgency. In the most urgent cases that are potentially life-threatening, you will be told to call an ambulance. For other urgent cases, you will be told to get help from your doctor either at once or within 24 hours. The instructions are fully explained below.

**EMERGENCY!  
CALL AN AMBULANCE**

Your condition may be life-threatening unless given immediate medical attention in hospital. Usually, the best way to achieve this is by calling an ambulance so that you can be given medical care in transit. In some cases, going by car to the accident and emergency department of the nearest hospital may be a better option, for example if an ambulance cannot reach you quickly.

**CALL YOUR DOCTOR NOW**

Your symptoms may indicate a serious problem that needs urgent medical assessment. Even if it is the middle of the night or the weekend, you should call your doctor immediately. He or she may visit you at home or want to see you at the surgery immediately. If you cannot get in touch with your doctor within 1 hour, call NHS Direct (see **USEFUL ADDRESSES**, p.312) or go to the accident and emergency department of your nearest hospital. If possible, go by car or taxi; failing that, phone for an ambulance.

**SEE YOUR DOCTOR WITHIN 24 HOURS**

You need prompt medical attention, but a short delay is unlikely to be damaging. Telephone your doctor and ask for an urgent appointment within the next 24 hours or contact NHS Direct (see **USEFUL ADDRESSES**, p.312) for advice.

**Drug treatments**

If a type of drug, such as a painkiller or sleeping drug, is in *italic typeface*, additional information can be found in the A–Z of drugs (pp.305–310)

**Information box**

This type of box gives further information on what is involved in having a test or treatment mentioned elsewhere in the chart. In addition, some information boxes have key facts on a disease or extra detail of anatomy that is relevant to the chart

# CHARTFINDERS

To help you find the chart you need, the charts have been listed here in two ways. The system-by-system chartfinder (below) groups the symptom charts under the affected body part or process, such as ear and hearing symptoms or pregnancy and childbirth symptoms. You should use this chartfinder if you know the affected body system but cannot clearly define your symptom. However, if you can

identify your symptom, you should use the symptom-by-symptom chartfinder (p.48). This alphabetical list covers all the symptoms in the book and can direct you to the page of the right chart. In addition, the contents (pp.6–7) has a complete list of the symptom charts, and, at the start of each group of charts, such as charts for children, there is a list of the charts in that group.

## System-by-system chartfinder

### GENERAL (WHOLE-BODY) SYMPTOMS

<b>2</b>	Excessive crying (babies).....	52
<b>3</b>	Fever in babies.....	54
<b>6</b>	Feeding problems (babies).....	60
<b>9</b>	Feeling generally unwell (children).....	66
<b>10</b>	Tiredness (children).....	68
<b>14</b>	Fever in children.....	76
<b>15</b>	Rash with fever (children).....	78
<b>19</b>	Lumps and swellings (children).....	85
<b>37</b>	Eating problems (children).....	116
<b>56</b>	Feeling unwell.....	146
<b>57</b>	Tiredness.....	147
<b>61</b>	Fever.....	154
<b>62</b>	Excessive sweating.....	156
<b>74</b>	Lumps and swellings.....	174
<b>80</b>	Rash with fever.....	184

### WEIGHT AND GROWTH PROBLEMS

<b>7</b>	Slow weight gain (babies).....	62
<b>12</b>	Growth problems (children).....	72
<b>13</b>	Excessive weight gain (children).....	74
<b>51</b>	Adolescent weight problems.....	139
<b>58</b>	Loss of weight.....	148
<b>59</b>	Overweight.....	150

### BONE, JOINT, AND MUSCLE SYMPTOMS

<b>47</b>	Painful arm or leg (children)....	133
<b>48</b>	Joint and back problems (children).....	134
<b>49</b>	Foot problems (children).....	136
<b>50</b>	Limping (children).....	138
<b>110</b>	Painful joints.....	228
<b>111</b>	Painful shoulder.....	230
<b>112</b>	Painful arm.....	231
<b>113</b>	Painful leg.....	232
<b>114</b>	Painful knee.....	234
<b>115</b>	Swollen ankles.....	235
<b>116</b>	Foot problems.....	236
<b>117</b>	Back pain.....	238
<b>118</b>	Painful or stiff neck.....	240

### SKIN, HAIR, AND NAIL SYMPTOMS

<b>8</b>	Skin problems in babies.....	64
<b>15</b>	Rash with fever (children).....	78
<b>16</b>	Skin problems in children.....	80
<b>17</b>	Hair, scalp, and nail problems (children).....	82
<b>18</b>	Itching (children).....	84
<b>55</b>	Adolescent skin problems.....	144
<b>75</b>	Itching.....	175
<b>76</b>	Hair and scalp problems.....	176
<b>77</b>	General skin problems.....	178
<b>78</b>	Skin problems affecting the face.....	180
<b>79</b>	Skin discoloration and moles.....	182
<b>80</b>	Rash with fever.....	184
<b>81</b>	Nail problems.....	185

### NOSE AND THROAT SYMPTOMS

<b>31</b>	Runny or blocked nose (children).....	106
<b>32</b>	Sore throat (children).....	107
<b>33</b>	Coughing (children).....	108
<b>87</b>	Runny or blocked nose.....	194
<b>88</b>	Sore throat.....	195
<b>89</b>	Hoarseness or loss of voice.....	196
<b>91</b>	Coughing.....	198

### HEART AND LUNG SYMPTOMS

<b>34</b>	Breathing problems (children).....	110
<b>90</b>	Wheezing.....	197
<b>92</b>	Shortness of breath.....	200
<b>93</b>	Chest pain.....	202
<b>94</b>	Palpitations.....	204

### BRAIN AND NERVOUS SYSTEM SYMPTOMS

<b>20</b>	Dizziness, fainting, and seizures (children).....	86
<b>21</b>	Headache (children).....	88
<b>22</b>	Confusion and/or drowsiness (children).....	90
<b>23</b>	Clumsiness (children).....	92
<b>63</b>	Headache.....	158
<b>64</b>	Feeling faint and passing out.....	160
<b>65</b>	Dizziness.....	162
<b>66</b>	Numbness and/or tingling.....	163
<b>67</b>	Forgetfulness and/or confusion.....	164



<b>68</b>	Twitching and/or trembling.....	166
<b>69</b>	Pain in the face.....	167
<b>70</b>	Difficulty in speaking.....	168

## BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS

<b>1</b>	Sleeping problems in babies.....	50
<b>11</b>	Sleeping problems in children.....	70
<b>24</b>	Speech difficulties (children).....	93
<b>25</b>	Behaviour problems (children).....	94
<b>26</b>	School difficulties.....	96
<b>44</b>	Toilet-training problems.....	128
<b>52</b>	Adolescent behaviour problems.....	140
<b>60</b>	Difficulty in sleeping.....	152
<b>71</b>	Disturbing thoughts and feelings.....	169
<b>72</b>	Depression.....	170
<b>73</b>	Anxiety.....	172
<b>150</b>	Depression after childbirth.....	288

## EYE AND VISION SYMPTOMS

<b>27</b>	Eye problems (children).....	98
<b>28</b>	Disturbed or impaired vision (children).....	100
<b>82</b>	Painful or irritated eye.....	186
<b>83</b>	Disturbed or impaired vision.....	188

## EAR AND HEARING SYMPTOMS

<b>29</b>	Painful or irritated ear (children).....	102
<b>30</b>	Hearing problems (children)....	104
<b>84</b>	Hearing problems.....	190
<b>85</b>	Noises in the ear.....	192
<b>86</b>	Earache.....	193

## ABDOMINAL AND DIGESTIVE SYMPTOMS

<b>4</b>	Vomiting in babies.....	56
<b>5</b>	Diarrhoea in babies.....	58
<b>35</b>	Mouth problems (children).....	112

<b>36</b>	Teeth problems (children).....	114
<b>38</b>	Vomiting in children.....	118
<b>39</b>	Abdominal pain (children).....	120
<b>40</b>	Diarrhoea in children.....	122
<b>41</b>	Constipation (children).....	124
<b>42</b>	Abnormal-looking faeces (children).....	125
<b>44</b>	Toilet-training problems.....	128
<b>95</b>	Teeth problems.....	206
<b>96</b>	Mouth problems.....	208
<b>97</b>	Difficulty in swallowing.....	209
<b>98</b>	Vomiting.....	210
<b>99</b>	Recurrent vomiting.....	212
<b>100</b>	Abdominal pain.....	214
<b>101</b>	Recurrent abdominal pain.....	216
<b>102</b>	Swollen abdomen.....	218
<b>103</b>	Wind.....	219
<b>104</b>	Diarrhoea.....	220
<b>105</b>	Constipation.....	221
<b>106</b>	Abnormal-looking faeces.....	222
<b>107</b>	Anal problems.....	223
<b>136</b>	Lower abdominal pain in women.....	269
<b>141</b>	Nausea and vomiting in pregnancy.....	278

## URINARY SYMPTOMS

<b>43</b>	Urinary problems (children).....	126
<b>44</b>	Toilet-training problems.....	128
<b>108</b>	General urinary problems.....	224
<b>109</b>	Painful urination.....	226
<b>119</b>	Bladder control problems in men.....	242
<b>129</b>	Bladder control problems in women.....	258

## MALE REPRODUCTIVE SYSTEM SYMPTOMS

<b>45</b>	Genital problems in boys.....	130
<b>53</b>	Problems with puberty in boys.....	142
<b>119</b>	Bladder control problems in men.....	242
<b>120</b>	Problems with the penis.....	244
<b>121</b>	Erection difficulties.....	246
<b>122</b>	Ejaculation problems.....	247

<b>123</b>	Testes and scrotum problems.....	248
<b>124</b>	Painful intercourse in men.....	249
<b>125</b>	Low sex drive in men.....	250
<b>126</b>	Fertility problems in men.....	252
<b>127</b>	Contraception choices for men.....	254

## FEMALE REPRODUCTIVE SYSTEM SYMPTOMS

<b>46</b>	Genital problems in girls.....	132
<b>54</b>	Problems with puberty in girls.....	143
<b>128</b>	Breast problems.....	256
<b>130</b>	Absent periods.....	260
<b>131</b>	Heavy periods.....	262
<b>132</b>	Painful periods.....	263
<b>133</b>	Irregular vaginal bleeding.....	264
<b>134</b>	Abnormal vaginal discharge.....	266
<b>135</b>	Genital irritation.....	268
<b>136</b>	Lower abdominal pain in women.....	269
<b>137</b>	Painful intercourse in women.....	270
<b>138</b>	Low sex drive in women.....	272
<b>139</b>	Fertility problems in women.....	274
<b>140</b>	Contraception choices for women.....	276

## PREGNANCY AND CHILDBIRTH SYMPTOMS

<b>141</b>	Nausea and vomiting in pregnancy.....	278
<b>142</b>	Weight problems and pregnancy.....	279
<b>143</b>	Vaginal bleeding in pregnancy.....	280
<b>144</b>	Abdominal pain in pregnancy.....	281
<b>145</b>	Skin changes in pregnancy.....	282
<b>146</b>	Swollen ankles in pregnancy.....	283
<b>147</b>	Back pain in pregnancy.....	284
<b>148</b>	Recognizing the onset of labour.....	285
<b>149</b>	Breast problems and pregnancy.....	286
<b>150</b>	Depression after childbirth.....	288

# Symptom-by-symptom chartfinder

## A Page No.

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Abdominal pain.....	214
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lower, in women.....	269
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recurrent.....	216
Anal problems.....	223
Ankles, swollen.....	235
in pregnancy.....	283
Anxiety.....	172
Appetite, loss of, in children.....	116
Arm, painful.....	231
in children.....	133

## B

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in pregnancy.....	284
Back problems, in children.....	134
Behaviour problems	
in adolescents.....	140
in children.....	94
Bladder control problems	
in men.....	242
in women.....	258
Bleeding	
from anus.....	223
from nose.....	194
vaginal, irregular.....	264
vaginal, in pregnancy.....	280
Blocked nose.....	194
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Breast problems.....	256
and pregnancy.....	286
Breath, shortness of.....	200
Breathing problems, in children.....	110

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Coughing.....	198
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## D-E

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Disturbed vision.....	188
in children.....	100
Disturbing thoughts and feelings.....	169
Dizziness.....	162
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Drowsiness, in children.....	90
Ear	
noises in.....	192
painful or irritated, in children.....	102
Earache.....	193
Eating problems, in children.....	116
Ejaculation problems.....	247
Erection difficulties.....	246
Excessive crying, in babies.....	52

Excessive sweating.....	156
Excessive weight gain, in children.....	74
Eye	
painful or irritated.....	186
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## F

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Faeces, abnormal-looking.....	222
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Fainting.....	160
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Feeding problems, in babies.....	60
Feeling unwell.....	146
in children.....	66
Fertility problems	
in men.....	252
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Fever.....	154
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rash with, in children.....	78
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Headache.....	158
in children.....	88
Hearing problems.....	190
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Hoarseness.....	196
Impaired vision.....	188
in children.....	100
Intercourse, painful	
in men.....	249
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Irregular vaginal bleeding.....	264
Irritated ear, in children.....	102
Irritated eye.....	186
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Limping, in children.....	138
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## M-O

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Nausea and vomiting in	
pregnancy.....	278
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Nose, runny or blocked.....	194
in children.....	106
Numbness and/or tingling.....	163
Overweight.....	150

## P

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abdominal, in children.....	120
abdominal, in pregnancy.....	281
abdominal, recurrent.....	216
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arm, in children.....	133
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back, in children.....	134
back, in pregnancy.....	284
chest.....	202
ear.....	193
ear, in children.....	102
eye.....	186
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headache.....	158
headache, in children.....	88
during intercourse, in men.....	249
during intercourse, in women.....	270
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joint, in children.....	134
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leg, in children.....	133
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Periods	
absent.....	260
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back pain in.....	284
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Scalp problems.....	176
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Scrotum problems.....	248
Seizures, in children.....	86
Sex drive, low	
in men.....	250
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Shoulder, painful.....	230
Skin	
changes in pregnancy.....	282
discoloration and moles.....	182
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itching.....	175
itching, in children.....	84
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problems affecting the face.....	180
problems, in babies.....	64
problems, in children.....	80
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rash with fever, in children.....	78
Sleeping problems	
in babies.....	50
in children.....	70
difficulty in sleeping.....	152
Sore throat.....	195
in children.....	107
Speaking, difficulty in.....	168
Speech difficulties, children.....	93
Spots, in children.....	80
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Sweating, excessive.....	156
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Swollen abdomen.....	218
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Teeth problems.....	206
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Throat, sore.....	195
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Twitching and/or trembling.....	166

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men.....	242
bladder control problems	
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painful urination.....	226
Vaginal bleeding	
irregular.....	264
in pregnancy.....	280
Vaginal discharge, abnormal.....	266
Vaginal irritation.....	268
Vaginal problems in girls.....	132
Vision, disturbed or impaired.....	188
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Voice, loss of.....	196
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problems and pregnancy.....	279
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# CHARTS FOR CHILDREN

## CHILDREN: BABIES

### UNDER ONE..... 50–65

<b>1</b>	Sleeping problems in babies.....	50
<b>2</b>	Excessive crying.....	52
<b>3</b>	Fever in babies.....	54
<b>4</b>	Vomiting in babies.....	56
<b>5</b>	Diarrhoea in babies.....	58
<b>6</b>	Feeding problems.....	60
<b>7</b>	Slow weight gain.....	62
<b>8</b>	Skin problems in babies.....	64

### CHILDREN: ALL AGES..... 66–138

<b>9</b>	Feeling generally unwell.....	66
<b>10</b>	Tiredness.....	68
<b>11</b>	Sleeping problems in children.....	70
<b>12</b>	Growth problems.....	72
<b>13</b>	Excessive weight gain.....	74
<b>14</b>	Fever in children.....	76
<b>15</b>	Rash with fever.....	78
<b>16</b>	Skin problems in children.....	80
<b>17</b>	Hair, scalp, and nail problems.....	82

<b>18</b>	Itching.....	84
<b>19</b>	Lumps and swellings.....	85
<b>20</b>	Dizziness, fainting, and seizures.....	86
<b>21</b>	Headache.....	88
<b>22</b>	Confusion and/or drowsiness.....	90
<b>23</b>	Clumsiness.....	92
<b>24</b>	Speech difficulties.....	93
<b>25</b>	Behaviour problems.....	94
<b>26</b>	School difficulties.....	96
<b>27</b>	Eye problems.....	98
<b>28</b>	Disturbed or impaired vision.....	100
<b>29</b>	Painful or irritated ear.....	102
<b>30</b>	Hearing problems.....	104
<b>31</b>	Runny or blocked nose.....	106
<b>32</b>	Sore throat.....	107
<b>33</b>	Coughing.....	108
<b>34</b>	Breathing problems.....	110
<b>35</b>	Mouth problems.....	112
<b>36</b>	Teeth problems.....	114
<b>37</b>	Eating problems.....	116

<b>38</b>	Vomiting in children.....	118
<b>39</b>	Abdominal pain.....	120
<b>40</b>	Diarrhoea in children.....	122
<b>41</b>	Constipation.....	124
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<b>47</b>	Painful arm or leg.....	133
<b>48</b>	Joint and back problems.....	134
<b>49</b>	Foot problems.....	136
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<b>51</b>	Adolescent weight problems.....	139
<b>52</b>	Adolescent behaviour problems.....	140
<b>53</b>	Problems with puberty in boys.....	142
<b>54</b>	Problems with puberty in girls.....	143
<b>55</b>	Adolescent skin problems.....	144

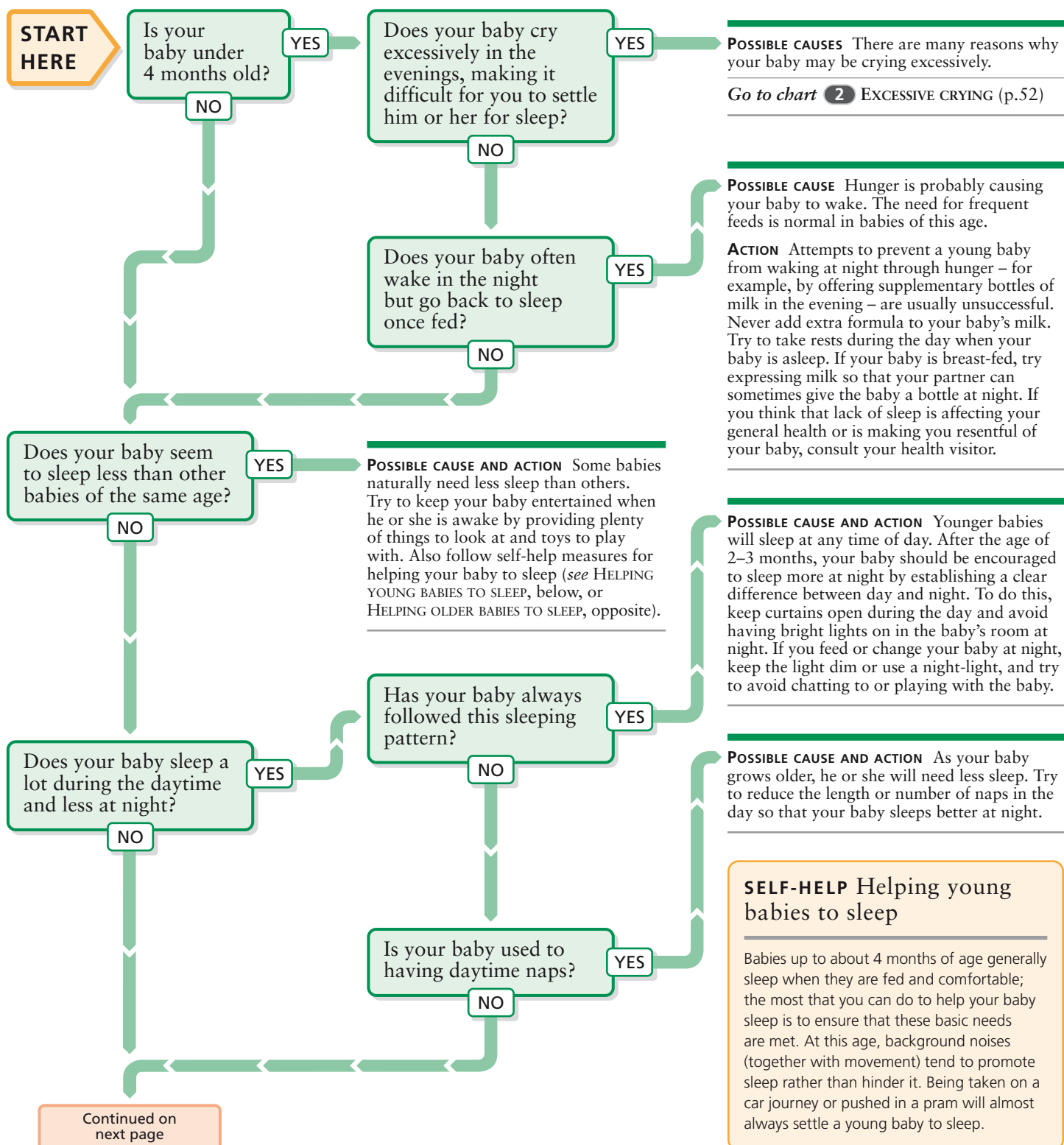


# 1 Sleeping problems in babies

For children over 1 year, see chart 11, SLEEPING PROBLEMS IN CHILDREN (p.70).

Most babies wake at regular intervals through the day and night for feeds during the first few months of life. This is perfectly normal, and there is no point in trying to force a

baby of this age into a routine that is more convenient for you. Consult this chart only if you think your baby is waking more frequently than is normal for him or her, if you have difficulty settling your baby at night, or if a baby who has previously slept well starts to wake during the night.



Continued from  
previous pageDoes your baby sleep in  
the same room as you?

YES

NO

**POSSIBLE CAUSES** You may find that sharing a room with your baby results in disturbed nights for both you and your baby. The problem may be that you make sounds that disturb your baby. However, it is more likely that you will be overaware of your baby's movements during sleep and may think that the little noises that babies often make in their sleep are signs of wakefulness. Many babies are restless sleepers and, if left undisturbed, will continue to sleep.

**ACTION** If possible, move your baby into a different room. It is unlikely that you would fail to hear a true cry, but you are not so likely to be disturbed by less urgent sounds.

Is your baby waking  
repeatedly at night after  
previously sleeping well?

YES

NO

Does your baby seem  
unwell in any way?

YES

NO

## SELF-HELP Helping older babies to sleep

Babies older than about 4 months are past the stage of needing frequent night feeds and benefit from a bedtime routine. It is best to be consistent and firm, but this should not prevent bedtimes from being fun. Your baby needs reassurance that separation from you at bedtime is not a punishment. Here are some tips for problem-free nights:

- Avoid too much excitement in the hour or so before bed.
- Provide a night-light if your baby seems frightened of the dark.
- Do not be too ready to go to your baby if you hear whimpering in the night. He or she may be making noises while asleep.
- If your baby cries at night, settle him or her as quickly and quietly as possible.

**POSSIBLE CAUSES AND ACTION** If your baby has specific symptoms, such as fever, diarrhoea, or vomiting, consult the relevant chart in this book. If there are no specific symptoms but your baby continues to seem unwell, you should contact your doctor.

Could your baby be  
waking because he or  
she is hungry?

YES

NO

**POSSIBLE CAUSE AND ACTION** As your baby grows, he or she will need more food. Increasing feeds in the evening may stop your baby waking at night. Alternatively, you may need to start weaning your baby (p.63) if you have not already done so. Consult your doctor or health visitor for advice.

Could your baby be  
too cold or hot during  
the night?

YES

NO

**POSSIBLE CAUSE** Being too hot or cold may be causing your baby to wake in the night.

**ACTION** Try to keep the temperature in your baby's room at about 18°C (65°F). Your baby should need no more covers than you would in similar circumstances. Letting your baby get too hot may increase the risk of sudden infant death syndrome, or SIDS (left). If your baby kicks off the bedclothes and gets cold, try dressing him or her in a sleep suit at night.

Has there been any  
recent domestic  
upheaval or possible  
cause of anxiety?

YES

NO

**POSSIBLE CAUSE** Babies sense anxiety or stress in their parents and can be disturbed by it.

**ACTION** It may take some time to reassure your baby. If you can, try to keep your baby's routine as stable as possible, even if your own life is unsettled. When your baby wakes at night, offer a drink and a cuddle, but make sure that your baby understands that he or she will be put back in the cot; otherwise, there is a danger that the baby will get into the habit of waking during the night and expecting to play (see HELPING OLDER BABIES TO SLEEP, above).

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.

## SELF-HELP Reducing the risk of SIDS

There are things you can do to reduce the risk of sudden infant death syndrome (SIDS), also known as cot death. They are:

- Always put your baby to sleep on his or her back near the foot of the cot. This position is the safest, since he or she cannot wriggle under the bedclothes.
- Use a firm mattress with no pillow.
- Do not overwrap your baby in bedclothes.
- Do not place your baby's cot close to a radiator or other type of heater.
- Do not smoke in the presence of your baby.

Place baby on  
his or her back  
Firm  
mattress



### Sleeping safely

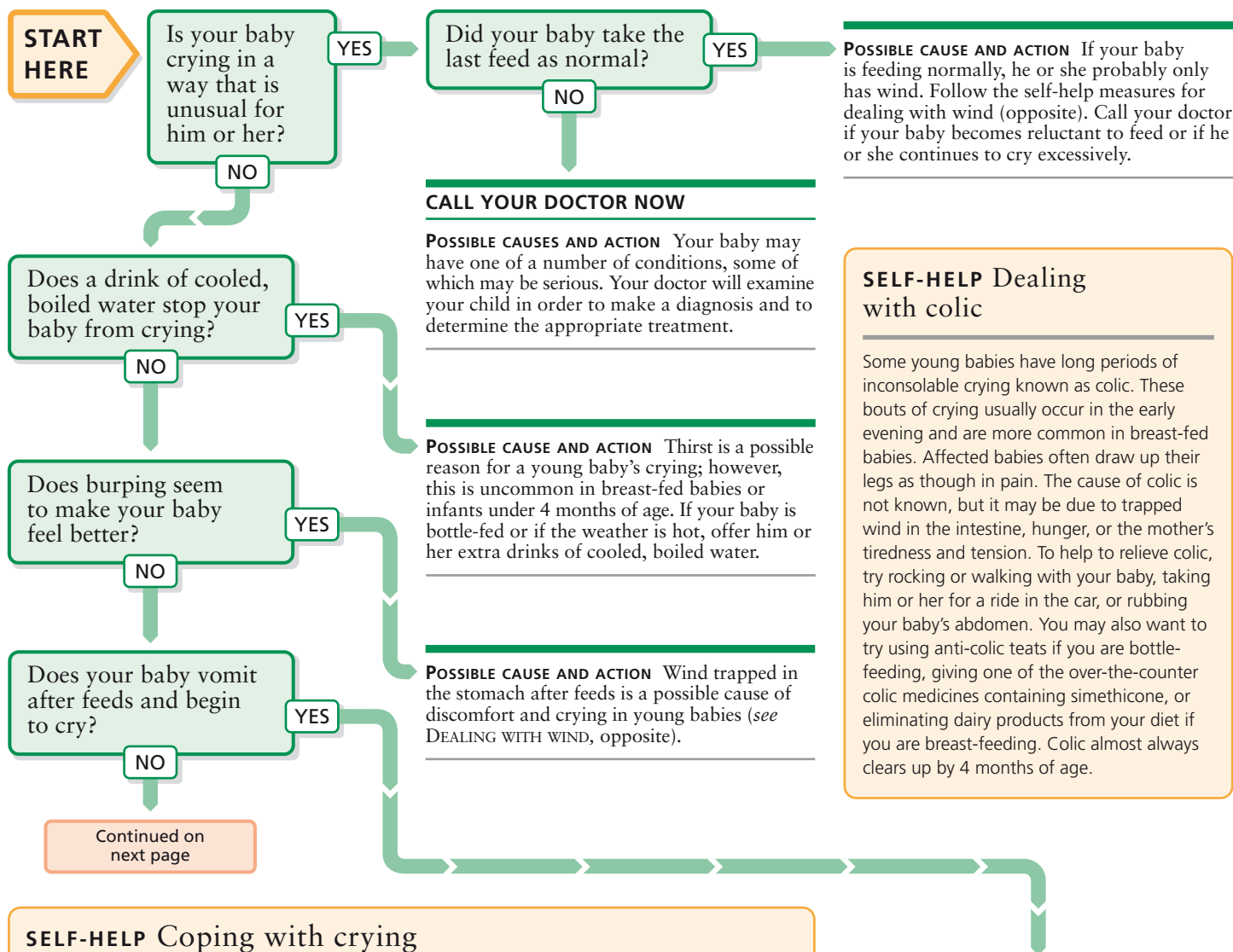
Lay your baby down on his or her back at the foot of the cot, so that bedding cannot cover the face. Do not overwrap the baby.

**POSSIBLE CAUSE AND ACTION** A need for the reassurance of your presence is the most common explanation for waking at night when a baby is past the stage of needing night feeds. Try to stick to a bedtime routine (see HELPING OLDER BABIES TO SLEEP, above).

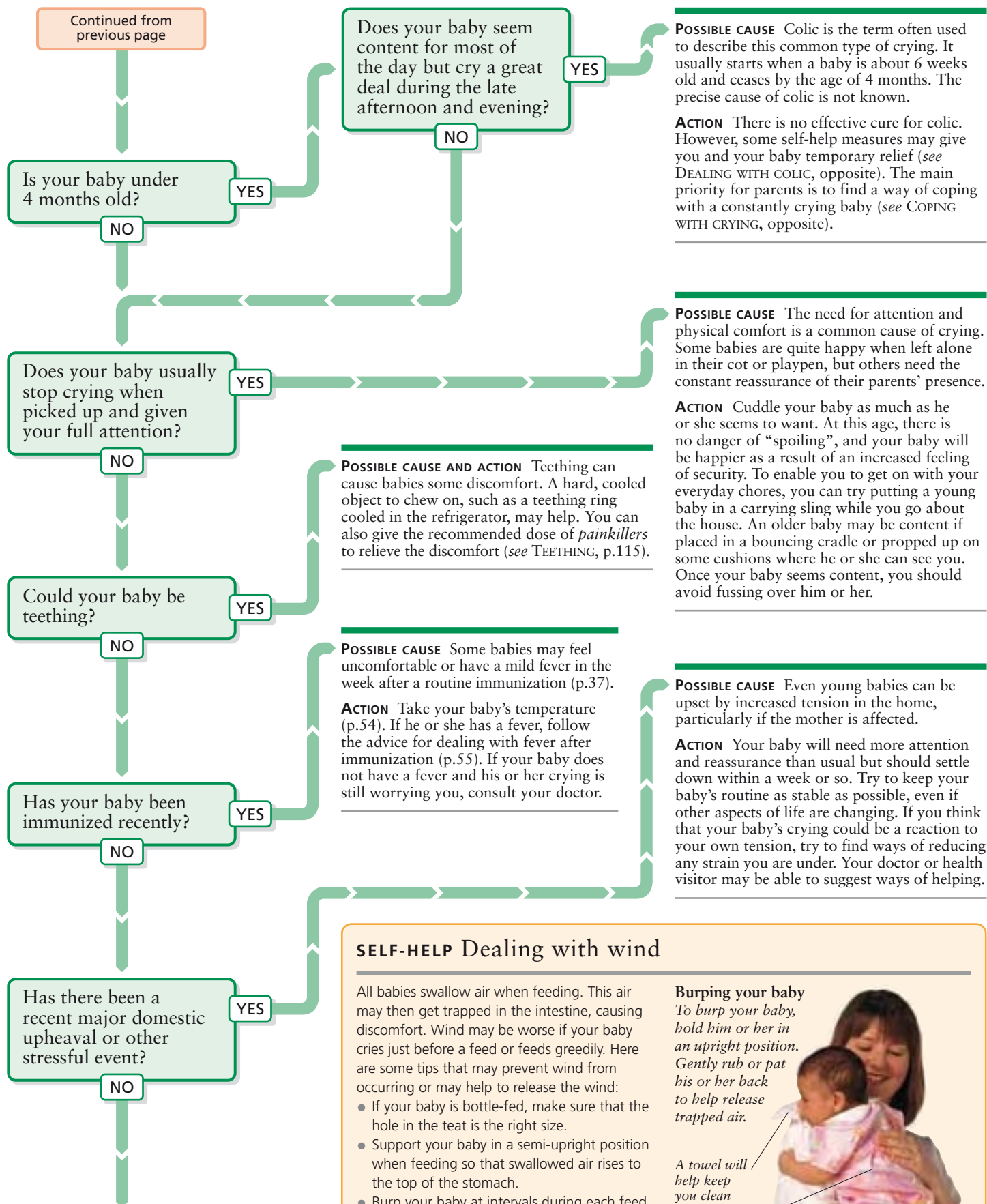
## 2 Excessive crying

Crying is a young baby's only means of communicating physical discomfort or emotional distress. All babies sometimes cry when they are hungry, wet, upset, or in pain, and some babies occasionally cry for no obvious reason. Most parents soon learn to recognize the most common

causes of their baby's crying and are usually able to deal with them according to need. You should consult this chart if your baby cries more often than you think is normal or if your baby suddenly starts to cry in an unusual way. In some cases, you may be advised to seek medical help.







SEE YOUR DOCTOR WITHIN 24 HOURS IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

## SELF-HELP Dealing with wind

All babies swallow air when feeding. This air may then get trapped in the intestine, causing discomfort. Wind may be worse if your baby cries just before a feed or feeds greedily. Here are some tips that may prevent wind from occurring or may help to release the wind:

- If your baby is bottle-fed, make sure that the hole in the teat is the right size.
- Support your baby in a semi-upright position when feeding so that swallowed air rises to the top of the stomach.
- Burp your baby at intervals during each feed. Hold your baby upright against your shoulder or on your lap. Gently rub or pat his or her back to encourage the wind to come up.

### Burping your baby

To burp your baby, hold him or her in an upright position. Gently rub or pat his or her back to help release trapped air.

A towel will help keep you clean

Baby held over shoulder

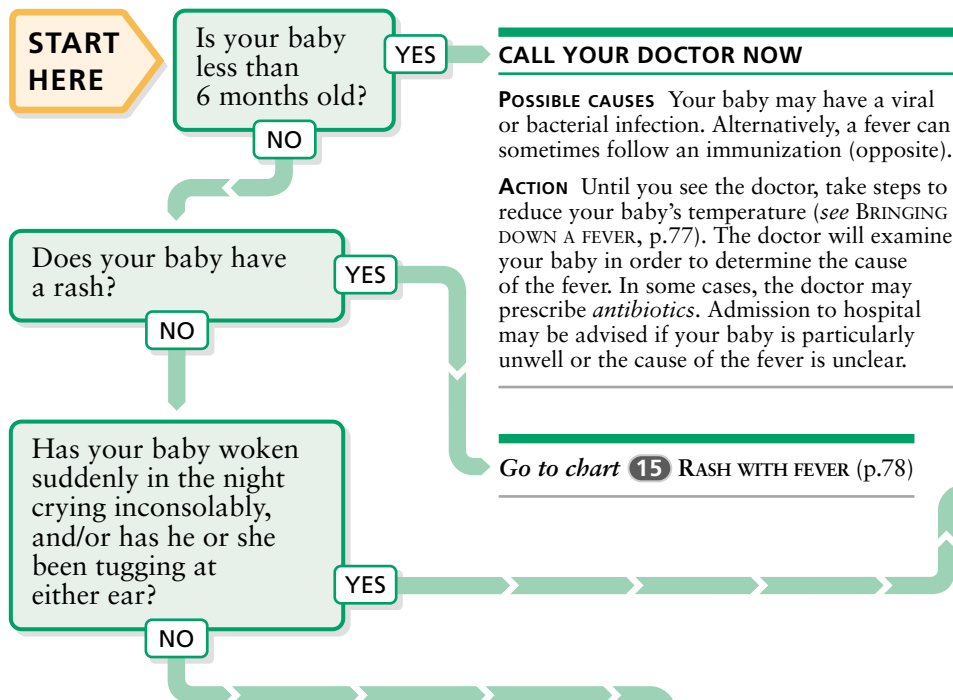


# 3 Fever in babies

*For children over 1, see chart 14, FEVER IN CHILDREN (p.76).*

A fever is an abnormally high body temperature of 38°C (100°F) or above. A baby that has a fever will have a hot forehead and is likely to seem unhappy and fretful. If you think your baby may be unwell, take his or her temperature

(see TAKING YOUR BABY'S TEMPERATURE, below). A high fever may cause a baby to have a seizure, which is a medical emergency (see FEBRILE CONVULSIONS IN BABIES AND CHILDREN, opposite). If your baby has a fever, take steps to reduce it (see BRINGING DOWN A FEVER, p.77), and consult this chart.



## WARNING

**DANGER SIGNS** Call an ambulance if your baby has a fever accompanied by any of the following symptoms:

- Abnormal drowsiness
- Flat, dark red spots that do not fade on pressure (see CHECKING A RED RASH, p.79)
- A seizure that has lasted for longer than 5 minutes
- Has refused feeds for more than 3 hours (babies under 3 months) or more than 6 hours (3 months and over)

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** A viral or bacterial infection of the middle ear is a common cause of a raised temperature in babies over the age of 6 months. Middle ear infection is particularly likely to be the cause of your baby's symptoms if he or she has recently had a cold.

**ACTION** The doctor will examine your baby and may prescribe *antibiotics*. In addition, follow the self-help advice for relieving earache (p.103) and bringing down a fever (p.77).

## SELF-HELP Taking your baby's temperature

To take your baby's temperature using a standard thermometer, place the bulbous end in the armpit. Alternatively, you can use an aural thermometer, which you place in the baby's ear (see TAKING YOUR CHILD'S TEMPERATURE, p.76). You must never place a glass thermometer in a baby's mouth.

*Thermometer in armpit*



**Using a standard thermometer**  
Hold the thermometer in the baby's armpit for 3 minutes. For an accurate reading, add 0.6°C (1°F) to the temperature shown.

Is your baby's breathing abnormally fast (see CHECKING YOUR CHILD'S BREATHING RATE, p.110)?

**YES** → **CALL YOUR DOCTOR NOW**

**NO** → Does your baby have a clear discharge from the nose, and/or has he or she been sneezing?

**YES** → **POSSIBLE CAUSES** Your baby's fever is probably due to a viral illness, such as a cold. Measles is a less likely possibility. If measles is the cause of your baby's fever, a flat, blotchy, red rash will develop within 2–3 days.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** Bronchiolitis, a viral infection of the small airways in the lungs, or pneumonia, a viral or bacterial infection of the air spaces in the lungs, are both possibilities.

**ACTION** Your doctor will examine your baby and may arrange for him or her to be admitted to hospital for tests, such as X-rays (p.39) and measuring of blood oxygen levels (p.201). Your baby's treatment may include *antibiotics*.

**POSSIBLE CAUSES** Your baby's fever is probably due to a viral illness, such as a cold. Measles is a less likely possibility. If measles is the cause of your baby's fever, a flat, blotchy, red rash will develop within 2–3 days.

**ACTION** Carry out measures to reduce your baby's temperature (see BRINGING DOWN A FEVER, p.77). It is also important to encourage your baby to drink plenty of fluids, but do not worry about solids. If your baby develops a rash or shows no signs of improvement within 24 hours, call your doctor.

Continued on next page

Continued from  
previous pageDoes your baby have  
any of the following?

- Abnormal drowsiness
- Restlessness
- A high-pitched or abnormal cry
- Flat, dark red spots that do not fade on pressure (p.79)

NO

YES

**EMERGENCY!  
CALL AN AMBULANCE**

**POSSIBLE CAUSE** Meningitis, inflammation of the membranes surrounding the brain due to infection, may be the cause of these symptoms.

**ACTION** If meningitis is suspected, your baby will be admitted to hospital immediately. He or she will be given urgent treatment with *antibiotics* and may need intensive care.

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSE** Gastroenteritis, an infection of the digestive system, is the most likely cause of these symptoms, especially if your baby is also vomiting.

**ACTION** Your doctor will check whether your baby is dehydrated. He or she may also give you advice on preventing dehydration in babies (p.59) and self-help measures for treating gastroenteritis in babies (p.57).

Does your baby have  
diarrhoea?

NO

YES

Has your baby been  
immunized recently?

NO

YES

**POSSIBLE CAUSE** Some babies may feel uncomfortable or have a mild fever in the week after a routine immunization (p.37).

**ACTION** Follow the advice for dealing with fever after immunization (right).

Is your baby very  
warmly dressed, and/or  
is he or she in warm  
surroundings?

NO

YES

**POSSIBLE CAUSE** Overheating, caused by too much clothing or by being in excessively warm surroundings, can result in a fever.

**ACTION** A baby does not need to wear much more clothing than an adult would in similar conditions and will be comfortable in a room temperature of 15–20°C (60–68°F). A baby's cot should never be placed next to a radiator. Remove any excess clothing and move the baby to a slightly cooler (though not cold) place. If your baby's temperature is not down to normal within an hour, follow the advice for reducing a fever (p.77) and call your doctor.

**SEE YOUR DOCTOR WITHIN 24 HOURS IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

## Febrile convulsions in babies and children

A febrile convulsion is a type of seizure that affects some children aged 6 months to 5 years. It is triggered by an abrupt rise in body temperature, often at the onset of a feverish illness. During a convulsion, the child may:

- Lose consciousness
- Shake or jerk violently
- Stop breathing temporarily or breathe shallowly, which may result in a bluish tinge to the skin
- Pass urine and/or faeces
- Roll back his or her eyes

Febrile convulsions usually last for less than 5 minutes and, although frightening, are not often serious. About a third of children who have had a febrile convulsion have another one

within 6 months. Most affected children stop having convulsions at about 5 years of age. Febrile convulsions are rarely an indication of epilepsy in later life.

Convulsions may be avoided by keeping your child's temperature down (see BRINGING DOWN A FEVER, p.77). If he or she does have a febrile convulsion, remove excess clothes, try to reduce his or her temperature by sponging with tepid water, and surround him or her with soft objects, such as pillows, to prevent injury.

After the seizure has finished, place your child in the recovery position (p.292). He or she may fall asleep shortly afterwards. Call your doctor if your child has a convulsion. If it lasts more than 5 minutes, call an ambulance.

**Cooling  
your child**

*If your child has a febrile convulsion, remove clothing and bedcovers to cool him or her down.*

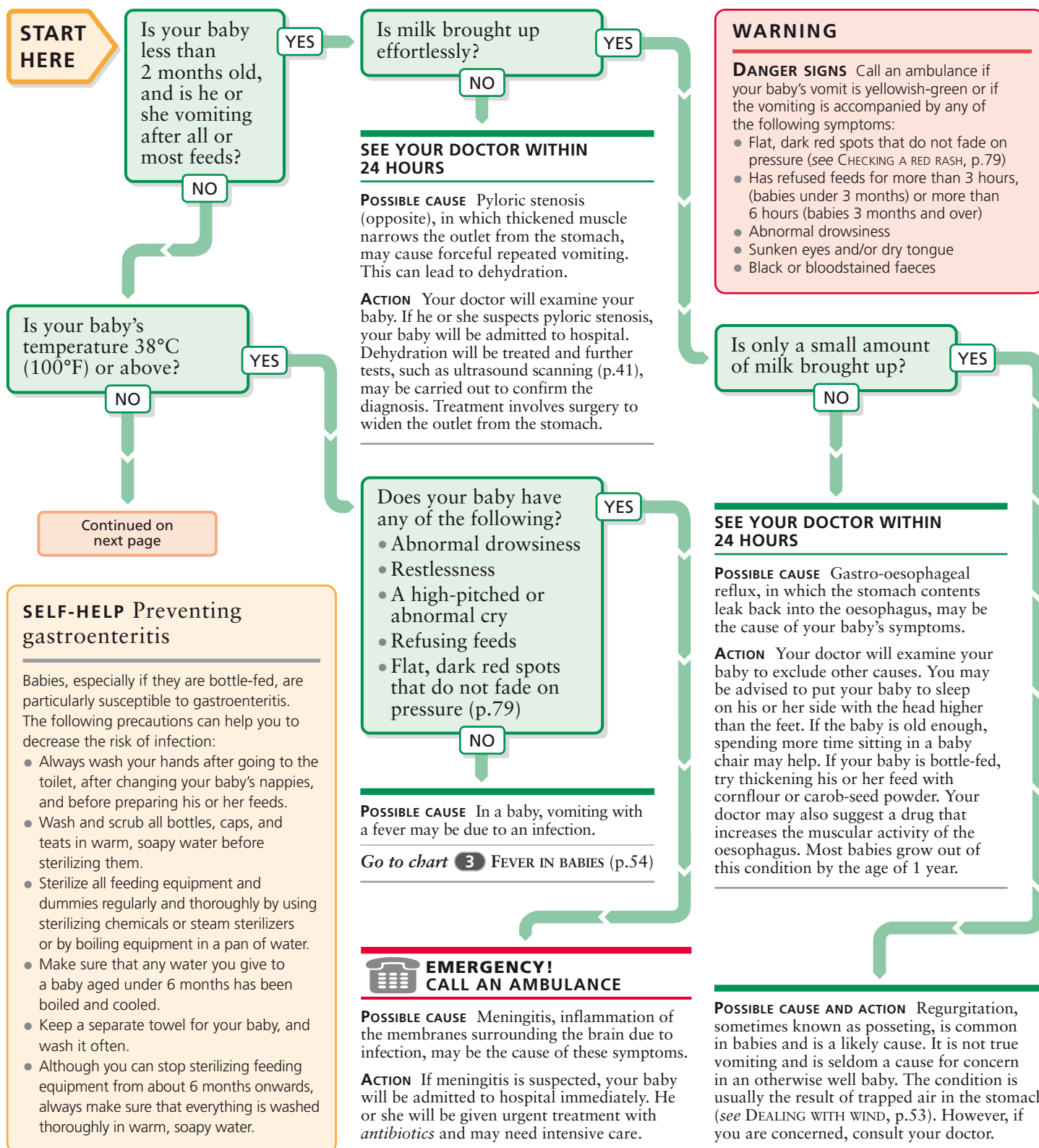


## 4 Vomiting in babies

For children over 1 year, see chart 38, VOMITING IN CHILDREN (p.118).

In young babies, it is easy for parents to confuse vomiting, which may indicate an illness, with regurgitation (possetting),

the effortless bringing up of small amounts of milk. Almost any minor upset can cause a baby to vomit once, and this is unlikely to be a cause for concern. However, persistent vomiting in babies can be a sign of an underlying problem.



Continued from  
previous pageDoes your baby  
have a cough?

YES

NO

Does your baby  
have diarrhoea?

YES

NO

Is your baby's  
vomit yellowish-  
green?

YES

NO

**SELF-HELP** Treating gastroenteritis in babies

Gastroenteritis does not need treatment with drugs such as *antibiotics*; giving rehydrating solutions will prevent dehydration (p.59) and aid recovery. If your baby is breast-fed, you should gradually reduce the amount of rehydrating solution given as he or she gets better. If your baby is bottle-fed, give only rehydrating solutions at first, then on the second day give feeds that are half rehydrating solution half milk. Gradually return to normal feeding over the next 24 hours. If, at any stage, diarrhoea recurs, temporary lactose intolerance (p.122) may be the cause. Go back to giving rehydrating solutions, and call your doctor.

**Giving rehydrating solutions**

*Rehydrating solutions should be prepared with cooled, boiled water and can be flavoured to encourage the baby to drink.*

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSES** Bronchiolitis, a viral infection affecting the small airways in the lungs, or whooping cough (pertussis), an infectious disease that causes bouts of severe coughing, may be the cause.

**ACTION** Your baby may be admitted to hospital, where his or her blood oxygen levels can be measured (p.201). If bronchiolitis is diagnosed, treatment may include *bronchodilator drugs* and oxygen. If whooping cough is diagnosed, he or she may need *antibiotics* to prevent the spread of the infection, although these do not always affect the severity of the symptoms.

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSE** Gastroenteritis, an infection of the digestive system, is the most likely cause of these symptoms. In some cases, a baby may also develop a fever.

**ACTION** Your doctor will check whether your baby is dehydrated and will give you advice on preventing dehydration in babies (p.59) and treating gastroenteritis in babies (above). To prevent future attacks, follow the advice for preventing gastroenteritis (opposite).

**EMERGENCY!  
CALL AN AMBULANCE**

**POSSIBLE CAUSE** Intussusception, in which the intestine telescopes in on itself, causing an obstruction, is a possibility.

**ACTION** Your baby will probably be admitted to hospital, where he or she can be fully examined and an exact diagnosis made. Treatment for intussusception usually involves an enema to force the displaced intestinal tissue back into the right position. If the enema is not successful, surgery will be necessary.

Does the vomiting only  
occur during or after  
travel in a vehicle?

YES

NO

Was your baby playing  
energetically just before  
vomiting, or were you  
playing boisterously  
with him or her?

YES

NO

**POSSIBLE CAUSE AND ACTION** Travel sickness is probably the cause. Although uncommon in children under the age of 1 year, some babies are particularly susceptible. The condition may run in families. For self-help measures, follow the advice on coping with travel sickness (p.119).

**POSSIBLE CAUSE AND ACTION** In babies, the muscles around the top of the stomach are relatively lax compared with those of older children, and enthusiastic playing may cause vomiting. This is no cause for concern and will be less of a problem as your baby grows older. In the meantime, try to avoid boisterous games, particularly after feeds.

**Pyloric stenosis**

Pyloric stenosis is an uncommon disorder that occurs in babies under 2 months and is more common in boys. In this condition, the ring of muscle forming the outlet from the stomach into the small intestine becomes narrowed and thickened due to overgrowth of the muscle tissue. The cause is unknown. Because the stomach cannot empty into the intestine, the stomach contents build up until repeated, forceful vomiting occurs. Without treatment, the baby will lose weight and develop potentially life-threatening dehydration. Treatment involves surgery, in which the thickened muscle is cut to widen the stomach outlet. The baby should be able to resume normal feeding within 2–3 days and have no permanent ill effects.

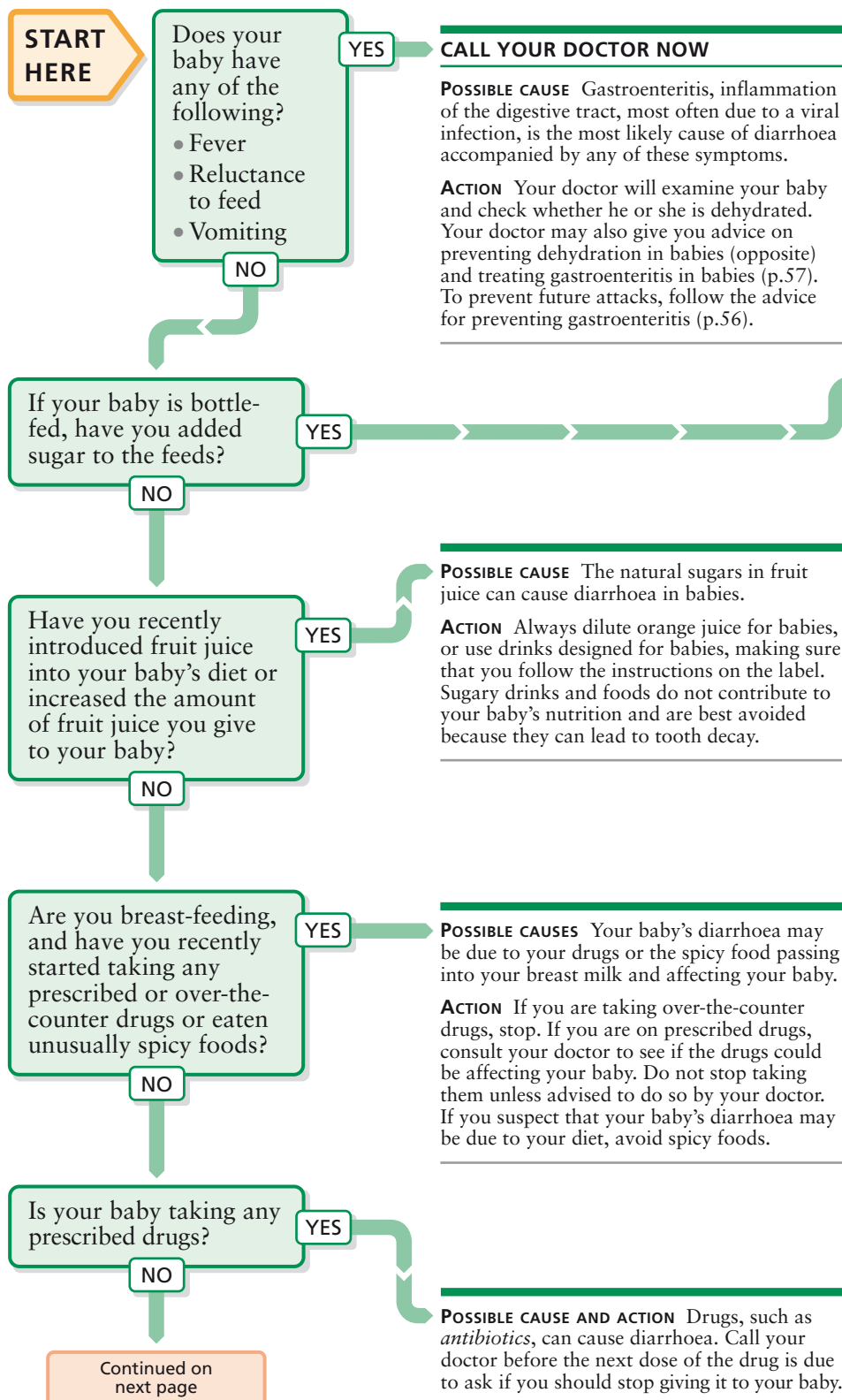
**AN ISOLATED ATTACK OF VOMITING IS UNLIKELY TO BE A SIGN OF A SERIOUS PROBLEM IN AN OTHERWISE WELL BABY. HOWEVER, IF YOUR BABY VOMITS MORE THAN ONCE IN A DAY OR SEEMS OTHERWISE UNWELL, CALL YOUR DOCTOR.**

## 5 Diarrhoea in babies

For children over 1 year, see chart 40, DIARRHOEA IN CHILDREN (p.122).

Diarrhoea is the frequent passing of abnormally loose or watery faeces. It is normal for a breast-fed baby to pass soft

faeces up to 6 times a day, and this situation should not be mistaken for diarrhoea. If your baby does have diarrhoea, give him or her plenty of fluids to prevent dehydration (see PREVENTING DEHYDRATION IN BABIES, opposite).



### WARNING

**DANGER SIGNS** Call an ambulance if your baby's diarrhoea is accompanied by any of the following symptoms:

- Abnormal drowsiness
- Sunken eyes and/or dry tongue
- Black or bloodstained faeces
- Has refused feeds for more than 3 hours (babies under 3 months) or more than 6 hours (babies 3 months and over)

### Cows' milk protein intolerance

Some children cannot tolerate cows' milk protein, which is found in most formula milk. Such intolerance usually develops in the first year of life, between a week and several months after starting on the milk, and results in diarrhoea and vomiting. The condition usually disappears by the age of 3 years.

If you suspect your child has the condition, consult your doctor. He or she will probably recommend excluding all cows' milk products from your baby's diet for a trial period of 2 weeks. If the symptoms clear up, a small amount of cows' milk may then be reintroduced under medical supervision. The diagnosis is confirmed if the symptoms recur.

A child who does have cows' milk protein intolerance needs a diet free of cows' milk products and should be supervised by a dietitian. Children under 1 year will require an alternative formula milk, such as one made with soya, which your doctor will prescribe. Your child will be tested again for the condition every 3 months. If the intolerance has disappeared, cows' milk can be gradually reintroduced into the diet.



Continued from  
previous pageHas your baby recently  
started on solid foods,  
or have you introduced  
new foods into his or  
her diet?

NO

YES

Did the diarrhoea  
begin abroad, and has  
it persisted since  
returning home?

NO

YES

Have you just started to  
reintroduce milk into  
your baby's diet after a  
bout of gastroenteritis?

NO

YES

Has your baby's  
diarrhoea lasted for  
more than 2 weeks?

NO

YES

## Babies' faeces

The first faeces that a baby passes are known as meconium, which is a sticky greenish-black substance consisting mainly of mucus and bile. Within a day or two, the faeces change to a greenish-brown colour, then settle to a regular colour. Most babies pass faeces several times a day, although some can go for a few days without passing any. As long as your baby seems well, there is probably nothing wrong.

Breast-fed babies can pass faeces very frequently. The faeces are very soft and usually

orange-yellow, like mustard, and there may be visible mucus. They may smell of sour milk.

Bottle-fed babies pass bulkier and more substantial faeces than breast-fed babies. The faeces are usually light brown and smell strongly, rather like the faeces of an adult.

Green faeces are a sign that food has passed through the intestines very rapidly. For a breast-fed baby, green faeces may be normal, but in a bottle-fed baby, such faeces may result from a gastrointestinal infection.

**POSSIBLE CAUSE AND ACTION** A sudden change in your baby's diet can cause temporary diarrhoea. Introduce new foods slowly, with only one new food each week. Consult your doctor or health visitor if several foods appear to upset your baby's digestion.

**POSSIBLE CAUSE AND ACTION** Your baby may have acquired an infection abroad. Consult your doctor, and make sure that you mention your foreign travel.

**POSSIBLE CAUSE** Temporary intolerance to lactose (p.122), which is a natural sugar found in milk, is a possible cause of recurrent or persistent diarrhoea. If milk is reintroduced into your baby's diet too soon after an episode of gastroenteritis, the diarrhoea can recur.

**ACTION** Go back to giving your baby rehydrating solutions while he or she has diarrhoea. Then gradually reintroduce milk (see TREATING GASTROENTERITIS IN BABIES, p.57). If diarrhoea recurs again, see your doctor within 24 hours. Your doctor will advise a lactose-free diet until your baby recovers.

Are your baby's height  
and weight within the  
normal range for his or  
her age (see GROWTH  
CHARTS, p.26)?

NO

YES

**POSSIBLE CAUSES** Your baby may not be absorbing food normally. The cause may be either a food intolerance, such as cows' milk protein intolerance (opposite), or a disorder such as cystic fibrosis. Consult your doctor.

**ACTION** Your doctor will examine your baby and may arrange for his or her faeces to be tested for evidence of an infection. Your baby may be referred to a specialist to establish the underlying cause.

**POSSIBLE CAUSE AND ACTION** Some babies normally produce very soft faeces but do not have diarrhoea (see BABIES' FAECES, above). If you are not sure whether or not your baby's faeces are normal, you should consult your health visitor for advice.

## SELF-HELP Preventing dehydration in babies

Diarrhoea, vomiting, or fever can cause dehydration, a potentially life-threatening condition in babies. It is therefore important to give your baby extra fluids before a breast-feed or instead of a bottle-feed if he or she has any of these conditions. Rehydrating solutions can be made up using powders bought over the counter or by dissolving 2 level teaspoons of sugar in 200 ml (7 fl.oz) of cooled, boiled water. While your baby still has symptoms, give him or her frequent feeds of rehydrating solution; see the table below for the total amount to give per day.

Baby's weight		Daily intake of rehydrating solution	
kg	lb	ml	fl.oz
Under 4	Under 9	500	18
4	9	600	21
5	11	750	26
6	13	900	32
7	15	1050	37
8	18	1200	42
9	20	1350	48
Over 10	Over 22	1500	53

**Daily intake of rehydrating solution**  
Use this table to determine the appropriate total daily intake of rehydrating solution for your baby's weight.

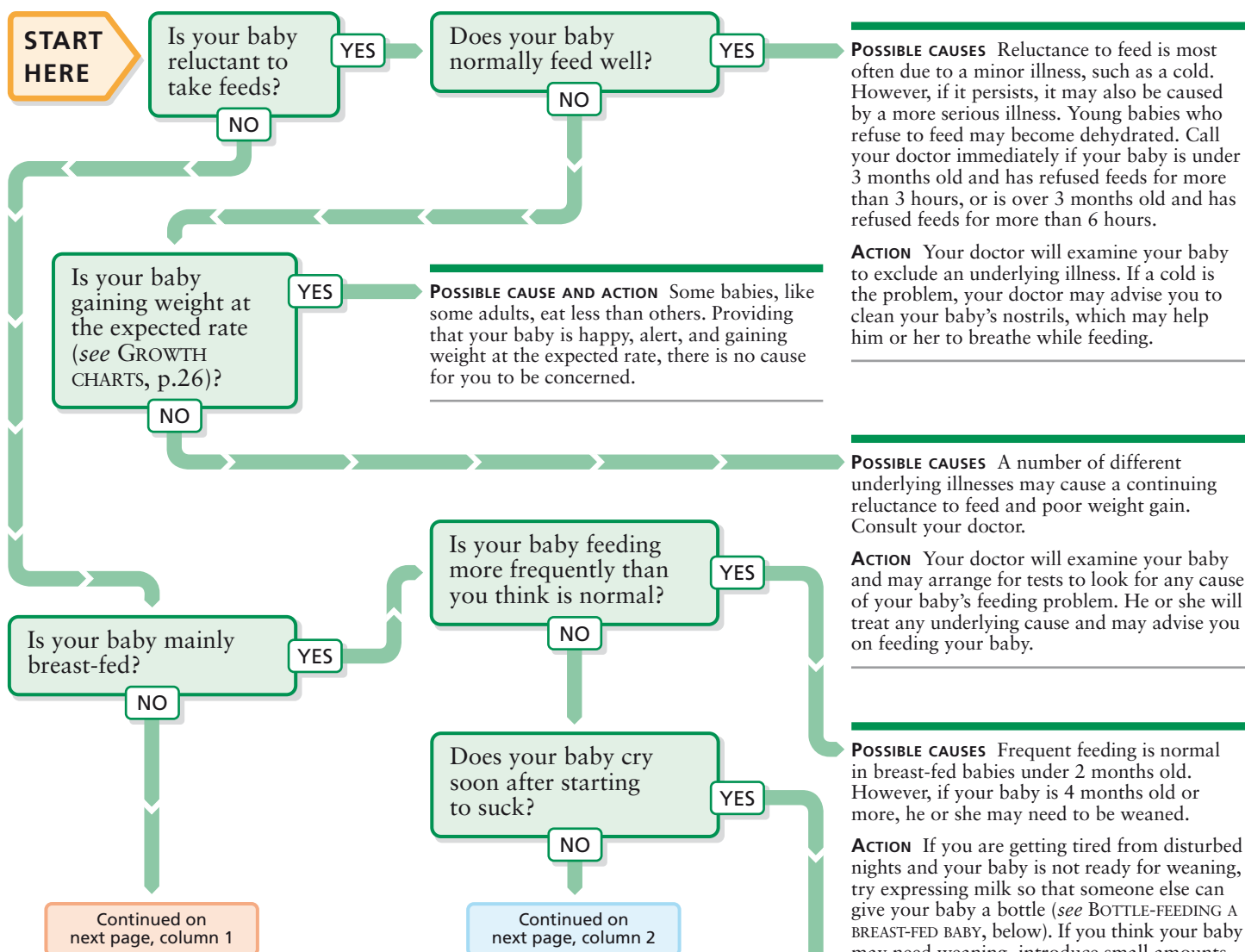
**GIVE YOUR BABY PLENTY OF FLUIDS, AND SEE YOUR DOCTOR WITHIN 24 HOURS.**

## 6 Feeding problems

For children over 1, see chart 37, EATING PROBLEMS (p.116).

Feeding problems are a common source of irritability and crying in young babies as well as concern in their parents. Such problems may include a reluctance to feed, constant

hungry crying, and swallowing too much air, leading to regurgitation. There may also be special problems for mothers who are breast-feeding. This chart deals with most of the common problems that may arise.



### SELF-HELP Bottle-feeding a breast-fed baby

It is often difficult to get a breast-fed baby to take a bottle, especially if he or she is several weeks old and has never had a bottle or a dummy. The following suggestions may help:

- Try offering the bottle while walking around the room with your baby.
- Feed expressed milk not formula.
- Try a silicone teat instead of rubber, or try a differently shaped teat.
- Ask someone else to offer the bottle when you are not in the room.

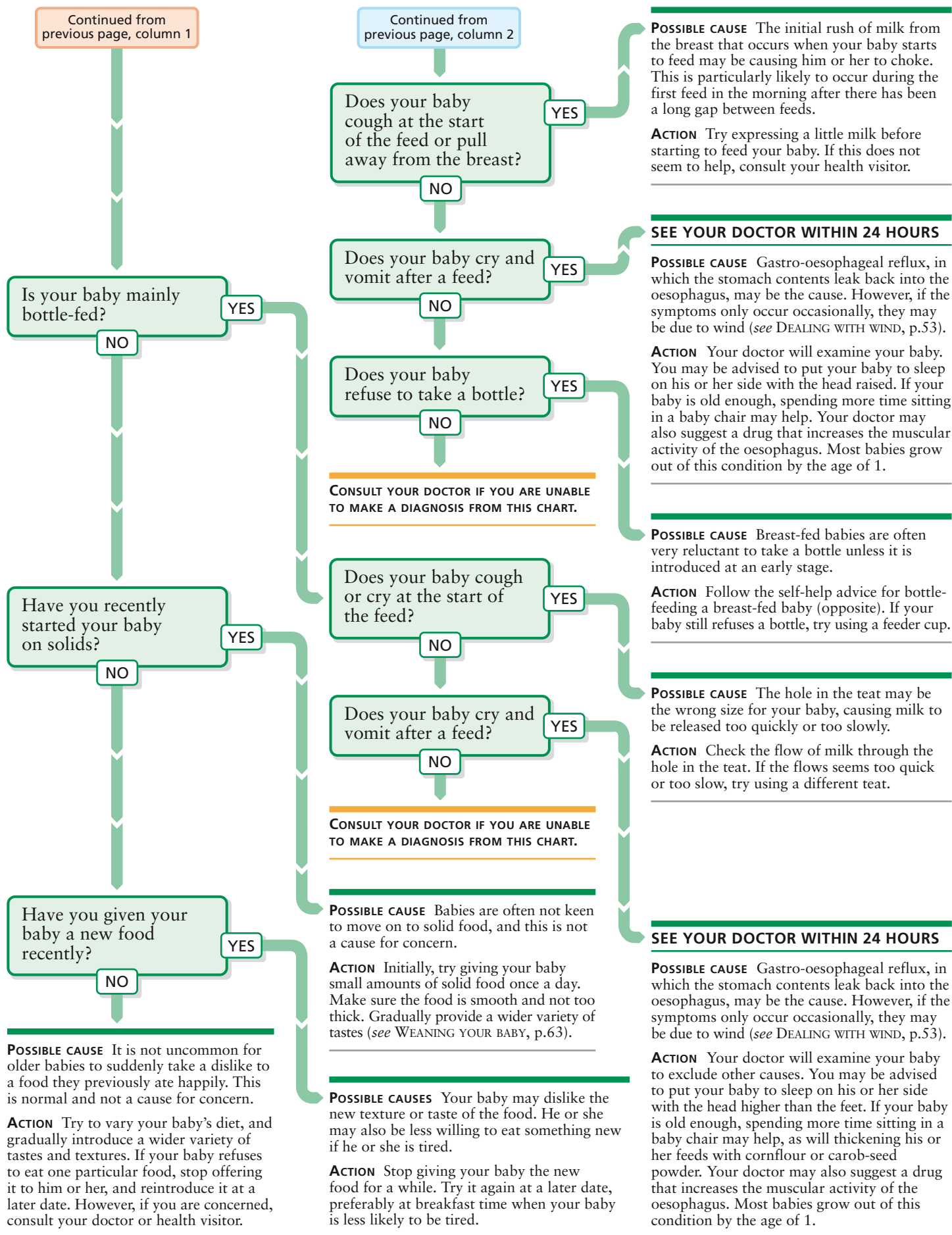
#### Bottle-feeding a baby

*It may be easier to get your baby to take a bottle if someone else offers it. If possible, use expressed milk, not formula.*



**POSSIBLE CAUSE** A delayed "let down" reflex, in which milk is not immediately released when your baby starts to suck, may be the cause.

**ACTION** Try to relax while breast-feeding, and avoid feeding your baby in circumstances that make you feel uncomfortable, such as in public places. Make sure that you are not distracted. Stimulating the nipple just before your baby latches on may also help.

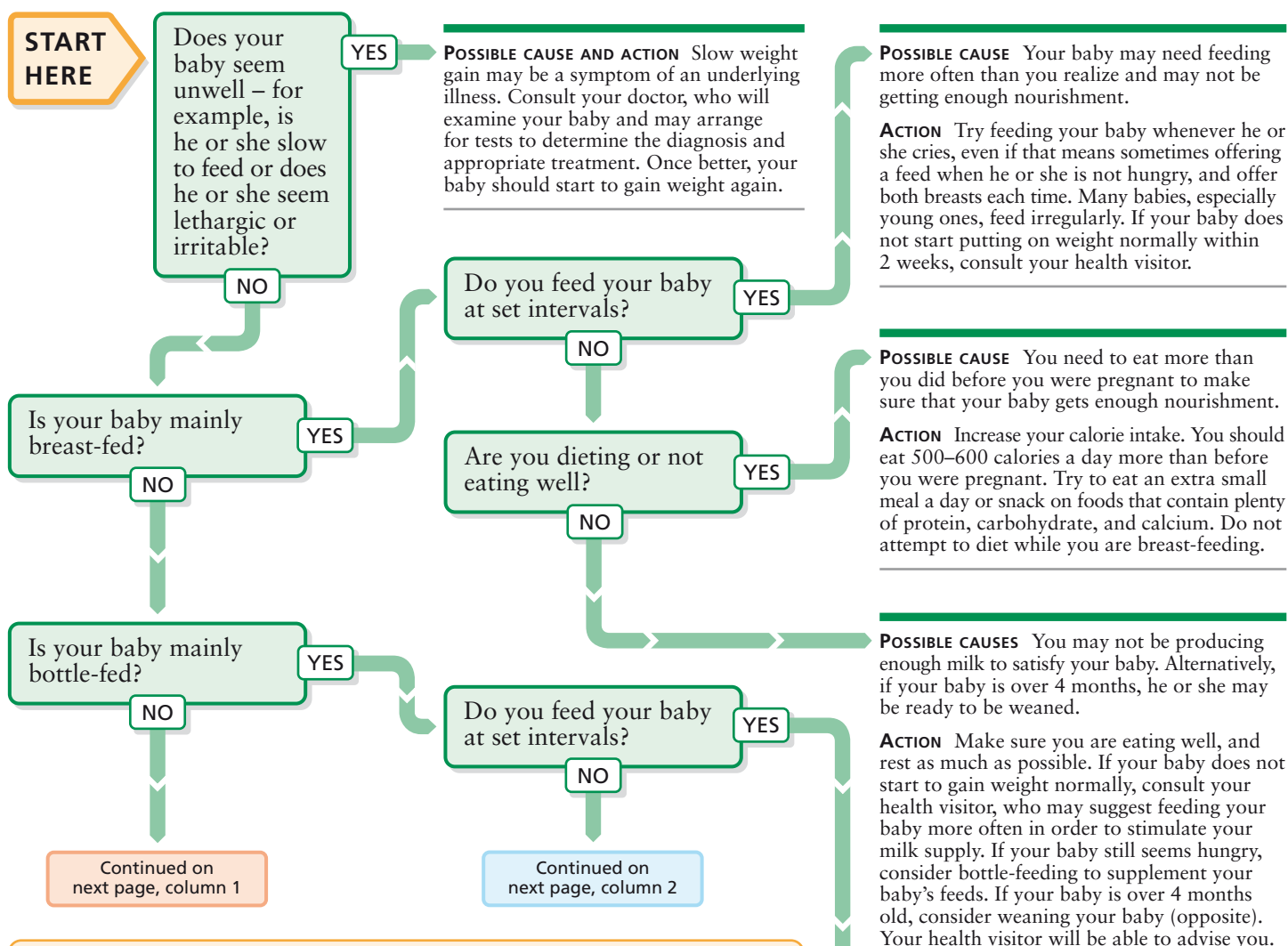




## 7 Slow weight gain

*For children over 1, see chart 12, GROWTH PROBLEMS (p.72).* Consult this chart if you are worried that your baby is gaining weight too slowly. Most babies lose some weight in their first week of life (see WEIGHT LOSS IN THE NEWBORN, opposite), and this is not usually a cause for concern. After this, babies should put on weight at a steady rate. Your baby will be weighed and measured regularly at your local baby

clinic, and his or her growth will be plotted on growth charts (see GROWTH CHARTS, p.26) so that any problems can be detected early. In the first year of life, growth is faster than at any other time and key body systems such as the nervous system are developing rapidly. For this reason, nutrition is particularly important at this time (see NUTRITIONAL REQUIREMENTS OF BABIES, below).



### Nutritional requirements of babies

Babies need a diet relatively high in energy (calories), high in fat, low in fibre, and low in salt. It should contain enough protein for growth and carbohydrate for energy. If you are vegetarian, you can bring your baby up on the same type of diet as yourself but need to be careful to include sufficient iron. A vegan diet without supplements is not nutritionally complete for a baby. From 4 weeks of age, babies benefit from supplements of vitamins A, C, and D. This is most conveniently achieved by using vitamin drops available from baby clinics.

Age in months	Approximate daily requirements			
	Energy	Protein	Fat	Iron
Up to 3	530 cal.	13 g	4 g	2 mg
3–6	700 cal.	13 g	4 g	4 mg
6–9	800 cal.	14 g	4 g	8 mg
9–12	1200 cal.	20 g	4 g	9 mg

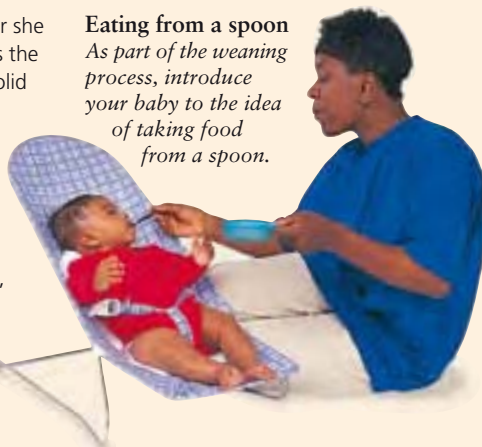
**POSSIBLE CAUSE** Your baby may need feeding more often than you realize and may not be getting enough nourishment.

**ACTION** Try feeding your baby whenever he or she cries, even if that means sometimes offering a feed when he or she is not hungry. Many babies, especially young ones, feed irregularly. If your baby is not putting on weight normally within 2 weeks, consult your health visitor.

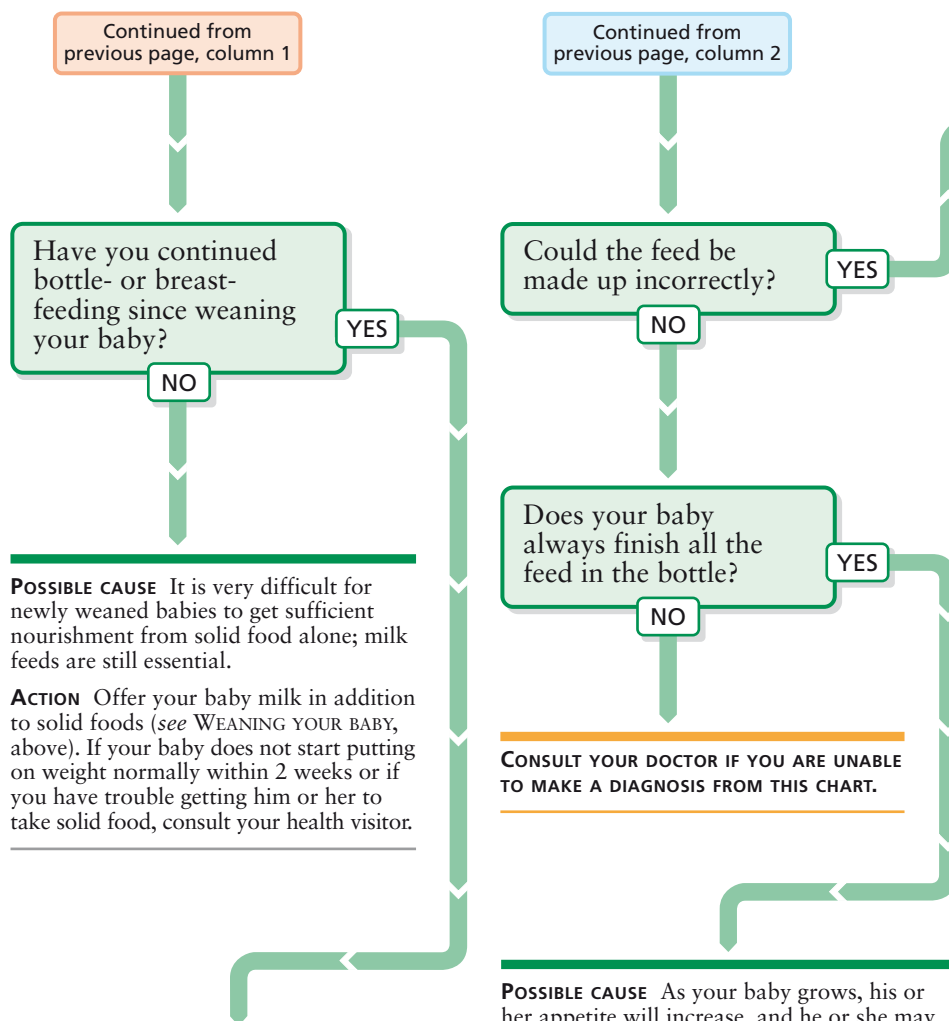
## SELF-HELP Weaning your baby

By the time your baby is 4–6 months, he or she should be ready to be weaned. Weaning is the gradual transfer from a milk-only diet to solid foods. Start by introducing your baby to puréed fruit or vegetables and baby rice. Try giving him or her a taste after a milk feed. Gradually introduce other foods and textures. Your own food can be sieved or puréed, but do not add salt or sugar when preparing it. Do not give eggs, wheat-based foods, such as wheat cereals, citrus fruits, or fatty foods until your baby is at least 6 months old. Do not give cows' milk, honey, or foods containing nuts until he or she is at least 12 months.

**Eating from a spoon**  
*As part of the weaning process, introduce your baby to the idea of taking food from a spoon.*



Age	Suggested weaning programme
4–6 months	Offer your baby yoghurt and puréed foods, including fruit, such as bananas, vegetables, pulses, and rice.
6–9 months	You can now give mashed or minced food, including eggs (as long as they are hard-boiled), fish, and chicken. You can also offer finger foods, such as toast, cubes of apple, or bits of hard cheese.
9–12 months	Introduce more variety into the diet, and provide food that contains small pieces, such as peas and chopped carrots.
Over 12 months	Your baby can now have the same diet as the rest of the family; but avoid salt and sugar, and give him or her full-cream, rather than semi-skimmed, milk.



**POSSIBLE CAUSE** It is very difficult for newly weaned babies to get sufficient nourishment from solid food alone; milk feeds are still essential.

**ACTION** Offer your baby milk in addition to solid foods (see **WEANING YOUR BABY**, above). If your baby does not start putting on weight normally within 2 weeks or if you have trouble getting him or her to take solid food, consult your health visitor.

**POSSIBLE CAUSE** Check that you are giving your baby the right foods for his or her age. He or she may need more nourishment.

**ACTION** Follow the advice for weaning your baby (above), and offer food or milk whenever your baby seems hungry. If your baby does not start putting on weight normally within 2 weeks or if you are not sure what foods he or she should have, consult your health visitor.

**POSSIBLE CAUSE** As your baby grows, his or her appetite will increase, and he or she may need more food than you are now offering, even if you are giving the recommended amount for your baby's age.

**ACTION** Offer more milk than usual, and let your baby feed until he or she is satisfied. If your baby is over 4 months, he or she may be ready to start on solids (see **WEANING YOUR BABY**, above). If your baby does not start to gain weight normally or if you need further advice on weaning, consult your health visitor.

**POSSIBLE CAUSE** If there is too little powder or too much water in the feed, your baby will not be receiving enough nourishment.

**ACTION** Always follow the manufacturer's instructions exactly when mixing feeds. Never add extra powder to your baby's feeds. If you think that your baby is thirsty, give him or her cooled, boiled water, and continue to offer feeds as normal. If your baby does not start putting on weight normally within 2 weeks, consult your health visitor.

## Weight loss in the newborn

Your baby may lose weight in the first week of life; however, this is unlikely to be a cause for concern. Most babies, particularly if they are breast-fed, may lose up to 200 g (7 oz) in the first few days after delivery. This weight loss is normal and is partly due to the relatively small amount of food they take in initially. In addition, newborn babies need to adjust to life outside the uterus and now have to take in, digest, and absorb their food, rather than have it supplied through the placenta. Most babies start to gain weight by the 5th day and are usually back to their birth weight by about 10 days after delivery.

Your baby will probably be weighed by the midwife or health visitor about three times a week for the first 2 weeks. Once your baby has regained his or her birth weight, he or she should continue to put on weight at a steady rate. For the first 3 months, your baby should gain approximately 170 g (6 oz) a week. By about 6 months, a baby should have roughly doubled his or her birth weight.

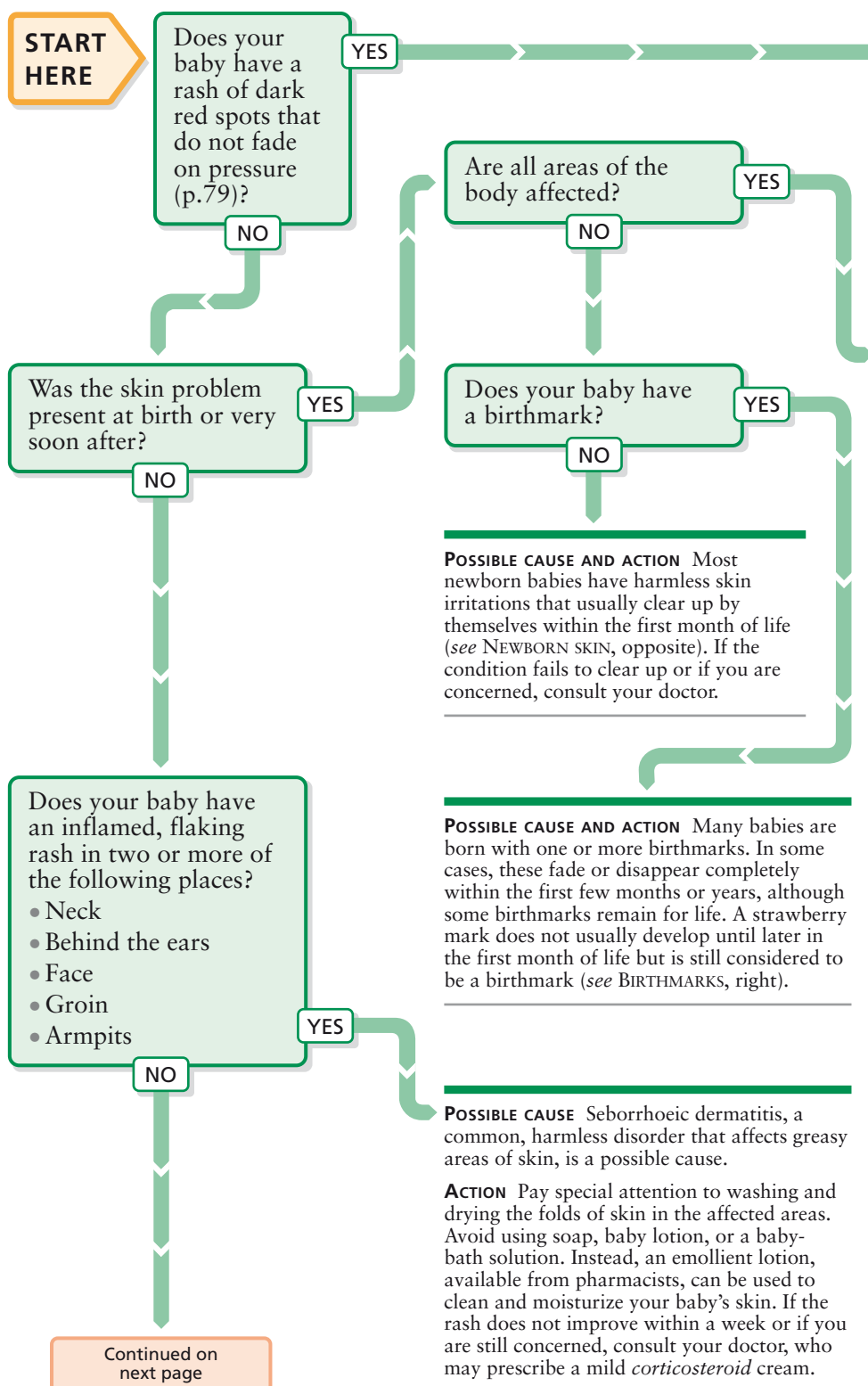
## 8

## Skin problems in babies

If your baby has a rash with a temperature, see chart 15, **RASH WITH FEVER** (p.78).

The skin of newborn babies is very sensitive and can easily become irritated from rubbing on clothes or bedding. Such minor skin problems are usually no cause for concern. One

of the most common skin problems in babies is nappy rash, which can be treated easily. Other rashes and skin abnormalities that occur for no apparent reason or that persist longer than a few days should be brought to your doctor's attention, especially if your baby seems unwell.



### EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** Meningitis, inflammation of the membranes surrounding the brain due to infection, may be the cause of this type of rash in a baby who is unwell.

**ACTION** If meningitis is suspected, your baby will be admitted to hospital immediately. He or she will be given urgent treatment with *antibiotics* and may need intensive care.

**POSSIBLE CAUSE AND ACTION** In some rare cases, a generalized skin condition due to a genetic abnormality may be the cause. Usually, a diagnosis is made before the newborn baby is discharged from hospital, and, in these situations, you will have been given advice on what to expect. If not, consult your doctor.

### Birthmarks

Most babies have a few moles or pigmented marks. Birthmarks may alarm parents, but most are harmless. Some birthmarks disappear or become less noticeable in time. Marks that do not clear up can be hidden with cosmetics or, in some cases, treated with laser surgery.

#### Strawberry marks

These bright red, raised marks can occur anywhere on a baby's body. They often grow rapidly during the first months of life, but then start to shrink in the second year, and usually disappear without scarring by the age of 8. If your child has a strawberry mark near an eye or a lip, consult your doctor as soon as possible because early treatment can prevent it growing and interfering with your baby's vision or feeding.

#### Mongolian blue spots

These bruise-like marks sometimes appear on the back and buttocks of dark-skinned babies and disappear before the second birthday.

#### Port wine stains

These flat, red or purple marks can be found anywhere on the body. They will not fade but may be improved by laser treatment.

#### Stork marks

Stork marks are flat, pink patches on the face and back of the neck. They usually fade in the first few months or are covered by the hair.



Continued from  
previous pageDoes your baby have  
yellowish-brown  
crusts on the scalp?

YES

**POSSIBLE CAUSE** Your baby may have cradle cap, a form of seborrheic dermatitis. It is a common, harmless condition.

**ACTION** You can soften the crusts by rubbing your baby's scalp with baby or olive oil at night and then washing off the crusts the next morning. Alternatively, special shampoos to treat the condition are available over the counter. However, the condition usually clears up by itself within a few weeks. If it does not or if you are concerned, consult your doctor.

NO

Does your baby have a  
red, itchy rash on the  
face, inside the elbows,  
or behind the knees?

YES

**POSSIBLE CAUSE** Your child may have atopic eczema, an allergic condition. This diagnosis is most likely if any other family members also suffer from eczema or other allergic conditions. Consult your doctor.

**ACTION** If the diagnosis is confirmed, your doctor will advise you on dealing with atopic eczema (p.80). He or she may also prescribe a *corticosteroid* cream. If the rash is widespread or weepy, your child should see the doctor within 24 hours. Many children with atopic eczema grow out of it by the age of 8.

NO

Has your baby got an  
inflamed area of skin  
on his or her bottom  
with or without spots  
spreading from it?

YES

Is the skin broken or  
ulcerated?

YES

**POSSIBLE CAUSE AND ACTION** Your baby may have nappy rash that has become infected. Consult your doctor, who may prescribe an anti-infective cream or a *corticosteroid* cream. In the meantime, follow the advice on treating nappy rash (below).

NO

Are there several red  
spots outside the main  
area of the rash?

YES

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** A skin infection with the fungus that causes thrush is a possibility. It may accompany nappy rash and oral thrush.

**ACTION** Your doctor will probably prescribe an *antifungal* cream and will possibly also prescribe a *corticosteroid* cream.

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.**SELF-HELP Nappy rash**

Nappy rash affects most babies at some time. It is particularly common after diarrhoea but can also develop if the skin becomes irritated from wearing a wet or soiled nappy for a long time. You can help clear up your baby's nappy rash by following these steps:

- Leave your baby to play without wearing a nappy as often as possible – preferably at least once a day.
- Wash the baby's nappy area with water, dry it carefully, and avoid scented wipes.

- Change your baby's nappy often.
- Make sure that you dry the creases in your baby's skin thoroughly.
- Apply a water-repellent cream such as zinc and castor oil or petroleum jelly.
- If you use cloth nappies, make sure they are thoroughly rinsed, and avoid using biological detergents.

Consult your doctor if the rash becomes blistery, weepy, or ulcerated or if it does not clear up within a few days.

**Newborn skin**

A newborn baby's skin is very delicate and easily irritated. Do not use soap or wipes to clean your baby until he or she is at least 6 weeks old because these can dry the skin. Water is usually sufficient for cleansing the nappy area, and a few drops of baby oil in the bath water will help avoid dry skin.

There are several harmless skin problems that commonly affect babies. These include:

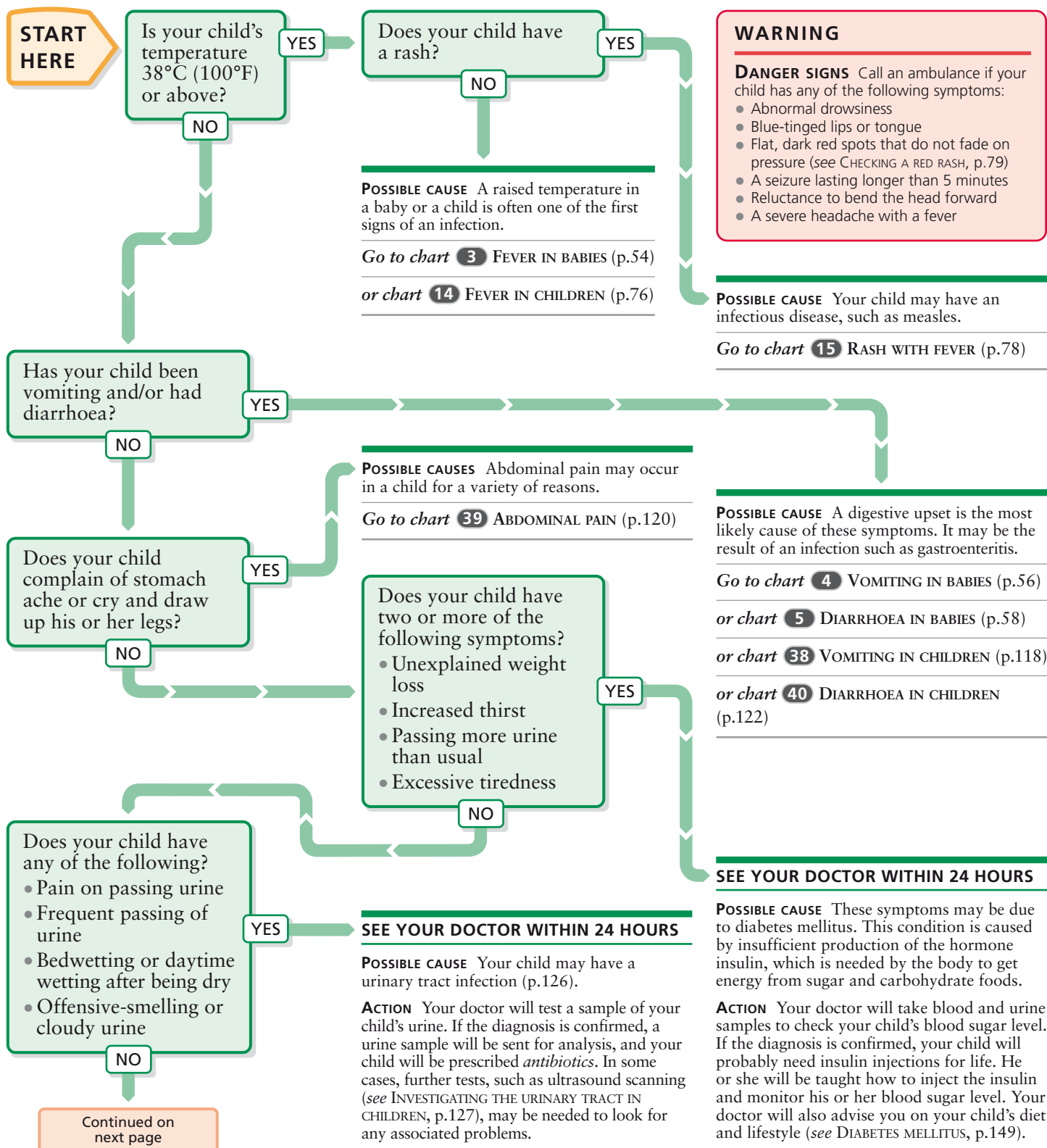
- Blotchy skin partly due to blood vessels being visible because there is little fat below the skin and partly because circulation is not mature, resulting in uneven blood flow.
- Milia – white spots on the nose and cheeks caused by blocked sebaceous glands in the skin. The spots clear up without treatment within the first couple of weeks.
- Peeling or flaking skin on the hands and feet. Gently rub emollient lotion into the affected areas.
- Urticaria – a rash of spots with a white centre and red halo, which clears up quickly without treatment.
- Heat rash – small red spots, often on the face and chest. Make sure that your baby is not too warm. No treatment is needed.

## 9 Feeling generally unwell

For unusual or excessive tiredness in a child, see chart 10, **TIREDFNESS** (p.68).

A child may sometimes complain of feeling unwell without giving you a clear idea of what exactly the matter is. At other

times, you may suspect that your child is unwell if he or she seems quieter or more irritable than usual. Use this chart to look for specific signs of illness. Such signs may lead you to a more specific chart within this book or to consult a doctor.



Continued from  
previous page

Is your child refusing all food, including treats such as sweets that would normally be appealing?

NO

YES

Has your child been in contact with an infectious illness within the past 2–3 weeks?

NO

YES

Does your child seem to be better at weekends?

NO

YES

Has there been a recent domestic upset, such as a house move, or is another child in the house ill?

NO

YES

Has your child been feeling unwell for several weeks or more?

NO

YES

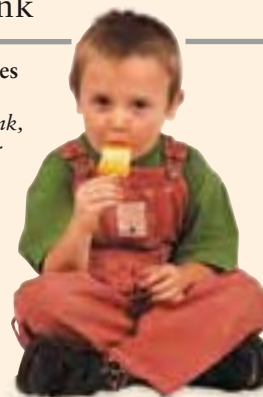
## SELF-HELP Encouraging your child to drink

If your child is unwell, it is better to concentrate on encouraging him or her to drink rather than worrying about a poor appetite. The following measures may encourage your child to drink:

- Offer him or her interesting drinks, such as fruit-flavoured squashes, rather than plain water.
- Offer him or her ice lollies or ice cubes to suck.
- Offer small drinks frequently. Encourage your child to drink before an activity, such as a story.
- Use straws, bright or unusual cups, or "grown-up" cups to add interest.
- Let your child help prepare drinks or ice lollies.

### Eating ice lollies

*If your child is reluctant to drink, offer him or her an alternative such as a flavoured ice lolly instead.*



Is your child also refusing to drink?

NO

YES

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** A sore mouth or throat is likely. However, refusing to drink can lead to dehydration. Your doctor will examine your child to establish the cause. Encourage your child to drink (above). If he or she is under 3 months and has refused feeds for 3 hours or is under 12 months and has refused to drink for 6 hours, contact your doctor immediately.

**POSSIBLE CAUSE** Your child may be in the very early stages of a childhood infectious disease, such as chickenpox. It is common for children who are coming down with an infectious disease to feel unwell and listless for 2 or 3 days before any specific symptoms develop.

**ACTION** If your child develops any other symptoms, consult the relevant chart in this book. If your child is still feeling unwell after 48 hours and there is no obvious cause, consult your doctor.

**POSSIBLE CAUSE** A refusal to eat is common in a child who is unwell for any reason.

**ACTION** Do not worry about your child's refusal to eat as long as he or she is drinking plenty (see ENCOURAGING YOUR CHILD TO DRINK, above). However, if your child is still not eating after 48 hours, and there is no obvious cause, consult your doctor.

**POSSIBLE CAUSE** Your child may be anxious about something at school, such as exams. Many children express anxiety by behaving in different ways than they normally do.

**ACTION** Talk to your child to find out what the problem is. You should also talk to his or her teachers to see if there is a problem you are not aware of, such as bullying. If your child continues to complain of feeling unwell, consult your doctor.

**POSSIBLE CAUSE** Some children are easily unsettled by changes around them. They may express this by changes in behaviour or feeling unwell. An illness in another child in the family may cause conflicting feelings; your child may be anxious about the other child but also jealous of the extra attention given to him or her.

**ACTION** Talk to your child to find out what the problem is. Extra reassurance may help. If your child still feels unwell, consult your doctor.

**POSSIBLE CAUSE AND ACTION** Your child may be unhappy or worried rather than physically ill. Some children find it hard to express feelings and may seem unwell instead. Take time to talk to your child, and, if necessary, consult your doctor, who may refer him or her to a specialist.

Are your child's height and weight within the normal range for his or her age (see GROWTH CHARTS, p.26)?

NO

YES

**POSSIBLE CAUSE AND ACTION** Your child may have an underlying disorder, such as a urinary tract infection. Consult your doctor, who may arrange for tests to look for an underlying cause and determine the appropriate treatment. Your child may be referred to a specialist.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART AND YOUR CHILD IS NO BETTER IN 48 HOURS.

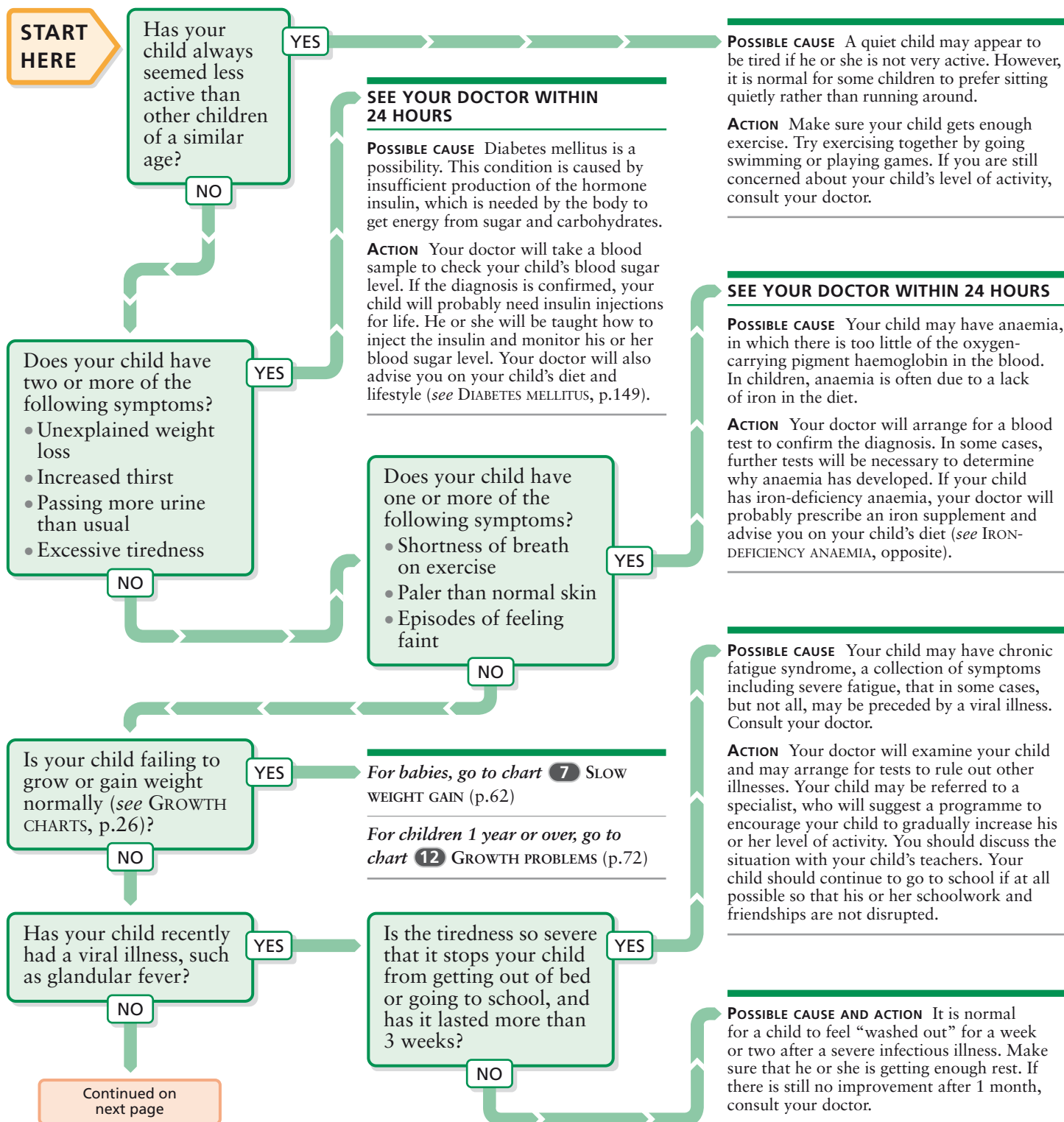


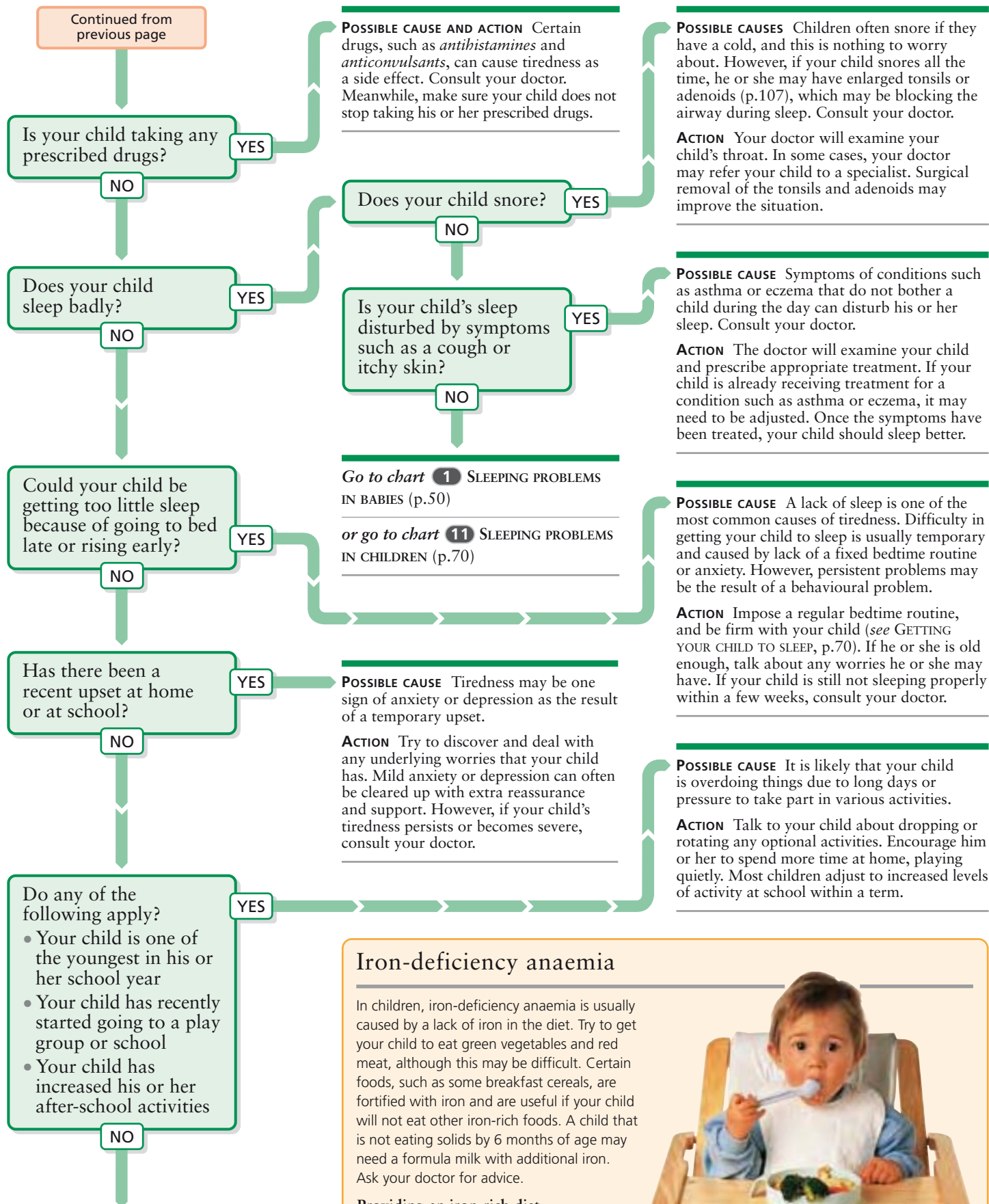
# 10 Tiredness

For *unusual drowsiness*, see chart 22, CONFUSION AND/OR DROWSINESS (p.90).

It is normal for a child to be tired if he or she has slept badly the night before or had a particularly long or energetic day. It is also common for children to need more sleep than normal during growth spurts and at puberty. If your child

seems tired most of time or tiredness is preventing him or her from taking part in social activities or keeping up at school, there may be an underlying medical problem. In many cases, such tiredness is short-lived and may be the result of a recent infection. However, you should consult your doctor to rule out a more serious problem.





**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART AND YOUR CHILD'S TIREDNESS IS PERSISTENT OR SEVERE.**

## Iron-deficiency anaemia

In children, iron-deficiency anaemia is usually caused by a lack of iron in the diet. Try to get your child to eat green vegetables and red meat, although this may be difficult. Certain foods, such as some breakfast cereals, are fortified with iron and are useful if your child will not eat other iron-rich foods. A child that is not eating solids by 6 months of age may need a formula milk with additional iron. Ask your doctor for advice.

### Providing an iron-rich diet

Offer your child plenty of iron-rich foods. Try to make green vegetables look attractive to encourage your child to eat them.

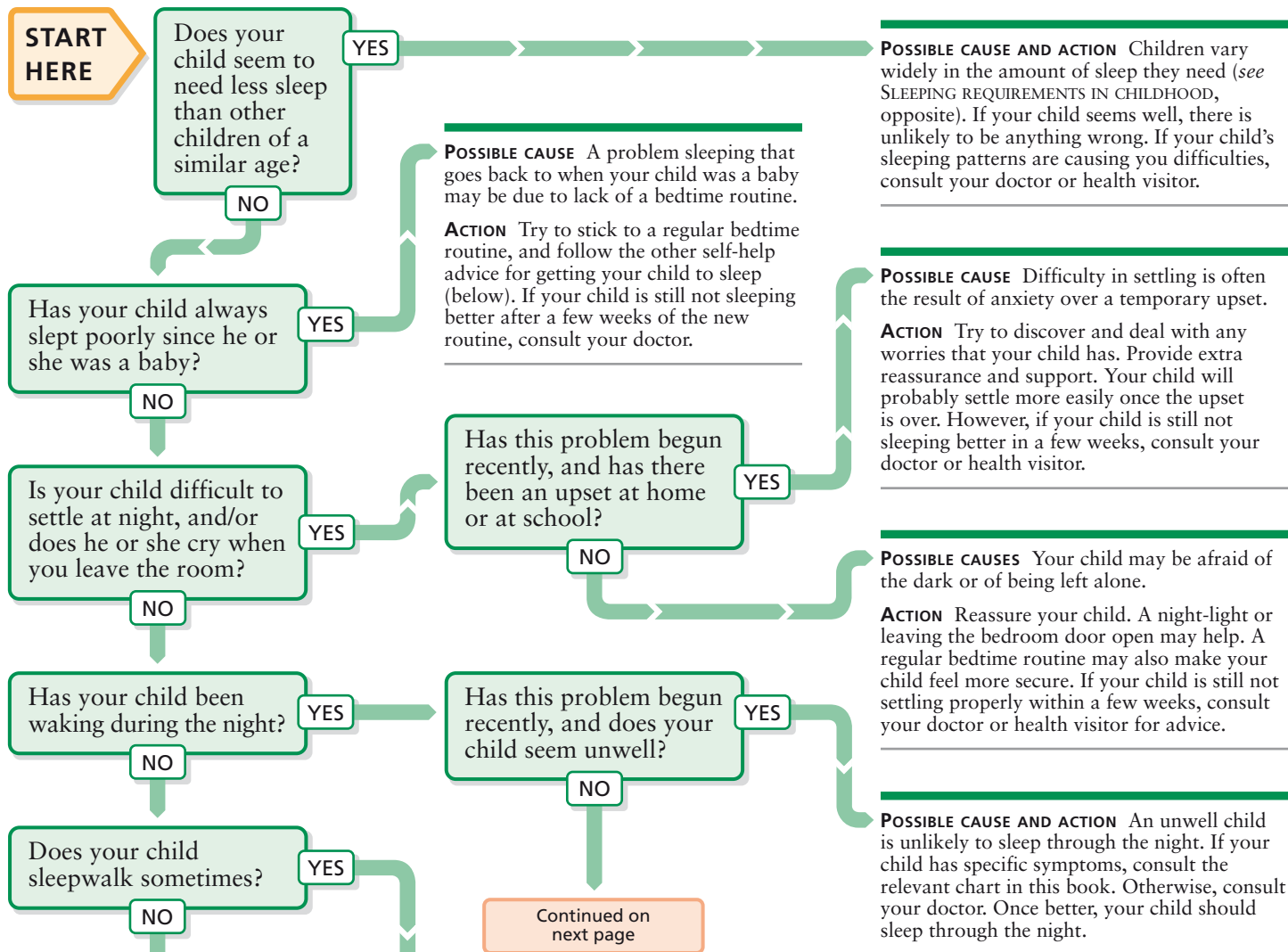


# 11 Sleeping problems in children

*For children under 1 year, see chart 1, SLEEPING PROBLEMS IN BABIES (p.50).*

The amount of sleep a child needs at night varies from about 9 to 12 hours according to age and individual requirements (see SLEEP REQUIREMENTS IN CHILDHOOD, right). Lack of sleep rarely affects health but may affect behaviour during the day

or performance at school. However, refusal to go to sleep at what you think is a reasonable time and/or waking in the middle of the night can be disruptive and distressing for the family if it occurs regularly. A number of factors, including physical illness, emotional upset, nightmares, and lack of a regular bedtime routine, may cause such sleeping problems.



**CONSULT YOUR DOCTOR OR HEALTH VISITOR IF YOU ARE UNABLE TO IDENTIFY A CAUSE FOR YOUR CHILD'S SLEEPING PROBLEM FROM THIS CHART.**

**POSSIBLE CAUSE AND ACTION** Sleepwalking is most common between the ages of 6 and 12. There is no need to worry as long as you ensure that your child is safe, for example by locking all outer doors. Do not try to wake your child, but guide him or her back to bed if necessary. Children usually grow out of it by age 12.

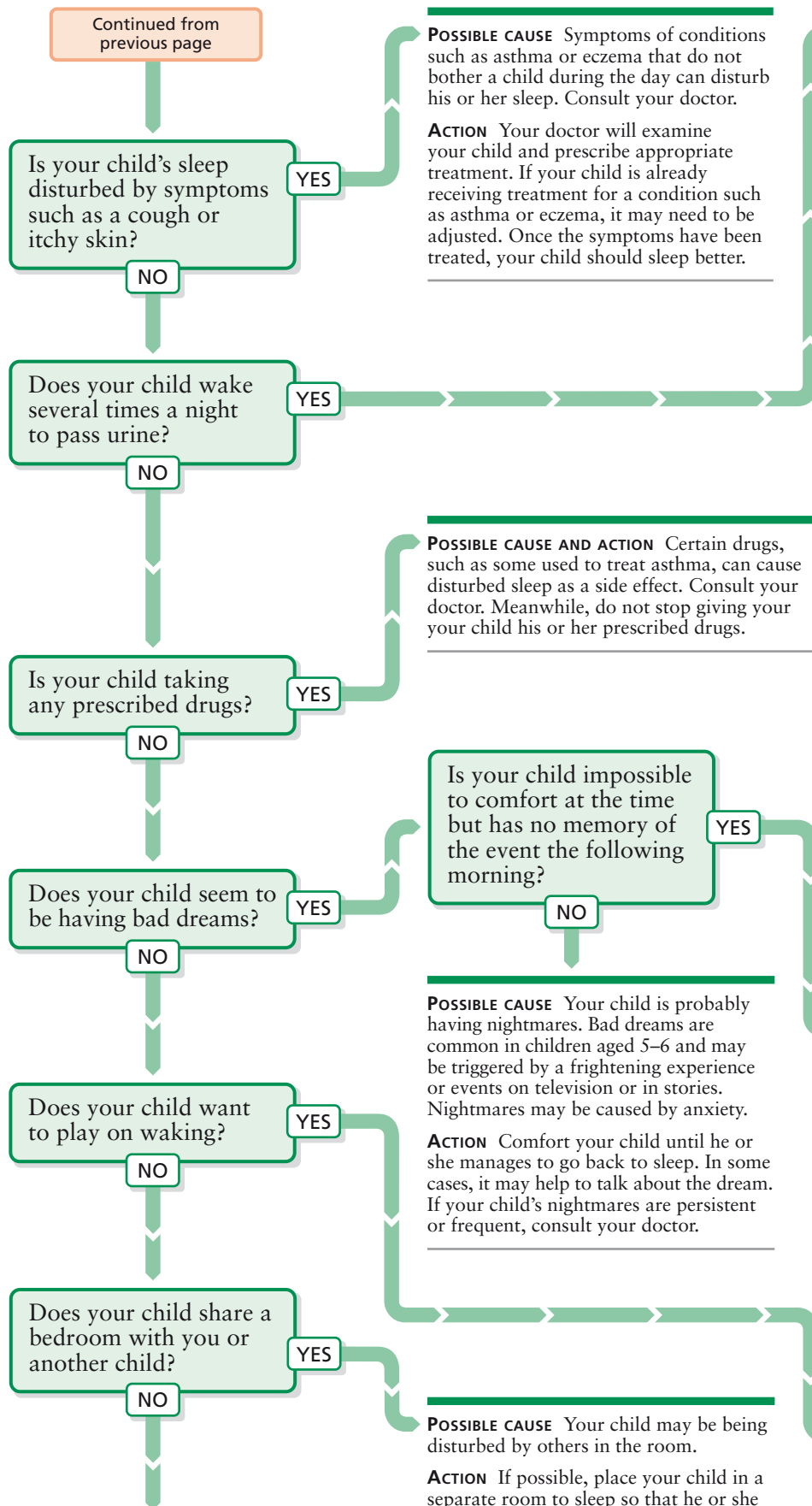
## SELF-HELP Getting your child to sleep

If your child is not sleeping well, the problem may be lack of a fixed bedtime routine. Try to establish a regular pattern that is followed every night, such as a bath and then a story. Often, children do not sleep well because they are afraid of the dark. This problem can be solved by a night-light or leaving the bedroom door open. If you have difficulty in getting your child to sleep, settle him or her, say goodnight, and leave the room. If your child cries, leave him or her for a few minutes before returning.

Reassure your child briefly and then leave again, resisting the urge to stay. Repeat this procedure until your child falls asleep. The time needed will shorten each day.

If your child wakes during the night, only get up if he or she is truly crying. (A child who is only whimpering may drift back to sleep.) Go into the room to make sure nothing is wrong, reassure your child, and leave again. If your child still cries, try the method above. He or she will eventually settle back to sleep.





**CONSULT YOUR DOCTOR OR HEALTH VISITOR IF YOU ARE UNABLE TO IDENTIFY A CAUSE FOR YOUR CHILD'S SLEEPING PROBLEM FROM THIS CHART.**

## Sleep requirements in childhood

Children vary in the amount of sleep that they need, and it is normal for some children to sleep more than others of a similar age. In general, children sleep less as they grow up. The proportion of sleep spent dreaming also goes down, from about half in a newborn to about a fifth in a teenager. You should only worry about your child's sleeping if he or she seems unwell or if excessive sleepiness interferes with his or her activities.

Age	Average total sleep per 24 hours
Up to 3 months	16 hours
3–5 months	14 hours
5–24 months	13 hours
2–3 years	12 hours
3–5 years	11 hours
5–9 years	10½ hours
9–13 years	10 hours

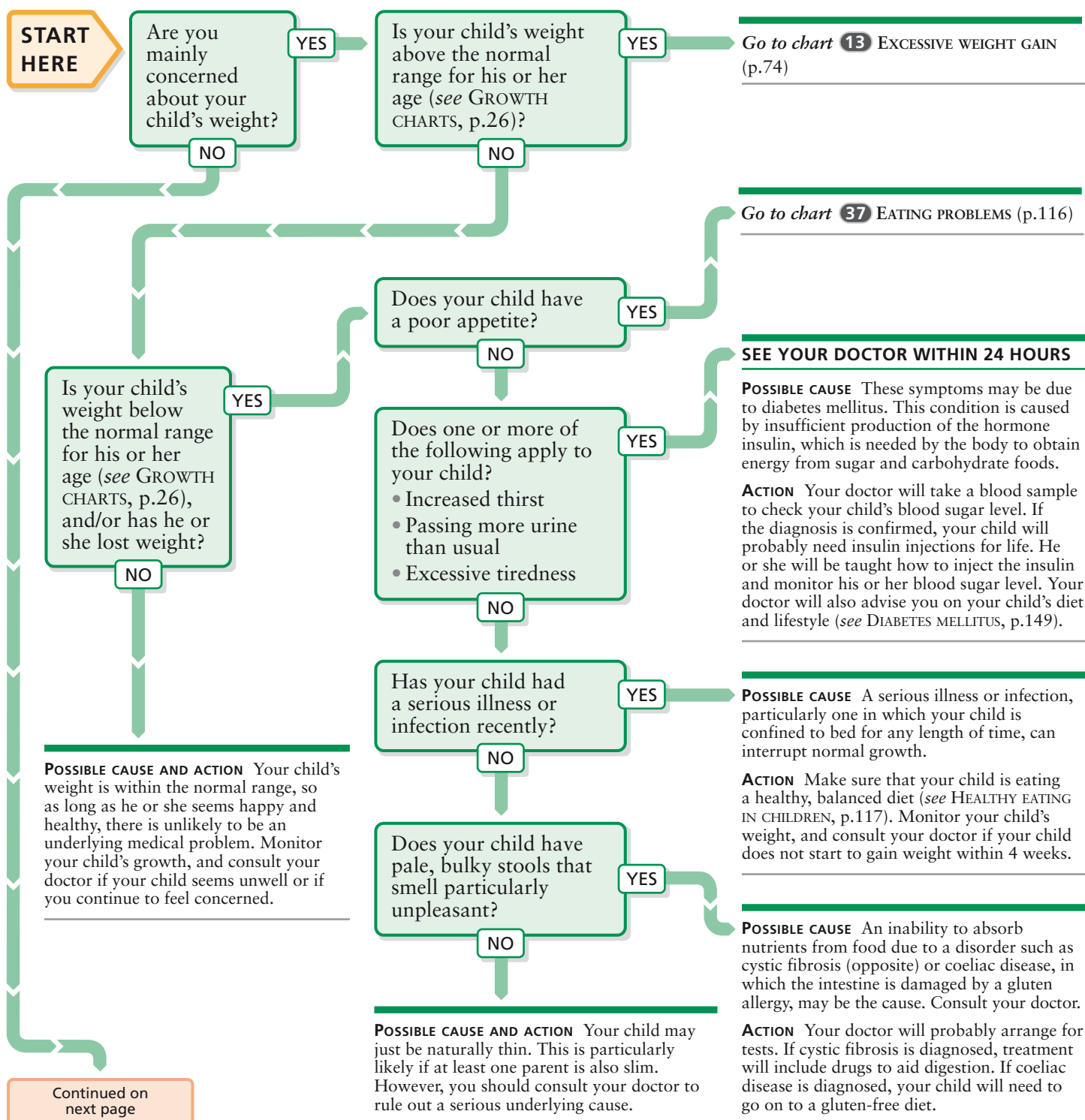
**Amount of sleep according to age**  
*This table shows the average number of hours of sleep needed by babies and children at different ages.*

# 12 Growth problems

For children under 1, see chart 7, SLOW WEIGHT GAIN (p.62). For weight problems in adolescents, see chart 51, ADOLESCENT WEIGHT PROBLEMS (p.139).

Many parents worry that their child is too short or too thin; others worry that their child is too tall or has put on too much weight. However, some children are naturally smaller or bigger than average, and serious disorders affecting growth

are rare. The best way to avoid unnecessary anxiety is to keep a regular record of your child's height and weight so that you can check that his or her growth rate is within the normal range (see GROWTH CHARTS, p.26). Consult this chart if your child is losing weight or is gaining weight at a much slower rate than you would expect, or if your child fails to grow in height as much as expected.



Continued from  
previous pageAre you mainly  
concerned about your  
child's height?

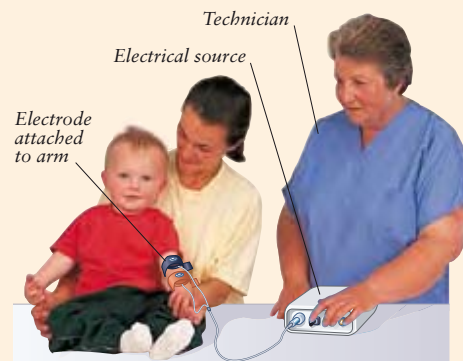
YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.

## Cystic fibrosis

Cystic fibrosis is a genetic disorder in which secretions from the glands are abnormally thick. This results in a range of problems; in particular, thick mucus in the lungs causes a persistent cough and recurrent chest infections. Abnormal secretions from the pancreas interfere with the child's ability to digest food and cause him or her to pass pale, bulky, strong-smelling faeces. Children with cystic fibrosis frequently fail to grow normally and are often underweight. The condition is present from birth but is sometimes undetected for months or years, during which time the lungs may have become damaged. Regular chest physiotherapy performed by a parent, *antibiotics*, and drugs to aid digestion now enable most affected children to survive well into adulthood.



### Sweat testing

*Cystic fibrosis results in higher than normal levels of salt in sweat. A small, painless electric current is applied to the skin to induce sweating. The sweat is then collected and analysed.*

Is your child's height  
above the normal  
range for his or her  
age (see GROWTH  
CHARTS, p.26)?

YES

NO

Is your child's height  
below the normal range  
for his or her age (see  
GROWTH CHARTS, p.26),  
and/or has he or she  
grown less than 2.5 cm  
(1 in) in the last  
6 months?

YES

NO

Is your child's weight  
above the normal range  
for his or her age (see  
GROWTH CHARTS, p.26)?

YES

NO

Has your child had  
a serious illness or  
infection recently?

YES

NO

Is your child taking any  
prescribed drugs?

YES

NO

**POSSIBLE CAUSE** Overweight children are often taller than average, although their eventual adult height is usually within the normal range. Consult your doctor.

**ACTION** Your doctor will probably weigh your child and measure his or her height. He or she may also arrange for tests to look for an underlying cause. However, dietary advice may be all that is needed (see HEALTHY EATING IN CHILDREN, p.117).

**POSSIBLE CAUSE AND ACTION** Your child is probably just tall for his or her age. This is particularly likely if at least one of your child's natural parents is also tall. If you are concerned that your child is markedly taller than other children of the same age, consult your doctor.

**POSSIBLE CAUSE** A serious illness or infection, particularly one in which your child is confined to bed for any length of time, can interrupt normal growth.

**ACTION** Your child should start to grow normally again once he or she has recovered from the illness. No specific action is needed, but if you are still concerned about your child's growth, monitor his or her height, and consult your doctor if the child does not seem to be growing as you would expect.

**POSSIBLE CAUSE AND ACTION** Certain drugs, such as *corticosteroids*, taken in high doses or over long periods of time can interfere with growth. Consult your doctor. Meanwhile, do not stop your child's prescribed drugs.

IF YOU CANNOT MAKE A DIAGNOSIS FROM THIS CHART AND ARE STILL CONCERNED ABOUT ANY ASPECT OF YOUR CHILD'S GROWTH, CONSULT YOUR DOCTOR.

**POSSIBLE CAUSE** Your child may simply be short for his or her age. This is especially likely if at least one parent is also short. Rarely, poor growth may be due to a hormone deficiency. Consult your doctor.

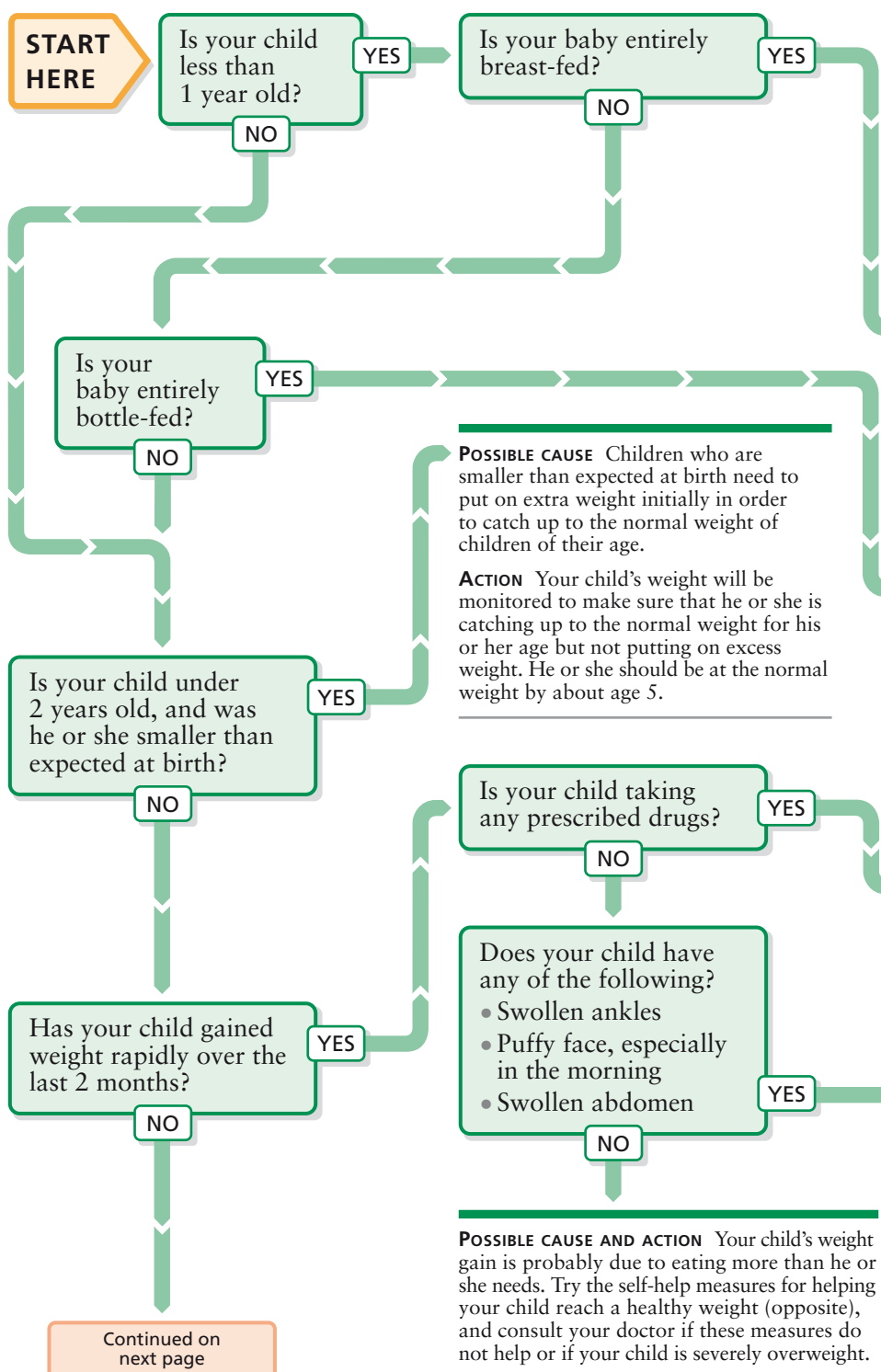
**ACTION** Your doctor will probably need to know the heights of both parents. If a hormone deficiency is suspected as a cause, your doctor may arrange for blood tests and refer your child to a specialist for further tests and treatment.



# 13 Excessive weight gain

Consult this chart if you think your child is overweight. Being overweight carries health risks and may contribute to emotional and social problems (see THE DANGERS OF CHILDHOOD OBESITY, opposite). It is therefore important to be alert to the possibility of excessive weight gain in your child. Appearance is not always a reliable sign of obesity because babies and toddlers are naturally chubby. The best

way of ensuring that you notice any weight problem in your child is to keep a regular record of your child's growth (see GROWTH CHARTS, p.26). Increasing appreciation of the dangers of obesity in adults has led to a growing awareness that the problem often starts in childhood, when bad eating habits are established. It is extremely rare for excess weight to be due to a hormone problem.



## WARNING

**SPECIAL DIETS** Children's dietary needs (see HEALTHY EATING IN CHILDREN, p.117) differ from those of adults. An unbalanced diet can adversely affect growth and development. You should never put your child on a diet or restrict his or her intake of specific food groups, except on the advice of your doctor.

**POSSIBLE CAUSE AND ACTION** Breast-fed babies often gain weight quickly between 2 and 4 months. This is perfectly normal, and there is no need to worry. It is extremely uncommon for breast-fed babies to be overweight. However, if you are concerned, consult your health visitor.

**POSSIBLE CAUSE** Bottle-fed babies sometimes gain too much weight because they drink a lot of milk as a result of thirst rather than hunger.

**ACTION** Try giving your baby cooled, boiled water between feeds. You may find that your baby now takes less milk each feed. If he or she still seems to be putting on excess weight, consult your doctor or health visitor.

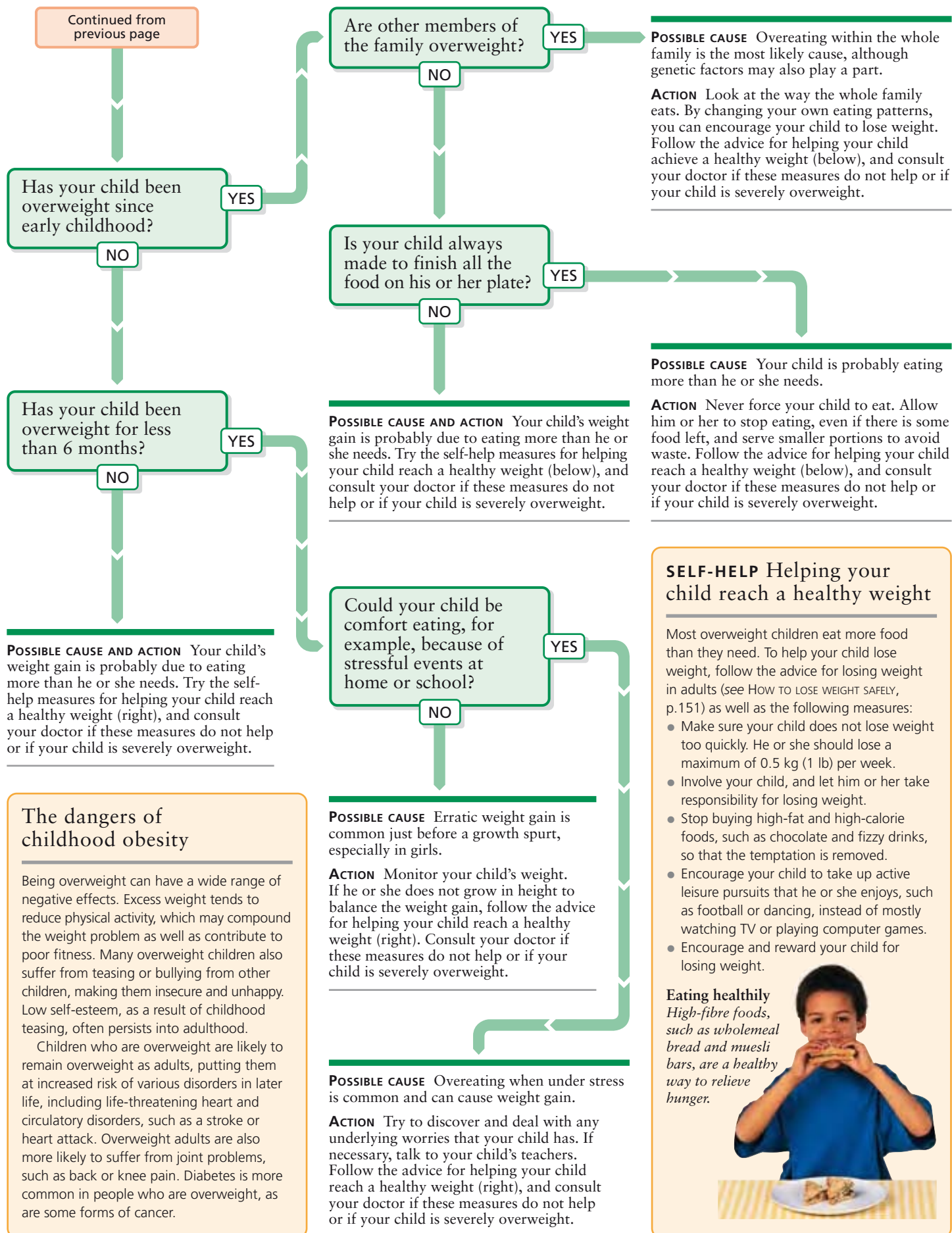
**POSSIBLE CAUSE AND ACTION** Certain drugs, such as *corticosteroids*, can cause weight gain as a side effect. Consult your doctor. Meanwhile, your child should not stop taking his or her prescribed drugs.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** Fluid retention due to a potentially serious kidney disorder may be the cause. A heart or liver disorder, causing a build-up of fluid, is a less likely possibility.

**ACTION** Your doctor will examine your child and will probably arrange for blood and urine tests. He or she may also refer your child to hospital for further tests to determine the underlying cause. Drugs are usually prescribed to treat both the symptoms and the cause.

**POSSIBLE CAUSE AND ACTION** Your child's weight gain is probably due to eating more than he or she needs. Try the self-help measures for helping your child reach a healthy weight (opposite), and consult your doctor if these measures do not help or if your child is severely overweight.



## The dangers of childhood obesity

Being overweight can have a wide range of negative effects. Excess weight tends to reduce physical activity, which may compound the weight problem as well as contribute to poor fitness. Many overweight children also suffer from teasing or bullying from other children, making them insecure and unhappy. Low self-esteem, as a result of childhood teasing, often persists into adulthood.

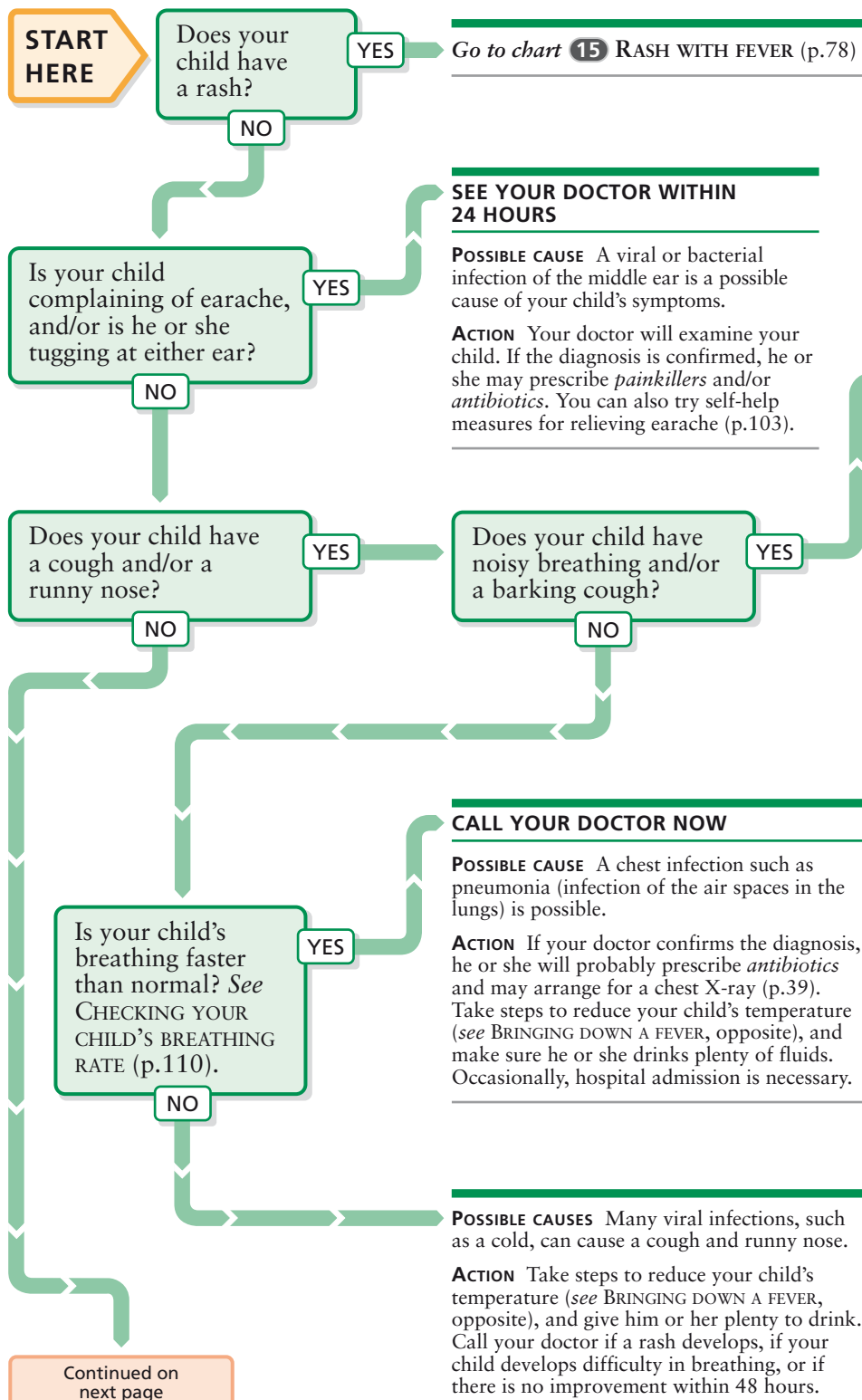
Children who are overweight are likely to remain overweight as adults, putting them at increased risk of various disorders in later life, including life-threatening heart and circulatory disorders, such as a stroke or heart attack. Overweight adults are also more likely to suffer from joint problems, such as back or knee pain. Diabetes is more common in people who are overweight, as are some forms of cancer.

# 14 Fever in children

For children under 1, see chart 3, FEVER IN BABIES (p.54).

A fever is an abnormally high body temperature of 38°C (100°F) or above. It is usually a sign that the body is fighting an infection. Heat exposure can also lead to a raised temperature. A child with a fever will feel generally unwell

and be hot and sweaty. If your child does not feel well, you should take his or her temperature (see TAKING YOUR CHILD'S TEMPERATURE, below). If it is raised, take steps to reduce it (see BRINGING DOWN A FEVER, opposite). A high fever can cause seizures (febrile convulsions) in young children.



## WARNING

**DANGER SIGNS** Call an ambulance if your child has a fever that is associated with any of the following symptoms:

- A seizure lasting more than 5 minutes
- Flat, dark red spots that do not fade on pressure (see CHECKING A RED RASH, p.79)
- Abnormal drowsiness
- A severe headache

While waiting for medical help, follow the advice for bringing down a fever (p.77).

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A condition such as croup, in which the throat becomes swollen and narrowed due to a viral infection, is possible.

**ACTION** Your doctor may give your child an inhaled *corticosteroid* drug to ease his or her breathing. You should also try self-help measures for relieving a cough (p.108). If your child's symptoms are severe, he or she may need to be admitted to hospital for monitoring and further treatment.

## SELF-HELP Taking your child's temperature

A convenient method of taking your child's temperature is with an aural thermometer, which is placed in the ear. You can also use a standard thermometer placed in the armpit or in the mouth. Do not put a glass thermometer in the mouth of a child aged under 7. For the correct result, add 0.6°C (1°F) to a reading from the armpit.



### Using an aural thermometer

Hold the thermometer in your child's ear for the recommended time. A new disposable tip should be attached for each use.



Continued from  
previous pageDoes your child have  
any of the following?

- Severe headache
- Reluctance to bend the head forward
- Dislike of bright lights
- Drowsiness or confusion
- Flat, dark red spots that do not fade on pressure (p.79)

YES

NO

Does your child  
have diarrhoea?

YES

NO

Does your child have a  
sore throat?

YES

NO

Does your child have  
any of the following?

- Pain on passing urine
- Frequent passing of urine
- Bedwetting or daytime wetting after being dry
- Offensive-smelling or cloudy urine

YES

NO

Has your child been  
exposed to hot sunshine  
or high temperatures?

YES

NO

**SELF-HELP** Bringing down a fever

Lowering a temperature will help your child feel more comfortable and lessens the likelihood of a febrile convulsion occurring (p.55). Remove your child's clothes and give him or her plenty of cold drinks. If your child is over 2 months old, give him or her the recommended dose of paracetamol. If the fever doesn't fall and your child is over 6 months old, give him or her the recommended dose of ibuprofen as well. The doses of both drugs can be repeated every 4 hours.

**Cooling your child**

*Undress your child, lie him or her in a cool room, and sponge his or her head and body with tepid water.*

**EMERGENCY!**  
CALL AN AMBULANCE

**POSSIBLE CAUSE** Meningitis, inflammation of the membranes surrounding the brain due to an infection, may be the cause of such symptoms.

**ACTION** If meningitis is suspected, your child will be admitted to hospital immediately. He or she will be given urgent treatment with *antibiotics* and may need intensive care.

**POSSIBLE CAUSE** Gastroenteritis, inflammation of the digestive tract, usually due to a viral infection, is the most likely cause of diarrhoea with a fever. Your child may also vomit.

**ACTION** Follow the self-help measures for preventing dehydration in children (p.123) and treating gastroenteritis in children (p.118). If your child has diarrhoea for more than 24 hours, call your doctor.

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSES** Pharyngitis or tonsillitis, an infection of the throat and the tonsils, are the most likely causes. The infection may be due to a bacteria or a virus.

**ACTION** Your doctor will examine your child's throat and may take a throat swab to confirm the diagnosis. He or she may prescribe *antibiotics* for the infection. You can also try self-help measures for soothing your child's sore throat (p.107).

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** Your child may have a urinary tract infection (p.126).

**ACTION** Your doctor will test a sample of your child's urine. If the diagnosis is confirmed, a urine sample will be sent for analysis, and your child will be prescribed *antibiotics*. In some cases, further tests, such as ultrasound scanning (see INVESTIGATING THE URINARY TRACT IN CHILDREN, p.127), may be needed to look for any associated problems.

**SEE YOUR DOCTOR WITHIN 24 HOURS IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

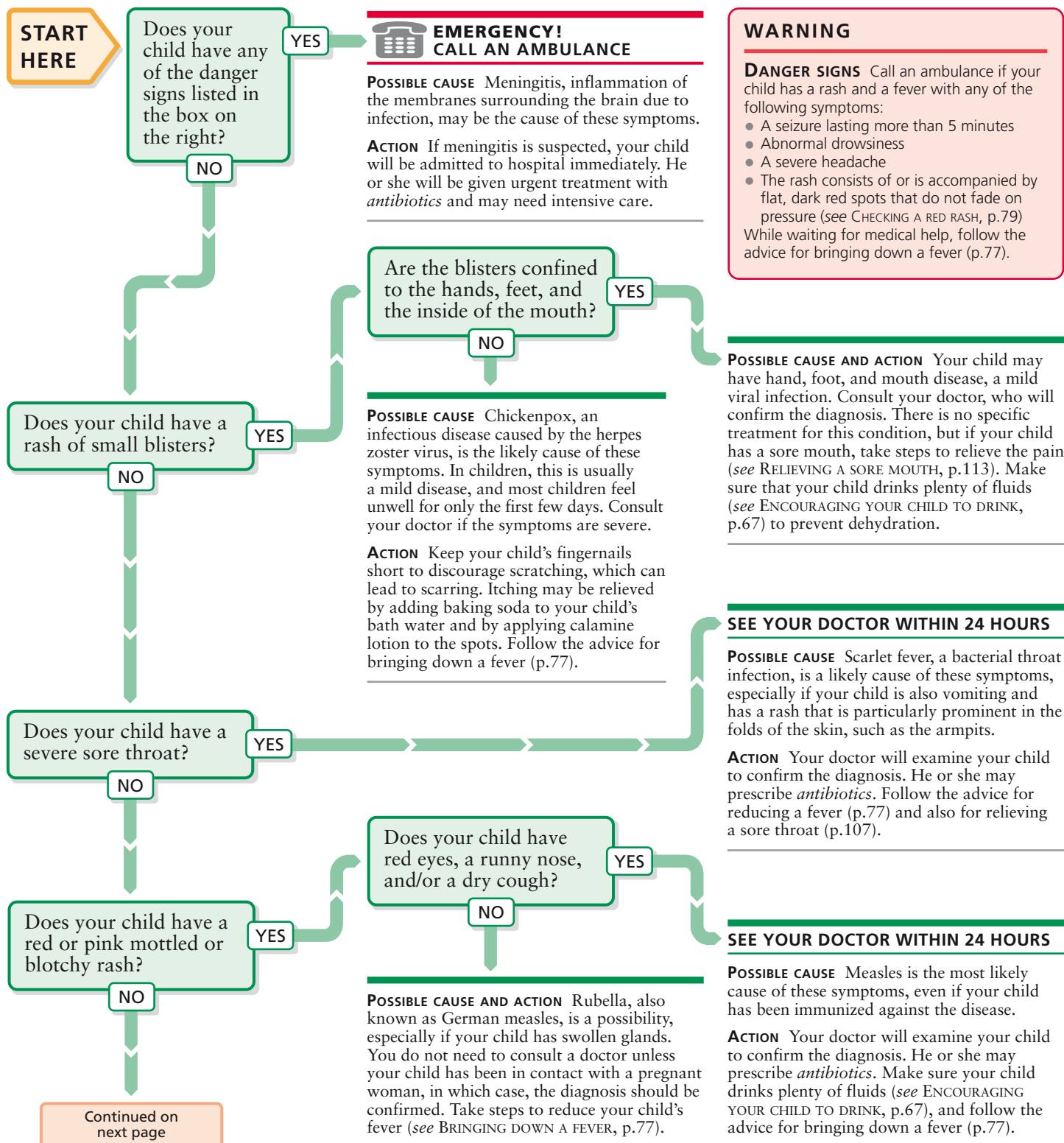
**POSSIBLE CAUSE** Overheating, leading to a rise in body temperature, is the most likely cause.

**ACTION** Take steps to reduce your child's temperature by removing any excess clothing and moving him or her to a slightly cooler (though not cold) place. If your child's temperature has not returned to normal within an hour, follow the advice for bringing down a fever (above) and call your doctor.

# 15 Rash with fever

Consult this chart if your child develops a rash anywhere on the body associated with a temperature of 38°C (100°F) or higher. In children, this combination of symptoms is often caused by a viral infection, but, in some cases, it can be caused by a serious bacterial infection, such as meningitis,

that needs urgent medical attention. Routine immunizations will protect your child against most serious infections. However, your child will still be at risk of developing a number of less serious infections and may even develop a mild form of diseases against which he or she has been immunized.



Continued from  
previous pageDoes your child have a  
bright red rash on the  
cheeks with or without  
a lacy rash on the trunk?

YES

NO

Is your child under  
2 years old, and did he  
or she have a high fever  
for 3–4 days before a  
rash developed on his  
or her body.

YES

NO

Is your child under  
6 years old, and does he  
or she have any of the  
following?

- Swollen hands and feet
- Dry, cracked and swollen lips
- Red palms and soles
- Red eyes
- Swollen glands

YES

NO

Has your child taken  
any new drugs within  
the last week?

YES

NO

## Viral infections that cause a rash

Many viral infections cause a fever and a rash. The more serious ones, such as measles, have become much less common as a result of routine immunizations. Many of these infections can

also affect adults, whose symptoms can be more severe than children's. The incubation period is the time between acquiring an infection and first developing symptoms.

Disease (incubation period)	Symptoms	Period when infectious
Chickenpox (7–21 days)	Crops of raised, red, itchy spots that turn into blisters and then scabs, mainly on face and trunk	From 2 days before the rash develops until all the blisters have scabs
Erythema infectiosum (4–20 days)	Bright red cheeks; lacy rash, mainly on trunk	Until 1 week after the rash develops
Hand, foot, and mouth disease (4 days)	Mild fever; rash of small blisters on hands, feet, and inside of mouth	For duration of blisters
Measles (7–14 days)	Cough; runny nose; red eyes; mottled or blotchy red rash, first on the face, then trunk and arms	Until 5 days after the rash develops
Roseola infantum (variable)	High fever followed by flat, light-red rash on the trunk; swollen glands in the neck	Until 5 days after the onset of the symptoms
Rubella (14–19 days)	Mild fever; swollen glands in the neck; flat pink mottled or blotchy rash, mainly on face and trunk	From 1 week before the rash develops until 5 days after the rash develops or until the rash disappears
Scarlet fever (2–5 days)	High fever; severe sore throat; vomiting; red rash on body, most obvious in skin folds	Until the prescribed course of antibiotics is completed

**POSSIBLE CAUSE AND ACTION** Your child may have erythema infectiosum, also known as slapped-cheek disease or fifth disease. This viral condition is usually mild. Follow the advice on reducing a fever (p.77). The diagnosis should be confirmed by your doctor if your child has been in contact with a pregnant woman. If you are worried or if your child is no better in 48 hours, call your doctor.

**POSSIBLE CAUSE AND ACTION** Your child may have roseola infantum, a common early childhood infection. This condition is difficult to diagnose before the rash appears as the fever is the only symptom. By the time the rash appears, the child is usually better. If you suspect your child has this condition and he or she still has a fever, consult your doctor. He or she will examine your child and may do tests to exclude more serious problems.

### CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Kawasaki disease, a rare condition of unknown cause, which can damage the heart and joints, is a possibility.

**ACTION** If your doctor suspects that your child has Kawasaki disease, your child will be admitted to hospital, where his or her condition can be monitored and treatment given to reduce the risk of heart complications.

### CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** Your child may have an allergy to the prescribed medicine, or he or she may have a viral illness unrelated to the drug.

**ACTION** Your doctor will examine your child to determine the cause of the symptoms. If your child does have a drug allergy, your doctor will be able to tell you whether your child should avoid this drug in future.

## Checking a red rash

If you or your child develops dark red or purple blotches, check whether they fade on pressure by pressing a clear glass against them. If the rash is visible through the glass, it may be a form of purpura, which is caused by bleeding under the skin and may occur in meningitis. If you or your child has a non-fading rash, call an ambulance.



### Checking a rash

Here, the rash is still visible when the glass is pressed against the skin – a sign that it may be caused by an illness such as meningitis.

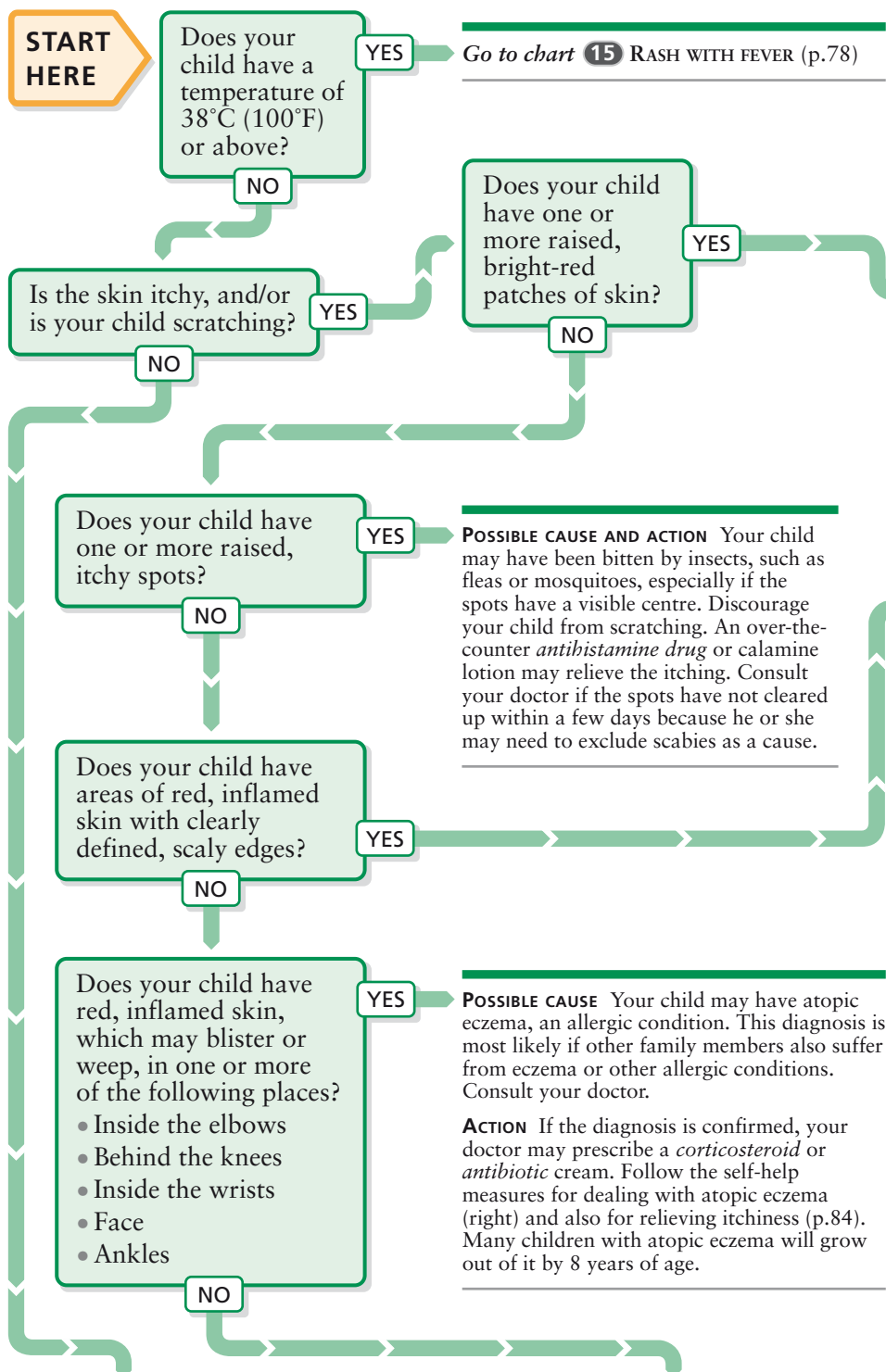
SEE YOUR DOCTOR WITHIN 24 HOURS IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

# 16 Skin problems in children

For skin problems in children under 1, see chart 8, SKIN PROBLEMS IN BABIES (p.64).

Childhood spots and rashes are usually due to irritation or inflammation of the skin as a result of a local problem such as an allergic reaction. However, a rash associated with a fever

may be due to a generalized infection (see VIRAL INFECTIONS THAT CAUSE A RASH, p.79). A rash without a fever or a feeling of being unwell is probably no cause for concern; but, if it is itchy or sore, consult your doctor. Call an ambulance if a rash is accompanied by difficulty breathing and/or facial swelling.



## WARNING

**DANGER SIGNS** Call an ambulance if your child has flat, dark red spots that do not fade on pressure (see CHECKING A RED RASH, p.79) and seems unwell, because these symptoms can be associated with meningitis.

**POSSIBLE CAUSE** Urticaria, an allergic reaction also known as hives, is likely. The cause of the condition is often unknown. Rarely, it may be part of a more widespread allergic reaction.

**ACTION** Usually, no treatment is necessary, but an over-the-counter *antihistamine drug* may help to relieve itching. Consult your doctor if urticaria persists for more than 24 hours or if it recurs frequently. If swelling or affects the mouth or tongue, call an ambulance.

**POSSIBLE CAUSE** A fungal infection, such as ringworm, is a possibility. Some fungi infect warm, moist areas between skin folds, such as in the groin or the armpit, while others affect the limbs or the trunk. Consult your doctor.

**ACTION** Your doctor will probably prescribe an *antifungal* cream for your child and may also prescribe *antifungal* tablets.

## SELF-HELP Atopic eczema

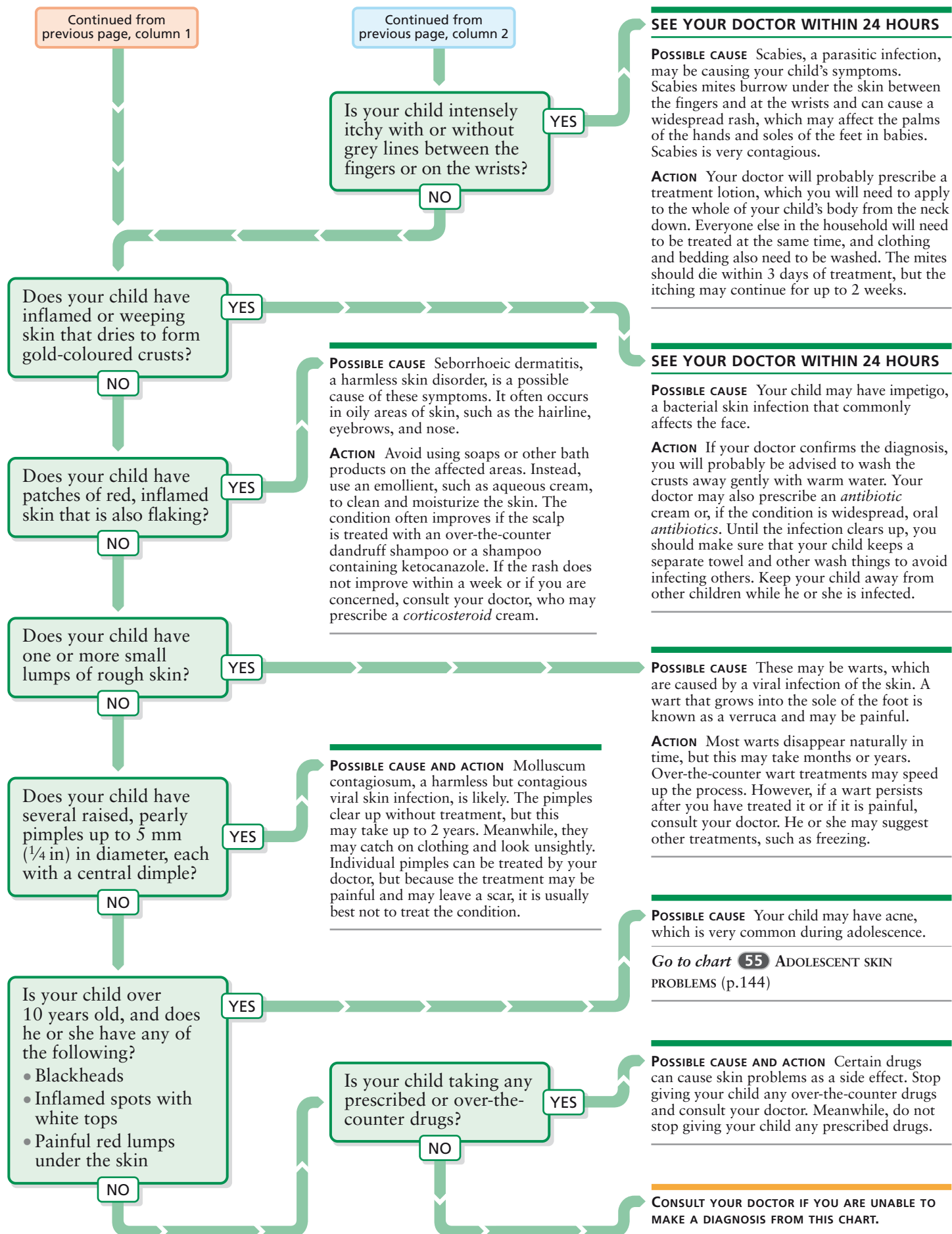
The itchy rash of eczema usually affects the skin on the insides of joints such as the elbows and knees. If your child has eczema, the following measures may help ease the symptoms or reduce the number of flare-ups:

- Your child should bath in warm water, not hot, and use an emollient bath oil.
  - Provide your child with a soap-free cleansing agent such as aqueous cream.
  - Apply emollient cream several times a day.
  - Make sure your child wears cotton clothing next to the skin to reduce irritation.
  - Your child should avoid coming in contact with cold sores, which may cause a serious viral skin infection.
  - Try to identify triggers, such as egg, then discuss an avoidance diet with your doctor.
- Also follow the self-help measures for relieving itchiness (p.84).

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next page, column 1

Continued on  
next page, column 2

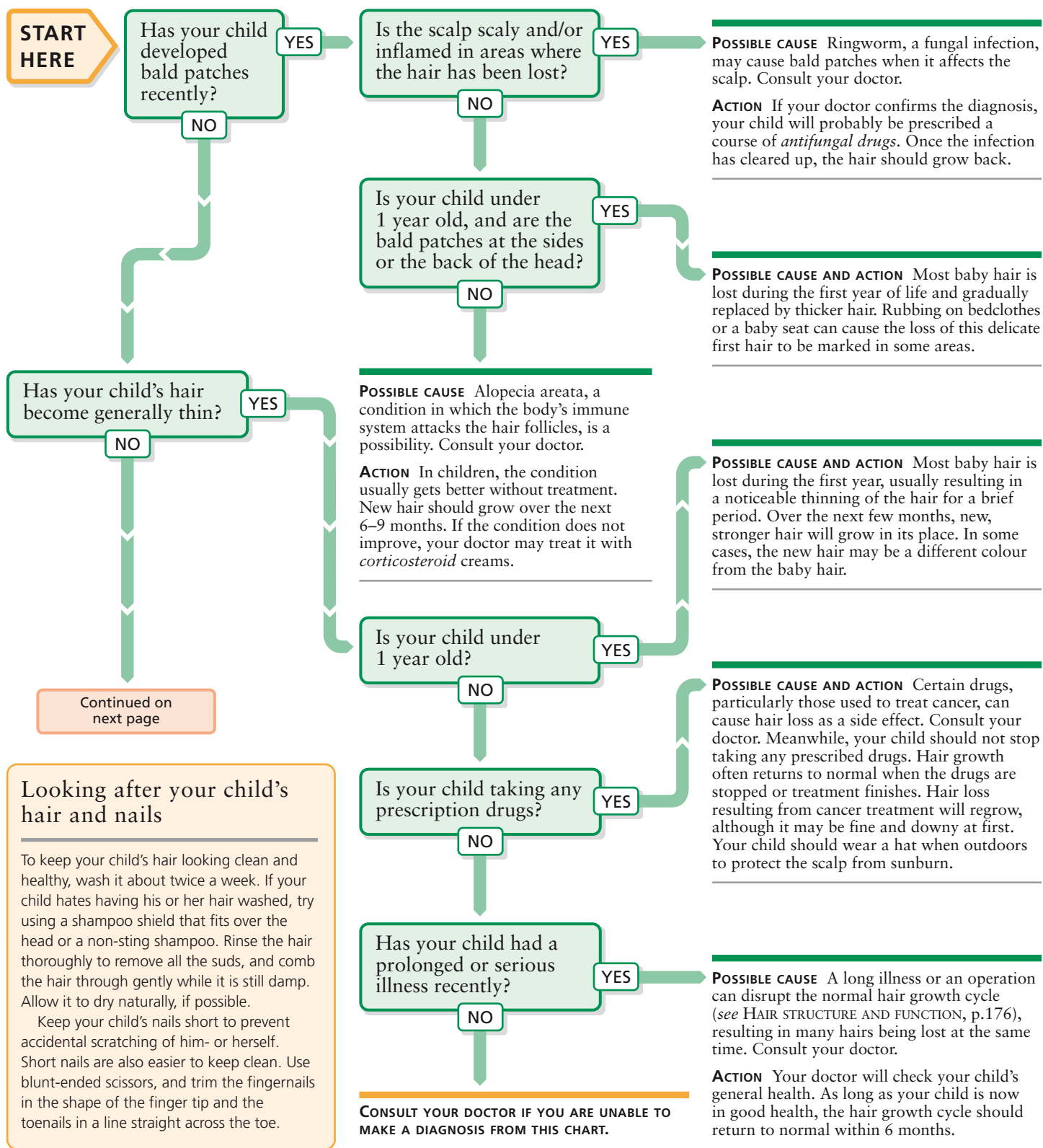




# 17 Hair, scalp, and nail problems

Consult this chart if your child has any problems affecting the hair, scalp, fingernails, or toenails. In general, eating a well-balanced diet will help keep your child's hair and nails strong and healthy. Use a soft hairbrush on a young child's

hair because it can be easily damaged. If your child's hair is long, avoid braiding it tightly or using uncovered rubber bands to tie it back. In children, the most common hair problems needing treatment are fungal infections and head lice.



## Looking after your child's hair and nails

To keep your child's hair looking clean and healthy, wash it about twice a week. If your child hates having his or her hair washed, try using a shampoo shield that fits over the head or a non-sting shampoo. Rinse the hair thoroughly to remove all the suds, and comb the hair through gently while it is still damp. Allow it to dry naturally, if possible.

Keep your child's nails short to prevent accidental scratching of him- or herself. Short nails are also easier to keep clean. Use blunt-ended scissors, and trim the fingernails in the shape of the finger tip and the toenails in a line straight across the toe.

Continued from  
previous page**SELF-HELP** Treating head lice

Contrary to popular belief, head lice prefer clean, not dirty, hair. Head lice can be treated with an over-the-counter lotion or shampoo. Follow the directions on the packet, and then remove the dead lice and their eggs, known as nits, by combing through the hair with a fine-toothed nit comb. Alternatively, try coating the hair in conditioner and combing it through with a nit comb daily, or try using a battery-operated comb that electrocutes the lice. Whichever method you use, treat everyone in the household and wash all combs and towels in hot water to prevent reinfections.

**Removing lice and eggs**

*Carefully combing through your child's hair with a fine-toothed nit comb will remove eggs and dead lice.*

*Fine-toothed nit comb*



Does your child have an itchy scalp?

YES

NO

Is the scalp flaking?

YES

NO

**POSSIBLE CAUSES** Your child probably has dandruff, which is a form of seborrhoeic dermatitis often associated with a fungal scalp infection. However, a flaking scalp may also be due to other conditions, such as psoriasis.

**ACTION** An over-the-counter dandruff shampoo or a shampoo containing ketocanazole should clear up the condition. If your child's scalp is no better within 4 weeks, consult your doctor.

**POSSIBLE CAUSE** An infestation of head lice is possible. Lice are transmitted by close contact. Comb your child's hair over a sheet of white paper using a fine-toothed comb to confirm that lice are present. These tiny black insects are less than 2 mm ( $\frac{1}{16}$  in) long. Their white eggs (nits) can sometimes be seen attached to hair shafts.

**ACTION** Head lice can be treated with preparations available from your pharmacist (above).

Does your child have a red, painful area around one or more nails?

YES

NO

**POSSIBLE CAUSE** An ingrowing toenail is the most likely cause of these symptoms.

**Go to chart 49** FOOT PROBLEMS (p.136)

Is it only a big toe that is affected?

YES

NO

Has the pain and swelling developed rapidly within the last 24 hours?

YES

NO

**POSSIBLE CAUSE AND ACTION** A fungal infection around the nail may be the cause. Consult your doctor, who may prescribe an *antifungal* cream. Keep your child's hands out of water as much as possible until the condition clears up.

Does your child bite his or her nails?

YES

NO

**POSSIBLE CAUSE** Nail-biting may be copied from other children or it may arise as a nervous habit (*see* HABITUAL BEHAVIOUR, p.95). Nail-biting is common in children and is not a risk to health. However, bitten nails may feel sore or look unsightly. In rare cases, broken skin on the finger tips may become infected by bacteria from the mouth.

**ACTION** Try to keep your child's nails trimmed and smooth. Draw your child's attention to the habit when you see him or her doing it, but try not to nag because this may make the habit worse. Over-the-counter preparations that can be painted on the nails to make them taste unpleasant may be worth trying. Consult your doctor if the skin around the nails becomes red or inflamed because an infection may have developed.

**POSSIBLE CAUSE** Acute paronychia, a bacterial infection of the skin adjacent to a nail, may be the cause. Consult your doctor.

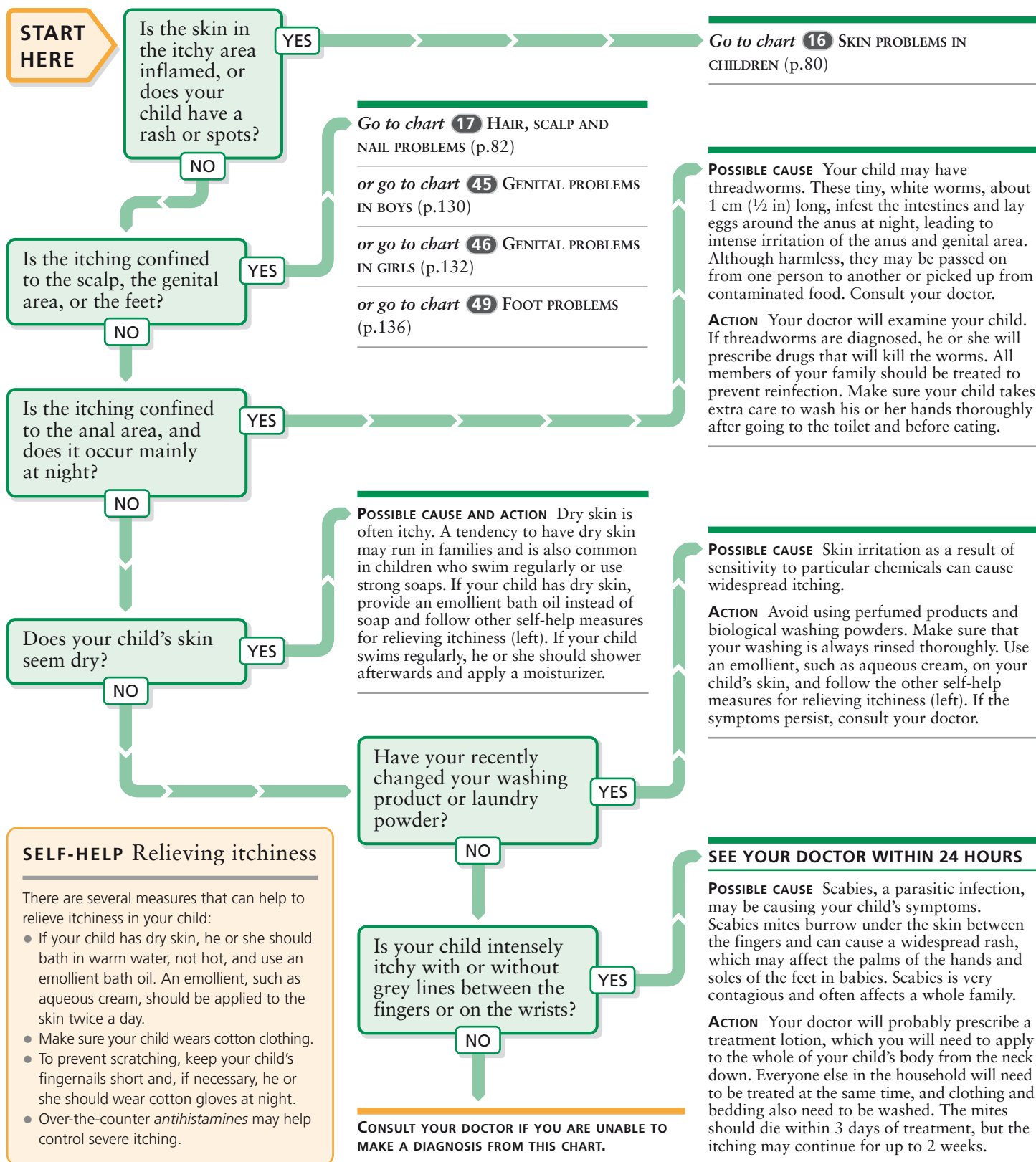
**ACTION** Your doctor may prescribe *antibiotics* as a cream or as tablets. If pus has formed, it may need to be drained under local anaesthetic.

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

# 18 Itching

Itching is a common and distressing symptom for a child and can have a variety of causes, including external irritants or infestation by parasites. It is important to deal promptly

with any disorder that produces itching, because if it persists, scratching can lead to an infection or changes in the skin, which can, in turn, lead to further itching.



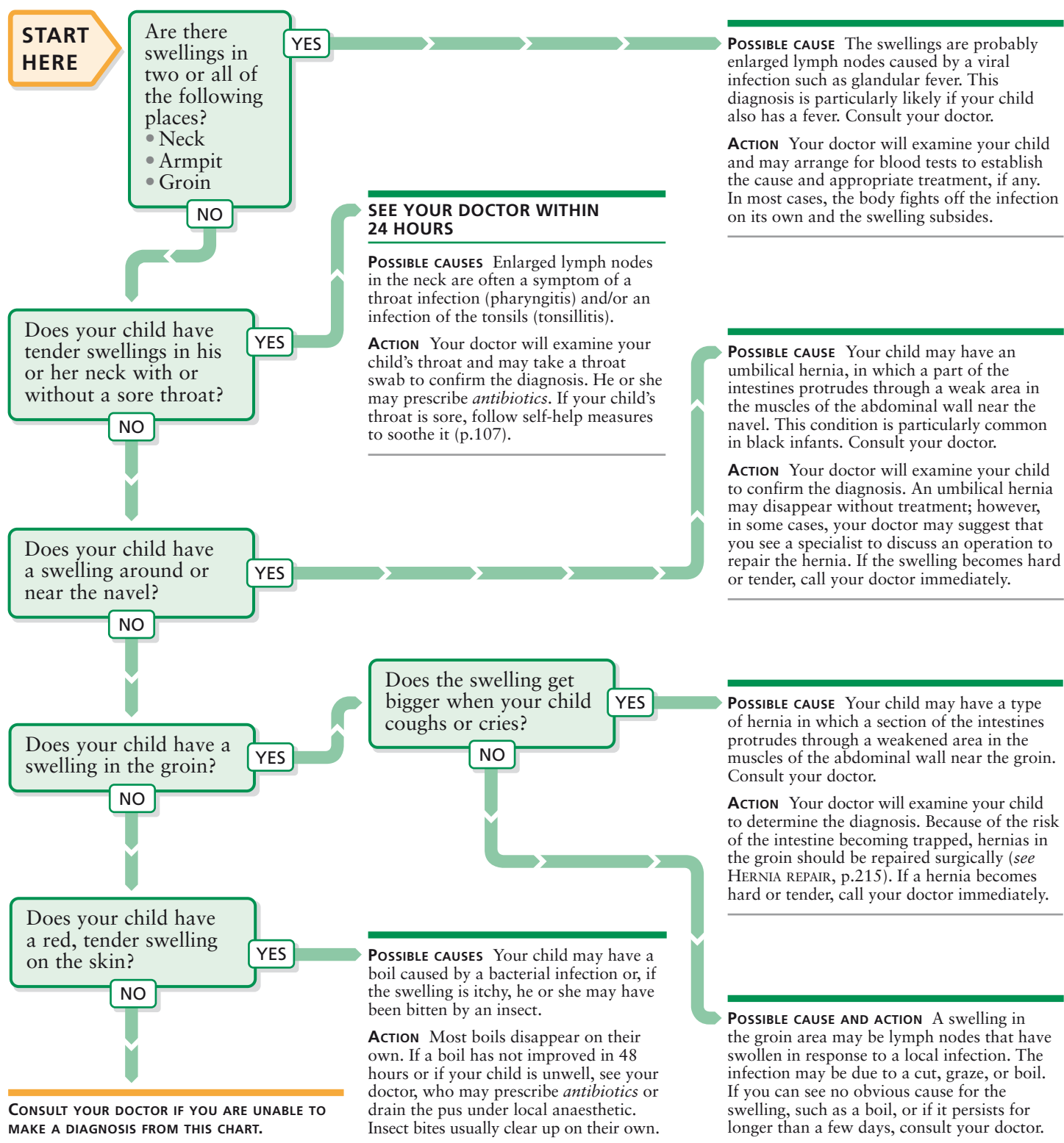


# 19 Lumps and swellings

For lumps and swellings in the scrotum, see chart 45, GENITAL PROBLEMS IN BOYS (p.130).

Consult this chart if your child has lumps or swellings on any area of the body. Lumps and swellings under the surface of the skin are often lymph nodes, commonly known as

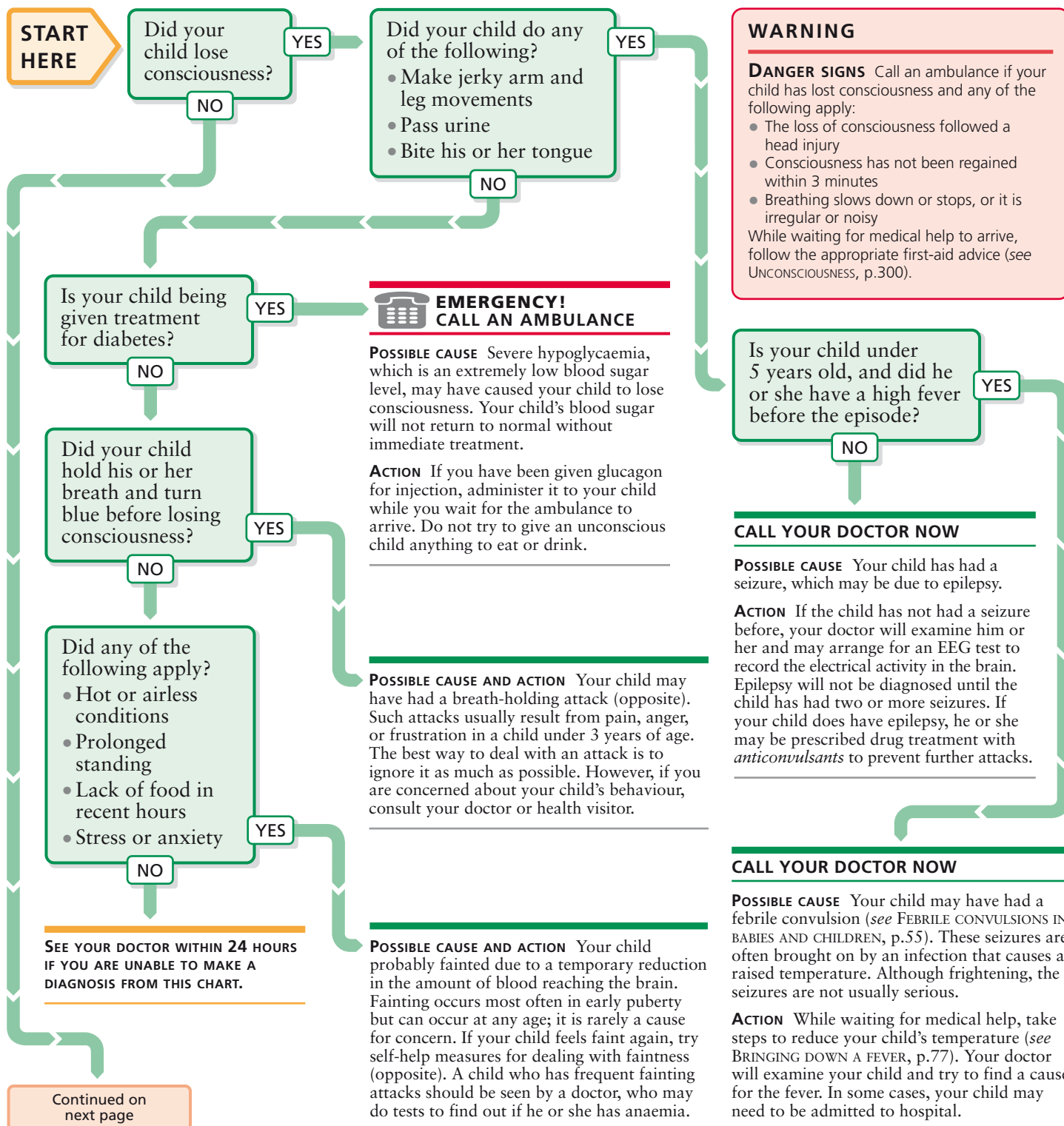
glands, that have enlarged in response to an infection. Other lumps and swellings may be due to injuries, bites, or stings. A persistent lump or swelling should always be examined by a doctor so that the cause can be established. However, there is rarely cause for serious concern in a child.



## 20 Dizziness, fainting, and seizures

A brief loss of consciousness in a child is usually due to fainting and is seldom serious. However, if the loss of consciousness is accompanied by abnormal movements, such as jerking limbs, the child may be having a seizure. There are several possible causes for a seizure, some of which need urgent treatment. Children often become dizzy as a result of

games that involve spinning or fairground rides, but dizziness for no obvious reason could be due to problems with the balance mechanism in the ear. If your child has regular episodes of dizziness or has a seizure, consult your doctor. Try to keep an accurate account of the episode and any related symptoms as this will help your doctor establish the cause.



Continued from  
previous page

Does your child have episodes in which he or she seems unaware of the surroundings for a few moments?

YES

NO

Is your child suffering from any of the following?

- The sensation that everything is spinning
- Loss of balance
- Nausea or vomiting

YES

NO

Does your child feel unsteady or faint?

YES

NO

SEE YOUR DOCTOR WITHIN 24 HOURS IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

Is your child being treated for diabetes?

YES

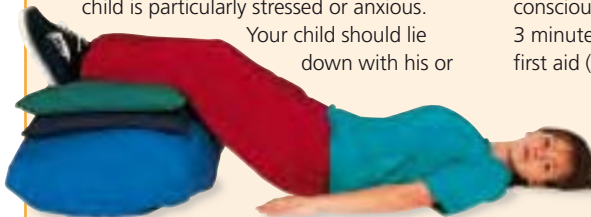
NO

**POSSIBLE CAUSE AND ACTION** Feeling faint is not uncommon in children, especially if they are in a stuffy atmosphere, hungry, or anxious, and is rarely a cause for concern. Follow self-help measures for dealing with faintness (above). Consult your doctor if your child has frequent fainting attacks; the doctor may need to determine whether your child has anaemia.

## SELF-HELP Dealing with faintness

If your child suddenly turns pale, complains that his or her vision is closing in, and/or appears confused, he or she may be feeling faint. This condition is more likely if the atmosphere is hot or stuffy, if your child has not eaten, if he or she has been standing for a long time, or if the child is particularly stressed or anxious.

Your child should lie down with his or



her feet raised to improve the blood flow to the brain. Make sure plenty of fresh air is available, and loosen the child's clothes, if necessary. If you are sure that your child is fully conscious, offer him or her a sweet drink in order to raise the blood sugar level. If your child loses consciousness and does not regain it within 3 minutes, call an ambulance and administer first aid (see UNCONSCIOUSNESS, p.300).

### Relieving faintness

*Lying down with the legs raised increases the flow of blood to the brain and usually quickly relieves feelings of faintness.*

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE AND ACTION** These may be generalized absence seizures, a type of epilepsy (formerly known as petit mal). Do not try to stop the seizures by shaking or slapping your child. Your doctor may refer your child for an EEG test to record the electrical activity in the brain. He or she may advise drug treatment with *anticonvulsants* to control the condition.

**POSSIBLE CAUSE AND ACTION** These symptoms may be the side effects of a drug. Call your doctor before the next dose of the drug is due to ask if it could be the cause and if you should stop giving it to your child.

**POSSIBLE CAUSE** It is possible that your child is abusing drugs or solvents (see RECOGNIZING DRUG AND SOLVENT ABUSE, p.141). A nervous system problem is also a rare possibility. Consult your doctor.

**ACTION** Your doctor will examine your child and may refer him or her for tests such as MRI (p.41) to exclude a nervous system problem. If drug or substance abuse is the problem, your doctor may arrange counselling or suggest self-help groups (see USEFUL ADDRESSES, p.311).

Is your child taking any prescription drugs?

YES

NO

Have you noticed changes in your child's behaviour recently?

YES

NO

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** Your child may have labyrinthitis, a viral infection of the part of the ear concerned with balance (see HOW YOU KEEP YOUR BALANCE, p.162). Your doctor may prescribe *antiemetic drugs* to relieve the nausea and dizziness. While your child is experiencing symptoms, he or she may be more comfortable lying down and remaining still.

**POSSIBLE CAUSE** Faintness in children with diabetes may indicate a low blood sugar level, particularly if the symptoms come on suddenly. Less commonly, these symptoms may be due to a high blood sugar level.

**ACTION** If your child is sufficiently alert, give him or her something very sweet to eat or drink. This should correct a low blood sugar level and will do no harm if the sugar level is too high. If your child cannot cooperate or is no better within 10 minutes, call a doctor at once.

## Breath-holding attacks

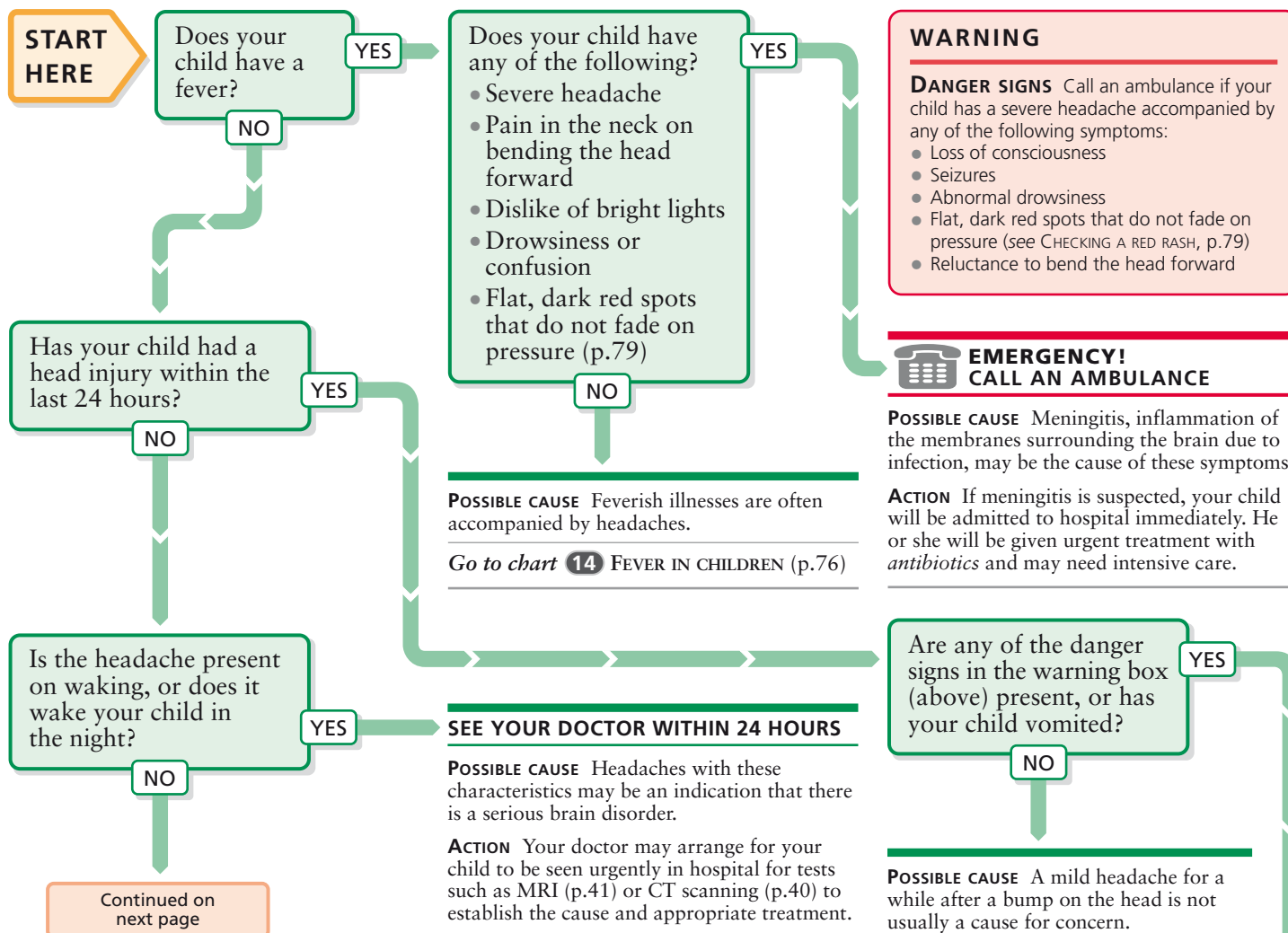
Young children sometimes hold their breath for up to 30 seconds. This can be in response to pain, but it can also be an attempt to manipulate parents. A child may hold his or her breath until he or she passes out. Once consciousness is lost, normal breathing will resume automatically.

If your child is attempting to get his or her way by breath-holding, try to ignore him or her as much as possible. Breath-holding is not harmful, and most children grow out of it by the age of 4 years. However, if you are worried, consult your doctor or health visitor.

# 21 Headache

Headaches are a very common complaint. By the age of 7, 40 per cent of children have had a headache, and this figure rises to 75 per cent by the age of 15. Parents may worry that the pain is due to a serious condition, such as meningitis or a brain tumour. However, these conditions are extremely rare. Headaches often occur on their own but may accompany any

infection that causes a fever. They can also be a symptom of a number of relatively minor disorders. Consult this chart if your child complains of a headache with or without other symptoms. Always consult your doctor if a headache is severe, persistent, or recurs frequently, or if this is the first time that your child has had a particular type of headache.



## SELF-HELP Relieving a child's headache

Most childhood headaches can be treated without the need for medical help. Try the following self-help measures to relieve the pain.

- Give liquid paracetamol.
- Encourage your child to rest in a cool, quiet, dimly lit room. He or she may want to go to sleep for a while.
- If your child is hungry, offer him or her a snack, such as a biscuit and a drink of milk.

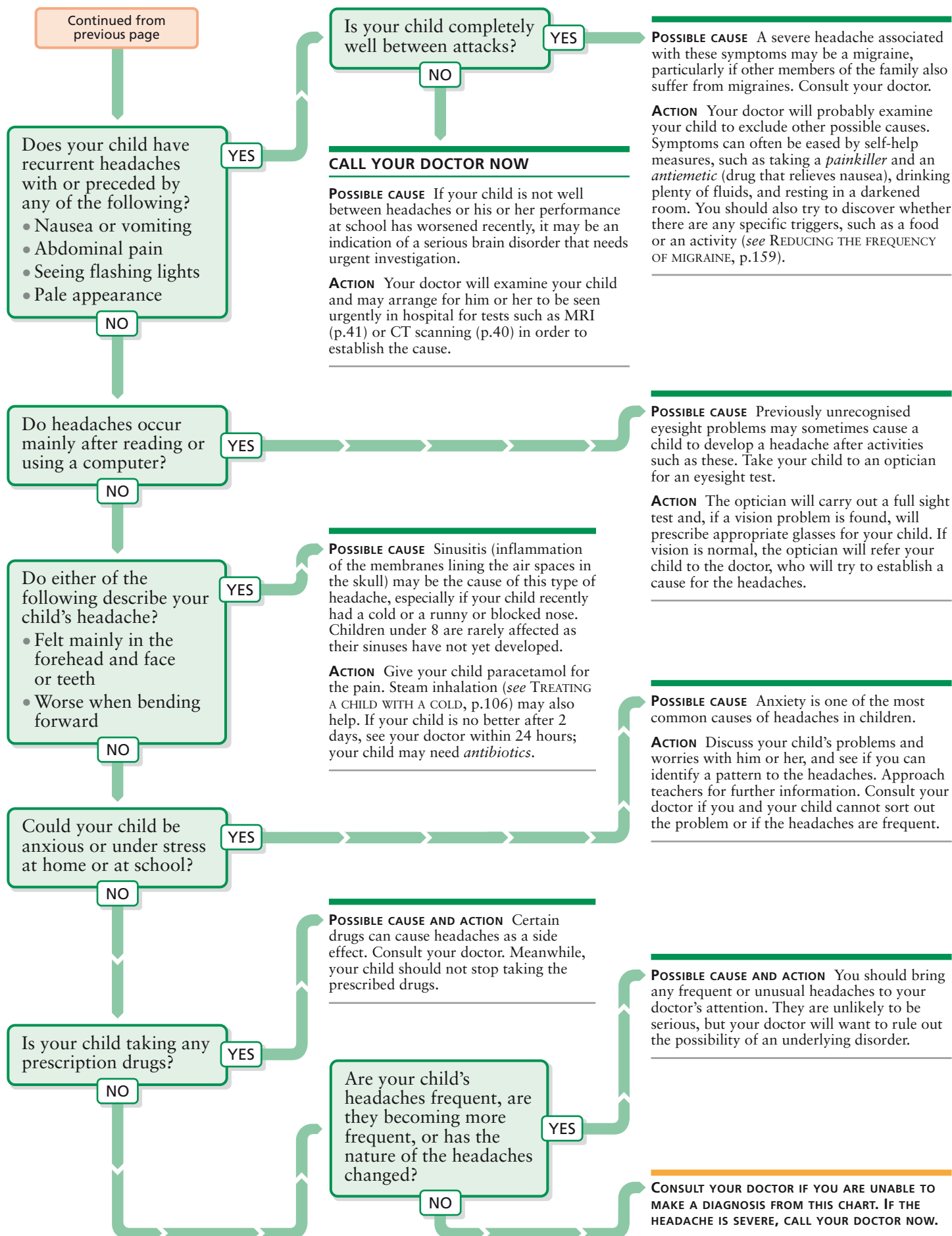
If the headache persists for more than 4 hours, if your child seems very unwell, or if other symptoms develop, call your doctor.



### Headache relief

Encouraging a child to have a sleep or a rest, after first taking a painkiller, will often help to relieve his or her headache.

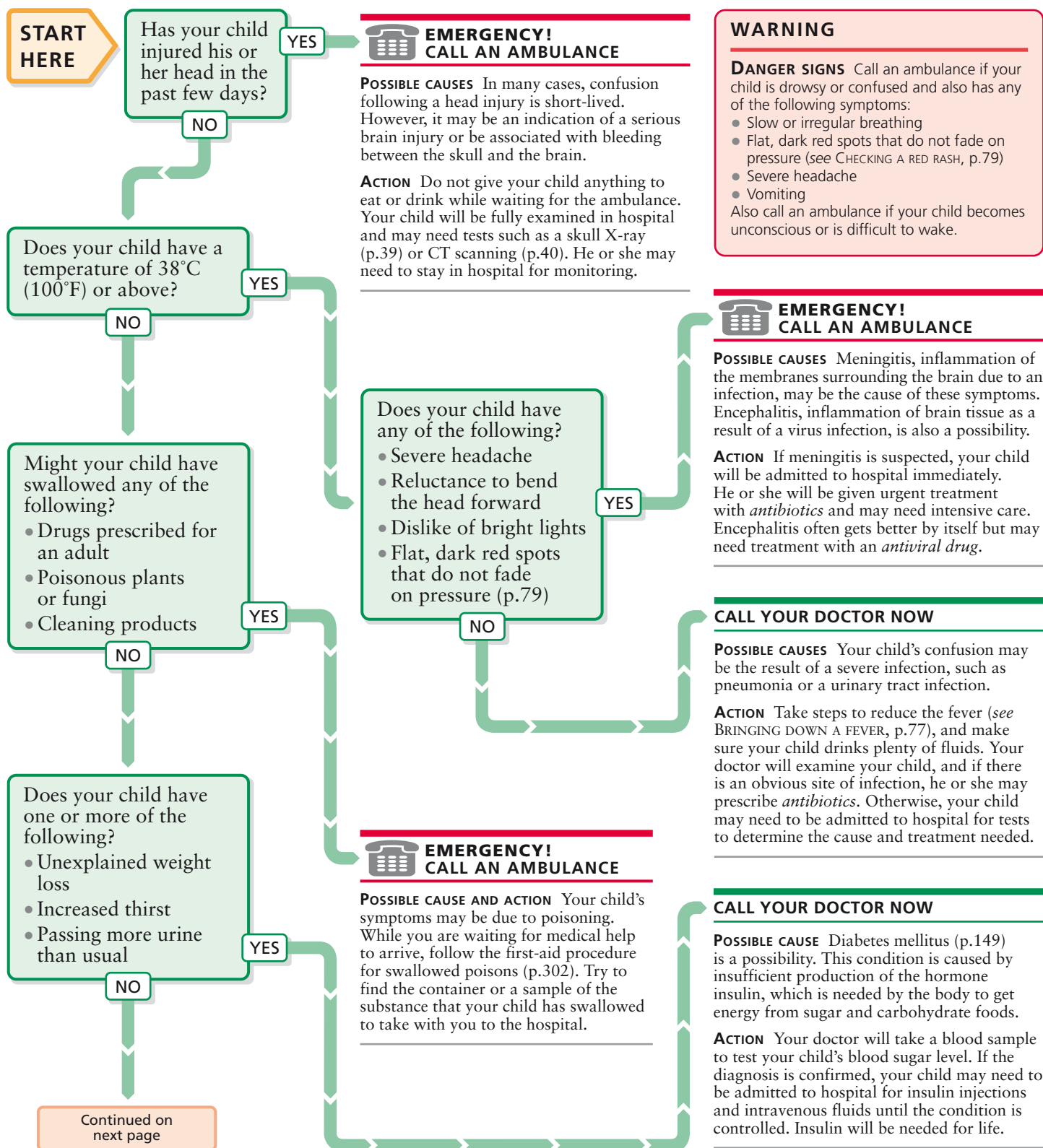


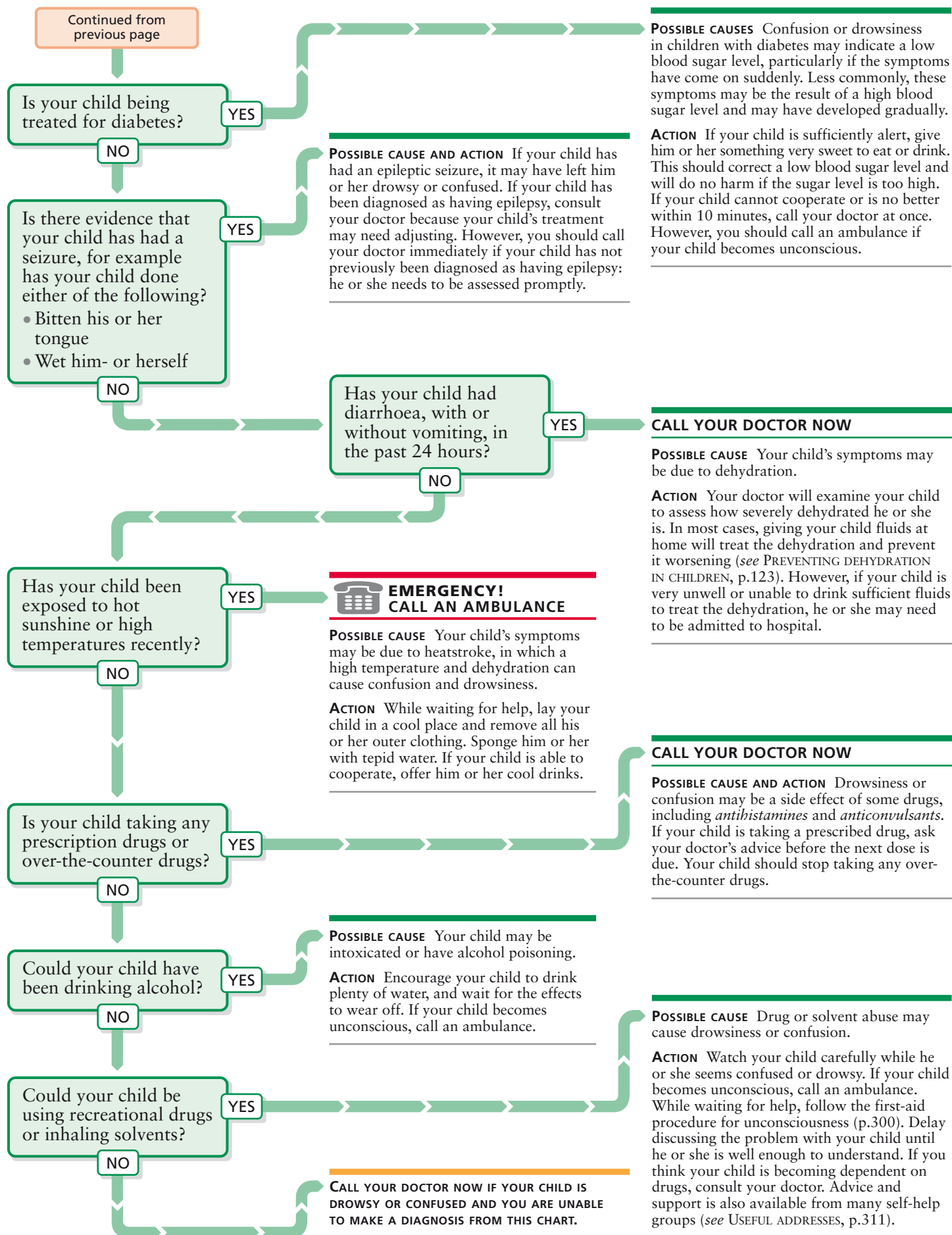


## 22 Confusion and/or drowsiness

Children who are confused may talk nonsense, appear dazed or agitated, or see and hear things that are not real. This is a serious symptom that requires immediate medical attention. Drowsiness may be the result of a lack of sleep or a minor

illness, or it may be a symptom of a serious disease, such as meningitis. Consult this chart if your child appears confused or if he or she suddenly becomes unusually sleepy or unresponsive or is difficult to rouse from sleep.

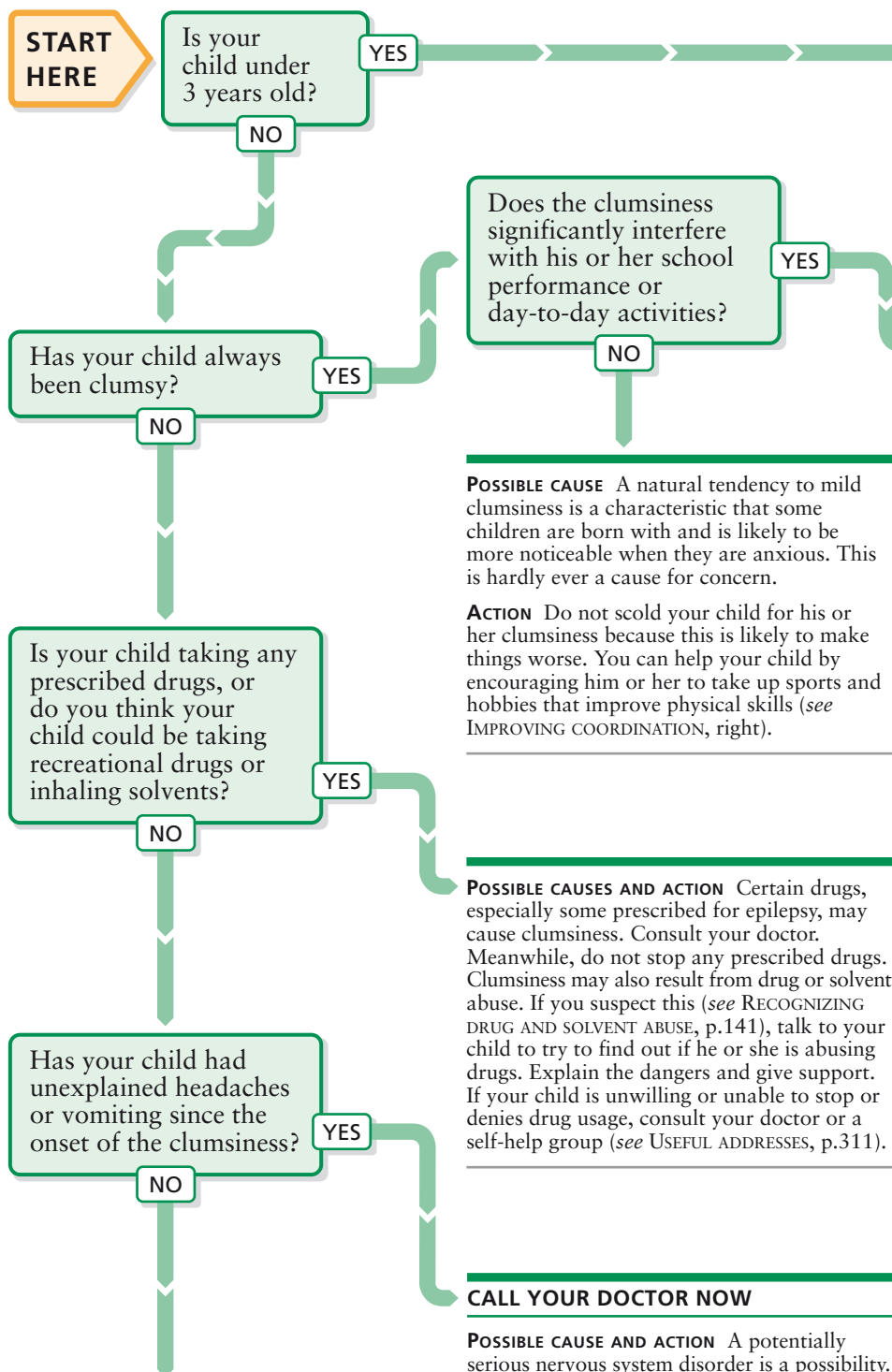




## 23 Clumsiness

Children vary greatly in their levels of manual dexterity, physical coordination, and agility. Some children naturally acquire these skills later than others. They have difficulty in carrying out delicate tasks, such as tying shoelaces, and may often accidentally knock things over. Such clumsiness is

unlikely to be a sign of an underlying disease, although poor vision can be an unrecognized cause. Severe clumsiness that has come on suddenly or that follows a head injury may result from a serious problem with the nervous system and needs urgent medical attention.



### SELF-HELP Improving coordination

Some children learn physical skills easily and are naturally better coordinated than others. However, you can help your child develop coordination and manual dexterity to the best of his or her abilities by providing opportunities for varied physical activities.

#### Athletic skills

Running, hopping, and jumping help young children to improve their coordination. Swimming and ball games are good exercises for children of any age.

#### Moving to music

Dancing is a fun way to help a child learn to coordinate body movements. Disciplined forms of dancing, such as ballet, also improve balance, physical grace, and agility.

#### Games and hobbies

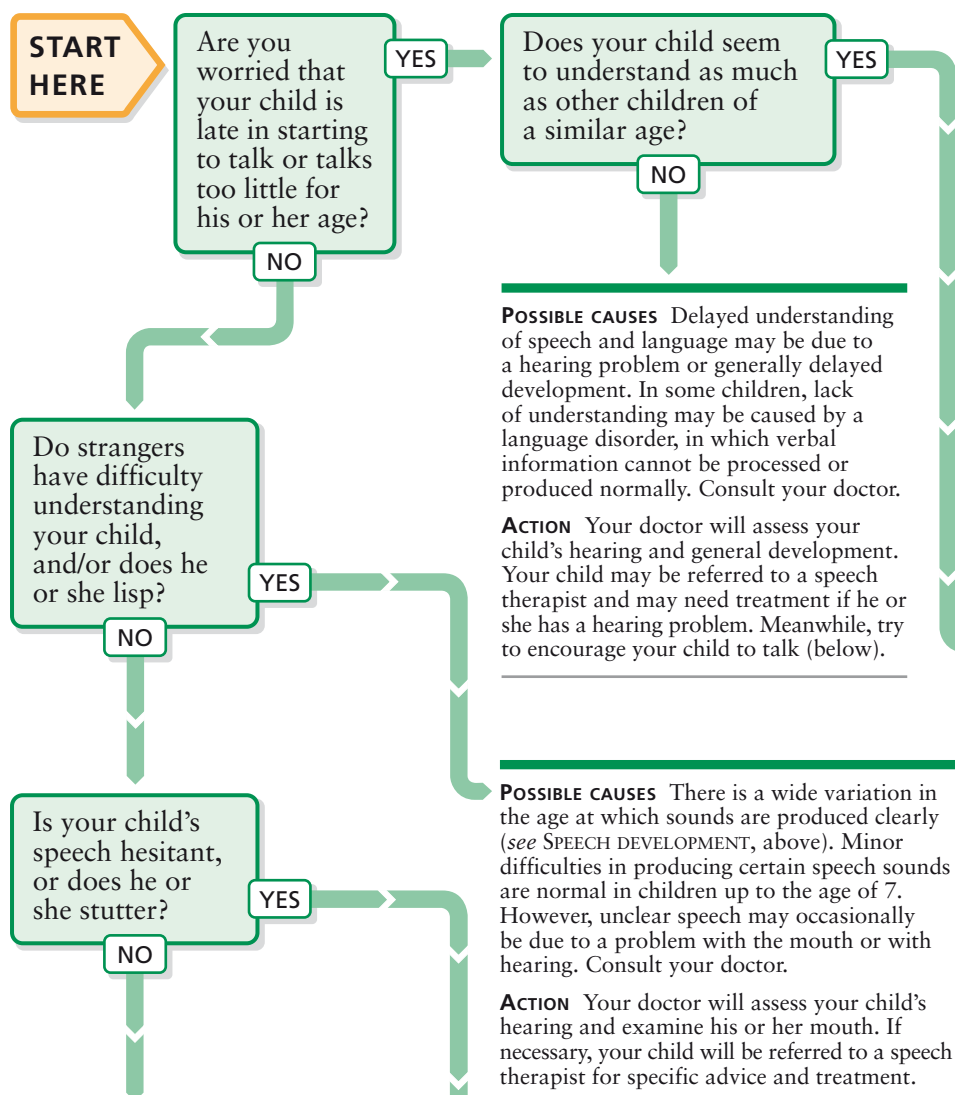
Placing cut-out shapes in a frame helps young children develop the hand-eye coordination needed to learn manual tasks, such as sewing or woodwork, later on. Similarly, scribbling on scrap paper is an important stage in the development of writing and drawing skills. Other toys that are good for improving hand-eye coordination include building blocks, jigsaws, and some computer games.



## 24 Speech difficulties

Consult this chart if your child has any problem with his or her speech, such as a delay in starting to talk, lack of clarity, defects in pronunciation, or stammering. Such difficulties often improve with time, but, in most cases, it is wise to seek

the advice of your doctor or health visitor. If not addressed early, speech difficulties may cause behaviour and school problems. A speech therapist will usually be able to improve your child's ability to communicate effectively.



### Speech development

Language skills vary widely among children. Some children are slower to speak and develop vocabulary than others. Boys are often slower than girls.

By about 1 year of age, most children are able to recognize a few phrases and can say single words. By age 2, simple instructions, such as "Give teddy to mummy", are usually understood, and by age 3, most children can use simple sentences and have a good basic vocabulary. Although, a child's pronunciation is usually clear enough for most of his or her speech to be understood by a stranger at age 3, some sounds, such as "z" and "th", may still not be pronounced clearly until the child is about age 7.

**POSSIBLE CAUSES** Children under about 2 years who talk late or little are usually just late developers (see SPEECH DEVELOPMENT, above). Older children may be reluctant to speak because of an emotional problem, such as anxiety. In a few children, delayed speech is due to a hearing problem or a disorder that affects speech production, such as cerebral palsy. Consult your doctor.

**ACTION** Your doctor will assess your child's hearing and general development. In some cases, he or she may request a more detailed assessment from a speech therapist. If there is no obvious cause for your child's speech delay and he or she appears to be a late developer, you will be given advice on encouraging your child to talk (below). Some children may need a specific programme of speech therapy.

### SELF-HELP Encouraging your child to talk

The following measures should help to stimulate and encourage your child to speak:

- From birth, talk to your child frequently.
- Look at your child when you speak.
- Try not to speak too quickly.
- Use actions to help your child associate words with objects and events.
- Use simple books and nursery rhymes to extend your child's vocabulary.
- Let your child mix with children and adults.
- Try not to interrupt your child when he or she is speaking.

#### Helping a baby talk

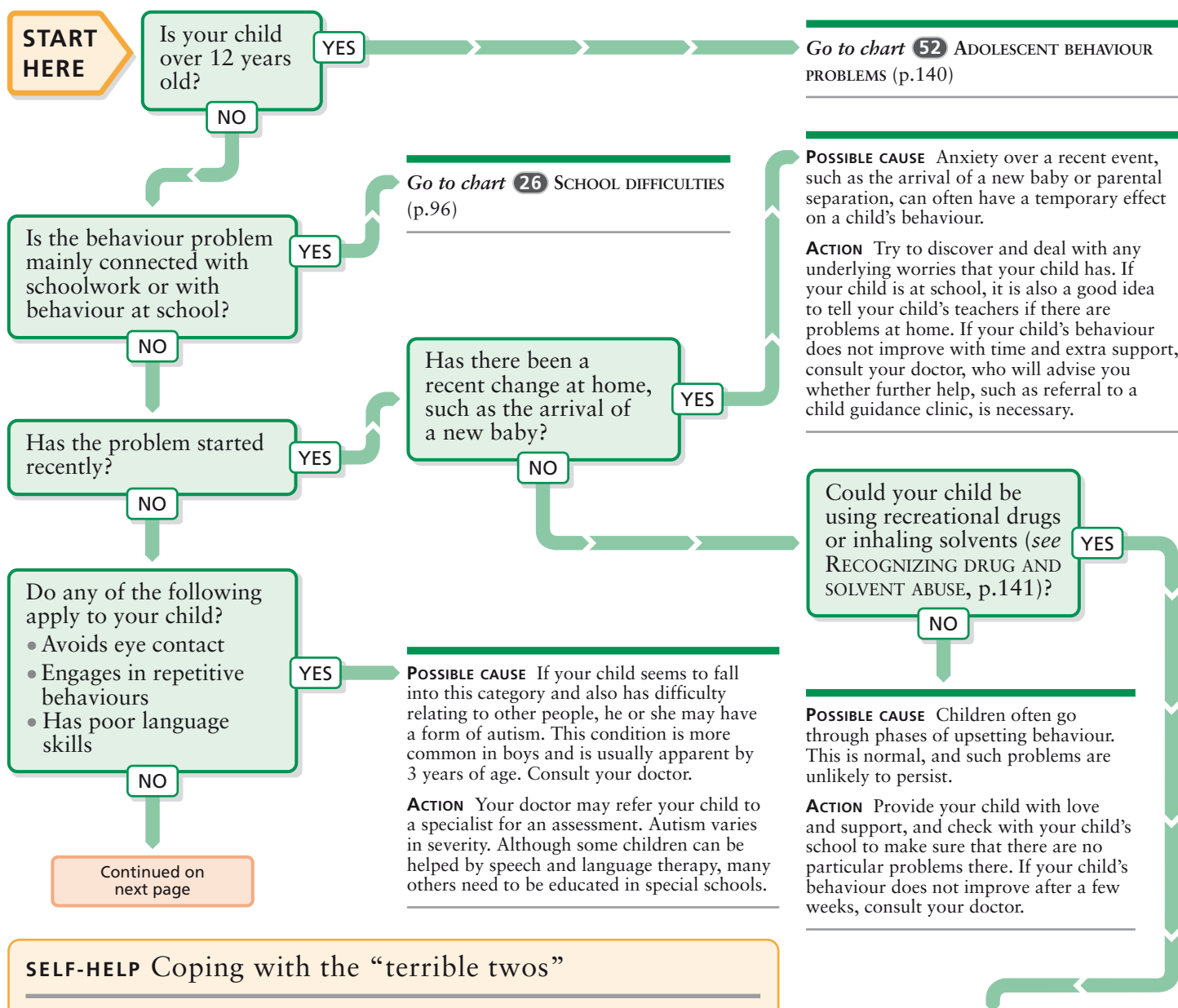
*It is important to talk to your baby as often as possible because babies learn by imitating the people around them.*



## 25 Behaviour problems

Perception of what constitutes a behaviour problem varies widely between parents. At some stage, most children will behave in a way that causes their parents concern, even if it is by doing something as minor as nail-biting (see **HABITUAL**

**BEHAVIOUR**, opposite). However, most of these problems are outgrown. This chart covers some of the more common or serious behaviour problems that parents have to cope with. It will help you to decide if help from your doctor is advisable.



**POSSIBLE CAUSE** Anxiety over a recent event, such as the arrival of a new baby or parental separation, can often have a temporary effect on a child's behaviour.

**ACTION** Try to discover and deal with any underlying worries that your child has. If your child is at school, it is also a good idea to tell your child's teachers if there are problems at home. If your child's behaviour does not improve with time and extra support, consult your doctor, who will advise you whether further help, such as referral to a child guidance clinic, is necessary.

**POSSIBLE CAUSE** Children often go through phases of upsetting behaviour. This is normal, and such problems are unlikely to persist.

**ACTION** Provide your child with love and support, and check with your child's school to make sure that there are no particular problems there. If your child's behaviour does not improve after a few weeks, consult your doctor.

**POSSIBLE CAUSE** Drug or substance abuse often results in behaviour problems.

**ACTION** Talk to your child to try to find out whether there is an underlying problem. Try not to get aggressive or angry, but provide him or her with plenty of love. Giving your child support may provide him or her with the self-confidence to stop. If you think your child is becoming dependent on drugs, consult your doctor. Advice and support are also available from many self-help groups (see **USEFUL ADDRESSES**, p.311).

### SELF-HELP Coping with the "terrible twos"

The period around the age of two years is a time during which children are beginning to appreciate that they have a separate identity and are able to influence their environment. It is often a time of alternating moods. Your child may have periods of self-assertion, during which he or she has violent temper tantrums if his or her wishes are frustrated. These may alternate with periods when he or she feels insecure and refuses to be separated from you. Such behaviour can make the "terrible twos" a very trying time for parents.

If your child has temper tantrums, try to keep calm and to ignore the behaviour, unless he or she could be injured. Also try to ignore other people who appear to be disapproving. If you are upset by the tantrums, it is better to leave the room than to show signs of distress yourself. Seek support from other parents of similar-aged children.

Your child will grow out of this phase, but, in the meantime, if you feel unable to cope with his or her behaviour, consult your doctor or health visitor for advice and support.

Continued from  
previous page

Has your child become unusually withdrawn and lost interest in activities that he or she previously enjoyed?

YES

NO

Is your child unruly, noisy, and disobedient?

YES

NO

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO FIND AN EXPLANATION FOR YOUR CHILD'S BEHAVIOUR ON THIS CHART AND YOUR CHILD CONTINUES TO BEHAVE IN A WAY THAT WORRIES YOU.**

## Attention deficit hyperactivity disorder

Young children are normally very active. However, a child who is excessively restless, impulsive, and unable to concentrate may have attention deficit hyperactivity disorder (ADHD). Children with ADHD (usually boys) may be destructive, irritable, and aggressive and may also have difficulty making friends. Such behaviour is very hard to deal with and requires patience and understanding. Children with ADHD often have low self-esteem because of frequent scolding or criticism.

If you suspect that your child may have ADHD, consult your doctor, who will assess your child's behaviour and may refer him or her to a child psychologist, child psychiatrist, or paediatrician. You may be taught various techniques to improve your child's behaviour, and your child may be given drugs that will help calm him or her. Your child may also benefit from being taught in small groups. Although the disorder often continues through adolescence, behavioural problems may become less severe if the treatment is started early enough.

## Habitual behaviour

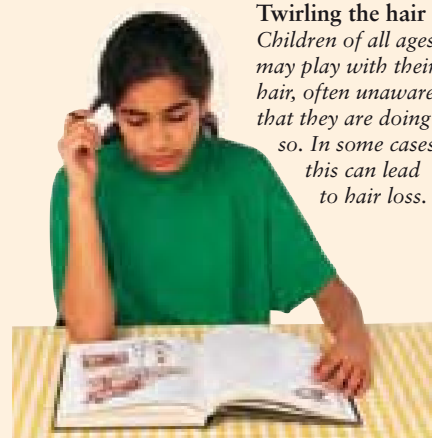
Childhood habits, such as nail-biting, are common and rarely do any serious harm. They may provide comfort from stress or be a means of expressing emotion, such as anger. Rarely, habits such as breath-holding attacks (p.87) may be used to manipulate parents.

About a third of children bite their nails, a habit that may persist into adulthood. Thumb-sucking is common in children under 3. Some may continue up to the age of 6 or 7, when they should be persuaded to stop to prevent the adult teeth being pushed out of position.

Children are often unaware of habitual behaviour. To stop a habit, draw your child's attention to it when it occurs, but do not get angry. If you are worried, consult your doctor.

### Twirling the hair

*Children of all ages may play with their hair, often unaware that they are doing so. In some cases, this can lead to hair loss.*



**POSSIBLE CAUSES** Both depression and anxiety can cause these symptoms.

**ACTION** Talk to your child to see if there is a reason for his or her behaviour. Offer support and encouragement, and try to remove or reduce any sources of stress that may be contributing. If your child's symptoms persist for more than 2 weeks or worsen, consult your doctor.

**POSSIBLE CAUSE** It is normal for small children to test the rules and disobey their parents. Many young children also go through a period of particularly difficult behaviour known as the "terrible twos".

**ACTION** All children grow out of this behaviour. Meanwhile, follow the advice for coping with the "terrible twos" (opposite). If, at any stage, you feel that you cannot cope, consult your doctor or health visitor.

Is your child under 4 years old?

YES

NO

Does your child steal, lie, or behave violently or aggressively?

YES

NO

Is your child easily bored, unable to concentrate, restless, impulsive, and/or disruptive?

YES

NO

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO FIND AN EXPLANATION FOR YOUR CHILD'S BEHAVIOUR ON THIS CHART AND YOUR CHILD CONTINUES TO BEHAVE IN A WAY THAT WORRIES YOU.**

**POSSIBLE CAUSE** Children are often rebellious. However, if your child is persistently antisocial, disruptive, or violent, he or she may have a condition known as a conduct disorder. Consult your doctor.

**ACTION** Your doctor may refer your child to a specialist for assessment. Child guidance or family therapy will probably be needed. However, long-standing behaviour problems may be difficult to change.

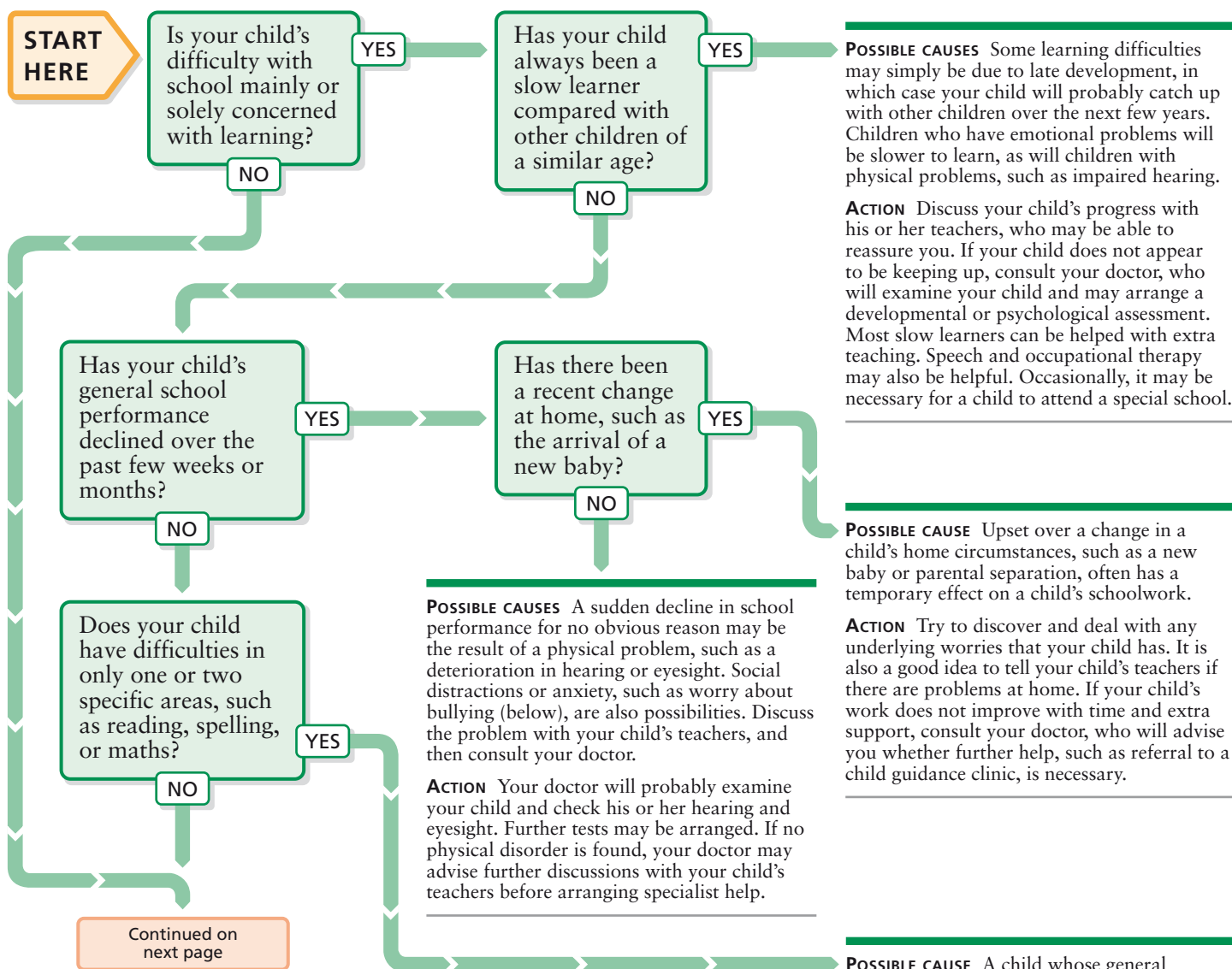
**POSSIBLE CAUSE** Although this type of behaviour is normal in small children, school-age children, particularly boys, who are constantly active and disruptive may have attention deficit hyperactivity disorder (left). Consult your doctor.

**ACTION** Your doctor will probably refer your child to a specialist to confirm the diagnosis. Children with this condition need extra support and help both at home and in school, and some also need drug treatment.

## 26 School difficulties

School difficulties fall into two main groups: those related mainly to learning, whether of a specific subject or of schoolwork in general; and those concerned with behaviour, including classroom behaviour and reluctance to go to school. Consult this chart if your child has any such

difficulties, which may be the result of emotional problems, physical disorders, or social factors, or which may arise from a general developmental problem. Discussion with school staff usually helps the situation. Your family doctor and the school medical services may also be able to help.



### Bullying

Bullying can take many forms. As well as physical violence, it includes teasing, name-calling, spreading unpleasant stories, and excluding children from groups. Bullying is especially common in primary school.

A child who is being bullied is singled out for attention by the bully and may become very unhappy and insecure. He or she may not want to go to school, and his or her schoolwork may suffer. If your child is being bullied, it is vitally

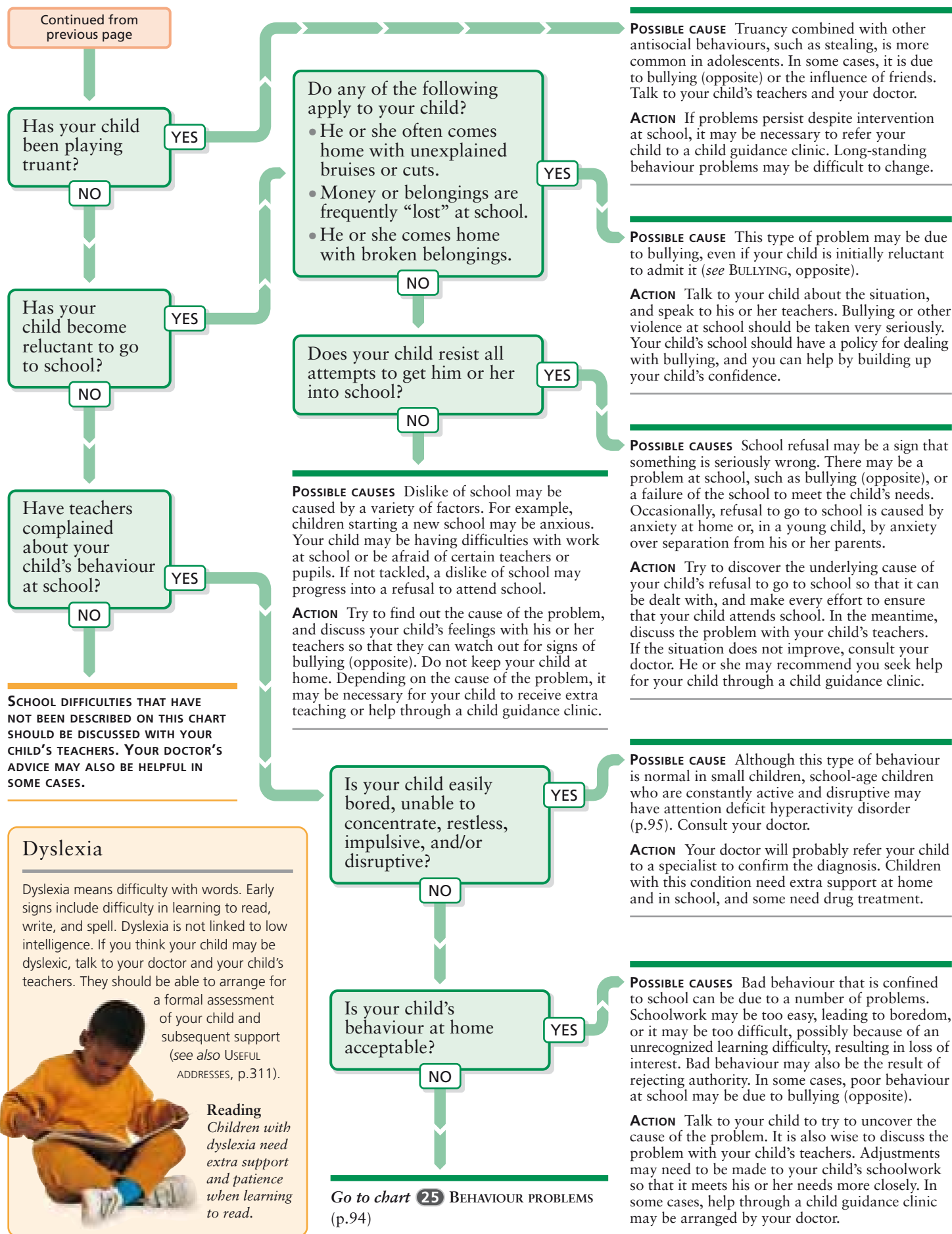
important that you reassure him or her that the bullying is not his or her fault. Build up your child's self-esteem, and talk to his or her school. Schools should have a policy on bullying.

The bully needs help, too. In many cases, bullying is an expression of an underlying problem such as a need for attention. If your child is a bully, it is important that you make it clear that this behaviour is harmful and unacceptable while trying to find the cause.

**POSSIBLE CAUSE** A child whose general development is normal for his or her age but who has problems in one area is said to have a specific learning difficulty. For example, difficulty in reading and writing is known as dyslexia (opposite). Discuss the problem with your child's teachers initially, and consult your doctor.

**ACTION** Your doctor will probably examine your child to make sure that a physical problem, such as poor eyesight or an unrecognized illness, is not contributing to your child's difficulties. Your doctor may liaise with the school medical services. Work with your child's school to encourage your child as much as possible. In some cases, extra support in school may be necessary.



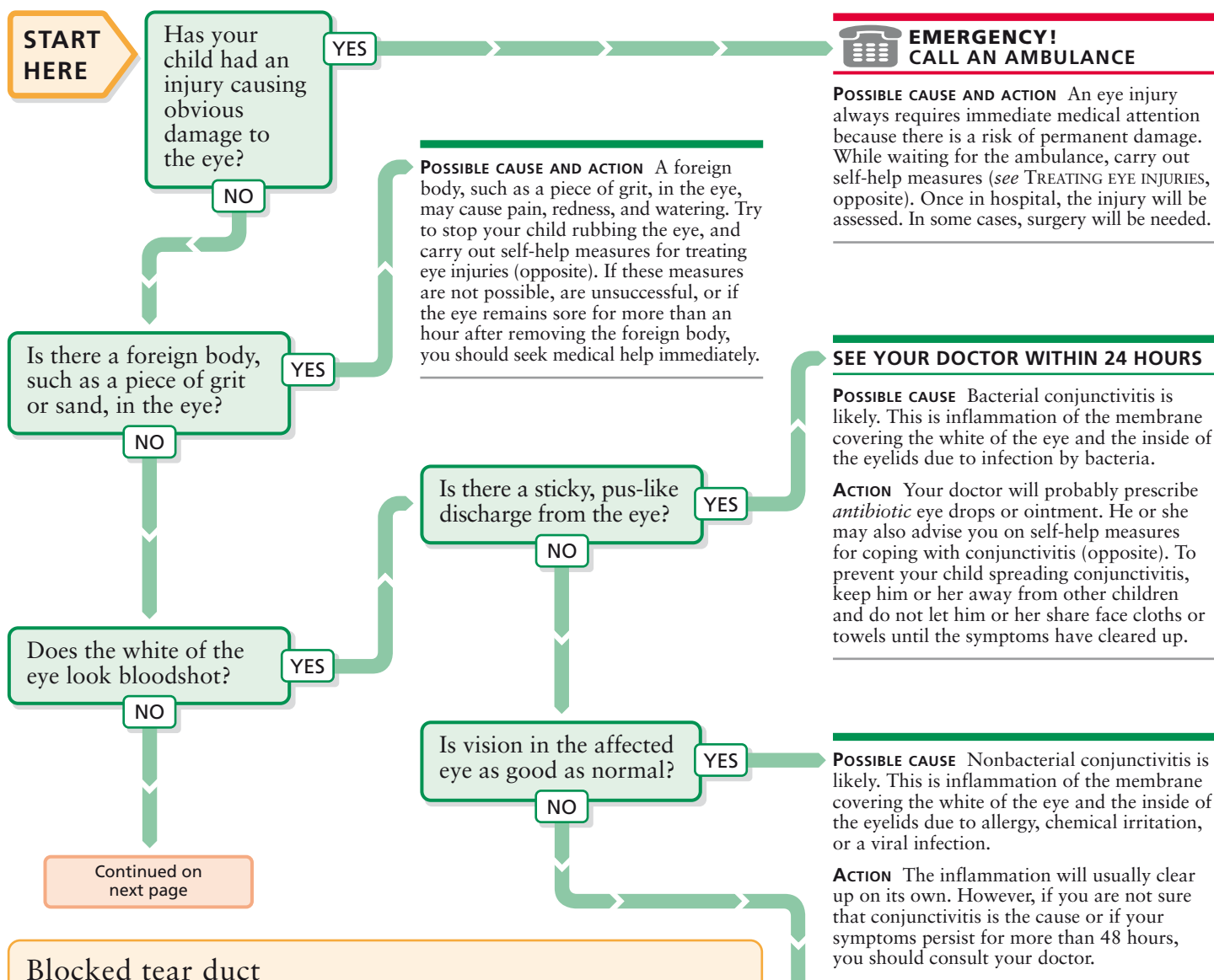


## 27 Eye problems

For blurred vision in children, see chart 28, DISTURBED OR IMPAIRED VISION (p.100).

This chart deals with pain, itching, redness, and/or discharge from one or both eyes. In children, such symptoms are most commonly the result of infection or local irritation. In most

cases, it is reasonable to treat these problems at home initially. Always seek immediate medical advice about injury to the eye or for any foreign body in the eye that cannot be removed by simple self-help measures. You should also seek medical help if home treatment is not effective.

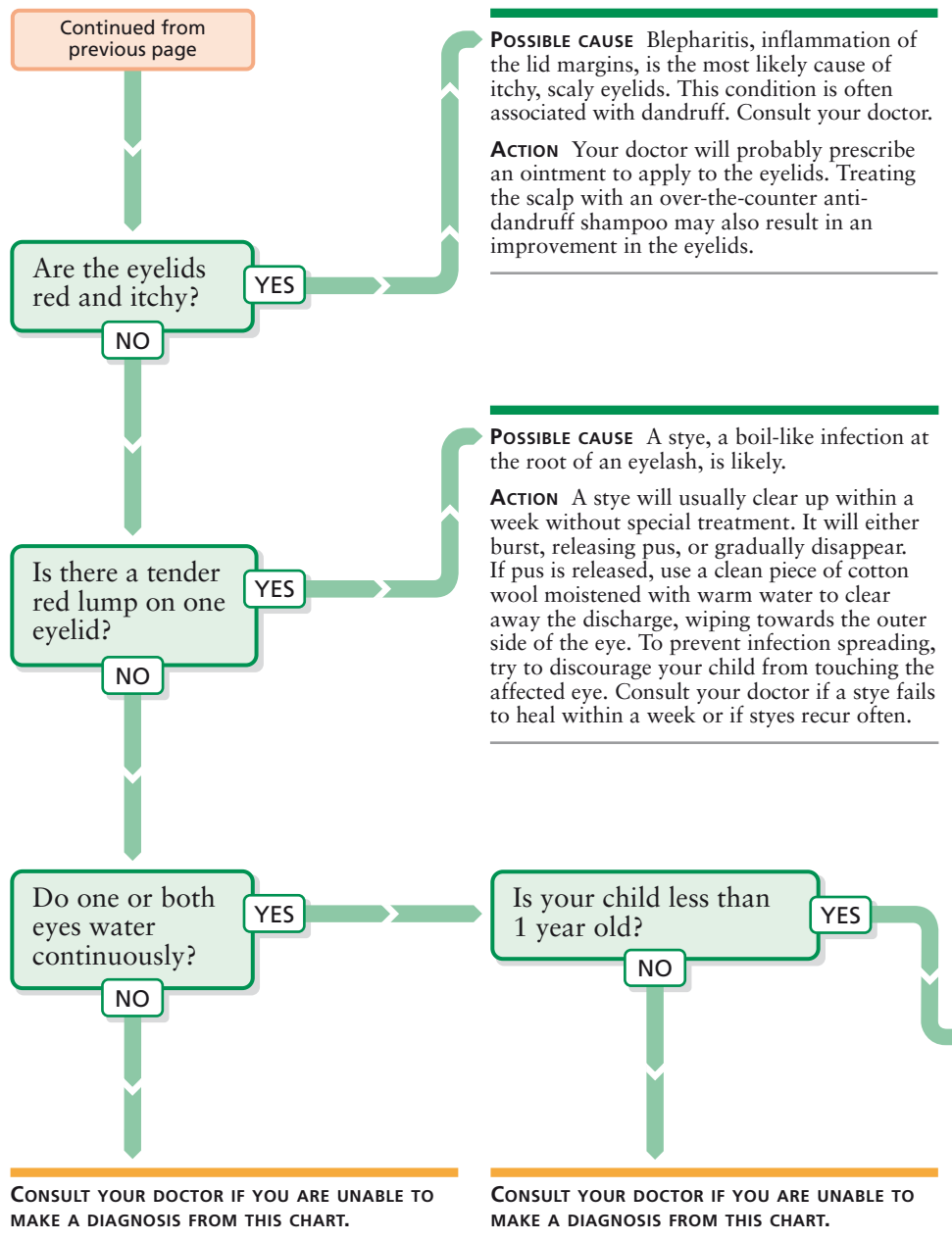


### Blocked tear duct

Tears are produced continuously to clean and moisturize the front of the eye. Excess tears drain away through the tear ducts. These are narrow passages that lead from the inner corner of the lower eyelid to the inside of the nose. If a tear duct becomes blocked, tears cannot drain away normally and the eye waters.

Blocked tear ducts are common in babies. One or both tear ducts may be blocked at birth. This is not a cause for concern, as in most cases the ducts open naturally by the

time a child is 1 year old. Massage may help unblock a tear duct. Wash your hands thoroughly, and use a forefinger to massage the skin just below the inner corner of the eye in a gentle circular motion. Repeat the massage three or four times a day for 1 or 2 weeks. This technique may help the tear duct to open. If a blocked tear duct has not opened by the age of 1 year, the doctor may refer your child to a specialist for treatment. The duct may have to be opened with a thin probe under a general anaesthetic.



## SELF-HELP Coping with conjunctivitis

A common cause of conjunctivitis in children is a bacterial infection, which is easily spread. If your child has conjunctivitis, you should try to stop him or her from touching the affected eye. Remove the discharge from your child's eye with warm water and cotton wool as often as necessary. Keep your child away from other children until his or her symptoms have cleared up. You can help prevent other family members from catching conjunctivitis by having a separate towel and face cloth for your child.



**Cleaning your child's eye**  
Gently wipe from the inside to the outer edge of the eye. Use a clean piece of damp cotton wool each time.

## SELF-HELP Treating eye injuries

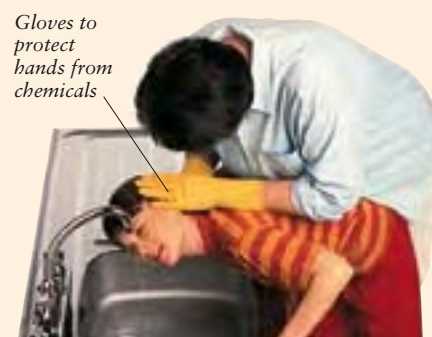
You should seek prompt medical attention for a blow to the eye or an eye wound. If there is a visible wound, lay the victim down with his or her head elevated and place a pad of clean, non-fluffy material gently over the eye. Do not press down on it. Keep the victim as still as possible while you are waiting for medical help to arrive.

A foreign body floating on the white of the eye is usually easily removed (right). However, if it is embedded in the eye or rests on the coloured part of the eye, do not attempt to remove it. Take the person to hospital.

If chemicals have splashed into someone's eye, immediate self-help treatment (far right) can help minimize damage to the eye, but this must be followed by treatment in hospital.



**Foreign bodies in the eye**  
Gently ease the eyelid away from the eye. Lift the foreign body off the surface of the eye using the corner of a clean, moist handkerchief.

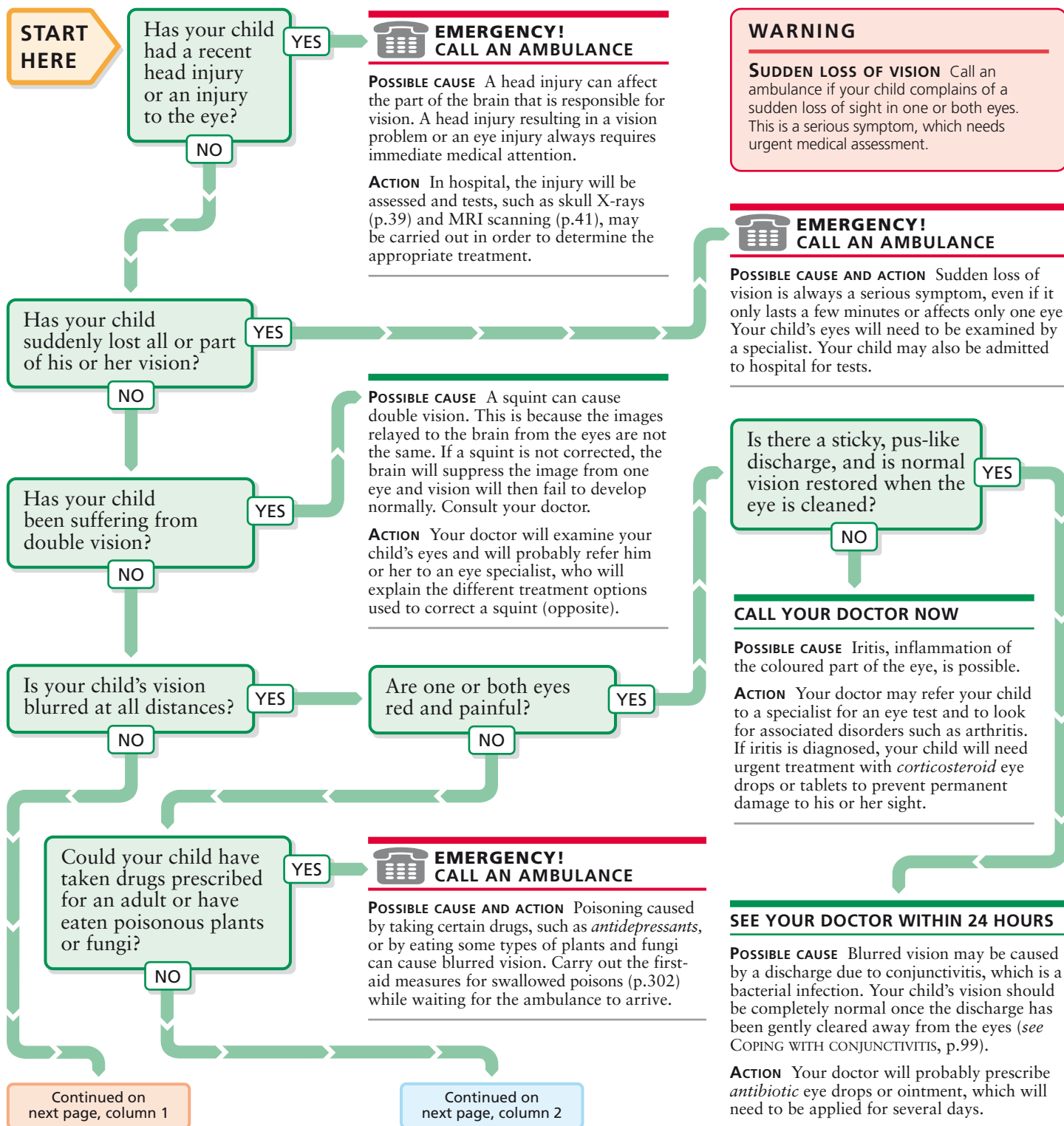


**Chemicals in the eye**  
Gently run cold water over the eye for 10 minutes. Keep the unaffected eye uppermost to prevent chemicals being washed into it.

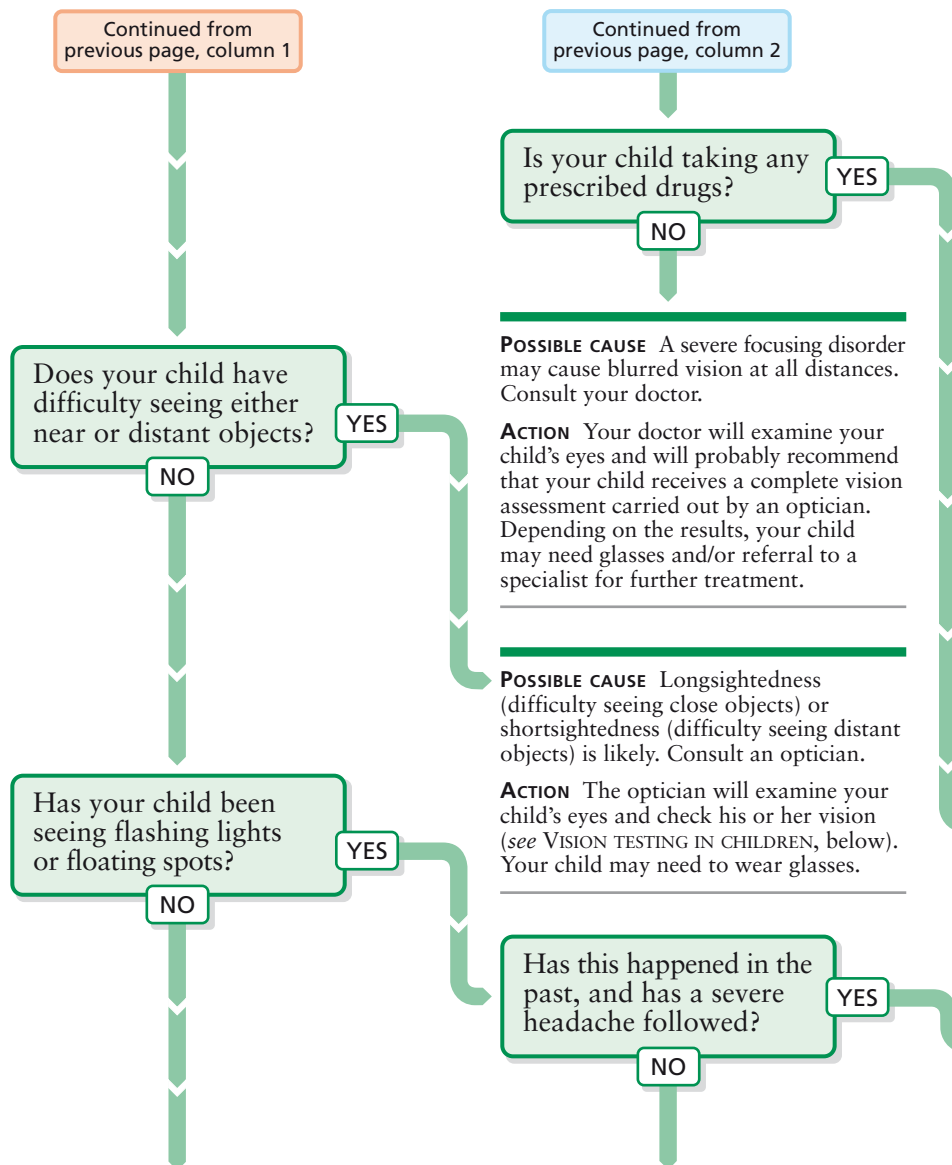
## 28 Disturbed or impaired vision

Serious defects in a child's vision are usually picked up during a routine eye test. However, you may suspect that your child has an undetected problem with his or her eyesight if he or she squints or always holds books very close to the face. When your child begins school, a teacher may notice that he or she performs less well sitting at the back of the

classroom, where it may be difficult to see the board. Consult your optician if you suspect a problem with your child's eyesight. If your child develops a sudden problem with his or her vision, he or she should receive urgent medical assessment. Fortunately, disorders causing a sudden disturbance of vision are rare in childhood.







**SEE YOUR DOCTOR WITHIN 24 HOURS IF YOUR CHILD HAS A VISION PROBLEM AND YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

**SEE YOUR DOCTOR WITHIN 24 HOURS IF YOUR CHILD HAS A VISION PROBLEM AND YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

## Squint

A squint is a condition in which only one eye looks directly at the object being viewed. It is common in babies until the age of 3 months, when their eye muscles and vision improve. A squint in children over 3 months may be due to an imbalance in the eye muscles or short or long sight in one eye. As a result, the brain receives different images. This may cause double vision or lead to the stronger eye being used in preference to the weaker one, so that they do not work together.

If your child is short- or long-sighted, he or she may need to wear glasses, which will also correct the squint. A patch worn over the good eye for 1–2 hours a day will ensure that the weaker eye is used. Occasionally, surgery on the eye muscles may be needed.

If a squint is not treated in childhood, the vision centres in the brain will fail to develop normally. Treatment later in life will not be able to improve vision.

**POSSIBLE CAUSE AND ACTION** Certain drugs can cause blurred vision as a side effect. Call your doctor to ask whether you should stop giving the prescribed drug.

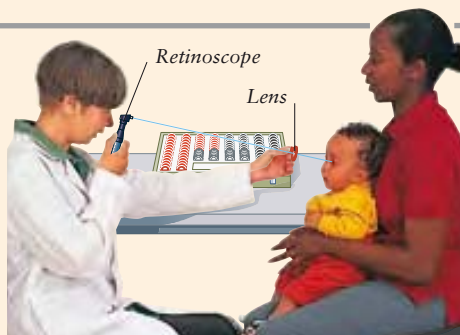
**POSSIBLE CAUSE** Migraine, recurrent severe headaches, may begin in childhood. This is especially likely if the condition affects one or both of the parents. Consult your doctor.

**ACTION** If migraine is diagnosed, your doctor may prescribe *painkillers* for your child to take during attacks. Try self-help measures for relieving a child's headache (p.88) and for reducing the frequency of migraine (p.159).

## Vision testing in children

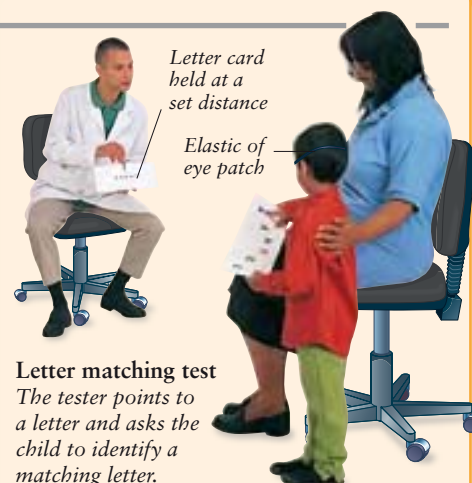
Simple vision tests are routinely carried out in babies as part of their developmental checks. Further tests may be recommended if a problem is suspected. Vision tests for babies and children vary depending on their age. In infants, eye drops are given to dilate the pupil. A beam of light is then shone into each eye in turn using an instrument called a retinoscope. The effect of different lenses on the beam of light determines whether vision is normal. Older children are often tested by being asked to identify letters on cards held at a distance. Each eye is tested separately.

At all ages, a vision test also includes careful examination of the retina, which is the light-sensitive membrane at the back of the eye.



### Retinoscopy

The test is performed in a darkened room. An instrument called a retinoscope is used to shine a beam of light through a lens into each of the child's eyes in turn.



### Letter matching test

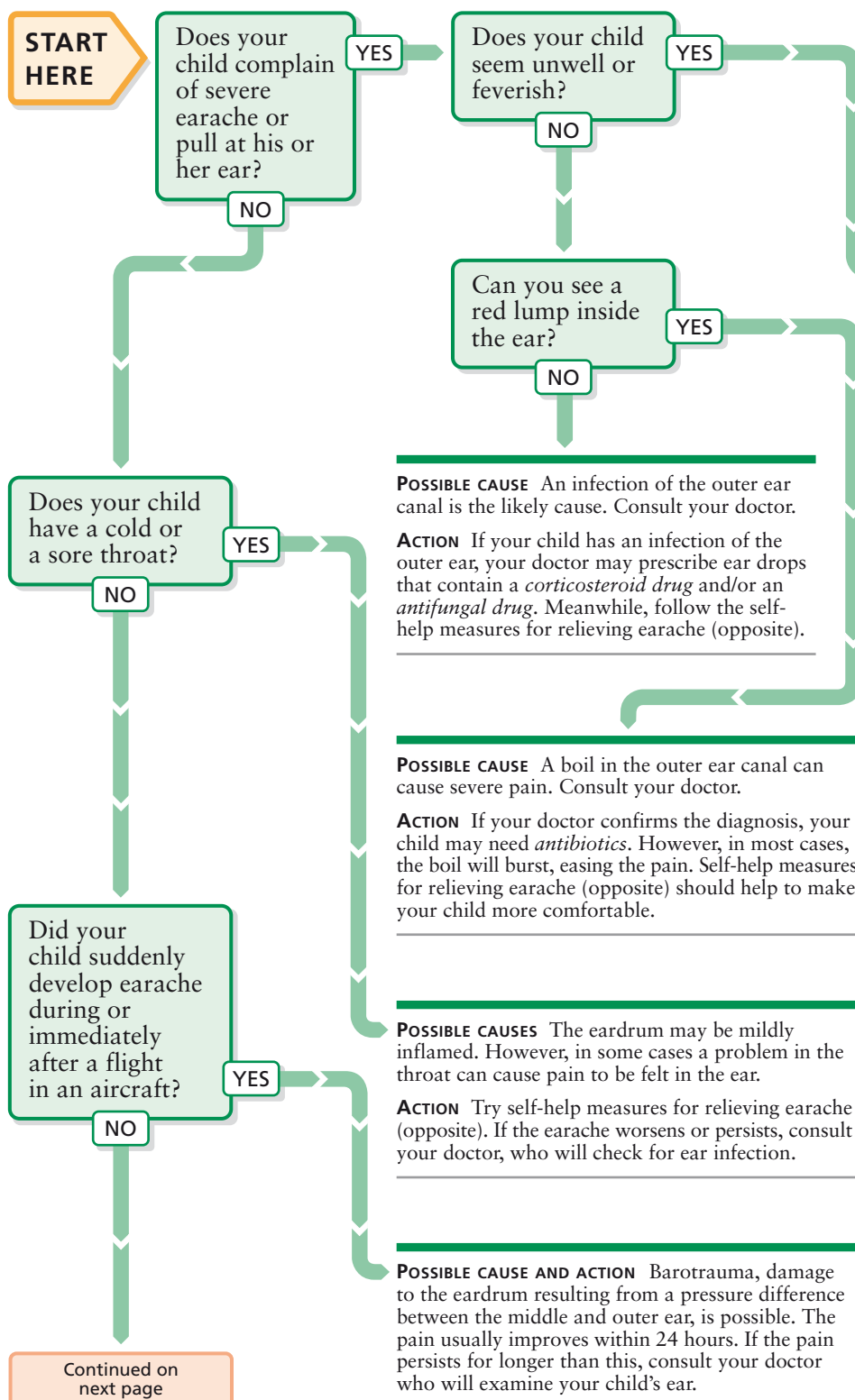
The tester points to a letter and asks the child to identify a matching letter.

## 29 Painful or irritated ear

For hearing problems in children, see chart 30, HEARING PROBLEMS (p.104).

Earache is common in children and can be very distressing. In most cases, earache is caused by an infection spreading from the back of the throat to the ear (see STRUCTURE OF THE

EAR IN CHILDREN, opposite). Fortunately, such ear infections become less common as children grow up. A child who is not old enough to tell you that he or she has an earache may wake unexpectedly in the night and may cry inconsolably, shriek loudly, or pull at the affected ear.



### WARNING

**DAMAGE TO THE EARDRUM** Never put anything, such as a cotton wool bud, into a child's ear in an attempt to clean it or to remove a foreign body, such as a bead. You may accidentally damage the eardrum.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** A viral or bacterial infection of the middle ear is a possibility. The infection may have spread via the eustachian tube, which links the throat to the middle ear (see STRUCTURE OF THE EAR IN CHILDREN, opposite).

**ACTION** Your doctor will examine your child. If an infection is confirmed, he or she may prescribe a course of *antibiotics*. Meanwhile, follow the self-help measures for relieving earache (opposite) to ease your child's pain.

### SELF-HELP Avoiding barotrauma

Barotrauma is damage to the eardrum resulting from a pressure difference between the middle and outer ear. It occurs if the eustachian tubes, which connect the ears and throat, become blocked. Air travel is a common cause. Barotrauma is most likely to occur during take-off or landing. It can be prevented or minimized by swallowing or by blowing through the nose while holding the nostrils closed. This action keeps the eustachian tubes open. Wake your child for take-off or landing. If the child's ears start to feel uncomfortable, encourage him or her to blow through the nose or suck a sweet. This should relieve the pressure. Babies should be bottle- or breast-fed during take-off and landing to encourage them to swallow.

#### Preventing barotrauma

Tell your child to blow through the nose while holding the nostrils closed.



Continued from  
previous pageIs there a  
discharge from  
the affected ear?

YES

NO

Does your child  
have itching  
or irritation  
inside the ear?

YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.Is the skin  
around the  
child's ear red  
and inflamed?

YES

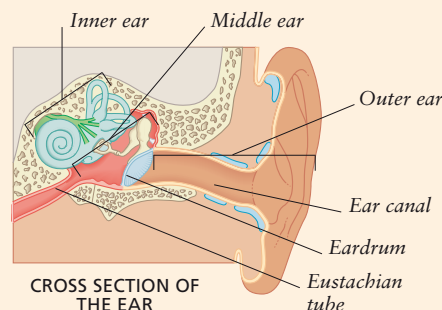
NO

**POSSIBLE CAUSES** Your child may have pushed a small object, such as a bead or small piece of food, into his or her ear. Alternatively, an insect may have flown or crawled into the ear. Consult your doctor.

**ACTION** Your doctor will examine your child's ear. If there is an insect or any other foreign body in the ear canal, it may be possible for your doctor to wash it out. If the doctor cannot remove it, he or she will refer your child to hospital to have it removed.

## Structure of the ear in children

From the outside, children's ears look the much the same as those of adults. However, the eustachian tube, which connects the middle ear to the back of the throat, is shorter and more horizontal than in adults, allowing infections to reach the middle ear more easily. In addition, the adenoids (see TONSILS AND ADENOIDS, p.107), lymphatic tissue that lie close to the back of the throat, tend to be larger in children; they can readily block the eustachian tubes, preventing drainage and increasing the risk of infection.

Is the pain much  
worse when you  
gently pull on  
your child's ear  
lobe?

YES

NO

**POSSIBLE CAUSE** An infection in the outer ear canal may cause a discharge as well as pain and irritation. Consult your doctor.

**ACTION** Your doctor will examine your child's ears. If there is an outer ear canal infection, he or she may prescribe ear drops containing an *antifungal drug* and/or a *corticosteroid drug*. You should also follow the self-help advice for relieving earache (below).

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** An infection of the middle ear may have caused your child's eardrum to rupture. This relieves the pressure built up within the ear. Your doctor will examine your child and may prescribe *antibiotics*. Self-help measures for relieving earache (below) may relieve your child's pain. The eardrum will heal within a few days. There will be no lasting effect on your child's hearing.

**POSSIBLE CAUSE** Certain skin disorders, such as eczema or seborrheic dermatitis, may affect the skin lining the inside of the ear. Consult your doctor.

**ACTION** Your doctor will examine your child's ears and skin. If a skin disorder is diagnosed, he or she may prescribe *corticosteroid* ear drops. Try to stop your child scratching the ear or the surrounding skin, which could prolong the condition and cause infection.

## SELF-HELP Relieving earache

The following self-help measures may help to ease the pain of your child's earache:

- Give the recommended dose of *painkillers*, such as liquid paracetamol or ibuprofen.
- Give your child a hot-water bottle wrapped in a towel to hold against his or her ear. Hold a warm cloth against a baby's affected ear.
- Encourage your child to sit or lie with his or her head raised on pillows (lying flat may worsen the pain). Resting with the affected ear facing downwards will allow any discharge to drain out.

Do not put ear drops or olive oil into your child's ear unless advised otherwise by your doctor. Do not put cotton wool in the ear: this could prevent a discharge from draining out.



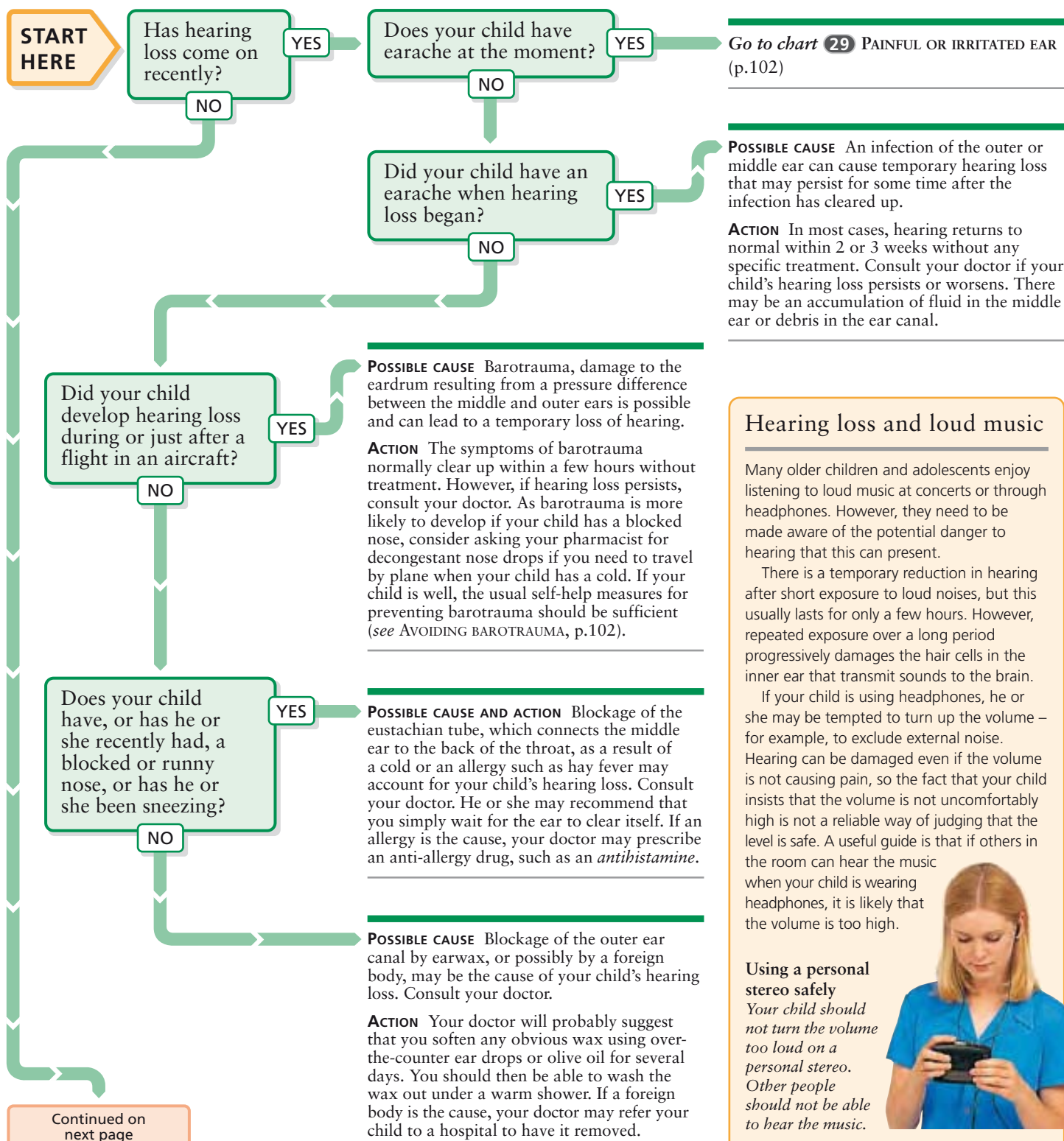
### Easing earache

Resting the ear against a covered hot-water bottle with the head slightly raised may help to ease the pain of earache.

# 30 Hearing problems

Hearing problems are often not noticed in a child. If your child always needs to have the television or radio on louder than you think necessary or there is a sudden deterioration in your child's school performance, a hearing problem may be the cause. Hearing problems in babies are often detected

at routine developmental checks by your health visitor or doctor, but you may be the first to notice that your baby is not responding to sounds or learning to speak as quickly as you think he or she should. This should always be brought to your doctor's attention.



## Hearing loss and loud music

Many older children and adolescents enjoy listening to loud music at concerts or through headphones. However, they need to be made aware of the potential danger to hearing that this can present.

There is a temporary reduction in hearing after short exposure to loud noises, but this usually lasts for only a few hours. However, repeated exposure over a long period progressively damages the hair cells in the inner ear that transmit sounds to the brain.

If your child is using headphones, he or she may be tempted to turn up the volume – for example, to exclude external noise. Hearing can be damaged even if the volume is not causing pain, so the fact that your child insists that the volume is not uncomfortably high is not a reliable way of judging that the level is safe. A useful guide is that if others in the room can hear the music when your child is wearing headphones, it is likely that the volume is too high.

### Using a personal stereo safely

*Your child should not turn the volume too loud on a personal stereo. Other people should not be able to hear the music.*





Continued from  
previous pageDo any of the following  
apply to your child?

- Suffers from recurrent ear infections
- Has a persistently runny or blocked nose
- Snores

YES

**POSSIBLE CAUSES** Your child may have glue ear (chronic secretory otitis media), in which fluid builds up in the middle ear, causing hearing problems. This condition may be due to an allergy or to persistently enlarged adenoids blocking the eustachian tube, which connects the middle ear and the back of the throat (*see STRUCTURE OF THE EAR IN CHILDREN, p.103*).

**ACTION** Your doctor will probably arrange for hearing tests, including tympanometry (*see HEARING TESTS IN CHILDHOOD, below*), to confirm the diagnosis. He or she may suggest anti-allergy drugs such as *antihistamines*. If the fluid persists, your doctor may recommend surgical removal of the adenoids and/or the insertion of a tiny tube through the eardrum to drain the fluid (*see TREATING GLUE EAR, right*). In most cases, normal hearing is restored.

NO

During pregnancy, did you come into contact with someone who had rubella or did you have a fever with a rash?

YES

NO

Are you worried that your child has never been able to hear properly?

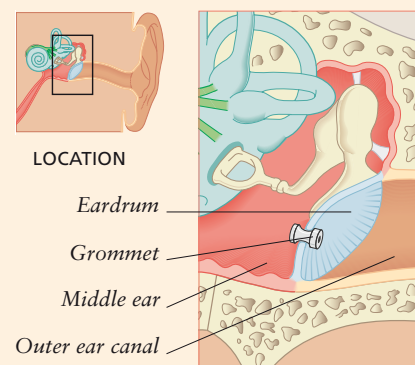
YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.

## Treating glue ear

In the disorder glue ear (chronic secretory otitis media), fluid builds up in the middle ear, resulting in reduced hearing. The condition may be treated surgically by inserting a tiny plastic tube, called a grommet, through the eardrum. The grommet allows air into the middle ear and fluid to drain away. The grommet is left in place and usually falls out after 6–12 months. The eardrum then heals. Although grommets relieve hearing problems caused by fluid build-up, they do not prevent future ear infections. The operation to insert a grommet is usually performed under general anaesthesia as day surgery and rarely needs to be repeated.



### Grommet in place

The grommet inserted into the eardrum provides a channel between the middle and outer ear, allowing air to circulate normally in the ear, which improves hearing.

**POSSIBLE CAUSE** Exposure of the unborn child to rubella and certain other infections can damage hearing. Consult your doctor.

**ACTION** Your doctor will arrange for your child to have hearing tests (*below*) and may refer him or her to a specialist for assessment.

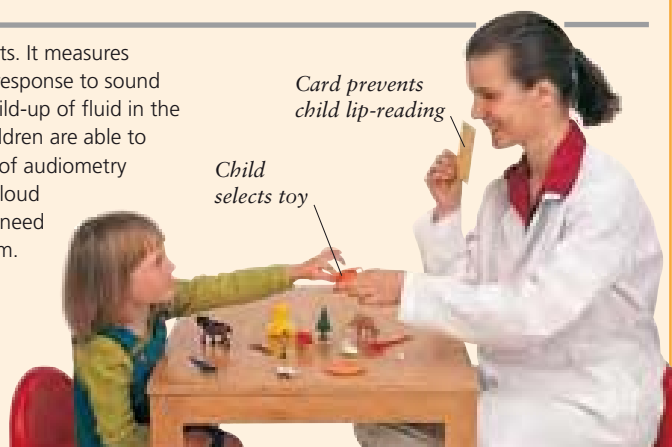
## Hearing tests in childhood

Tests to assess hearing are performed throughout childhood as part of routine developmental screening; the type of test depends on the age of the child. Newborn babies can be assessed using tests such as otoacoustic emission, in which a sound is played into the ear and an ear piece measures the resulting echo from the inner ear. Speech discrimination tests can be used to detect hearing loss in young children who have a simple vocabulary. For example, in the McCormick toy discrimination test, the child is shown various toys and is asked to identify pairs of toys that have similar sounding names, such as tree and key. Tympanometry (p.190) is

a test that is also used for adults. It measures movement of the eardrum in response to sound and is useful in detecting a build-up of fluid in the middle ear. By age 4, most children are able to cooperate with a simple form of audiometry (p.190), which measures how loud sounds of various frequencies need to be for the child to hear them.

### The McCormick test

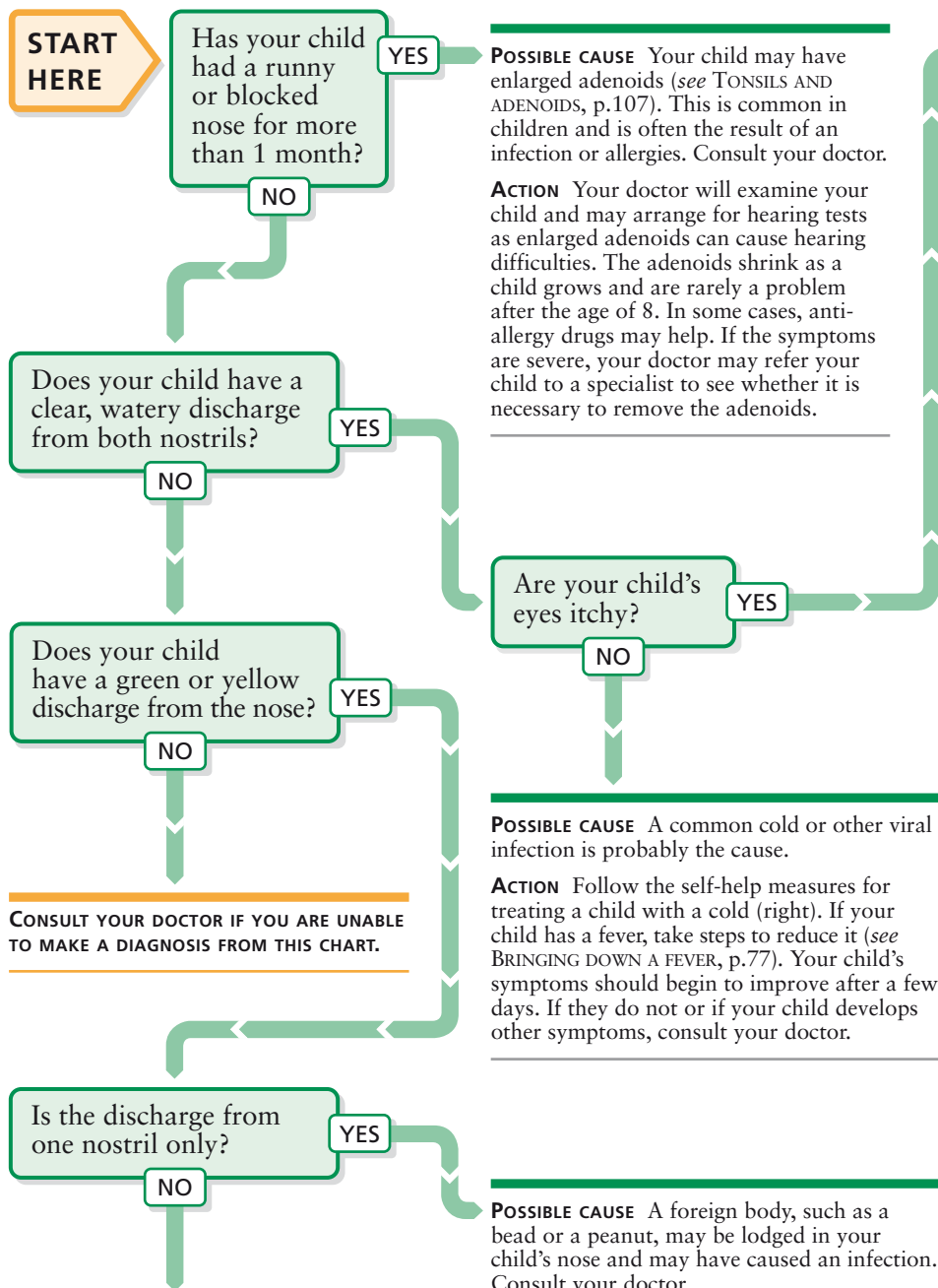
The doctor prevents the child from lip-reading by covering his or her mouth and then asks the child to identify various toys.



# 31 Runny or blocked nose

A runny nose can be irritating for a child, and a blocked nose can be distressing for a baby because it makes feeding difficult, but neither symptom on its own is likely to be a sign of serious disease. All children have a runny or blocked

nose from time to time (often accompanied by sneezing), and, in most cases, a common cold is responsible. If your child gets a nosebleed from picking or blowing a blocked nose, follow the treatment advice for nosebleeds (p.194).



CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

## SELF-HELP Treating a child with a cold

Children often have 4–6 colds a year until their bodies start to build up immunity to the numerous viruses that can cause a cold. Infections are particularly common after a child joins a playgroup or school. The following measures may help:

- Encourage your child to drink fluids.
- Give liquid paracetamol.
- Keep the air in your child's room moist by placing wet towels near a radiator or by using a humidifier.
- Try to teach your child to blow his or her nose one nostril at a time.
- Apply a barrier cream, such as petroleum jelly, around your child's nose and upper lip to prevent soreness.
- If your baby has difficulty feeding because of a blocked nose, try giving him or her the recommended dose of children's nose drops before a feed.



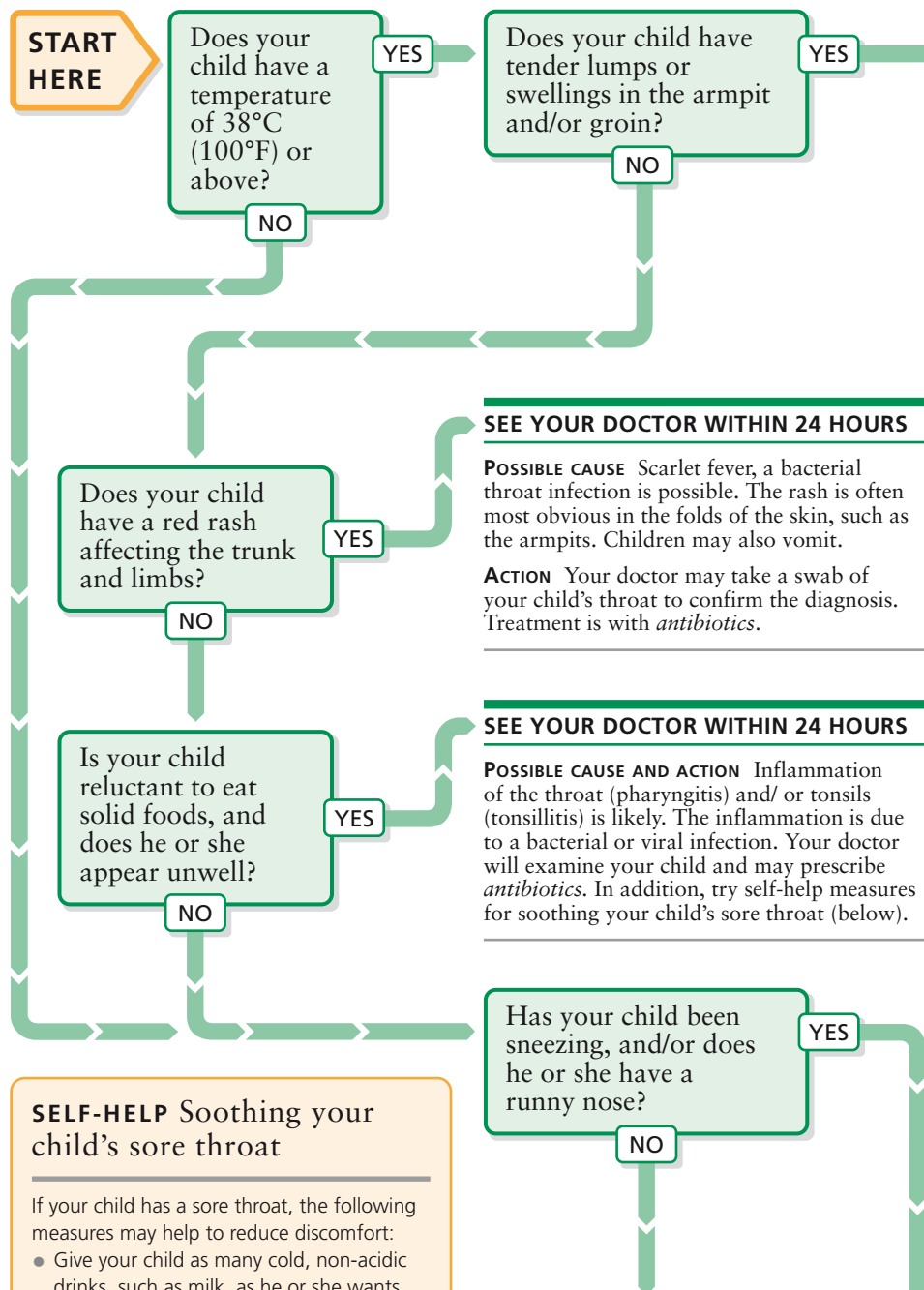
### Relieving congestion

Inhaling steam from a bowl of hot, but not boiling, water can help clear a blocked nose. Children should always be supervised.

## 32 Sore throat

Sore throats are common in childhood. An older child will usually tell you if his or her throat hurts. In a baby or a young child, the first sign you may have that something is wrong may be a reluctance to eat because of the pain caused

by swallowing. Most sore throats are the result of minor viral infections that clear up within 2–3 days without the need for medical treatment. In a few cases, however, *antibiotics* may be needed to treat a bacterial infection.



### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** Glandular fever (infectious mononucleosis), a viral infection that causes swollen glands, may cause a sore throat.

**ACTION** If your doctor suspects glandular fever, he or she may arrange for a blood test to confirm the diagnosis. There is no specific treatment for glandular fever, although self-help measures for bringing down a fever (p.77) and soothing a sore throat (below) may help to relieve symptoms.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** Scarlet fever, a bacterial throat infection is possible. The rash is often most obvious in the folds of the skin, such as the armpits. Children may also vomit.

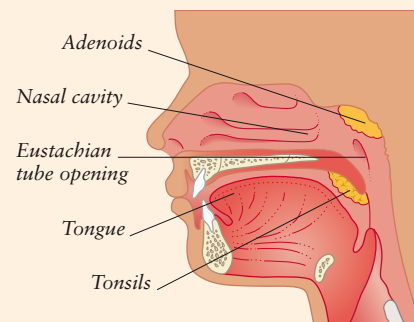
**ACTION** Your doctor may take a swab of your child's throat to confirm the diagnosis. Treatment is with *antibiotics*.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** Inflammation of the throat (pharyngitis) and/ or tonsils (tonsillitis) is likely. The inflammation is due to a bacterial or viral infection. Your doctor will examine your child and may prescribe *antibiotics*. In addition, try self-help measures for soothing your child's sore throat (below).

### Tonsils and adenoids

The tonsils and adenoids are part of the lymphatic system (p.17), which helps to guard against infection. The tonsils are situated on either side of the back of the throat; the adenoids are at the back of the nose, near the openings of the two eustachian tubes. In children, inflammation of one or both of these tissues due to an infection is common. In the past, the tonsils and/or adenoids were often removed. Now, this procedure is only carried out if a child has severe recurrent infections. Tonsils and adenoids naturally tend to shrink with age.



LOCATION OF TONSILS AND ADENOID

### SELF-HELP Soothing your child's sore throat

If your child has a sore throat, the following measures may help to reduce discomfort:

- Give your child as many cold, non-acidic drinks, such as milk, as he or she wants. Using a straw may make drinking easier.
- Offer ice cream and ice lollies to eat.
- Give liquid paracetamol.
- Offer your child throat lozenges if he or she is old enough to suck them safely without choking or swallowing them whole.
- If your child is old enough, teach him or her to gargle with warm, salty water.

**POSSIBLE CAUSE** Inflammation of the throat as a result of a minor viral infection or irritation is the likely cause of your child's sore throat.

**ACTION** Follow the self-help measures for soothing your child's sore throat (left). Consult your doctor if your child is no better within a few days.

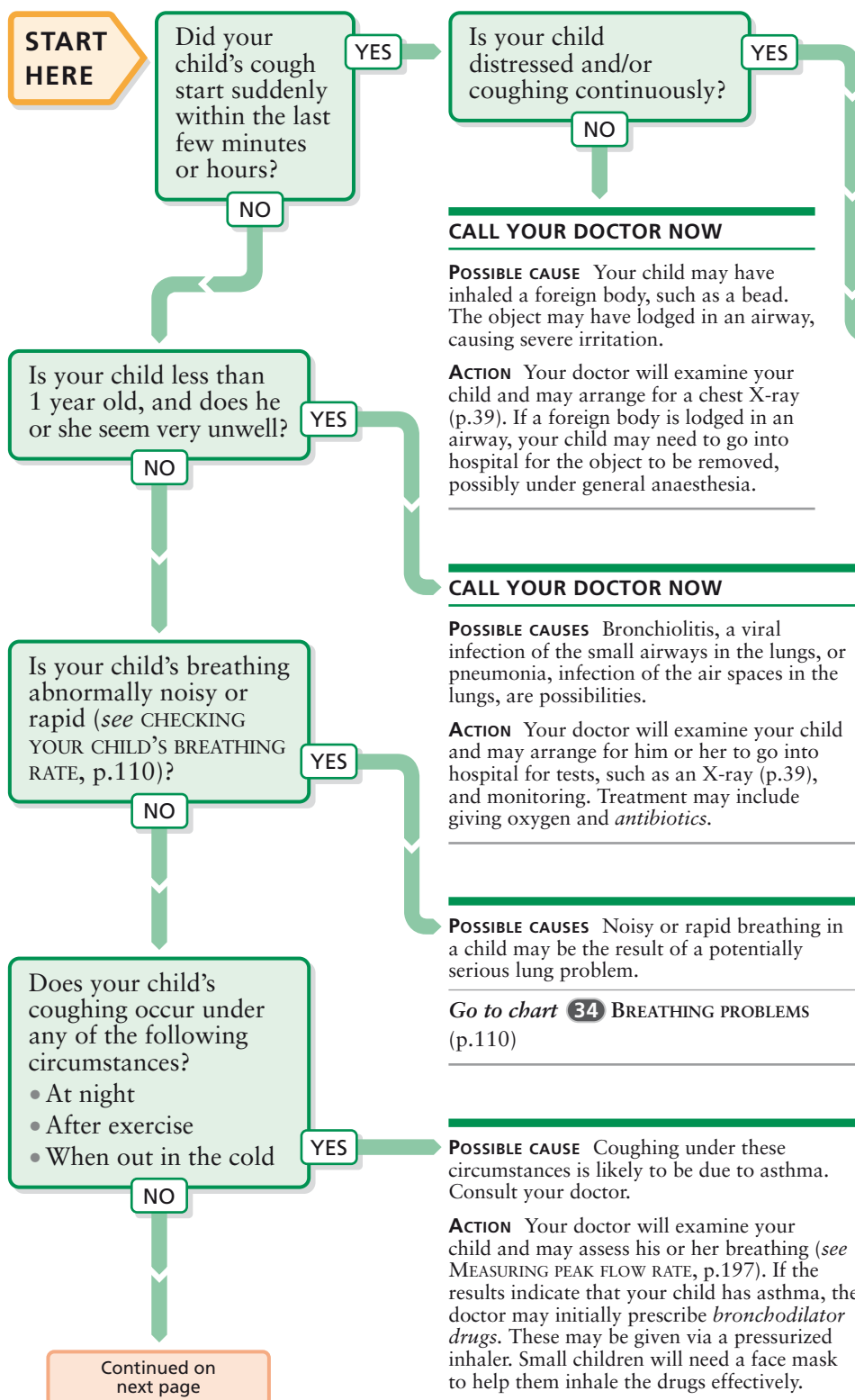
**POSSIBLE CAUSE** A cold or other viral infection may be causing your child's sore throat.

**ACTION** Follow the self-help measures for treating a child with a cold (p.106). If your child's symptoms have not improved within a few days, consult your doctor.

# 33 Coughing

Coughing is a normal protective reaction to irritation of the throat or lungs. In babies under 6 months, coughs are unusual and can be a sign of a serious lung infection if the child is also unwell. In older children, the vast majority of coughs are due to minor infections of the throat or upper

airways, such as colds. A runny nose can cause a cough, particularly at night as fluid drips down the back of the throat and causes irritation. A cough at night, even if it is not accompanied by wheezing, can be a symptom of asthma, and you should consult your doctor if you are concerned.



## WARNING

**DANGER SIGNS** Call an ambulance if your child is coughing and he or she develops any of the following symptoms:

- Abnormal drowsiness
- Blue-tinged lips or tongue
- Inability to speak or make sounds



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** Your child may be choking on an inhaled foreign body.

**ACTION** While waiting for help to arrive, follow the first-aid measures for choking (p.294). Once in hospital, your child will be examined and any foreign body will be removed. This may involve your child having a general anaesthetic.

## SELF-HELP Relieving a cough

If your child has a troublesome cough, you may find one or more of the following measures helpful in providing relief:

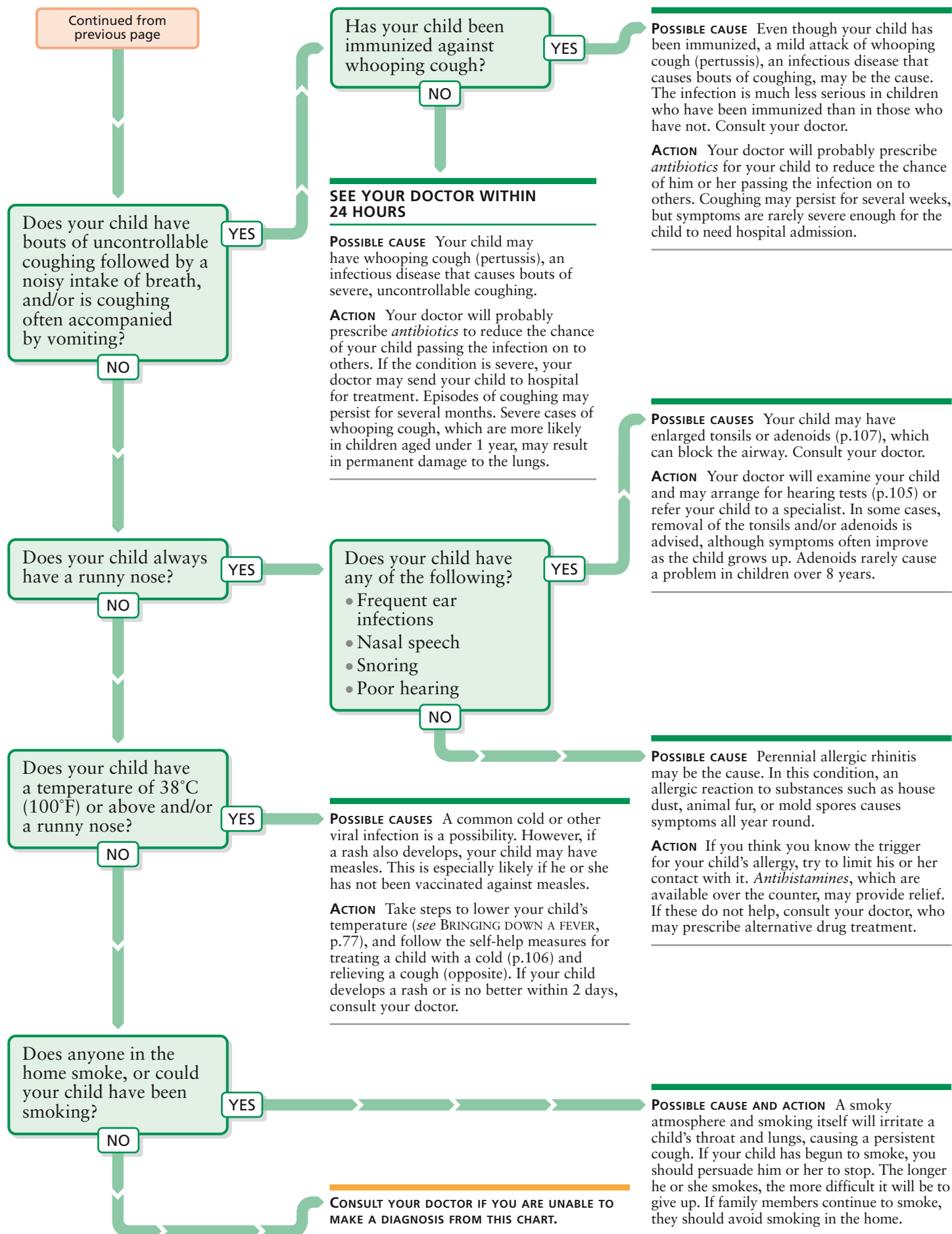
- Give your child plenty of warm drinks.
- Moisten the air in your child's room by hanging a wet towel in front of a radiator, placing a bowl of water in the room, or by using a humidifier.
- An older child may cough less during the night if he or she sleeps propped up on two or three pillows.

### Relieving a coughing fit in a young child

Sit your child on your lap and gently pat his or her back in order to loosen any sputum.



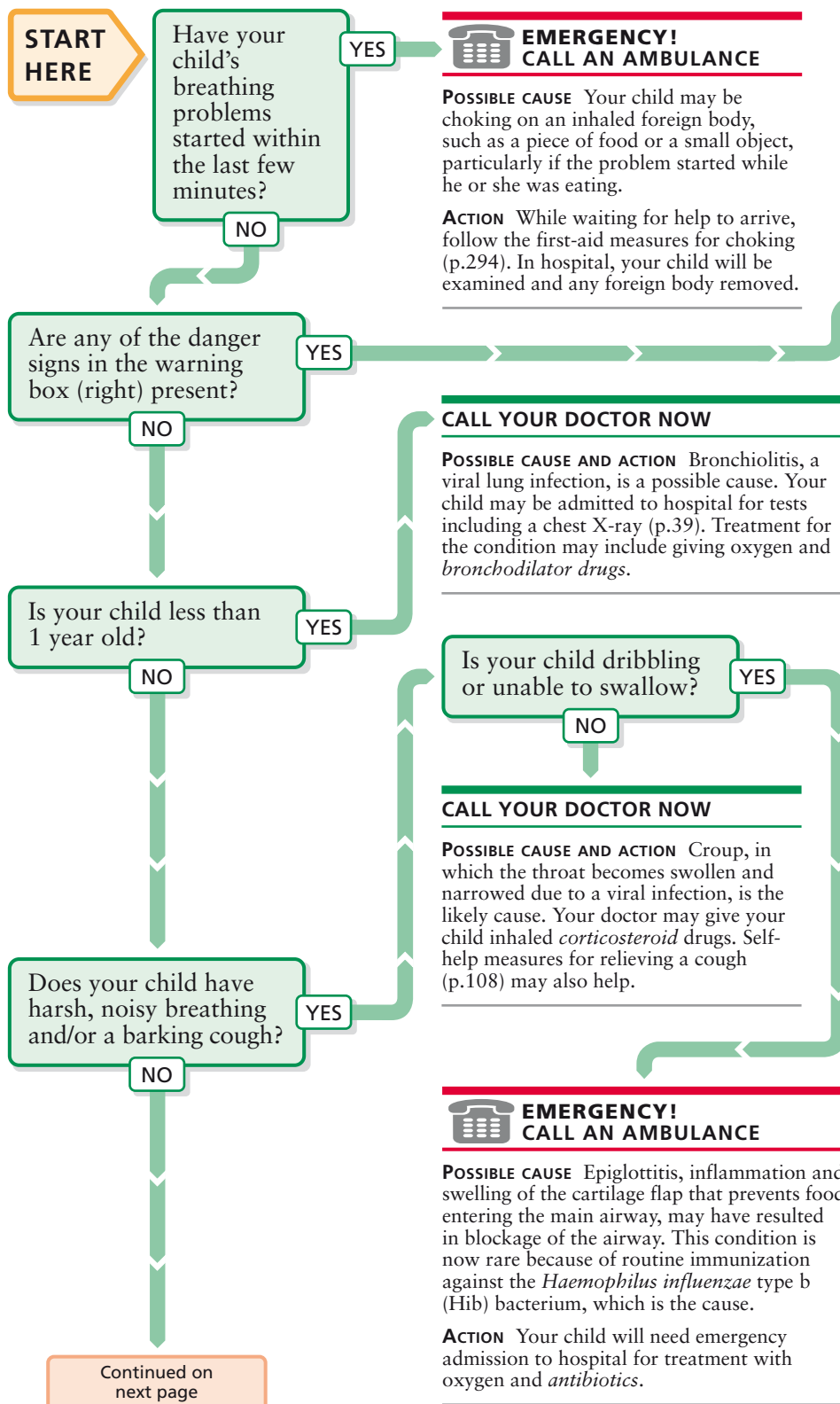




# 34 Breathing problems

Breathing problems in children include excessively noisy or fast breathing and shortness of breath. Although rapid or noisy breathing is usually obvious, shortness of breath may be less noticeable because a child may simply avoid activities

that make him or her breathless. Any child who starts to wheeze needs to be seen by a doctor, and a child with severe difficulty in breathing needs urgent attention. Breathing problems that occur suddenly also need immediate attention.



## WARNING

**DANGER SIGNS** Call an ambulance if your child's breathing problem is accompanied by any of the following symptoms:

- Blue-tinged lips or tongue
- Abnormal drowsiness
- Inability to speak or make sounds



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** Your child's breathing problems may be due to a serious condition that needs urgent medical attention.

**ACTION** Your child will be examined in hospital and may have tests such as a chest X-ray (p.39) and tests for measuring blood oxygen (p.201). The underlying cause will be treated, and oxygen may be given to ease breathing.

## SELF-HELP Checking your child's breathing rate

A child whose breathing is unusually rapid when resting or asleep may need medical attention. Check your child's breathing rate by counting the number of breaths he or she takes in 1 minute. Place your hand on his or her chest or back to feel the breaths. Your child should be resting and not crying. Babies normally breathe faster than older children. Compare your child's breathing rate with the normal maximum breathing rate for his or her age, as shown in the table below.

Age of child	Maximum breathing rate (breaths per minute)
Up to 2 months	60
2–12 months	50
1–5 years	40
5 years and over	30

**Assessing your child's breathing**  
Place your hand on your child's chest or back and count the breaths in 1 minute.



## SELF-HELP Easing breathing in an asthma attack

If your child is having severe difficulty in breathing, call an ambulance. While waiting for help to arrive, you should:

- Help your child to sit upright, leaning forwards slightly, with his or her forearms supported on a table or the back of a chair.
- Make sure any prescribed reliever drugs for asthma have been taken according to the treatment plan.
- Try to stay calm and keep your child calm. Do not leave him or her alone. Try to keep other people from crowding around your child to prevent him or her from becoming more anxious.

### Easing breathing

*Sit your child upright with his or her arms supported. Do not leave your child alone.*



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** A severe attack of asthma is a possibility.

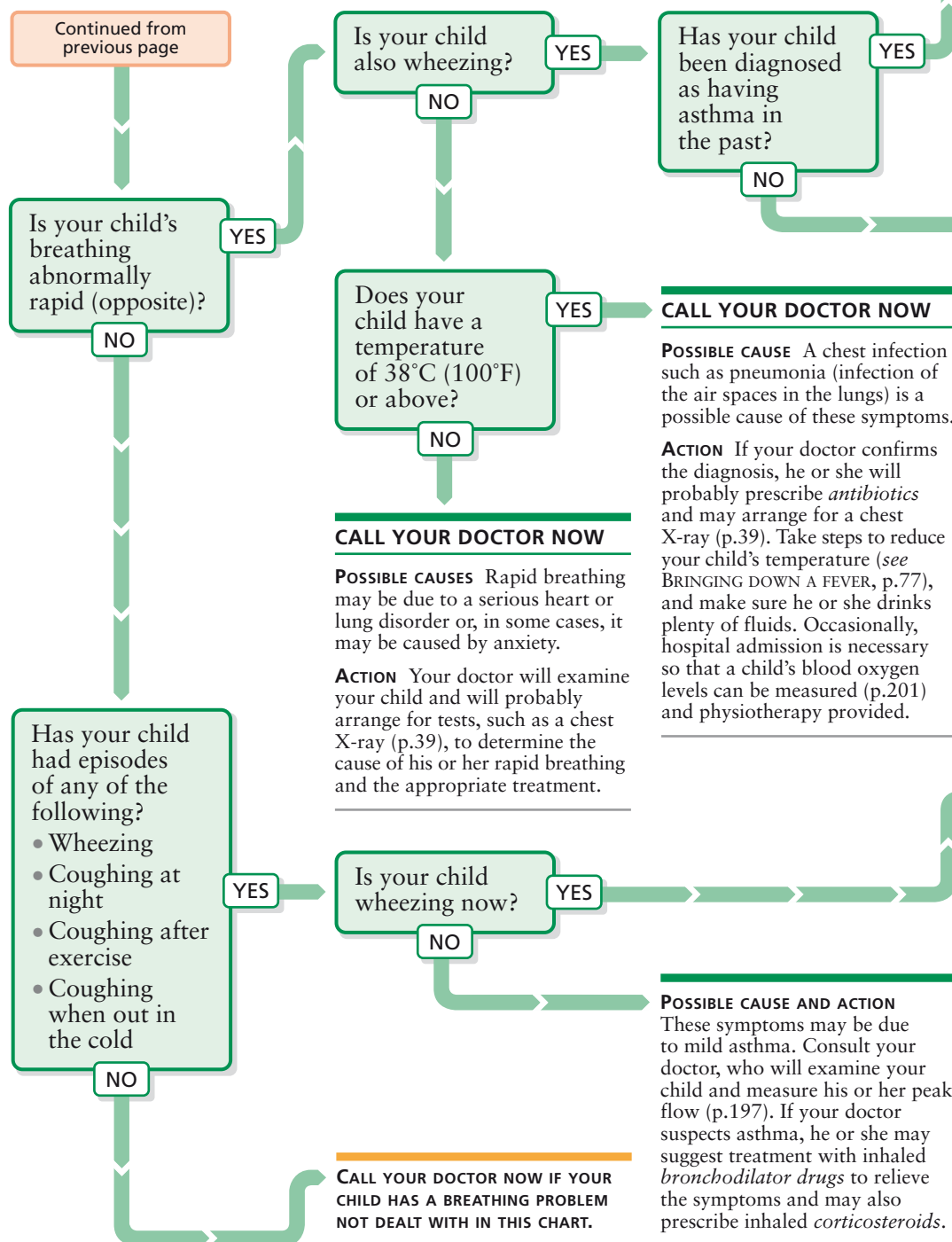
**ACTION** While waiting for help, give your child the number of puffs of his or her relieving inhaler or nebulizer according to his or her treatment plan and carry out the self-help measures for easing breathing in an asthma attack (left). In hospital, your child will be examined and his or her blood oxygen levels measured (see MEASURING BLOOD OXYGEN, p.201). He or she may be given oxygen and *bronchodilator drugs* as well as oral *corticosteroids* to ease his or her breathing.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** Your child may be having a first asthma attack.

**ACTION** While waiting for help, carry out self-help measures for easing breathing in an asthma attack (above). Once in hospital, your child will be examined. If the diagnosis of asthma is confirmed, your child will be prescribed *bronchodilator drugs* or inhaled *corticosteroids* to ease his or her breathing.



## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Your child may have asthma. It will be easier for your doctor to make a diagnosis if he or she sees your child when the symptoms are present.

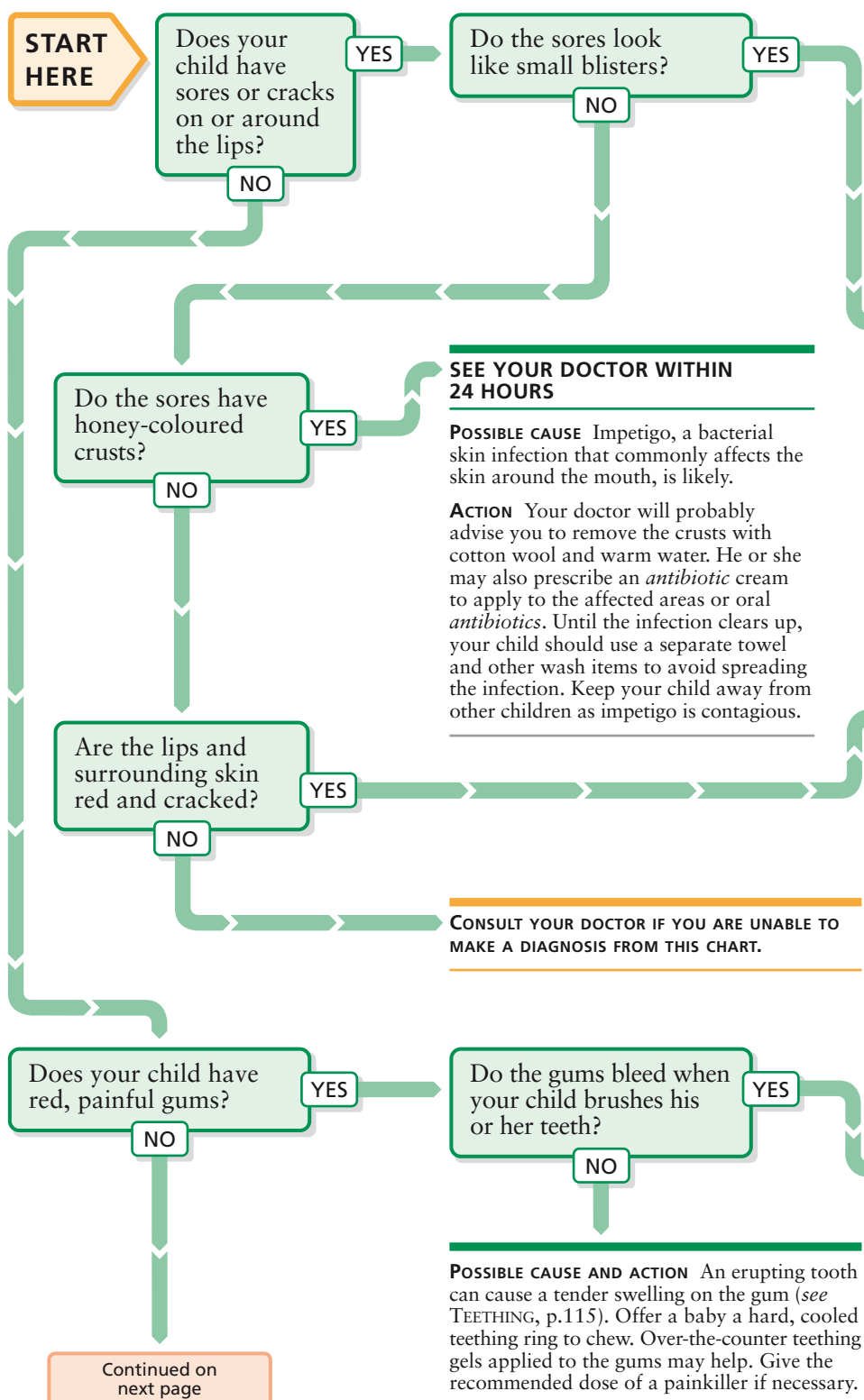
**ACTION** Your doctor will examine your child and may measure his or her peak flow rate (see MEASURING PEAK FLOW RATE, p.197). If the results indicate that your child has asthma, he or she may initially be prescribed *bronchodilator drugs*. If the cough or intermittent wheezing persists, your doctor may also prescribe inhaled *corticosteroids*. In some cases, small children may be given the drugs through a face mask.

## 35 Mouth problems

For problems specifically relating to the teeth, see chart 36, TEETH PROBLEMS (p.114).

Consult this chart if your child complains of a painful mouth or has sores in the mouth or on the tongue or lips. Because the lining of the mouth and the skin of the lips are thin

and delicate, these areas are susceptible to minor injuries and infections. Younger children often pick up infections affecting the mouth and lips because they tend to put objects into their mouths. Allergies can cause swelling of the mouth or tongue, which can be serious (see WARNING, below).



### WARNING

**SWELLING MOUTH OR TONGUE** Call an ambulance if your child's mouth or tongue suddenly starts to swell. The swelling may be due to a severe allergic reaction. If the swelling continues, it can cause breathing difficulties that may be life-threatening.

**POSSIBLE CAUSE** Your child may have cold sores, which are caused by previous infection with the herpes simplex virus. After the initial infection, the herpes virus can lie dormant for months or years and may be reactivated by cold weather or exposure to strong sunshine.

**ACTION** Cold sores usually clear up on their own. However, over-the-counter *antiviral* creams may speed up the process if they are used at the first sign of symptoms. To prevent your child from spreading the virus, try to discourage him or her from kissing others while the blisters are present.

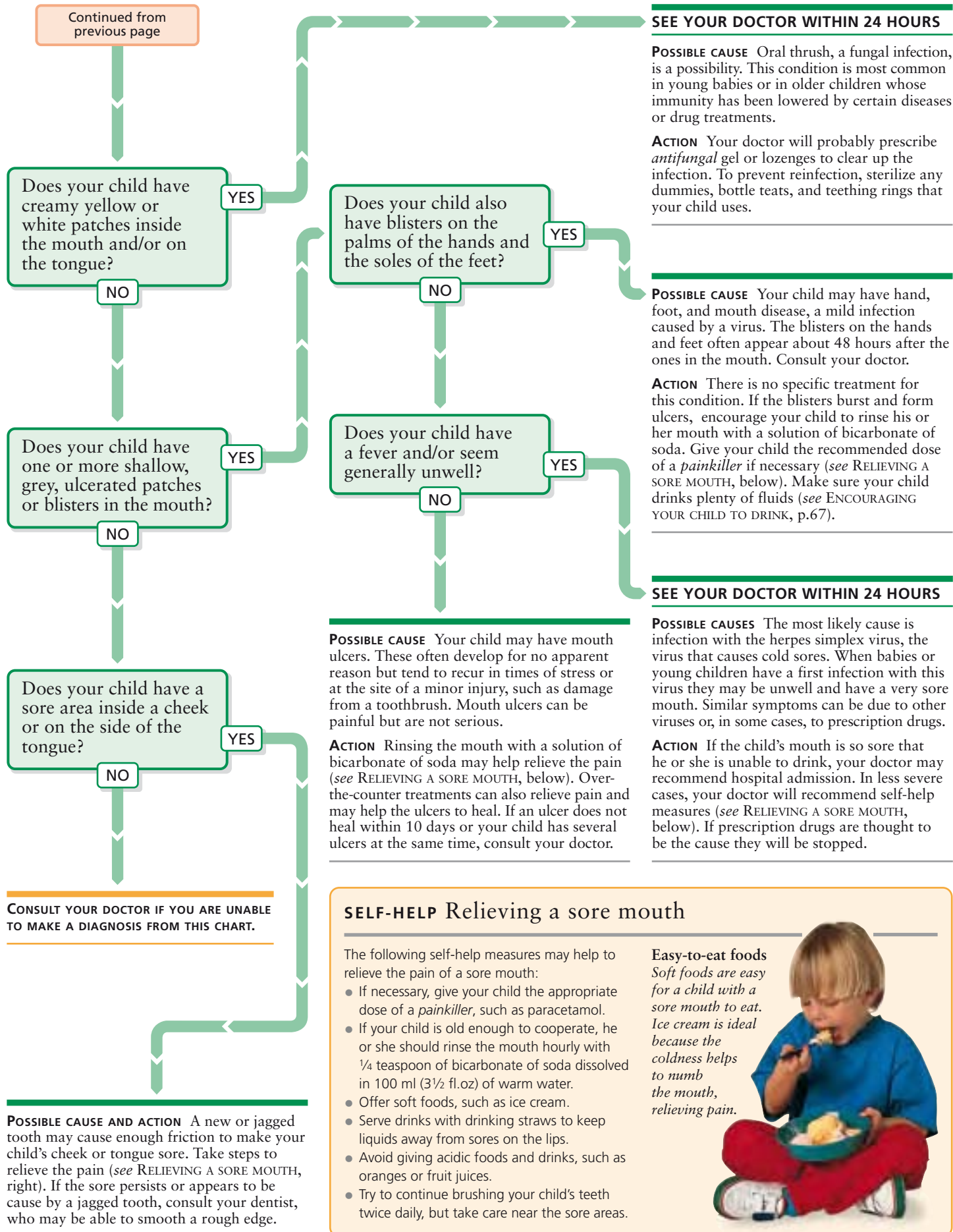
**POSSIBLE CAUSE** Your child may have lick eczema, a rash around the mouth and lips caused by saliva from excessive licking of the lips or thumb sucking.

**ACTION** Twice a day, apply an over-the-counter *corticosteroid* cream sparingly to the skin around the lips for a few days to reduce the inflammation, then use petroleum jelly to protect the skin. You may be able to help your child give up the habit that is causing the condition by drawing his or her attention to it when it occurs. However, scolding your child about the habit may make it worse.

**POSSIBLE CAUSE** Your child may have the gum disease gingivitis, a condition in which the gums become red and swollen. Gingivitis usually develops as a result of poor oral hygiene. Consult your dentist.

**ACTION** The dentist will probably scale and polish your child's teeth and advise you on caring for your child's teeth and gums, (p.114). If the gum disease is severe, the dentist may prescribe *antibiotics*.



Continued from  
previous page

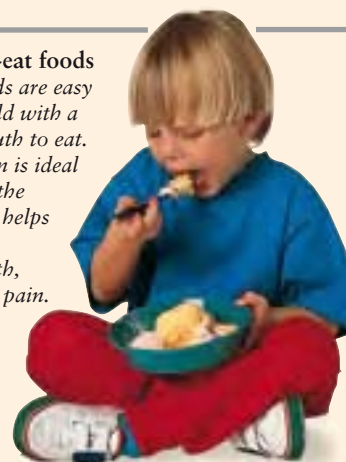
## SELF-HELP Relieving a sore mouth

The following self-help measures may help to relieve the pain of a sore mouth:

- If necessary, give your child the appropriate dose of a *painkiller*, such as paracetamol.
- If your child is old enough to cooperate, he or she should rinse the mouth hourly with  $\frac{1}{4}$  teaspoon of bicarbonate of soda dissolved in 100 ml (3½ fl.oz) of warm water.
- Offer soft foods, such as ice cream.
- Serve drinks with drinking straws to keep liquids away from sores on the lips.
- Avoid giving acidic foods and drinks, such as oranges or fruit juices.
- Try to continue brushing your child's teeth twice daily, but take care near the sore areas.

### Easy-to-eat foods

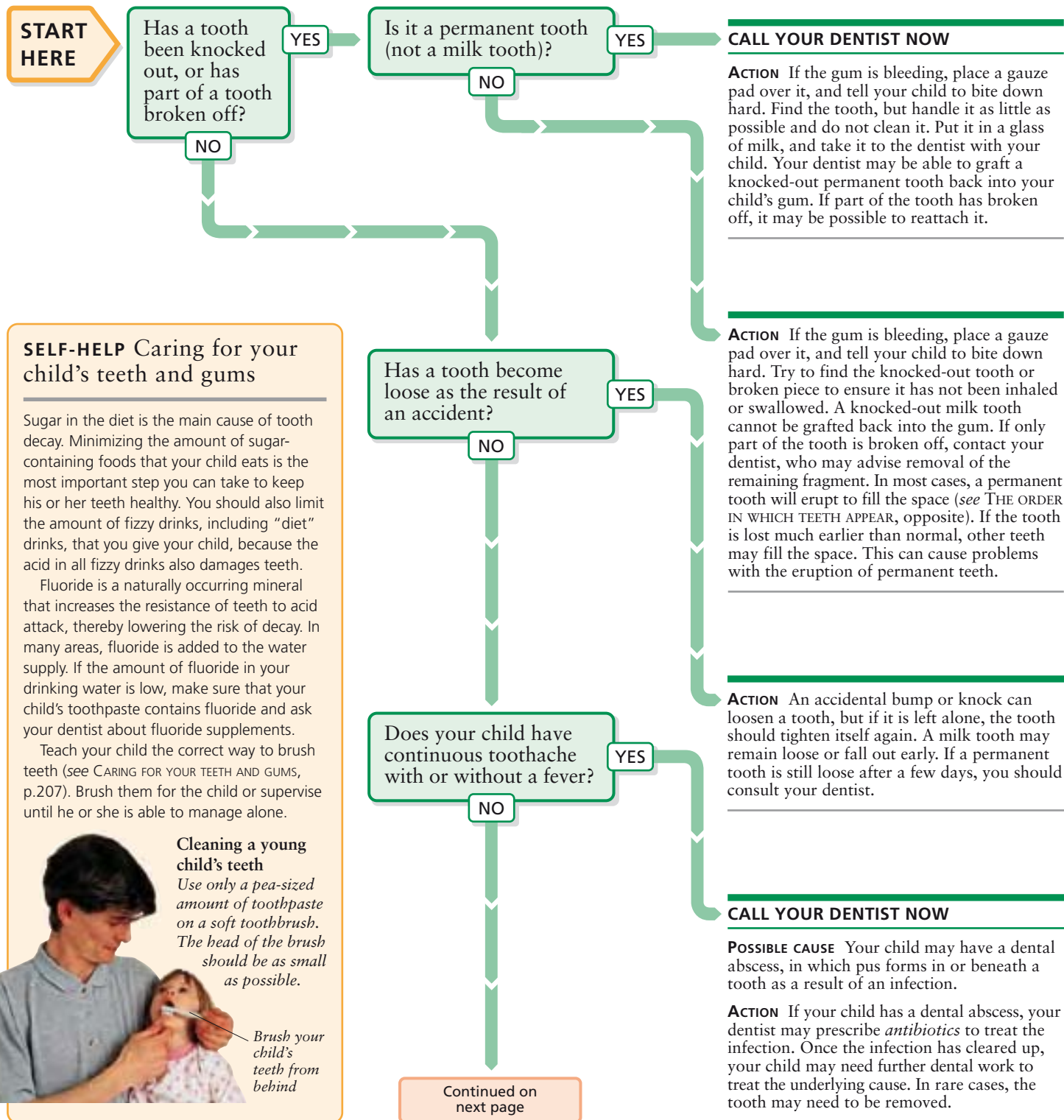
*Soft foods are easy for a child with a sore mouth to eat. Ice cream is ideal because the coldness helps to numb the mouth, relieving pain.*



## 36 Teeth problems

Your child's teeth are constantly at risk of decay. Regular brushing can help prevent decay (*see* CARING FOR YOUR CHILD'S TEETH AND GUMS, below), which, if untreated, can spread to central parts of the tooth, causing serious damage. Your child should have regular dental checkups from about 3 years of age. If symptoms of decay, such as toothache, develop between

checkups, make an appointment with your dentist. In young children, pain associated with the teeth may be due to teething (opposite), which is usually no cause for concern. If your child has toothache or an accident needing urgent dental treatment and your dentist is unavailable, call the casualty department of a local hospital for details of an on-call dentist.



Continued from  
previous pageDoes your child feel  
pain in his or her teeth  
when they are exposed  
to hot or cold foods?

YES

NO

Does your child feel  
pain when he or she  
bites on a tooth that  
has been filled recently?

YES

NO

**POSSIBLE CAUSE AND ACTION** It is quite common for a tooth to feel uncomfortable for a while after a filling has been put in, especially if the filling is large. If the pain gets worse or if your child is no better within 48 hours, consult your dentist, who will check the filling and adjust it if necessary.

Does your child have  
pain in several of the  
teeth in the upper jaw?

YES

NO

Does your child have  
tender gums behind the  
back teeth?

YES

NO

**CONSULT YOUR DENTIST IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

**POSSIBLE CAUSE** Your child's second molars may be beginning to emerge (see THE ORDER IN WHICH TEETH APPEAR, right). The gums may become inflamed as the teeth erupt, but this is usually short-lived.

**ACTION** If necessary, give your child the recommended doses of a *painkiller*, such as paracetamol. Consult your dentist if the pain is severe or if it is no better within 48 hours.

Does the pain last only  
a few seconds?

YES

NO

### SEE YOUR DENTIST WITHIN 24 HOURS

**POSSIBLE CAUSE** Your child may have decay deep within a tooth or in a crack in a tooth. This is especially likely if your child also has bouts of throbbing tooth pain not brought on by food or drink.

**ACTION** Your dentist will examine your child's teeth and may need to remove and fill any decayed areas.

**POSSIBLE CAUSE** Aching in several teeth can be a symptom of sinusitis (inflammation of the membranes lining the air spaces in the skull), especially if your child has recently had a cold or a runny or blocked nose. Children under the age of 8 are rarely affected because their sinuses have not yet developed.

**ACTION** Give your child paracetamol for the pain. Steam inhalation may help (p.194). Consult your doctor if your child's symptoms are no better within 48 hours; he or she may need treatment with *antibiotics*.

## Teething

The eruption of a tooth, particularly a molar, can be uncomfortable and may make your child irritable and restless. You may be able to feel the emerging tooth if you run your finger over the gum. A baby may have flushed cheeks, be less willing to feed, and may sleep poorly when teething. However, you should not attribute other symptoms, such as a fever or diarrhoea, to teething.

Babies who are teething often seem to like chewing on a cold, hard object, such as a chilled teething ring or a raw carrot. Over-the-counter local anaesthetic gels can be soothing if gently applied to the affected gums. The recommended dose of a *painkiller* can also be given if necessary.

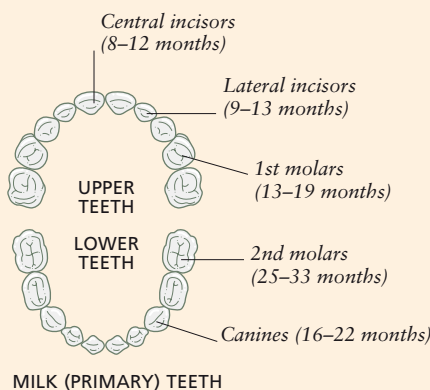
**POSSIBLE CAUSE** Teeth can become sensitive to extremes of temperature if their protective surfaces become thin or damaged. This may be due to tooth decay. Consult your dentist.

**ACTION** Your dentist will examine your child's teeth and treat any decay. If no abnormality is found, he or she may advise that your child brushes with a toothpaste for sensitive teeth and rubs a small amount over the teeth afterwards.

## The order in which teeth appear

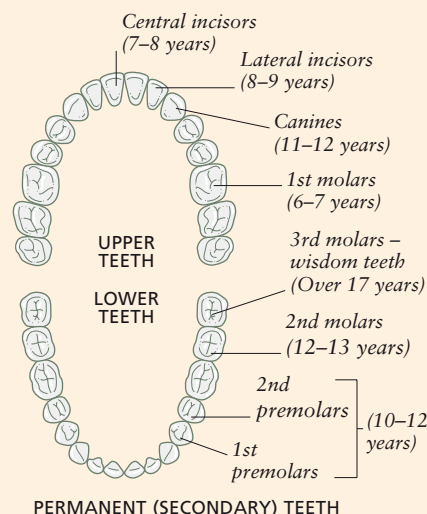
The ages at which teeth appear vary from child to child. A few children have one or more teeth at birth, while others still have none at a year old. There are 20 teeth in the first, or primary, set. The sequence in which they erupt is more

important than the age of eruption. By the age of 13, the primary teeth have usually fallen out and most of the 32 permanent, or adult, teeth have erupted. In some people, the third molars, known as the wisdom teeth, never appear.



### The ages at which teeth appear

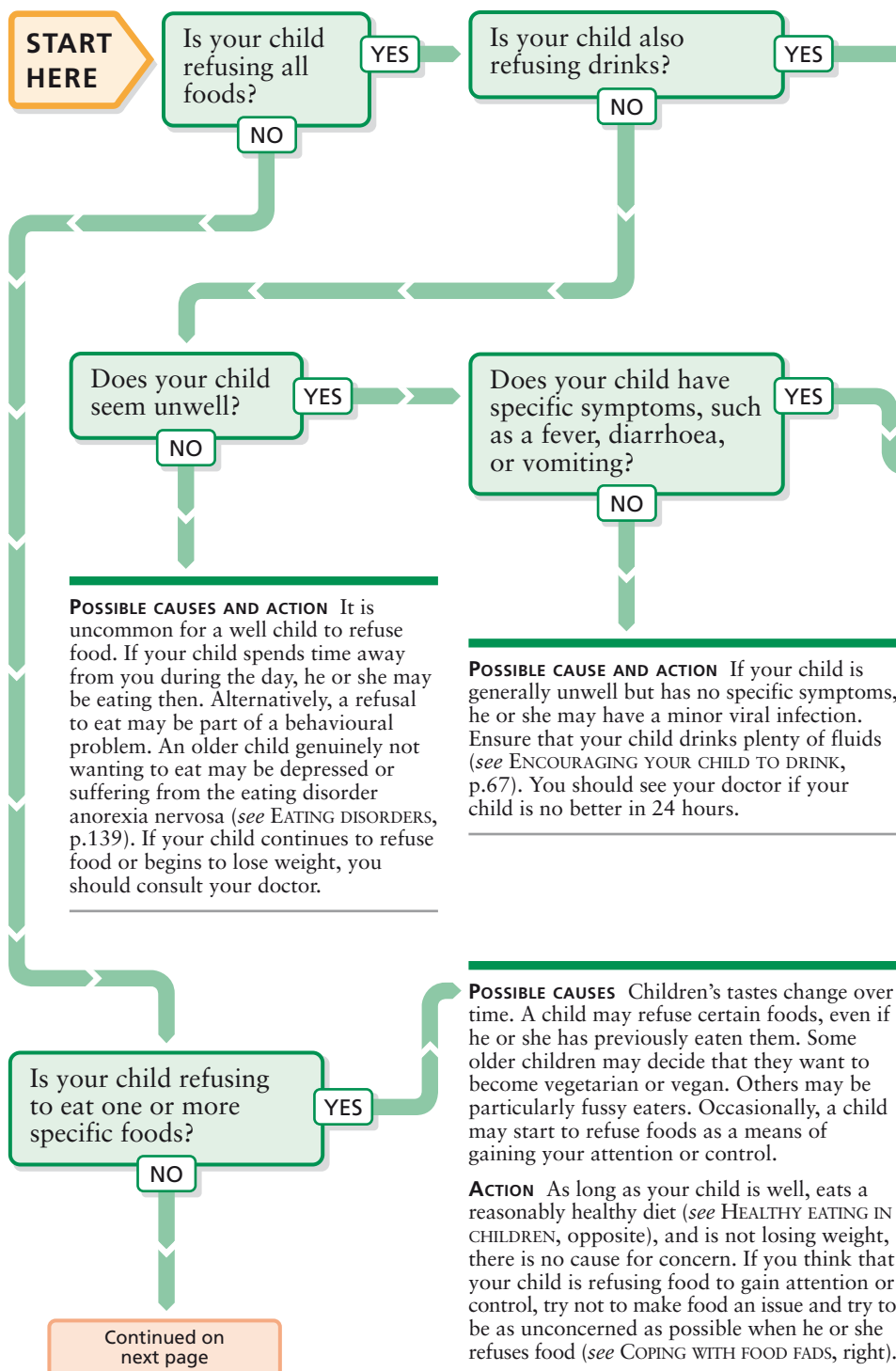
The figures in brackets indicate the average ages at which the teeth erupt. However, neither early nor late eruption is a cause for concern.



## 37 Eating problems

*For children under 1 year, see chart 6, FEEDING PROBLEMS (p.60).* The appetites of children are more closely governed by their body's energy requirements than are the appetites of adults. Most children alternate between active periods, during which they have large appetites, and inactive periods, when they eat much less. In addition, when children are growing rapidly, their appetites will be larger than usual. Some children naturally burn up less energy than others and have

smaller appetites. Such variations in appetite are normal and are not a problem as long as your child seems well and is growing normally. Some children may refuse to eat to gain their parents' attention or control. This is relatively common in young children; however, they usually grow out of it. In older children and adolescents, a refusal to eat may be a symptom of the potentially life-threatening disorder anorexia nervosa (see EATING DISORDERS, p.139).



### CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** A child can go without eating very much for several days and not come to any harm, but refusal to drink can lead to dehydration within hours, particularly in hot weather or if the child has a fever.

**ACTION** Your doctor will examine your child to ensure that he or she is not dehydrated and to look for an underlying cause. Your doctor will probably give you advice on encouraging your child to drink (p.67). If this is not successful or if your child is already dehydrated, he or she may need to be admitted to hospital.

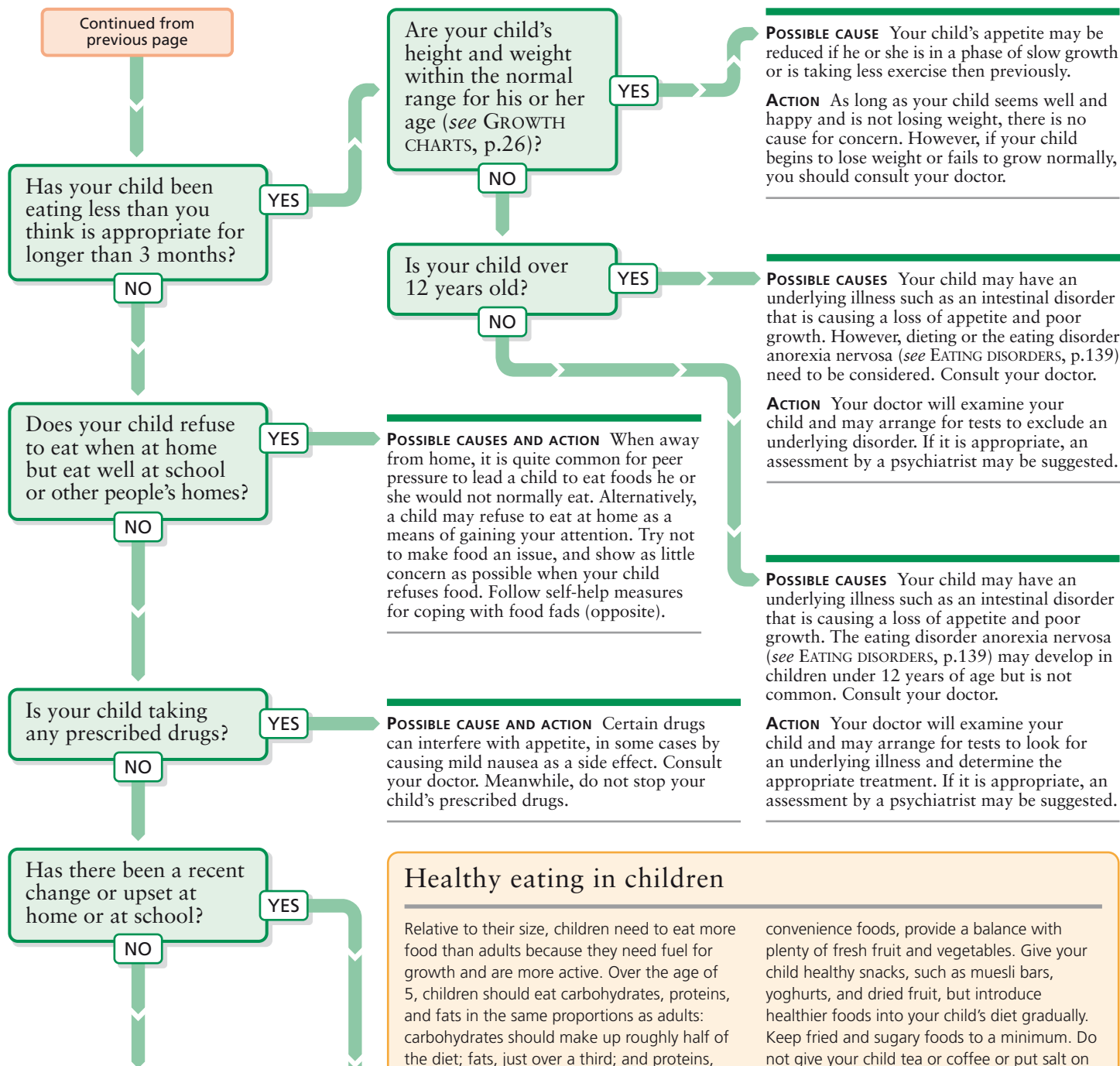
**POSSIBLE CAUSE AND ACTION** An underlying illness can often cause a temporary loss of appetite. Consult the relevant chart in this book and follow the advice given.

### SELF-HELP Coping with food fads

Most children become faddy eaters at some stage. Sometimes a child will refuse only one or two foods or will accept foods only if they are prepared in a particular way. The child may claim to dislike foods that he or she previously enjoyed. As long as your child is well and is growing normally (see GROWTH CHARTS, p.26), there is no need for concern. However, there are some self-help measures you can take to encourage your child to eat:

- Keep mealtimes relaxed. Do not insist your child eats everything on his or her plate.
- Serve small portions, giving second helpings if requested.
- Do not give your child snacks and numerous drinks between meals.
- Do not persist in offering rejected foods. Keep them off the menu for a week or two, then try again.
- Avoid distractions, such as toys or television, during mealtimes.
- Be imaginative when preparing food; for example, cut it into decorative shapes or create pictures on the plate.





## Healthy eating in children

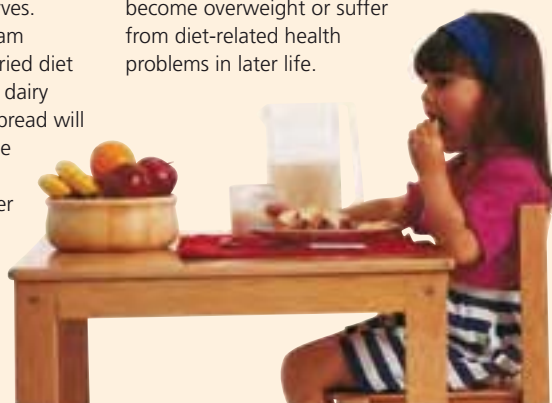
Relative to their size, children need to eat more food than adults because they need fuel for growth and are more active. Over the age of 5, children should eat carbohydrates, proteins, and fats in the same proportions as adults: carbohydrates should make up roughly half of the diet; fats, just over a third; and proteins, the remainder. Children under 5 need more fats, as fats are high in calories and are important for the development of nerves. Children under 2 should have full-cream milk, rather than semi-skimmed. A varied diet that includes fruit, vegetables, meats, dairy products, and carbohydrates such as bread will provide your child with the nutrients he or she needs (see A HEALTHY DIET, p.28).

On the whole, fresh foods are better than processed. If the pressures of time mean that you often buy

convenience foods, provide a balance with plenty of fresh fruit and vegetables. Give your child healthy snacks, such as muesli bars, yoghurts, and dried fruit, but introduce healthier foods into your child's diet gradually. Keep fried and sugary foods to a minimum. Do not give your child tea or coffee or put salt on his or her meals. If you establish sensible eating habits now, your child will be less likely to become overweight or suffer from diet-related health problems in later life.

### Healthy meals

*Encourage your child to enjoy healthy eating by providing a range of tasty, nutritious meals.*

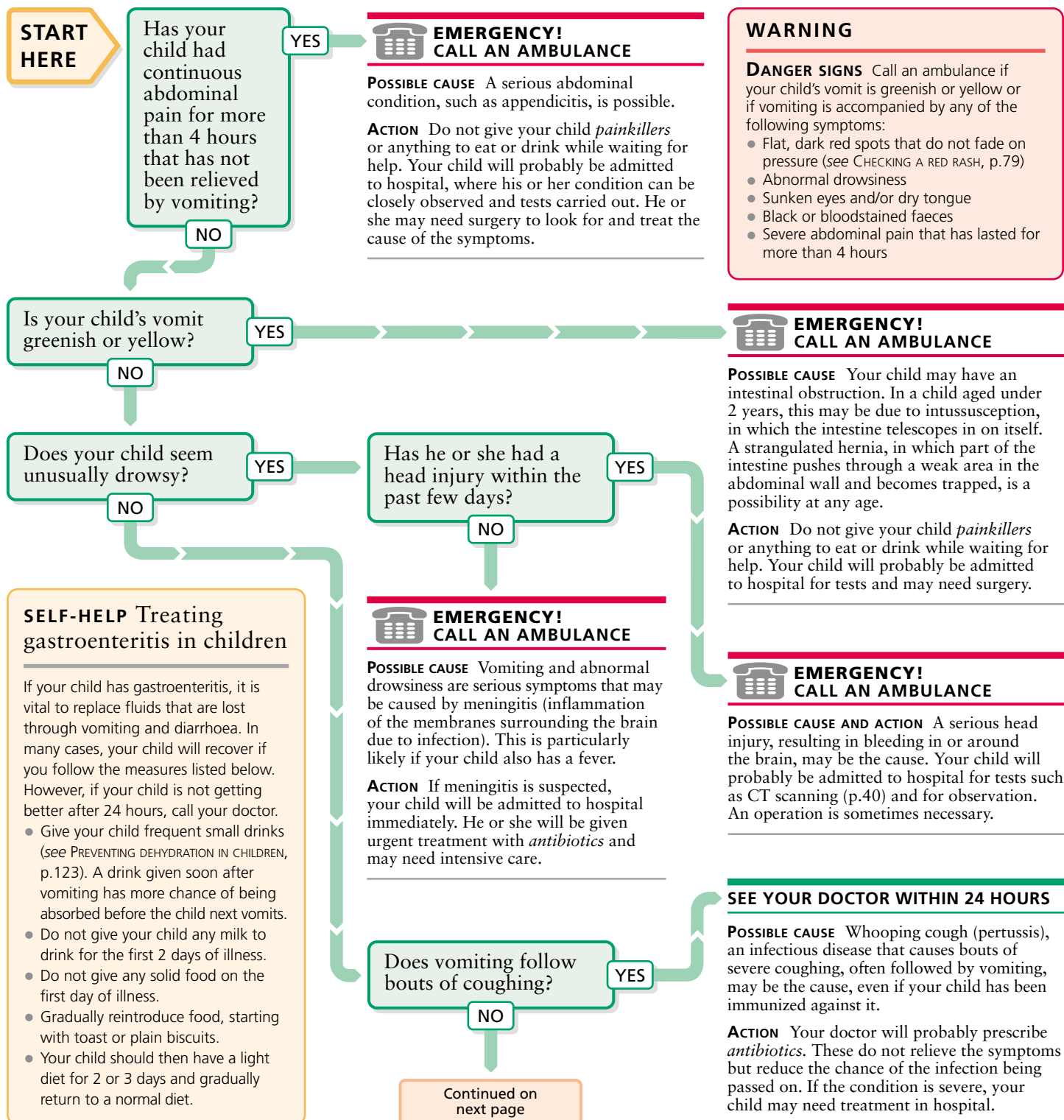


# 38 Vomiting in children

For children under 1 year, see chart 4, VOMITING IN BABIES (p.56).

When a child vomits only once, this is usually caused by overeating or an emotional upset and is rarely due to a serious disorder. Repeated vomiting is most likely to be due to an infection of the digestive tract. Infections elsewhere in

the body, such as in the urinary tract, can also cause vomiting in children, but there will usually be other symptoms as well. Rarely, vomiting can be a symptom of a serious condition needing urgent treatment. If your child is vomiting, make sure he or she drinks plenty of fluids to avoid dehydration (see PREVENTING DEHYDRATION IN CHILDREN, p.123).



Continued from  
previous pageDoes your child have  
diarrhoea?

NO

YES

**POSSIBLE CAUSE** Gastroenteritis, inflammation of the digestive tract, usually due to a viral infection, is the most likely cause and may be associated with abdominal pain.

**ACTION** Follow the self-help measures for preventing dehydration in children (p.123) and treating gastroenteritis in children (opposite). If your child has not started to recover after 24 hours or if he or she develops further symptoms, call your doctor.

Does your child have  
two or more of the  
following symptoms?

- Unexplained loss of weight
- Increased thirst
- Passing more urine than usual
- Excessive tiredness

NO

YES

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSE** These symptoms may be due to diabetes mellitus. This condition is caused by insufficient production of the hormone insulin, which is needed by the body to get energy from sugar and carbohydrate foods.

**ACTION** Your doctor will take a blood sample to check your child's blood sugar level. If the diagnosis is confirmed and your child is vomiting, he or she will probably need to be admitted to hospital. Your child will probably need insulin injections for life and will be taught how to inject the insulin and monitor his or her blood sugar level. Your doctor will also advise you on your child's diet and lifestyle (see DIABETES MELLITUS, p.149).

Does your child have  
two or more of the  
following symptoms?

- Fever
- Pain on passing urine
- Bedwetting or daytime wetting after being dry
- Offensive-smelling or cloudy urine

NO

YES

Is your child passing  
pale faeces and  
unusually dark urine,  
and/or are your child's  
skin and whites of the  
eyes yellow?

NO

YES

Was your child very  
excited or upset just  
before vomiting?

NO

YES

**POSSIBLE CAUSE** Vomiting when excited or before stressful events, such as the first day at school, is common in children.

**ACTION** Be sympathetic: the vomiting will have made your child feel even worse. Talk to your child about his or her feelings, and help him or her to find ways of coping with stressful situations. If your child is at school, his or her teachers may also be able to help.

Does your child  
regularly vomit during  
or soon after travelling?

NO

YES

**POSSIBLE CAUSE** Travel sickness is the probable cause of your child's vomiting. The condition tends to run in families.

**ACTION** When your child travels, follow self-help measures for coping with travel sickness (above). Most children become less susceptible to travel sickness as they grow older.

**SELF-HELP Coping with  
travel sickness**

If your child suffers from travel sickness, some of the following suggestions may help:

- Give only light meals or snacks before and during your journey.
- Try to travel at night to encourage your child to sleep through the journey.
- Keep a car window open.
- Discourage your child from reading during your journey.
- Provide plenty of distractions, such as tapes of stories and songs.
- Try giving your child an over-the-counter travel sickness remedy before the journey. Your pharmacist can advise you.
- Be prepared. For example, bring a change of clothes for your child.

**Looking out  
of the window**

*If your child suffers from travel sickness, games that encourage him or her to look out the window may help.*

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** Your child's symptoms may be due to a urinary tract infection (p.126).

**ACTION** Your doctor will test a sample of your child's urine. If the diagnosis is confirmed, a urine sample will be sent to a laboratory for analysis, and your child will be prescribed *antibiotics*. In some cases, further tests, such as ultrasound scanning (see INVESTIGATING THE URINARY TRACT IN CHILDREN, p.127), may be needed to look for any associated problems.

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** Your child may have a liver problem such as hepatitis, in which a viral infection causes inflammation of liver cells.

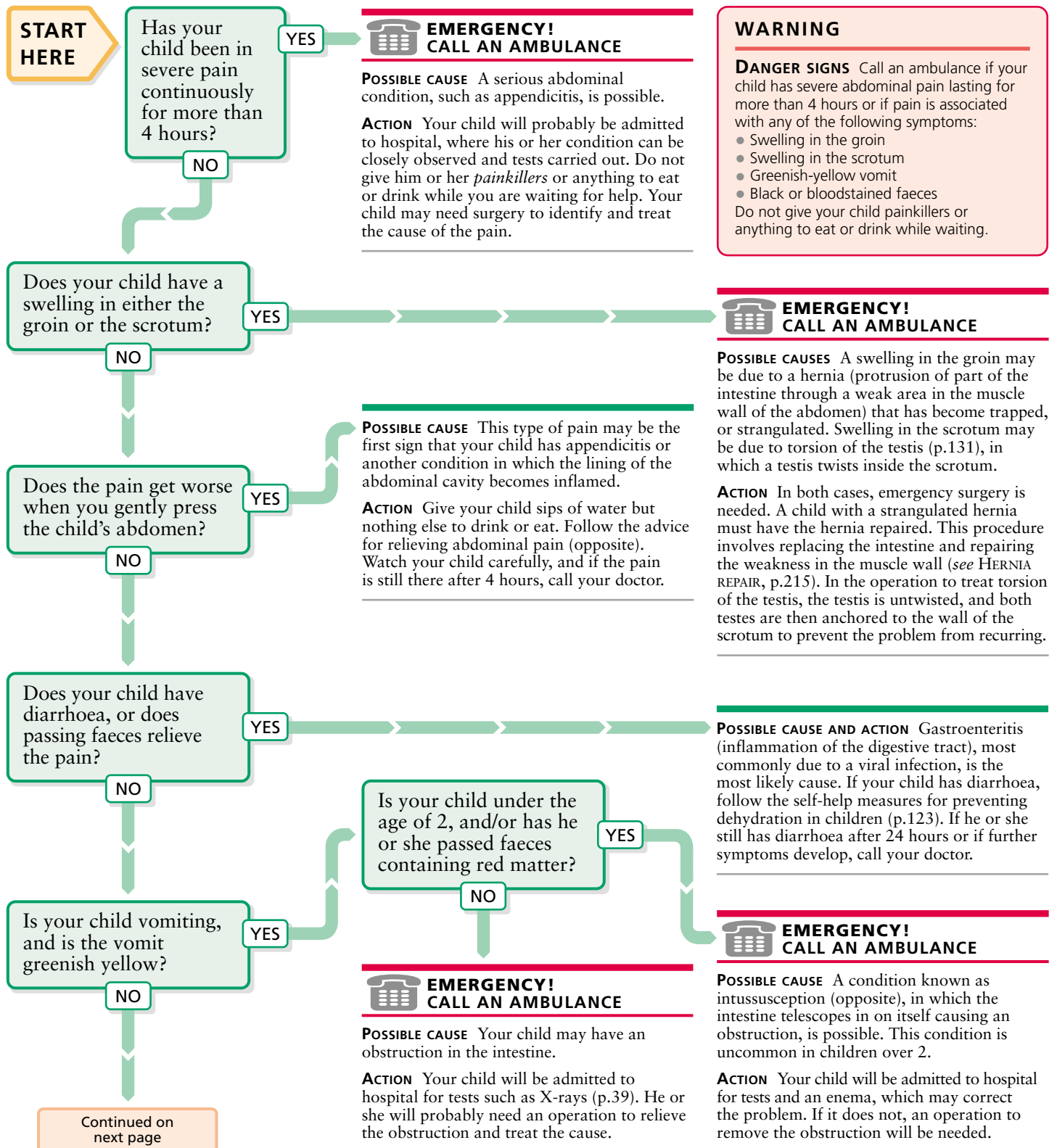
**ACTION** Your doctor will arrange for a blood test to confirm the diagnosis. He or she may also refer your child to hospital for further tests. To prevent the infection from spreading within the family, keep your child's eating utensils and towels separate. Your doctor may recommend that other members of the family are immunized against the disease.

**AN OCCASIONAL BOUT OF VOMITING IS COMMON DURING CHILDHOOD AND MAY OFTEN HAVE NO OBVIOUS PHYSICAL CAUSE. HOWEVER, IF YOU ARE CONCERNED OR THE VOMITING IS RECURRENT, CONSULT YOUR DOCTOR.**

# 39 Abdominal pain

In, most cases, abdominal pain is short-lived and disappears on its own without treatment. However, in some cases, there may be a serious physical cause, such as appendicitis, that needs urgent medical attention. It can be difficult to decide

whether abdominal pain in a child, particularly a young child, needs medical attention or whether to wait and see. If your child has stomach ache or if his or her behaviour causes you to suspect abdominal pain, consult this chart for advice.





Continued from  
previous pageDoes your child also  
have a sore throat, a  
cough, or a runny nose?

YES

NO

**POSSIBLE CAUSES** These symptoms are often associated with abdominal pain in childhood, which may be due to swollen lymph nodes.

**ACTION** Unless your child shows any of the signs mentioned in the warning box (opposite), give the child *painkillers* and encourage him or her to drink (p.67). If the pain worsens or is no better within 24 hours, see your doctor.

Does your child have  
any of the following?

- Pain on passing urine
- Frequent passing of urine
- Bedwetting or daytime wetting after being dry
- Offensive-smelling or cloudy urine
- Fever

YES

NO

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** Your child may have a urinary tract infection (p.126).

**ACTION** Your doctor will test a sample of your child's urine. If the diagnosis is confirmed, a urine sample will be sent for analysis, and your child will be prescribed *antibiotics*. In some cases, further tests, such as ultrasound scanning (see INVESTIGATING THE URINARY TRACT IN CHILDREN, p.127), may be needed to look for any associated problems.

Has your child had  
repeated episodes of  
abdominal pain?

YES

NO

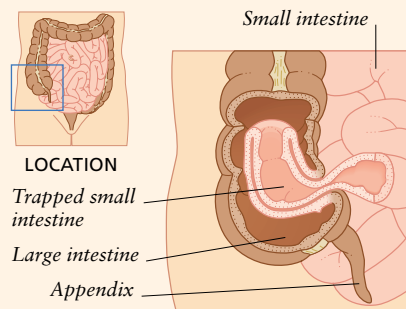
Does your child seem  
completely well while  
complaining of pain?

YES

NO

**Intussusception**

In intussusception, part of the intestine telescopes into itself, causing an obstruction. The cause is unknown, but it may occur during viral infections. If your doctor suspects that your child has intussusception, your child will be admitted to hospital and may be given intravenous fluids. An enema will probably be given to confirm the diagnosis. This may also correct the problem by forcing the intestine back into position. If the enema does not help, emergency surgery may be needed to relieve the obstruction and remove any damaged intestine.

**Obstruction due to intussusception**

This cut-away diagram shows how the last part of the small intestine pushes into part of the large intestine to cause an obstruction.

**SEE YOUR DOCTOR IF THE PAIN PERSISTS FOR MORE THAN 24 HOURS AND YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

**SELF-HELP** Relieving  
abdominal pain

The following measures may help to relieve mild abdominal pain in a child:

- Let your child hold a wrapped hot-water bottle against the abdomen.

- Give your child only water to drink and nothing to eat while he or she is in pain.

If the pain worsens or is still present the next day, call your doctor. Call an ambulance if severe pains lasts more than 4 hours.



Covered hot-water bottle

**Easing abdominal pain**

Let your child lie down quietly, holding a well-wrapped hot-water bottle against his or her abdomen, until the pain eases.

Do any close family  
members suffer from  
migraines, and/or  
are episodes of pain  
accompanied by  
nausea, vomiting, and  
pale appearance?

YES

NO

**POSSIBLE CAUSE AND ACTION** The episodes of pain may be an expression of anxiety or stress. Talk to your child to try to find out if anything is worrying him or her. Call your doctor if other symptoms develop, if the pain is severe, or if your child still has abdominal pain the next day.

Do the symptoms  
typically occur within  
2 hours of eating a  
particular type of food,  
such as dairy products?

YES

NO

**POSSIBLE CAUSE** Your child may have migraine. In children under age 8, the symptoms often include recurrent episodes of abdominal pain instead of the one-sided headaches that are typical of migraine in older children and adults. Consult your doctor.

**ACTION** Your doctor will examine your child and may arrange for tests such as a urine test (p.38) to exclude other disorders. Taking *painkillers* should help to relieve the symptoms.

**POSSIBLE CAUSE AND ACTION** Recurrent unexplained abdominal pain is common in childhood and is unlikely to have a serious cause. During an episode, follow the advice for relieving abdominal pain (left). You should call your doctor if the pain is severe or if your child is still unwell the next day. Consult your doctor if the pain recurs frequently.

**POSSIBLE CAUSE** Your child may have a food intolerance, such as lactose intolerance (p.122), in which symptoms such as abdominal pain, vomiting, and/or diarrhoea occur whenever a certain food is eaten. Consult your doctor.

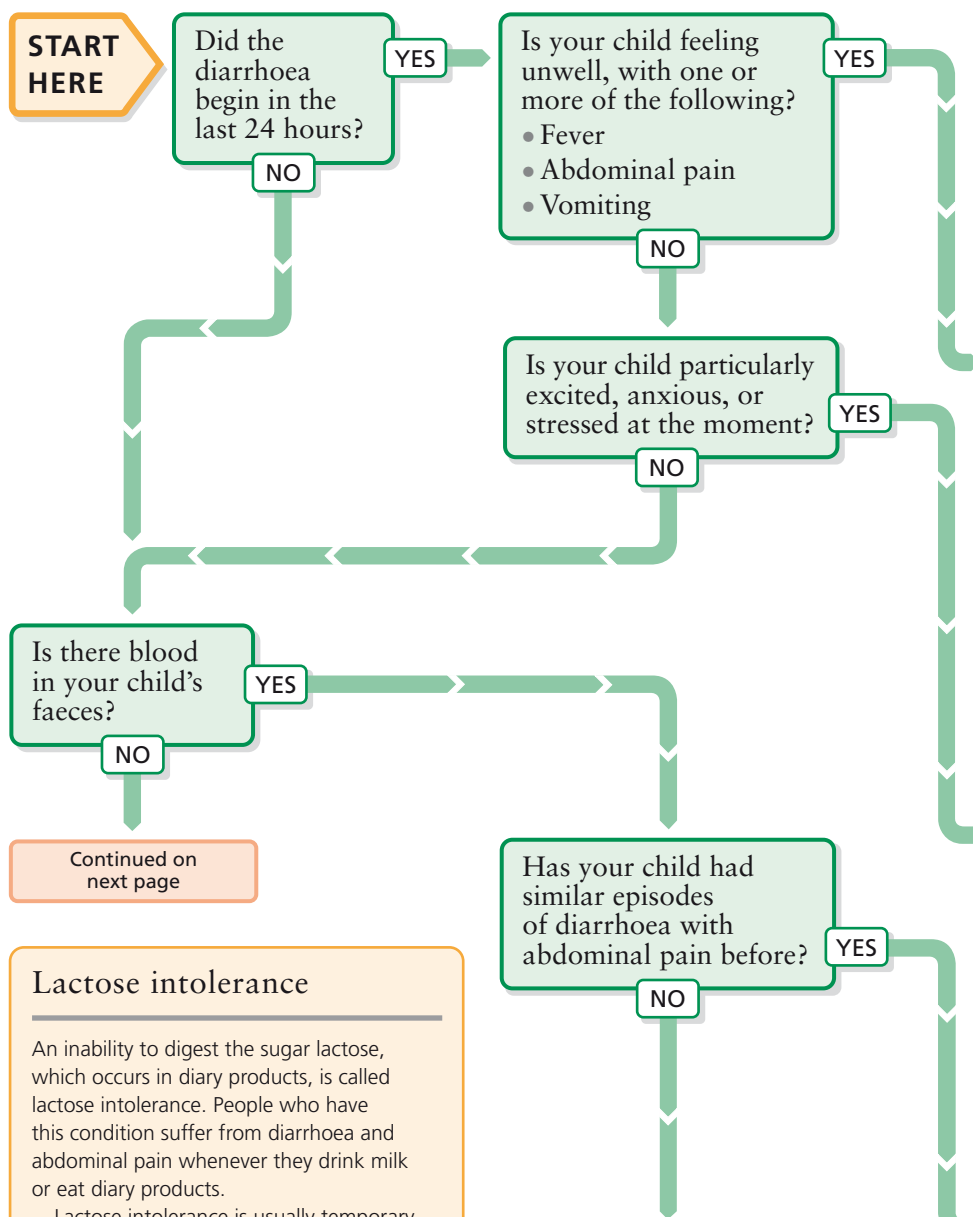
**ACTION** Your doctor may suggest excluding possible problem foods or food groups from your child's diet for a trial period. If you need to exclude a food permanently from the diet, you may be referred to a dietician for advice.

# 40 Diarrhoea in children

For children under 1 year, see chart 5, DIARRHOEA IN BABIES (p.58).

Diarrhoea is the frequent passing of abnormally loose or watery faeces. While diarrhoea can be serious in babies, in older children, it is unlikely to be a cause for concern.

The most common cause of diarrhoea in children is a viral infection of the digestive tract. In most cases, drug treatment is inappropriate; avoiding food, so that the intestines are rested, and drinking plenty of fluids (see PREVENTING DEHYDRATION IN CHILDREN, opposite) is the best course of action.



## WARNING

**DANGER SIGNS** Call an ambulance if your child's diarrhoea is accompanied by any of the following symptoms:

- Abnormal drowsiness
- Sunken eyes and/or a dry tongue
- Severe abdominal pain lasting for more than 4 hours

**POSSIBLE CAUSE** Gastroenteritis, inflammation of the digestive tract, most often due to a viral infection, is the most likely cause.

**ACTION** Follow the self-help measures for preventing dehydration in children (opposite) and treating gastroenteritis in children (p.118). If your child has diarrhoea repeatedly for more than 24 hours or if he or she develops further symptoms, call your doctor. If any of the danger signs in the warning box (above) develop, call an ambulance.

**POSSIBLE CAUSE** Excitement or anxiety due to an event such as a party or a school exam can cause diarrhoea in an otherwise well child.

**ACTION** Reassure your child, and explain that the diarrhoea is likely to improve when the event is over or when he or she has calmed down. If the symptoms have not cleared up within 3 days, consult your doctor.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** Your child may have Crohn's disease or ulcerative colitis. These are long-term disorders in which there is recurrent inflammation of the digestive tract.

**ACTION** Your doctor will examine your child and arrange for a sample of faeces to be tested. Your child may also be referred to hospital for tests such as colonoscopy (p.222). The treatment may include *antidiarrhoeal drugs*, and, in some cases, *corticosteroid drugs* may also be needed.

## Lactose intolerance

An inability to digest the sugar lactose, which occurs in dairy products, is called lactose intolerance. People who have this condition suffer from diarrhoea and abdominal pain whenever they drink milk or eat dairy products.

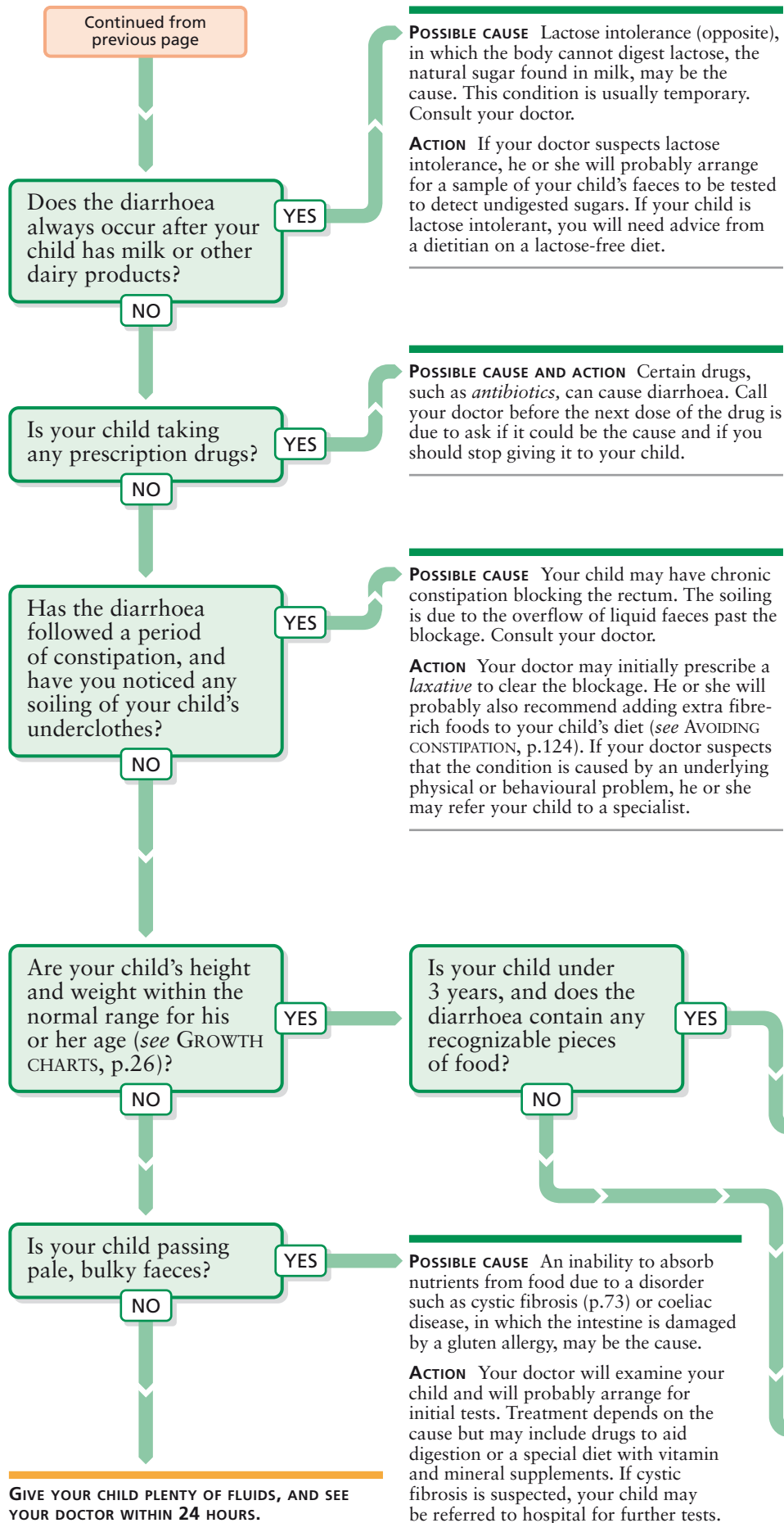
Lactose intolerance is usually temporary and may follow an intestinal infection. Permanent lactose intolerance is an inherited condition and is rare except in those of African or Asian descent.

If you suspect lactose intolerance, consult your doctor. He or she may test a sample of faeces for unabsorbed sugar. Avoiding dairy products prevents the symptoms developing and is needed for as long as the condition persists. Your doctor may refer you to a dietician for advice.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A bacterial or parasitic infection of the digestive tract may be the cause of these symptoms.

**ACTION** Your doctor will examine your child and may arrange for faeces to be tested for infection. If the diagnosis is confirmed, treatment will probably be with *antibiotics*. You should be very careful about hygiene so that other family members do not become infected.

Continued from  
previous page

**GIVE YOUR CHILD PLENTY OF FLUIDS, AND SEE YOUR DOCTOR WITHIN 24 HOURS.**

## SELF-HELP Preventing dehydration in children

If your child has diarrhoea, vomiting, and/or a fever, it is important to give him or her plenty of fluids to prevent or treat dehydration, a potentially life-threatening condition.

The most suitable fluid to give your child is oral rehydrating solution. It can be made up from powders bought over the counter or by dissolving 2 level teaspoons of sugar in 200 ml (7 fl.oz) of cooled, boiled water. You can also give your child diluted, unsweetened fruit juice as an alternative to the sugar solution, but avoid giving him or her milk.

While the symptoms last, offer your child drinks at frequent intervals. He or she should drink 1–1½ litres (35–53 fl.oz) of fluid per day. If your child vomits, give him or her a drink soon afterwards to replace the lost fluid.

If your child still has diarrhoea after 24 hours, call your doctor.



### Replacing fluids

Encourage your child to sip rehydrating solution or diluted fruit juice at least once an hour while symptoms last. He or she should also drink soon after vomiting.

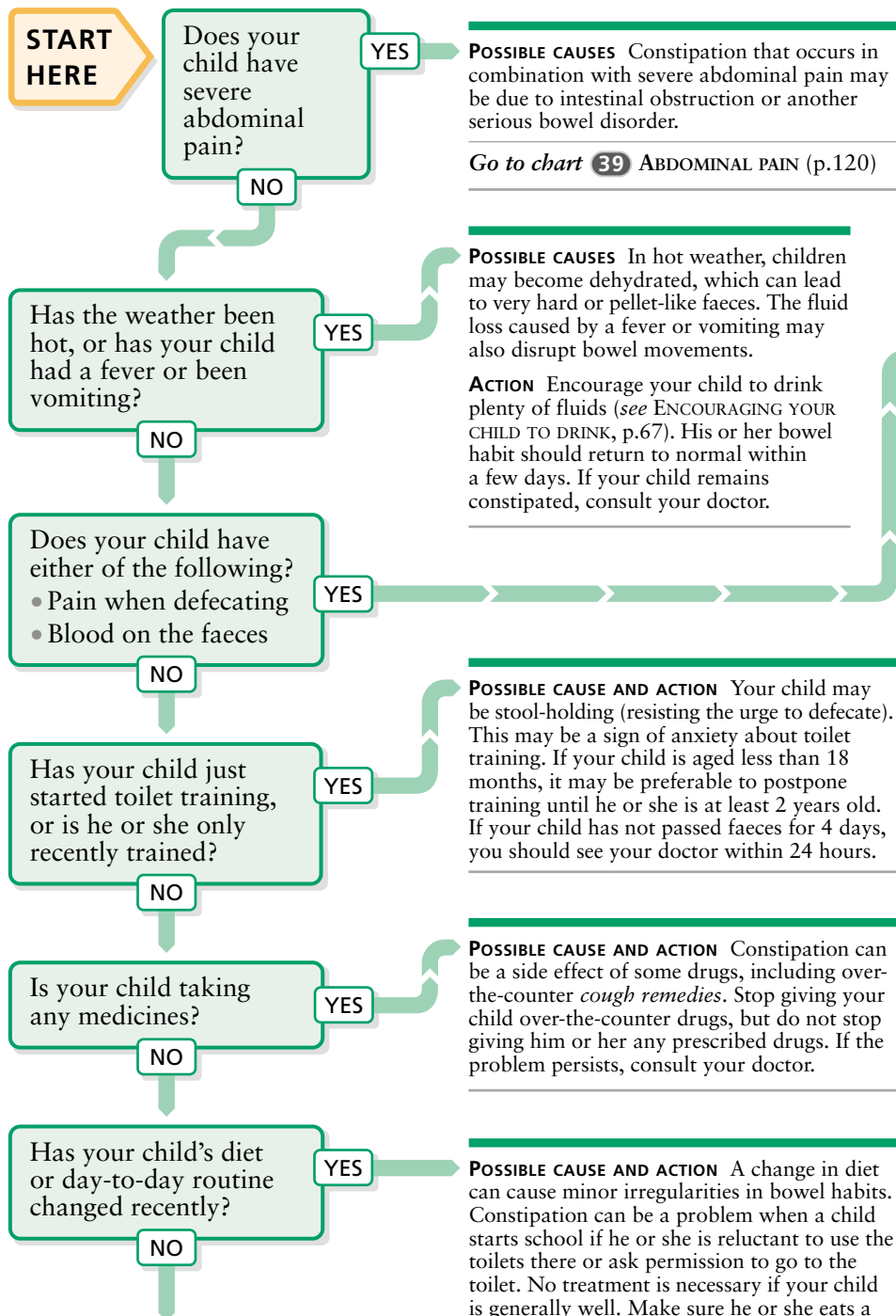
**POSSIBLE CAUSE AND ACTION** Toddler diarrhoea, a common condition in which a young child fails to digest food properly, is likely. This may be due partly to your child not being able to chew his or her food enough. It is not a danger to health; however, you should consult your doctor so that he or she can make sure an infection is not the cause.

**POSSIBLE CAUSE AND ACTION** Some children routinely produce soft faeces that can be mistaken for diarrhoea. If you are not sure whether or not your child's faeces are normal, consult your doctor or health visitor for advice.

# 41 Constipation

Consult this chart if your child is not having regular bowel movements or if he or she is passing very hard or pellet-like faeces. There is a wide variation in the normal frequency with which children empty their bowels. Some children have a bowel movement several times a day, others have one every 2 or 3 days. Both of these extremes are normal so long as the child is otherwise well and that the faeces are not hard

or painful to pass. It is also normal for babies and toddlers to strain and go bright red in the face when passing a normal, soft faeces, although parents sometimes mistake this as a sign that their child is constipated. Minor changes to a child's usual bowel habit are often caused by a change in diet or in the daily routine, an illness, dehydration (especially in hot weather), or emotional stress.



## WARNING

**LAXATIVES** *Laxatives* are medicines that speed up the movement of faeces through the bowel. There are several types that work in different ways. Some are not suitable for children; your doctor should decide on which, if any, is suitable for your child. Never give your child a *laxative* unless it has been prescribed or suggested by your doctor.

**POSSIBLE CAUSE AND ACTION** An anal fissure (a tear or split inside the anus) is a possible cause. A tear makes defecation painful, which may lead to your child being afraid to open his or her bowels for fear of further pain. Consult your doctor, who will probably prescribe stool-softeners for your child. These will reduce the pain associated with opening the bowels. You should also take steps to prevent constipation from recurring (see AVOIDING CONSTIPATION IN CHILDREN, below).

## SELF-HELP Avoiding constipation in children

Constipation in children aged over 6 months is often a result of a lack of sufficient fluids or fibre in the diet. Make sure your child drinks plenty of fluids throughout the day. Gradually increase the amount of fibre-rich foods in your child's diet; these include fruits, vegetables, wholegrain cereals, beans and pulses, and wholegrain bread. Try to give your child one or more of these foods at every meal. Encourage your child to go to the toilet after meals and allow plenty of time so that he or she does not feel rushed.

### Healthy snacks

A piece of fruit, such as a banana or an unpeeled apple, makes an enjoyable, fibre-rich snack for a child of any age.



CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

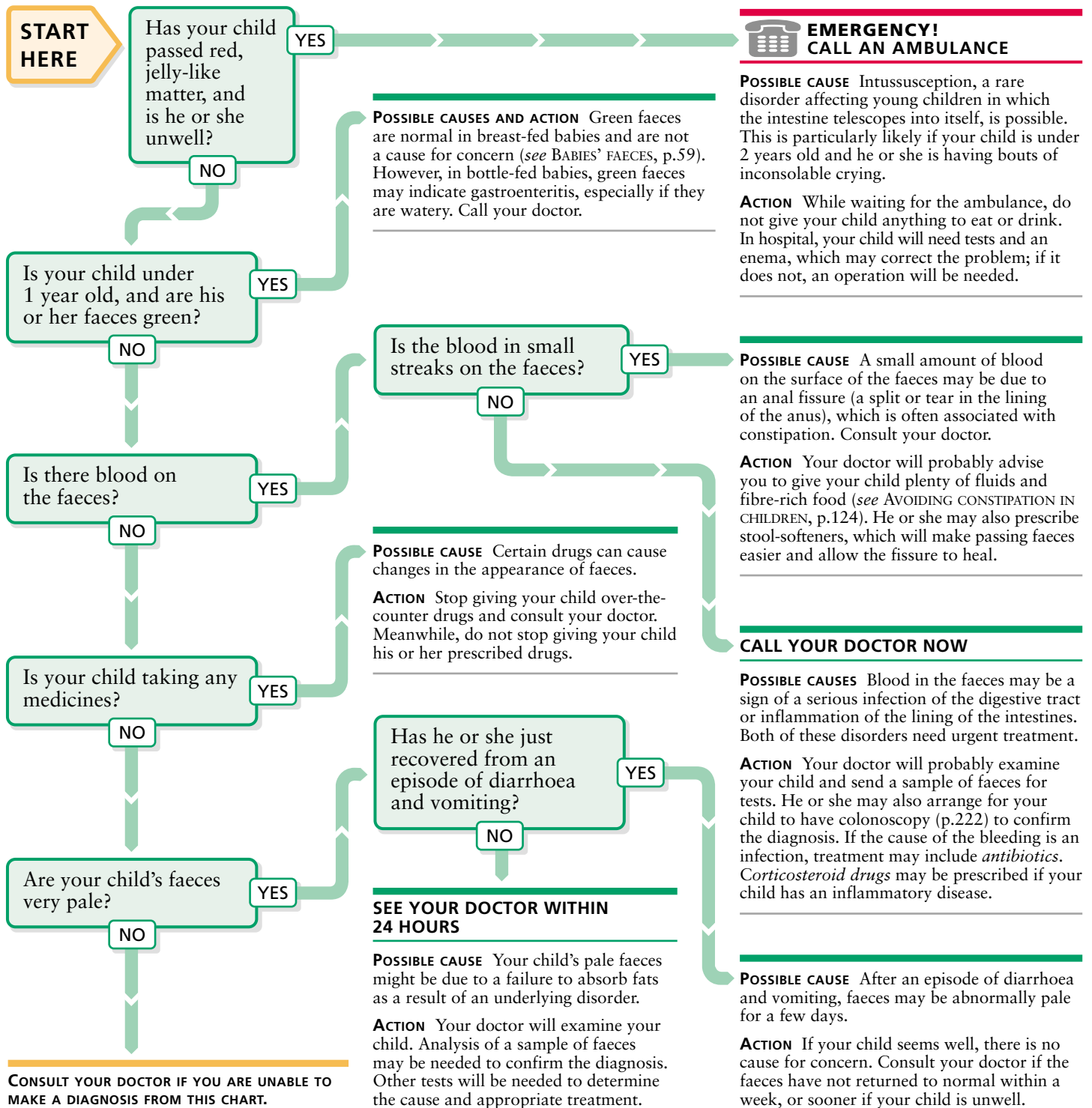


## 42 Abnormal-looking faeces

For hard or pellet-like faeces, see chart 41, CONSTIPATION (p.124). For runny faeces in a child under 1 year, see chart 5, DIARRHOEA IN BABIES (p.58); for a child over 1 year, see chart 40, DIARRHOEA IN CHILDREN (p.122).

It is normal for faeces to vary slightly in their colour, smell, or consistency. Consult this chart only if there is a marked change in the appearance of your child's faeces. Sudden

differences are almost always caused by something your child has eaten, and the change should only last a few days. However, there may be an underlying disorder causing the problem. If the faeces still look abnormal in 48 hours or if they are accompanied by other symptoms such as abdominal pain, you should consult your doctor, taking a sample of the faeces in a clean container for him or her to examine.

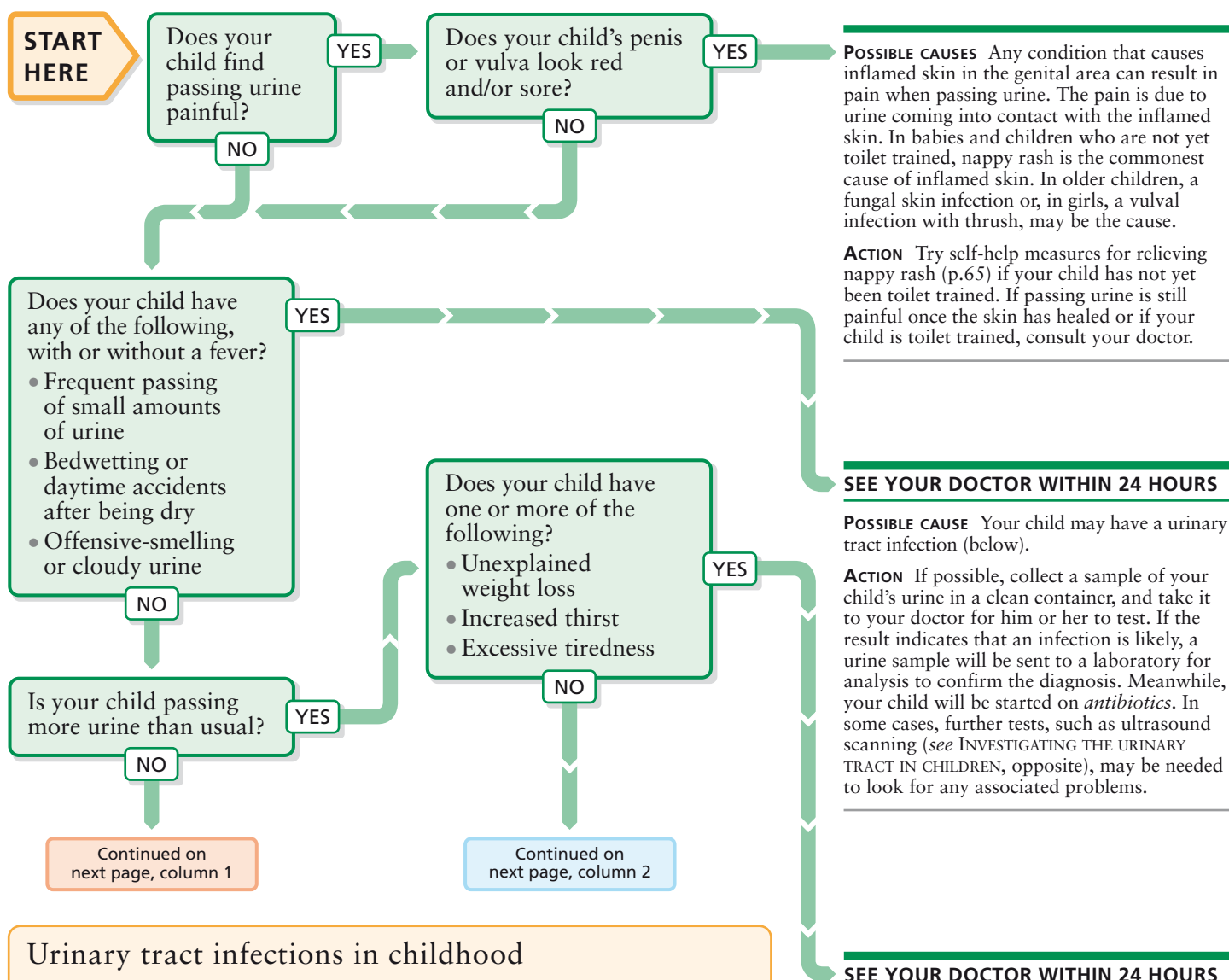


## 43 Urinary problems

For problems with bladder control, see chart 44, TOILET-TRAINING PROBLEMS (p.128).

Most children pass urine more frequently than adults. This is because children have smaller bladders and have less well developed muscular control. Urinary problems, such as urinary tract infections, are common in children. Symptoms of urinary problems in children include pain on passing

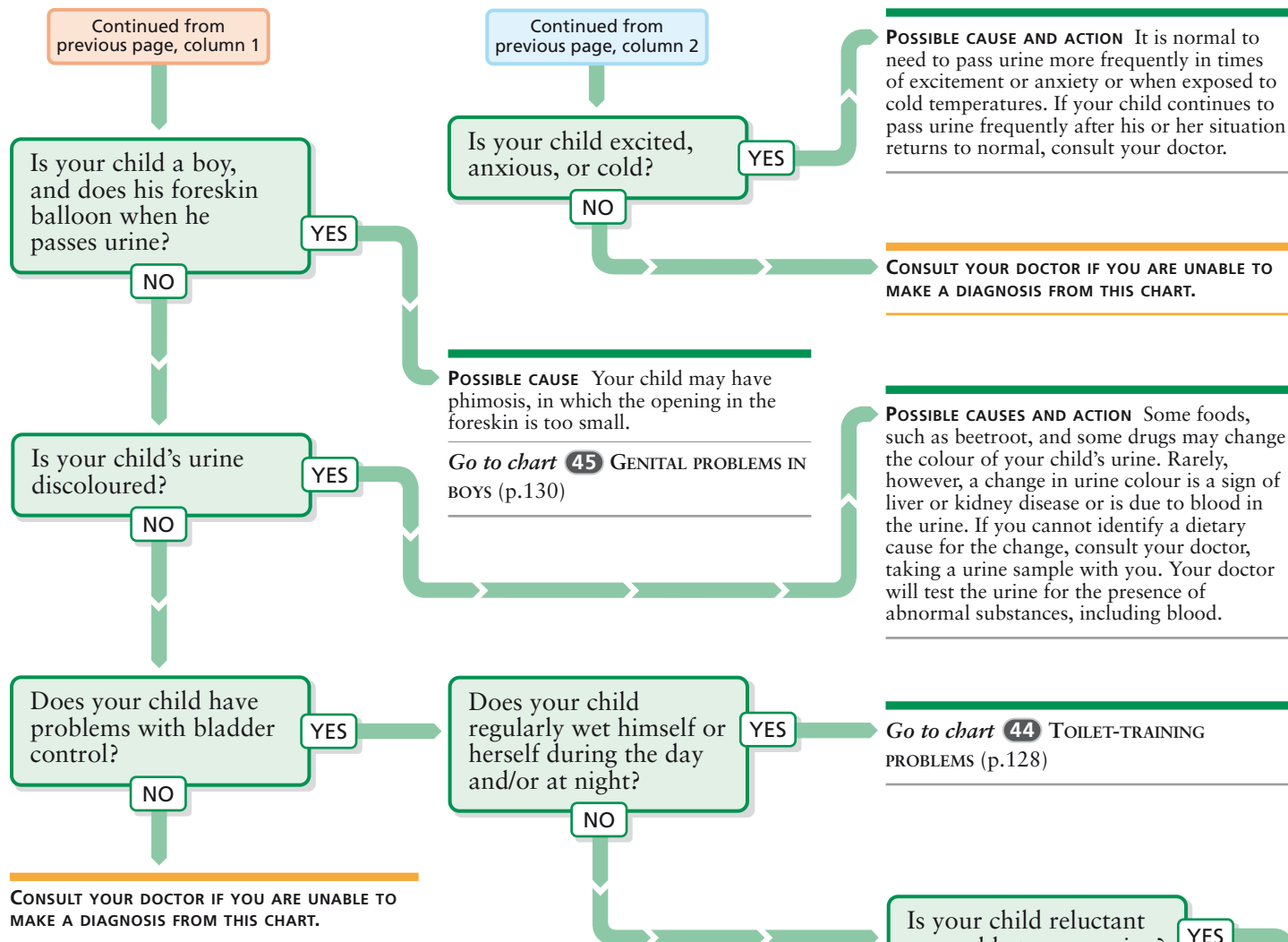
urine, needing to pass urine more frequently than usual, cloudy urine, or unpleasant smelling urine. Occasionally, unexplained vomiting and fever may be due to a urinary tract infection. In some children, urinary tract infections are associated with reflux, in which urine flows back towards the kidneys when the bladder is emptied. Urinary problems in a child should always be assessed promptly by your doctor.



### Urinary tract infections in childhood

If you suspect that your child has a urinary tract infection, it is important that you bring it to your doctor's attention within 24 hours. Urinary tract infections can be more serious in children than they are in adults because they may be associated with reflux, in which urine flows back up the ureters towards the kidneys when the bladder is emptied. If untreated, reflux of infected urine can cause permanent scarring of the kidneys and impaired kidney function in later life.

Most young children who have had a urinary tract infection will need to have tests (see INVESTIGATING THE URINARY TRACT IN CHILDREN, opposite) to establish whether reflux is occurring and to assess kidney function. If your child is diagnosed as having reflux, he or she will be prescribed continuous, low-dose antibiotics to reduce the risk of subsequent infection and kidney damage. This treatment can often be discontinued by the time your child is 5 years old.



## Investigating the urinary tract in children

If your child has had a urinary tract infection (see URINARY TRACT INFECTIONS IN CHILDHOOD, opposite), he or she will probably be referred for further tests to check kidney and bladder function and to exclude damage from urinary reflux, in which urine flows back towards the kidneys when the bladder is emptied.

In many cases, ultrasound scanning (p.41) is all that is needed. This quick and painless procedure is performed to check that the kidneys and bladder are of normal size.

In some cases, your child may also need DMSA scanning, a procedure that provides extra information on kidney functioning. It will establish whether he or she has urinary reflux. During the procedure, a very small amount of a radioactive substance called DMSA is given to the child by an intravenous injection. After the DMSA has passed into the urinary system, detailed images of the kidneys can be taken with a gamma camera and viewed on a computer monitor. The DMSA will be excreted in the urine and will be gone within 24 hours. It will not harm your child.



### DMSA scanning

Your child will be scanned approximately 2 hours after an injection of DMSA. The gamma camera picks up radioactivity released by the kidneys and produces a picture on a monitor.

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

## CALL YOUR DOCTOR NOW

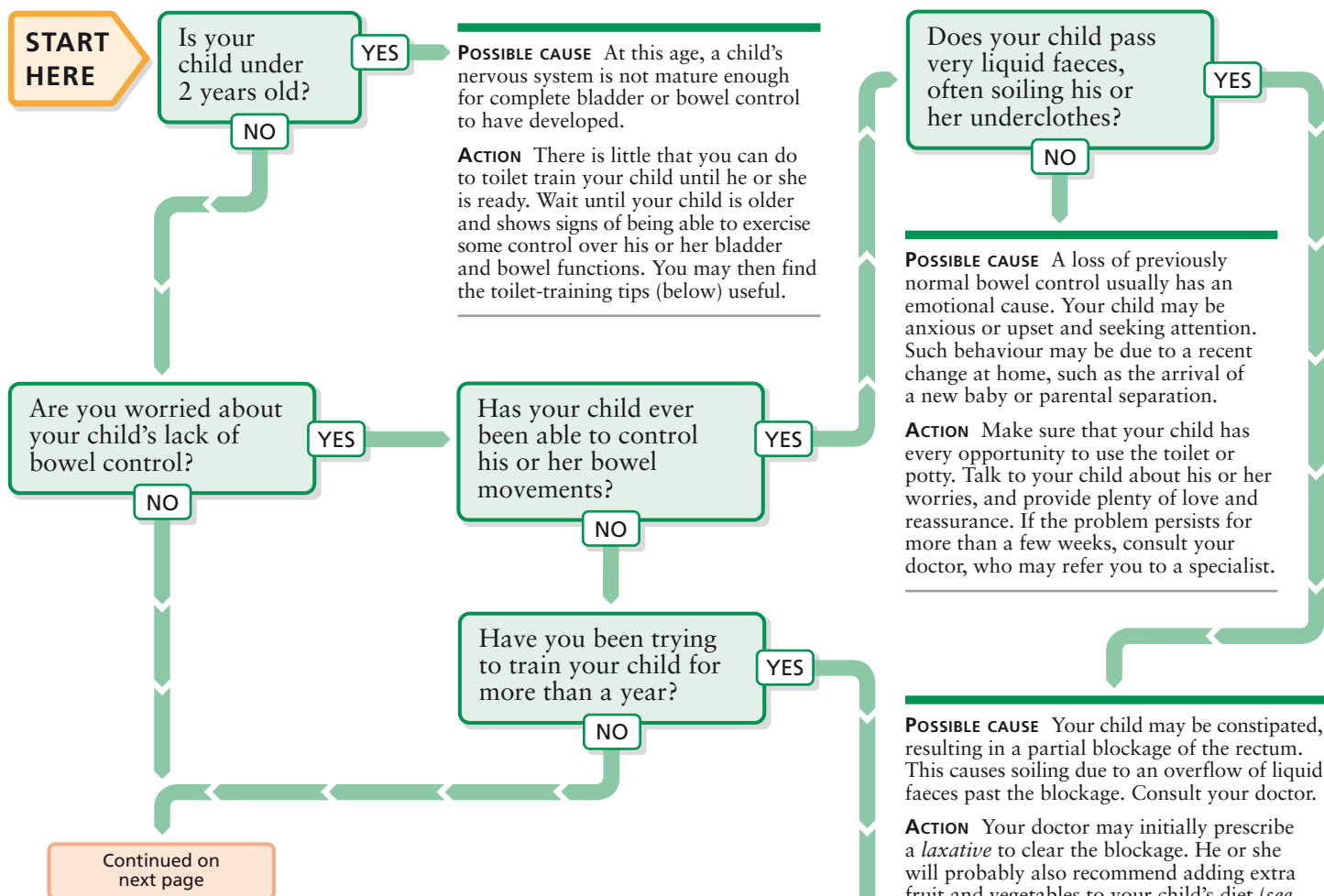
**POSSIBLE CAUSES** Local soreness or severe constipation are possible causes. In some cases, a urinary infection (opposite) may be causing pain on passing urine, and your child may be reluctant to try to pass urine again. A child who feels a strong urge to pass urine but is unable to do so needs urgent medical help.

**ACTION** Your doctor will examine your child to try to establish the cause of the problem. He or she may suggest *painkillers* and suggest you encourage your child to pass urine while he or she is in a warm bath. If this fails, your child may need hospital admission.

## 44 Toilet-training problems

Most children gain full control over their bladder and bowel functions between the ages of 2 and 5 years. Few children have reliable control before the age of 2 years, and few have problems, apart from the occasional “accident”, after the age of 5. However, the age at which an individual child masters the different skills of toilet training such as night-time control varies widely. It is not known why some children learn later than others, but it is seldom due to an unwillingness to learn.

Changes in circumstances, such as a new baby in the family or starting school, may make a child anxious and delay toilet training. Children whose parents were late to learn may also be later in learning reliable control. Unless there is a physical problem, toilet training occurs naturally, and the process cannot be speeded up by pressure from parents. Consult this chart if you are concerned about your child’s ability to control his or her bladder or bowels.



### SELF-HELP Toilet-training tips

Learning to control bowel and bladder function is part of your child’s development. Bowel control is usually achieved first, then daytime bladder control, and, lastly, night-time bladder control. Do not try to toilet train your child until he or she is ready, usually at 18 months at the earliest. Boys usually learn later than girls. When you think your child is ready, try some of the following:

- Familiarize your child with the potty by sitting him or her on it during nappy changes or while you are on the toilet.
- Encourage your child to use the potty, but avoid making it a big issue.
- Put the potty in a convenient place so that your child can reach it quickly.
- Take the potty with you if you go out for the day to maintain continuity.
- Place your child on the potty after meals or at particular times of the day when you know success is likely.
- Try using pull-up nappies.
- Once your child is using the potty reliably, progress to using a child seat on the toilet.

**POSSIBLE CAUSES** It does not usually take this long for a child to gain bladder or bowel control. Your child is probably rebelling against your efforts to enforce toilet training. Rarely, there may be a physical cause for his or her lack of control. Consult your doctor.

**ACTION** If there is no physical cause, your doctor may suggest that you have a break from toilet training. Ideally, wait until your child is keen to cooperate before trying again.



Continued from  
previous pageAre you worried about  
your child's lack of  
bladder control?

YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO FIND A CAUSE FOR YOUR CHILD'S  
PROBLEM FROM THIS CHART.Has your child been  
dry in the past and  
started wetting again?

YES

NO

Is your child under  
3 years old?

YES

NO

Does your child wet  
him- or herself during  
the day?

YES

NO

Does your child still  
wet the bed at night,  
even though he or she  
is dry in the daytime?

YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO FIND A CAUSE FOR YOUR CHILD'S PROBLEM  
FROM THIS CHART.**SELF-HELP** Overcoming bedwetting

If your child regularly wets the bed, try to be patient. Reassure your child that you are not angry and that he or she will learn to stay dry through the night. Encourage him or her to use the toilet before going to bed, and perhaps also wake your child to use the toilet when you go to bed. A chart on which you award your child a star after each dry night may help, as may a pad-and-buzzer system. The pad, which can detect moisture, is laid under the bottom sheet. As soon as your child wets the bed, the buzzer sounds. The child will soon learn to wake before the buzzer goes off.

*Pad is positioned where  
child's hips will lie*

**Pad and buzzer**

*The moisture-detecting pad is placed on an undersheet, and the bed is then made up as usual. The buzzer is placed on the bed or nearby.*

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSES** Your child may have a urinary tract infection (see URINARY TRACT INFECTIONS IN CHILDHOOD, p.126). Alternatively, an emotional problem may be the cause.

**ACTION** Your doctor will test a sample of your child's urine. If the result indicates that an infection is likely, a urine sample will be sent to a laboratory for analysis to confirm the diagnosis. Meanwhile, your child will be started on *antibiotics*. Further tests, such as ultrasound scanning (see INVESTIGATING THE URINARY TRACT IN CHILDREN, p.127), may be needed to look for any associated problems. If no infection is found, your doctor will discuss the possibility of an emotional upset with you and your child.

**POSSIBLE CAUSE** Reliable bladder control is seldom fully achieved before the age of 3, and many children will still be in nappies. There is unlikely to be any cause for concern.

**ACTION** Follow advice on toilet training (see TOILET-TRAINING TIPS, opposite), and make sure your child has plenty of opportunities to see other people, especially children, use the toilet. Most children learn quickest by imitation.

Is your child over  
5 years old?

YES

NO

**POSSIBLE CAUSE** Lack of bladder control at night is common in children under 5 and is rarely due to an underlying disorder.

**ACTION** If you are still putting your child in nappies, continue to do so until he or she is often dry in the morning. When accidents do occur, try not to get cross. Change the bedclothes with as little fuss as possible, and reassure your child. A mattress protector and bedclothes that are easy to wash and dry will make coping easier. Your child will eventually achieve night-time control.

**POSSIBLE CAUSES** Lack of bladder control during the day is unlikely to have a medical cause in a child under 5, but in an older child, it may indicate a physical or emotional problem. Consult your doctor, whatever your child's age.

**ACTION** Your doctor will examine your child and may arrange for tests, including urine tests, to find an underlying cause. If no physical cause is found, follow advice on toilet training (see TOILET-TRAINING TIPS, opposite). Children over 5 years may need to be referred to a specialist.

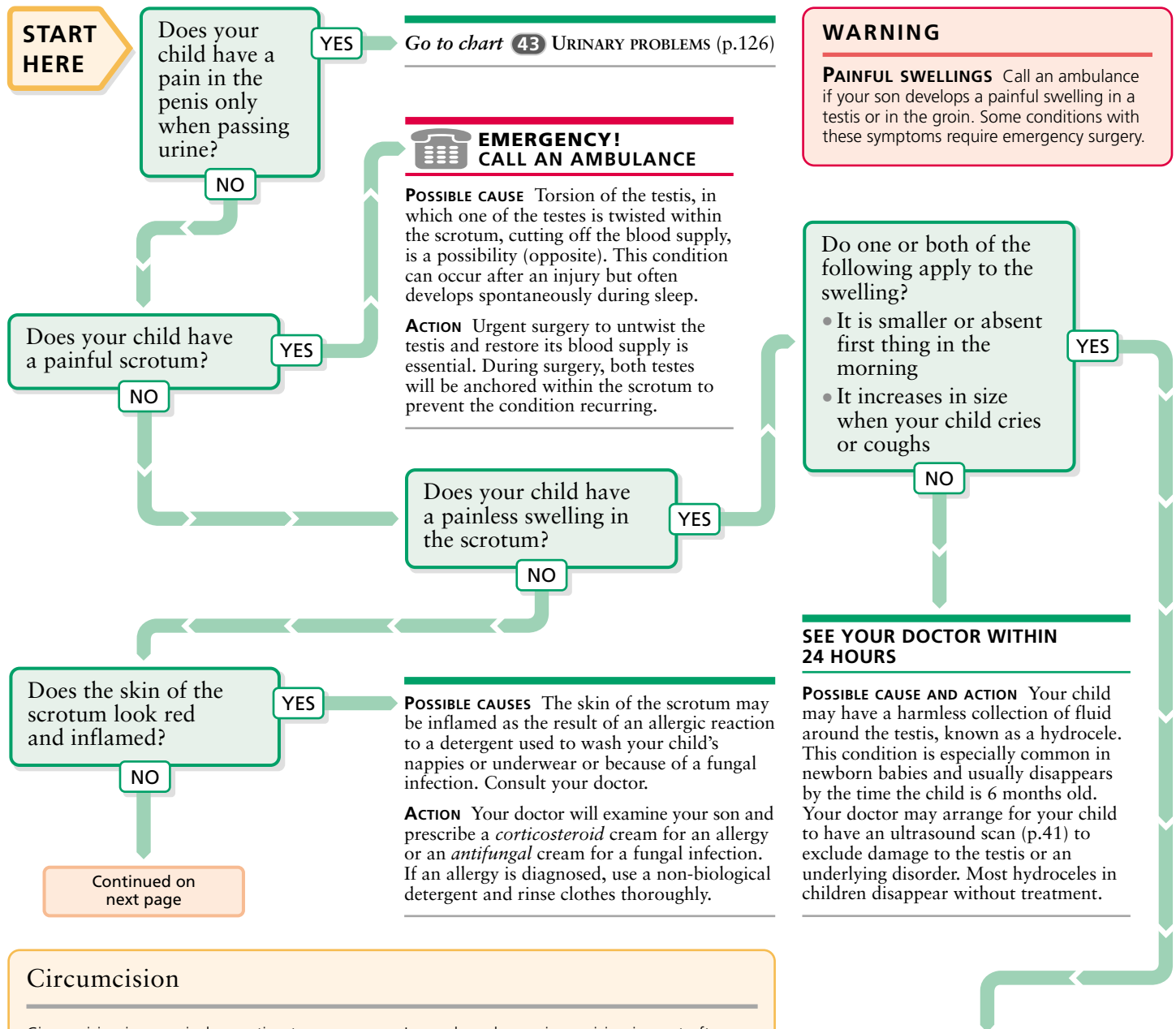
**POSSIBLE CAUSE** Around 1 in 6 children wet their beds at age 5, and 1 in 20 still wet their beds at age 10. Regular bedwetting rarely has a physical cause, even in an older child, and is particularly common if one or both parents were late to acquire night-time bladder control.

**ACTION** Follow measures for overcoming bedwetting (above). If these do not help, consult your doctor, who may prescribe a course of drug treatment or drugs that can be used for events such as an overnight school trip.

# 45 Genital problems in boys

Consult this chart if your child develops a painful or swollen penis or a problem with his scrotum (the supportive bag that encloses the testes). Although most genital problems in boys are due to minor infections, you should always consult your

doctor promptly if your child develops a problem in the genital area. In some cases, a delay in treatment can have serious consequences – for example, it may lead to problems with your child's fertility in the future.



## WARNING

**PAINFUL SWELLINGS** Call an ambulance if your son develops a painful swelling in a testis or in the groin. Some conditions with these symptoms require emergency surgery.

Do one or both of the following apply to the swelling?

- It is smaller or absent first thing in the morning
- It increases in size when your child cries or coughs

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** Your child may have a harmless collection of fluid around the testis, known as a hydrocele. This condition is especially common in newborn babies and usually disappears by the time the child is 6 months old. Your doctor may arrange for your child to have an ultrasound scan (p.41) to exclude damage to the testis or an underlying disorder. Most hydroceles in children disappear without treatment.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** Your child probably has a hernia, in which a loop of intestine bulges through a weak area in the abdominal wall. This condition is commonest in babies.

**ACTION** Your doctor will examine your child. If the diagnosis is confirmed, the hernia should be repaired to prevent the possibility of a loop of intestine becoming trapped. The operation is carried out under general anaesthetic.

## Circumcision

Circumcision is a surgical operation to remove the foreskin, which is the fold of skin that covers the tip of the penis. In the UK, most circumcisions are carried out for religious reasons. However, in some cases, circumcision may also be recommended if a child's foreskin is too tight or if a child has recurrent infections of the penis. In the past, circumcision was often performed routinely in childhood in the belief that it would improve hygiene, but this practice is no longer recommended.

In newborn boys, circumcision is most often carried out under local anaesthetic, whereas, in older boys or in men, it is usually performed under general anaesthetic.

During the operation, most of the foreskin is cut away. The remnant of the foreskin that remains is then stitched to the skin just behind the head of the penis, leaving the head uncovered. No dressing is needed while the wound heals. The stitches will either dissolve or fall out after a few days.

Continued from  
previous pageDoes one or both of  
the testes appear to  
be absent from your  
child's scrotum?

YES

NO

Does your child have  
soreness, irritation, or  
redness at the tip of  
the penis?

YES

NO

Has the foreskin been  
pulled back, and are  
you unable to replace it?

YES

NO

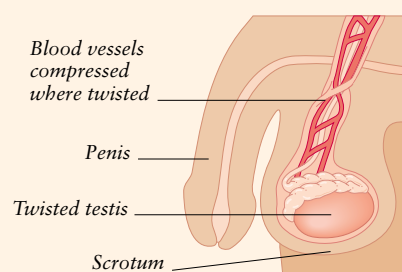
Are you concerned that  
your child's foreskin  
may be too tight?

YES

NO

## Torsion of the testis

Twisting (torsion) of the testis within the scrotum reduces or stops the blood supply to the testis. It can affect males of any age but is most common at about age 10. The symptoms can start during sleep or following an injury and include pain in the scrotum, groin, and/or abdomen and redness and tenderness of the scrotum. There may also be associated nausea and/or vomiting. Torsion of the testis requires urgent surgery, which must be carried out within 6 hours, in order to prevent permanent damage to the testis. During surgery, the blood vessels are untwisted and then both of the testes are anchored to the scrotum to prevent recurrence of the condition.



### A twisted testis

Twisting of the testis within the scrotum results in compression of the blood vessels, which can lead to permanent damage.

Is your child cold or  
feeling anxious?

YES

NO

**POSSIBLE CAUSE AND ACTION** Muscles attached to the testes draw them up into the groin for protection when it is cold and during times of stress. If your child relaxes in a warm bath, you should be able to feel the testes again. If you cannot feel both testes, consult your doctor.

**POSSIBLE CAUSES** Balanitis, in which the the foreskin is inflamed due to infection or chemical irritation, is likely.

**ACTION** Make sure your son's penis and foreskin are cleaned frequently using only water. If the symptoms are no better within 48 hours, consult your doctor. He or she may prescribe an *antibiotic* or *antifungal* cream. In future, avoid scented soaps and using biological detergents for clothes washing. If the condition recurs frequently, your doctor may recommend circumcision (opposite).

**POSSIBLE CAUSE** One or both of your child's testes may have failed to descend fully into the scrotum. Consult your doctor.

**ACTION** Your doctor will examine your child. If your child's testes have not yet descended, your doctor will re-examine him regularly. In most cases, the testes descend on their own, usually within a year of birth. However, if they have not descended by 1–2 years of age, an operation will be needed to draw the testes into the scrotum to preserve fertility.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** A foreskin that cannot be replaced can damage the blood supply to the head of the penis if not treated urgently.

**ACTION** While you are waiting for help, apply an ice pack to reduce the swelling. In hospital, the doctor will try to replace the foreskin, but it may be necessary to make a small cut in the foreskin under local anaesthetic. Prompt circumcision (opposite) is usually needed to prevent the problem from recurring.

Is your child over  
4 years old, and/or does  
the foreskin balloon  
when he urinates?

YES

NO

**POSSIBLE CAUSE AND ACTION** The foreskin cannot normally be retracted in boys under a year old. As a boy grows older, the foreskin gradually becomes free of the head of the penis and it should then be possible to retract it. Trying to force the foreskin to retract may cause serious damage and may make the problem worse. Consult your doctor if you remain concerned or if your son's foreskin still cannot be retracted by the time he is 4 years old. Your doctor may recommend circumcision (opposite).

**POSSIBLE CAUSE** Your child may have phimosis, in which the opening in the foreskin is too small. This can impede urine flow and makes recurrent infection of the head of the penis more likely. Consult your doctor.

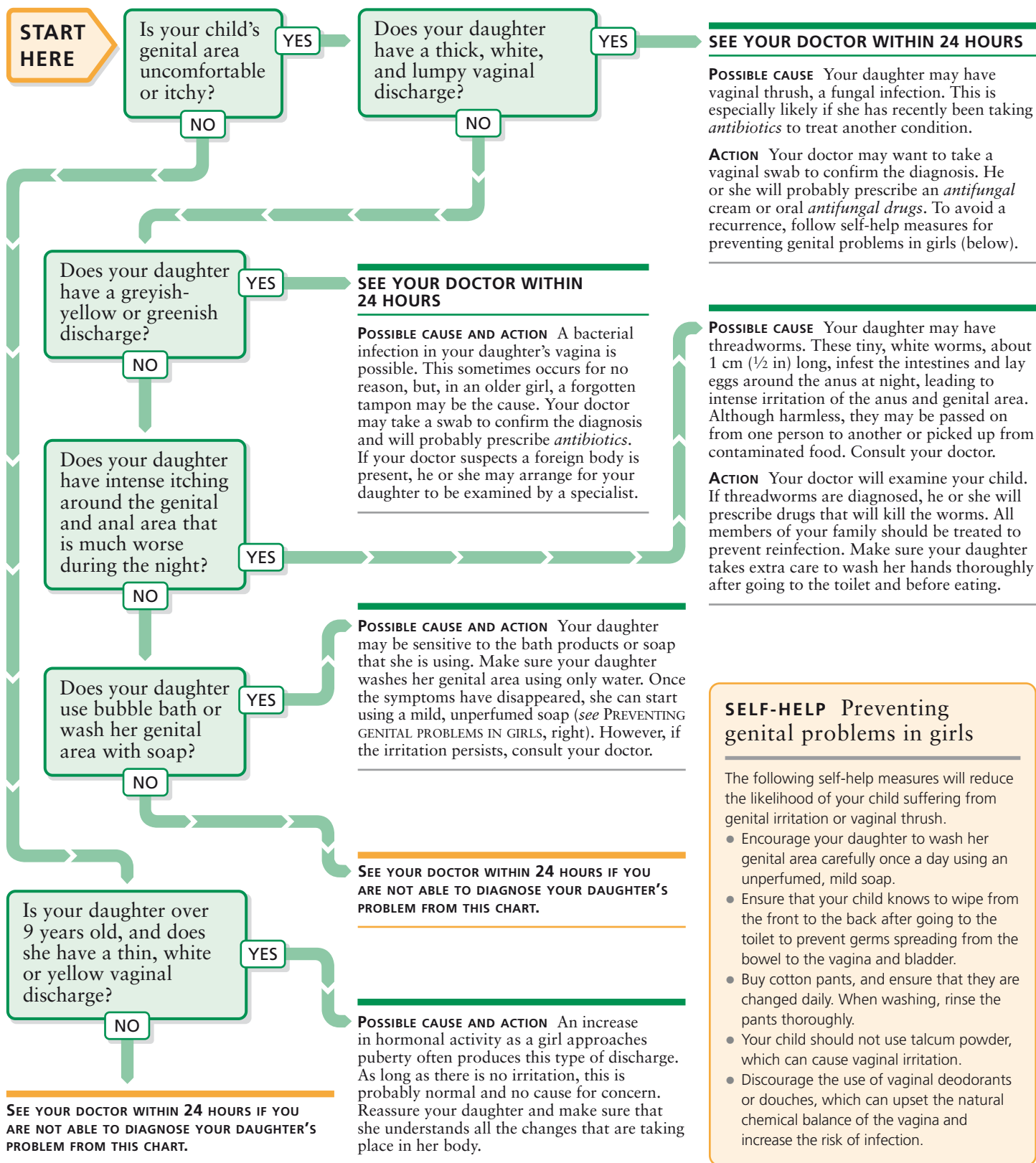
**ACTION** Do not use force in an attempt to retract the foreskin because this may lead to further narrowing. Your doctor will examine your child to confirm the diagnosis and ensure there is no associated infection. He or she may recommend circumcision (opposite).

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.

## 46 Genital problems in girls

The most common genital problems in young girls are itching, inflammation of the external genital area, and, less commonly, an unusual discharge, possibly with pain on passing urine.

These symptoms may be caused by a minor infection or by irritation from toiletries or laundry products. Consult this chart if your daughter complains of any of these symptoms.



### SELF-HELP Preventing genital problems in girls

The following self-help measures will reduce the likelihood of your child suffering from genital irritation or vaginal thrush.

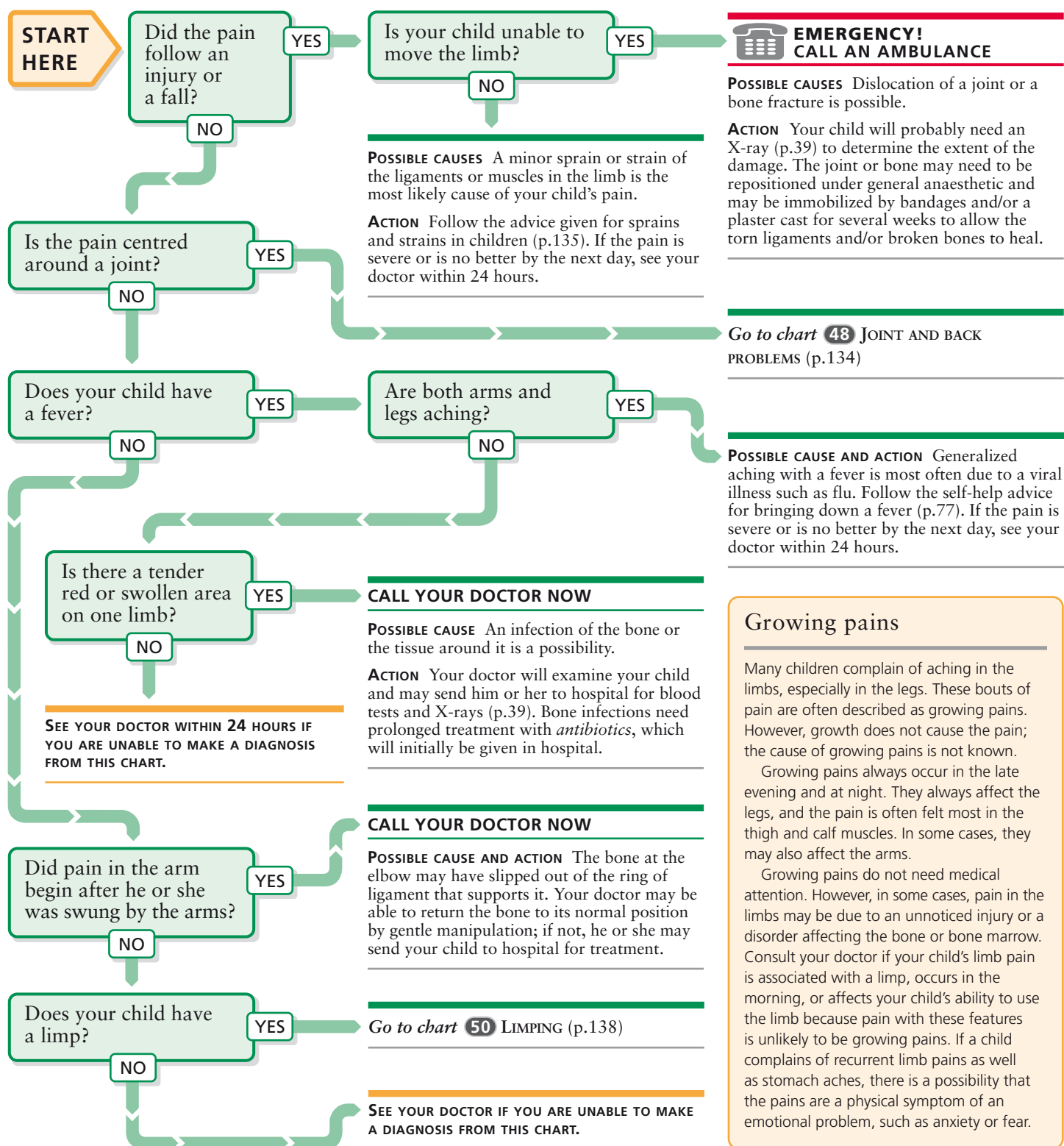
- Encourage your daughter to wash her genital area carefully once a day using an unperfumed, mild soap.
- Ensure that your child knows to wipe from the front to the back after going to the toilet to prevent germs spreading from the bowel to the vagina and bladder.
- Buy cotton pants, and ensure that they are changed daily. When washing, rinse the pants thoroughly.
- Your child should not use talcum powder, which can cause vaginal irritation.
- Discourage the use of vaginal deodorants or douches, which can upset the natural chemical balance of the vagina and increase the risk of infection.



# 47 Painful arm or leg

Consult this chart if your child complains of pain in the arms and/or legs. Parents often attribute a recurrent ache in a child's limb to growing pains (below). However, minor injuries are a more likely cause. Sprains and strains are not usually serious; however, a broken bone (fracture) needs immediate

medical attention. Cramp is another common cause of limb pain, but it can be relieved by self-help: gently massage and stretch the affected muscle and apply a wrapped hot-water bottle if necessary. Any pain that has no obvious cause or that persists should be brought to your doctor's attention.



## Growing pains

Many children complain of aching in the limbs, especially in the legs. These bouts of pain are often described as growing pains. However, growth does not cause the pain; the cause of growing pains is not known.

Growing pains always occur in the late evening and at night. They always affect the legs, and the pain is often felt most in the thigh and calf muscles. In some cases, they may also affect the arms.

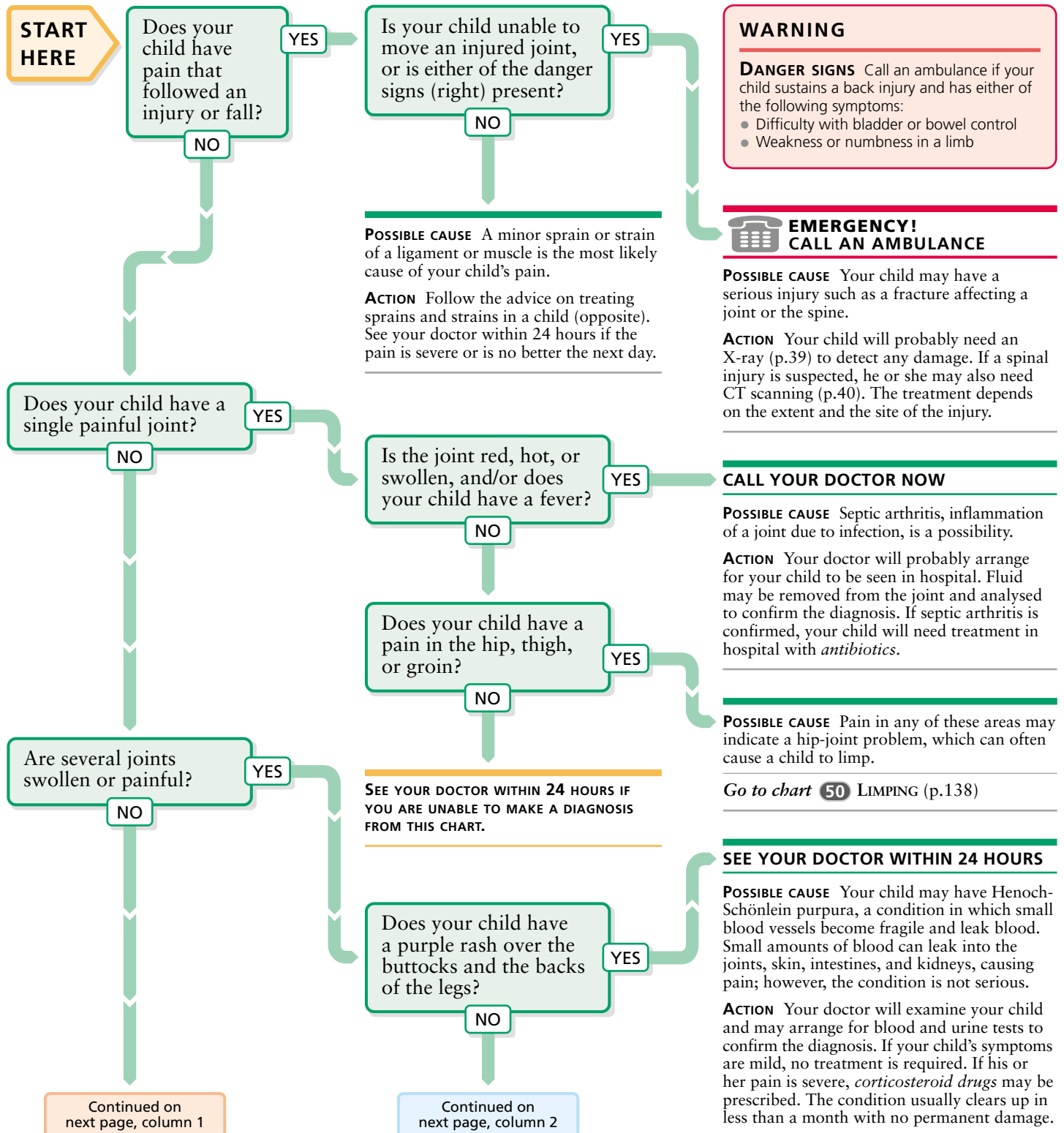
Growing pains do not need medical attention. However, in some cases, pain in the limbs may be due to an unnoticed injury or a disorder affecting the bone or bone marrow. Consult your doctor if your child's limb pain is associated with a limp, occurs in the morning, or affects your child's ability to use the limb because pain with these features is unlikely to be growing pains. If a child complains of recurrent limb pains as well as stomach aches, there is a possibility that the pains are a physical symptom of an emotional problem, such as anxiety or fear.

## 48

## Joint and back problems

Serious joint and back problems are uncommon in children. A painful or swollen joint is most often the result of a minor strain or sprain of the muscles and ligaments surrounding the joint. However, joint pain or swelling can be caused by arthritis (joint inflammation). Arthritis is less common in

children than in adults. However, in childhood the disease can also involve internal organs such as the heart and kidneys. Problems with the spine may be noticed for the first time in adolescence and need medical assessment. Severe back pain in a child of any age needs prompt medical attention.



Continued from  
previous page, column 1Are you concerned  
that your child may  
have a problem with  
his or her back?

YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.Continued from  
previous page, column 2Does your child have  
a fever, feel generally  
unwell, and/or have  
a blotchy rash?

YES

NO

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE AND ACTION** Your child may have systemic juvenile arthritis, in which the immune system attacks the joints and, in some cases, the internal organs. Your doctor will probably refer your child to hospital for tests. If the diagnosis is confirmed, treatment will include *nonsteroidal anti-inflammatory drugs* and, in some cases, *corticosteroid drugs*.

Has your child recently  
had an infection, such  
as a sore throat or a  
chest infection?

YES

NO

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE AND ACTION** Reactive arthritis, inflammation of the joints in response to a recent infection, is possible. Your doctor may arrange for tests to confirm that the infection has cleared up and may prescribe *nonsteroidal anti-inflammatory drugs*. Reactive arthritis usually improves within weeks.

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** Juvenile chronic arthritis, in which the immune system attacks the joints and, in some cases, the eyes, is possible.

**ACTION** Your child may be referred to hospital for blood tests and a full eye examination. *Nonsteroidal anti-inflammatory drugs* and *corticosteroids* may be prescribed.

Is your child woken in  
the night by back pain,  
or does he or she have  
a stiff back on waking?

YES

NO

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSES AND ACTION** Your child may have a serious problem such as a bone disorder or arthritis of the spine. Your doctor will probably arrange for X-rays (p.39) of the back and blood tests to make a diagnosis and determine the appropriate treatment.

Does your child's spine  
appear to be curving  
sideways?

YES

NO

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** A sideways curvature of the spine is called scoliosis. Some children are born with it and are treated in their first few years. However, some children develop the curvature later in childhood, most often in adolescence.

**ACTION** Your doctor will assess the curvature of the spine and will probably refer your child to a specialist. In many cases, no treatment is needed, but if the curvature is severe, treatment with exercises and sometimes a brace may be needed to correct the problem and prevent it from progressing.

Did your child's  
back pain start after  
strenuous exercise?

YES

NO

**POSSIBLE CAUSE** A minor sprain or strain of a ligament or muscle in the back is the most likely cause of your child's pain.

**ACTION** Give your child the recommended dose of a *painkiller*. Your child should avoid sports until he or she is free of pain. See your doctor within 24 hours if the pain is severe or if it has not improved by the next day.

**SELF-HELP** Treating sprains  
and strains in a child

If your child has a sprain or strain or a deep bruise, the appropriate treatment for the injury can be remembered as RICE – Rest, Ice, Compression, and Elevation (see **TREATING SPRAINS AND STRAINS**, p.229). If necessary, give your child the recommended dose of a *painkiller*. If the injury is no better within 24 hours, consult your doctor.

Your child should avoid sports or any unnecessary exercise involving the affected part of the body until it is free from pain. If necessary, write your child's school a note explaining the problem.

**Cold compress**

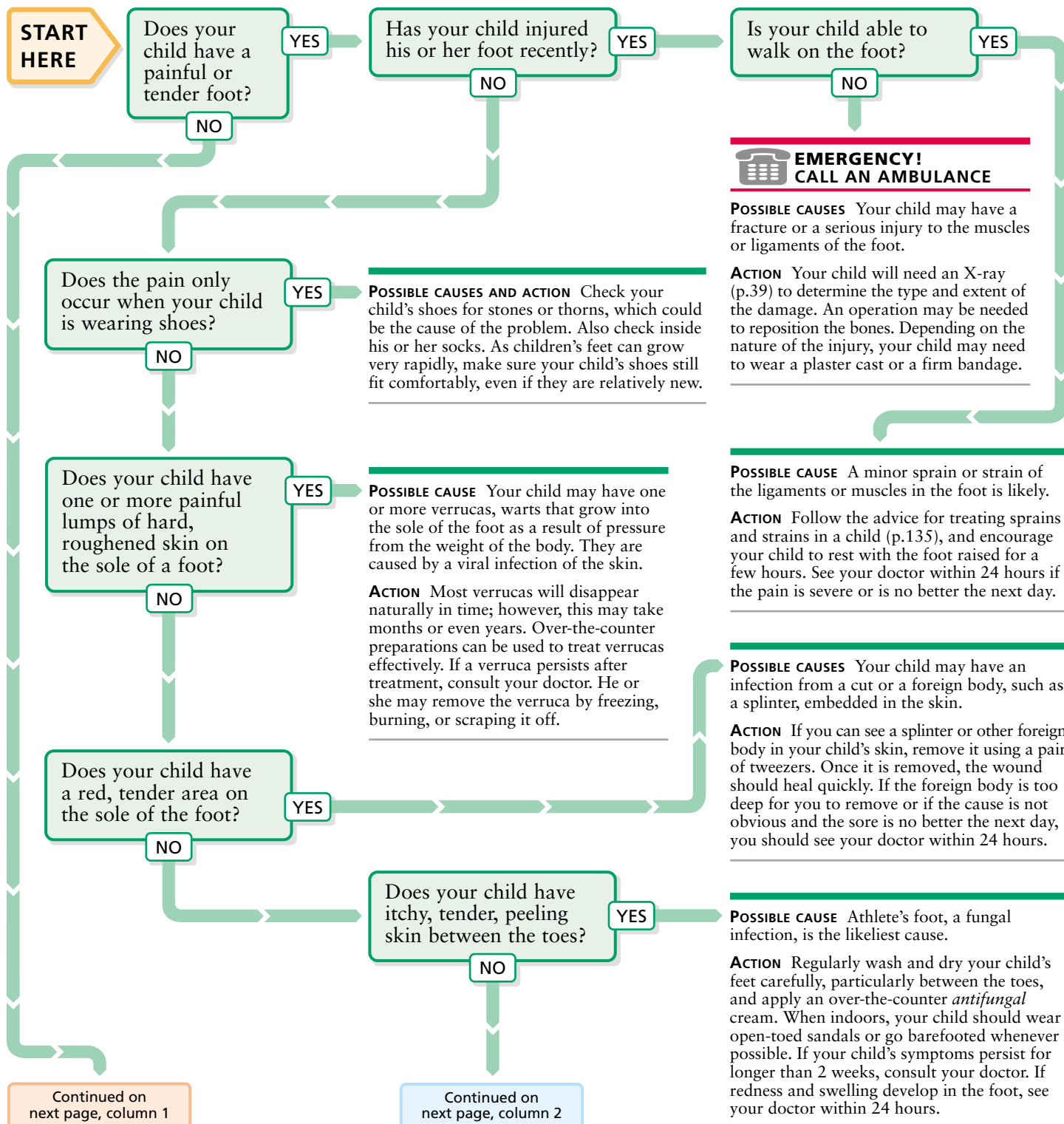
If your child has a sprain or strain, a cold compress will help reduce the swelling.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.

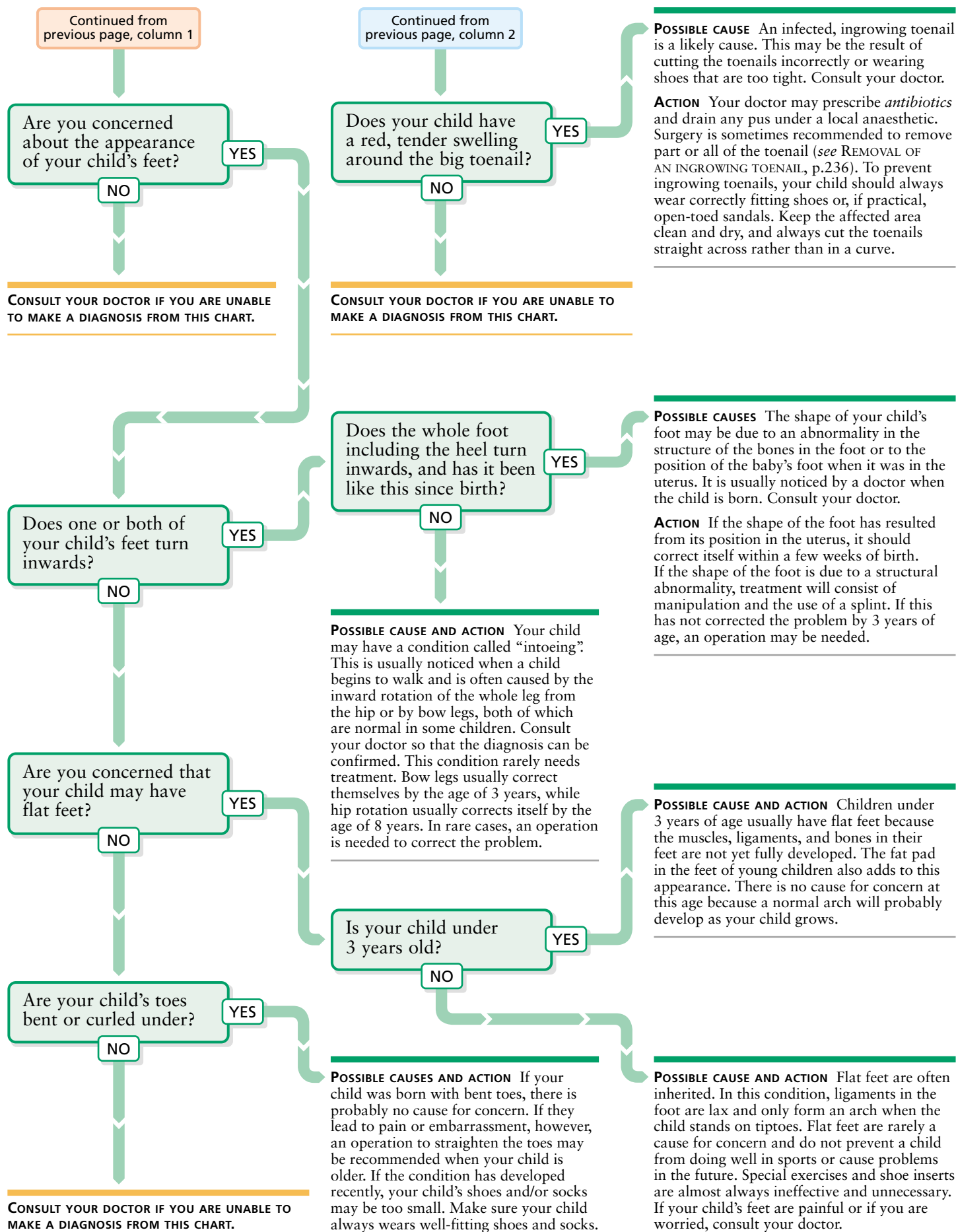
## 49 Foot problems

The bones in children's feet are soft, unlike bones in other parts of the body, and can be distorted by shoes that do not fit properly. Children's feet grow quickly, and you should check your child's shoes regularly. Children should not wear second-hand shoes. Feet can also be damaged by wearing high heels or shoes with pointed toes for any length of time.

Although wearing ill-fitting shoes may not cause symptoms at the time, it may result in foot problems later in life. Most symptoms affecting children's feet are caused by minor conditions, such as verrucas, and can be treated at home. However, if your child's foot is very painful or swollen or home treatment has been ineffective, consult your doctor.





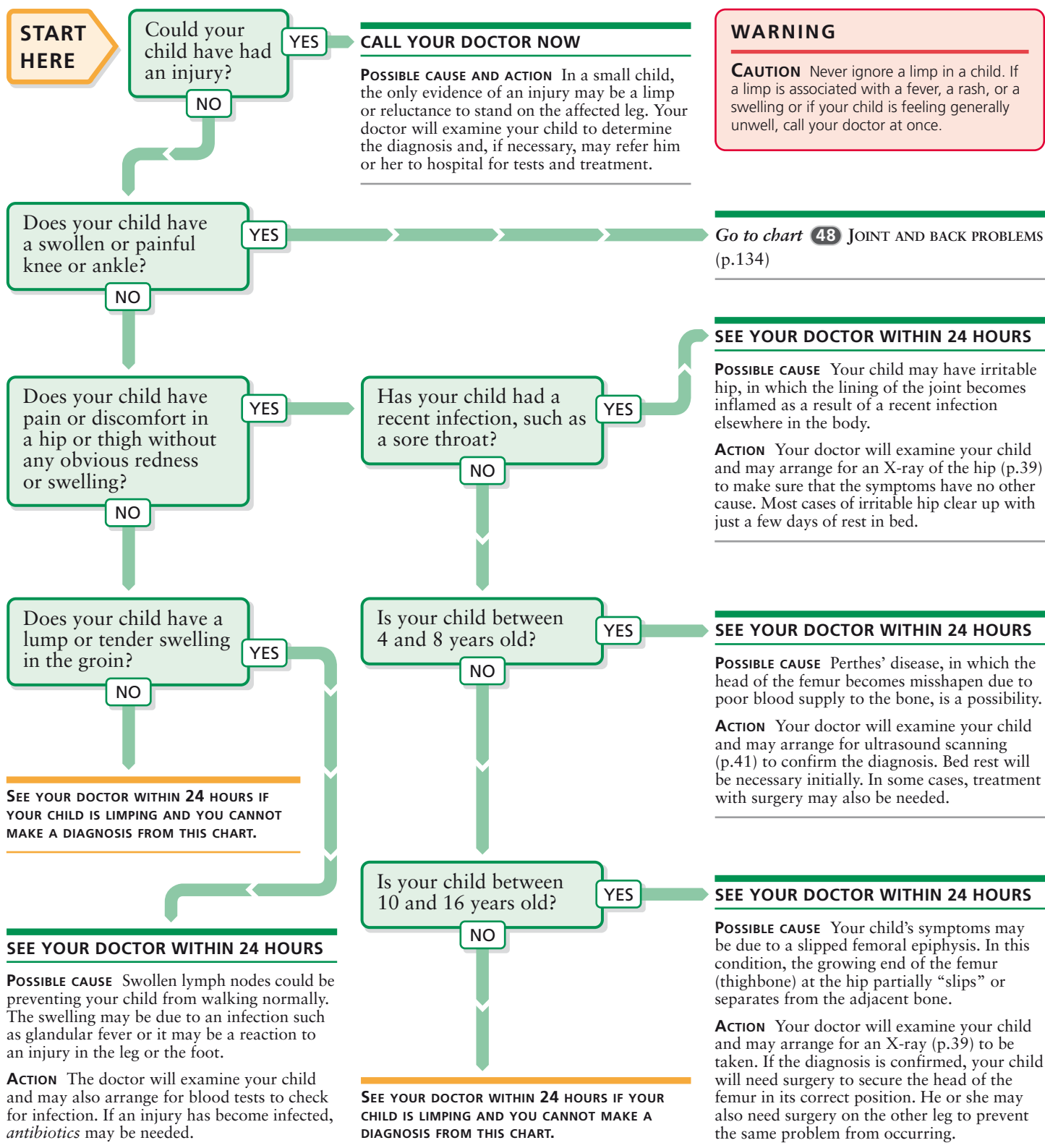


# 50 Limping

For limping due to a painful foot, see chart 49, FOOT PROBLEMS (p. 136).

A limp or reluctance to walk may be the first sign of a problem in a child who is too young to explain that something is

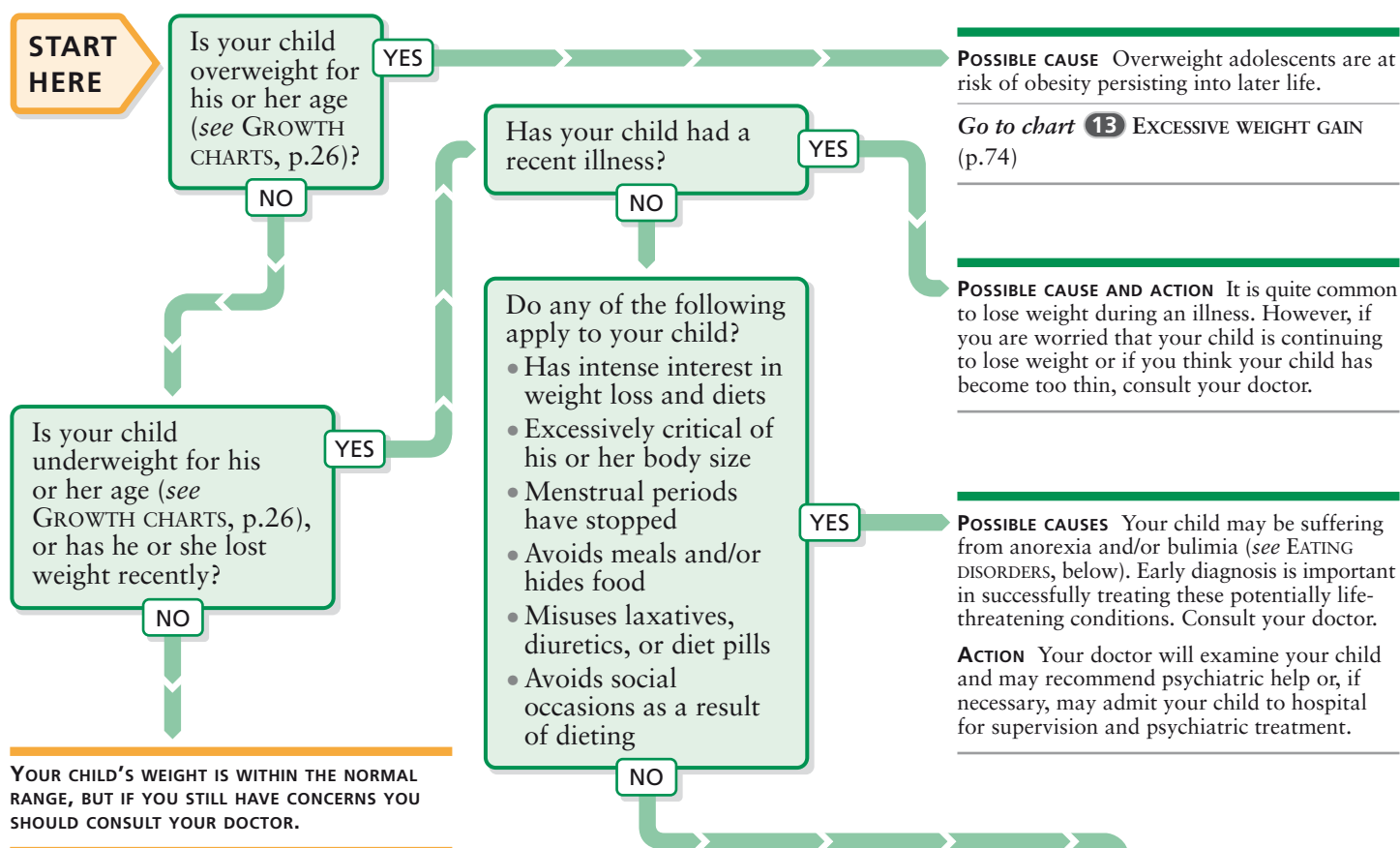
wrong. A minor injury that causes a limp may get better on its own. However, any child with a limp, even a painless one, should be seen by a doctor within 24 hours. There may be an underlying disorder that requires prompt treatment.



# 51 Adolescent weight problems

An adolescent needs more calories than an adult with a manual job. The rapid increase in height that occurs in adolescence and the development of adult body proportions sometimes leads a teenager to feel either too thin or too fat. Adolescence is a time when young people are particularly

sensitive about their appearance, and as a result, it is a time when eating disorders, such as anorexia nervosa, are most likely to occur. Consult this chart if you are worried about your child's weight or if your child is outside the normal range for his or her height (*see* GROWTH CHARTS, p.26).



## Eating disorders

Adolescence is the most common time for eating disorders to develop. Two of the most serious are anorexia nervosa (in which a person eats little or no food) and bulimia nervosa (in which a person avoids putting on weight by deliberately vomiting or abusing *laxatives*). These disorders, which can occur together, may cause permanent health problems.

### Anorexia nervosa

This disorder affects approximately 1 per cent of adolescents, mainly girls, although the incidence in boys is rising. It usually occurs in people who are hard-workers, high achievers, and conformist, and is often triggered by weight loss after a diet. The person loses weight until he or she is emaciated. Most people with anorexia have an intense desire to be thin and see themselves as fat even when dangerously underweight. They may disguise their weight loss by wearing loose

clothes and tend to become isolated and/or change their behaviour, for example by refusing to eat with others. Severe weight loss affects the heart and circulation and, in girls, often causes periods to stop. Heart failure is a risk at very low weights, and the risk of suicide is also increased.

### Bulimia nervosa

Bulimia, like anorexia, mainly affects females: 3 per cent of women develop it at some time in their lives. People with bulimia often have low self-confidence and use food for comfort. They are usually of normal weight but have episodes (called binges) when they eat excessive amounts, often followed by deliberate vomiting or abuse of *laxatives* or *diuretics*. They may also exercise compulsively. Repeated vomiting causes damage to the teeth. Vomiting and the abuse of *laxatives* can result in chemical imbalances that may affect the internal organs, including the heart.

Has your child had a recent growth spurt?

**NO**

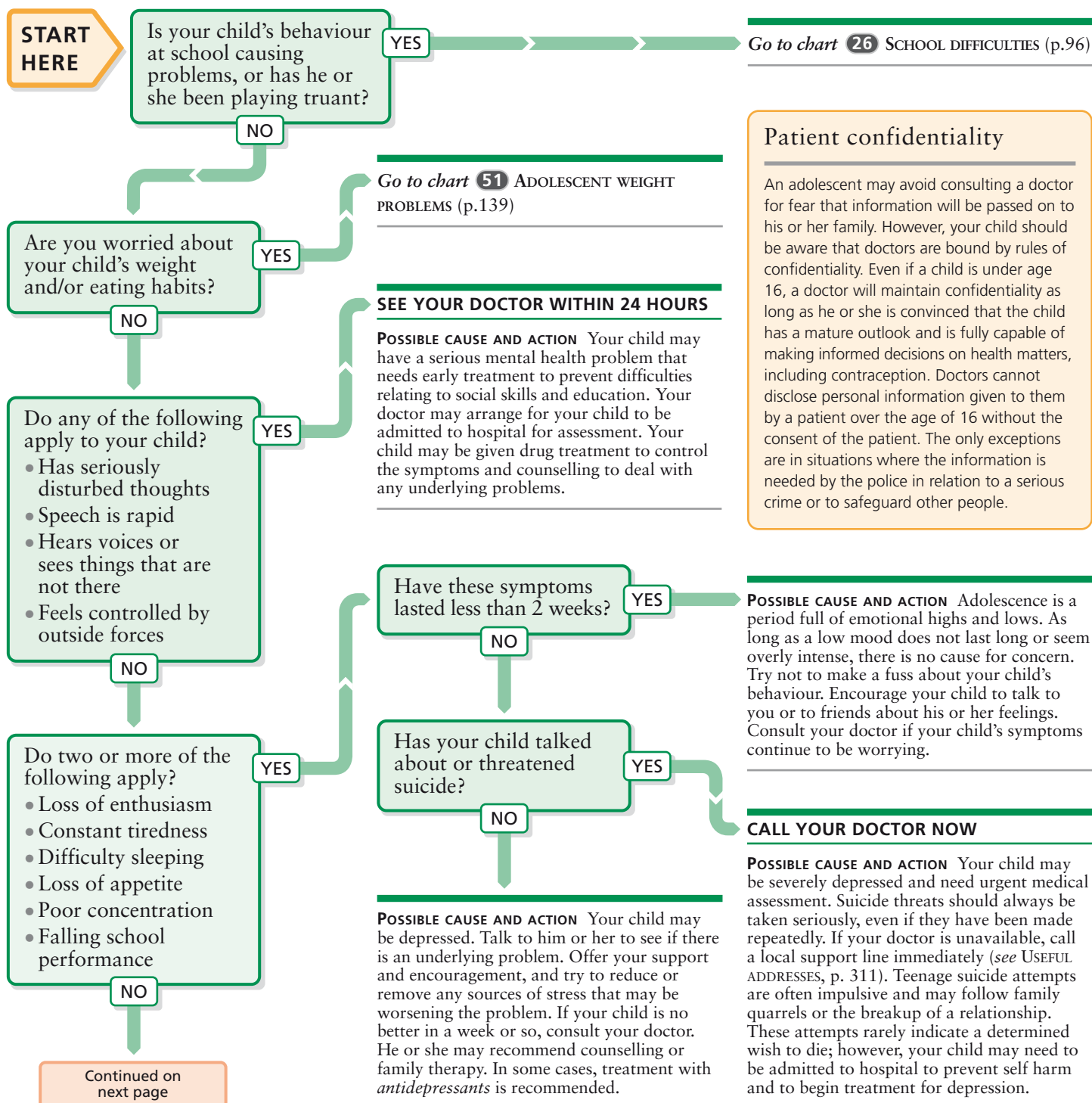
**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

**POSSIBLE CAUSE AND ACTION** A rapid increase in height during a growth spurt may not initially be matched with a similar gain in weight. This is usually no cause for concern, and your child's weight is likely to catch up with his or her height over the next few months. However, if your child seems unwell or if his or her weight continues to cause you concern, you should consult your doctor.

# 52 Adolescent behaviour problems

Adolescence is the transition between childhood and adulthood. The combined effects of the hormonal changes that begin at puberty and the psychological factors involved in developing independence often lead to behavioural difficulties. An adolescent is much more self-conscious than a child, and the need to fit in with the peer group becomes increasingly important. Worries about his or her changing body, performance in school, or style of clothing often cause

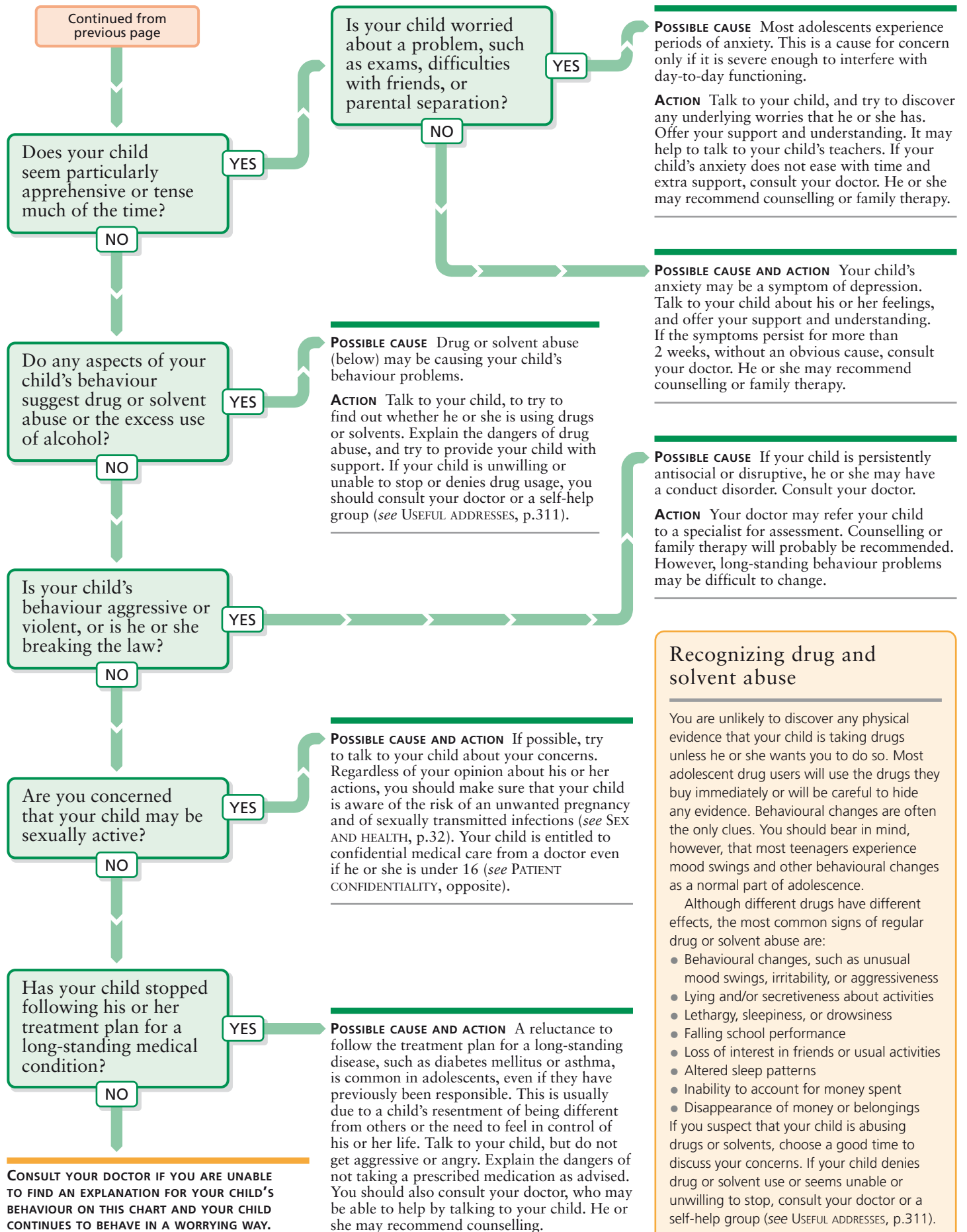
awkwardness. Arguments or misunderstandings at home about dress, language, or general conduct are common. In many cases, offering your support and understanding without making a fuss will be all your child needs at this time. However, if you feel that your child is outside your control and may be endangering his or her health or risking conflict with the law, consult your doctor, who may be able to give advice or recommend relevant support services.



## Patient confidentiality

An adolescent may avoid consulting a doctor for fear that information will be passed on to his or her family. However, your child should be aware that doctors are bound by rules of confidentiality. Even if a child is under age 16, a doctor will maintain confidentiality as long as he or she is convinced that the child has a mature outlook and is fully capable of making informed decisions on health matters, including contraception. Doctors cannot disclose personal information given to them by a patient over the age of 16 without the consent of the patient. The only exceptions are in situations where the information is needed by the police in relation to a serious crime or to safeguard other people.





## Recognizing drug and solvent abuse

You are unlikely to discover any physical evidence that your child is taking drugs unless he or she wants you to do so. Most adolescent drug users will use the drugs they buy immediately or will be careful to hide any evidence. Behavioural changes are often the only clues. You should bear in mind, however, that most teenagers experience mood swings and other behavioural changes as a normal part of adolescence.

Although different drugs have different effects, the most common signs of regular drug or solvent abuse are:

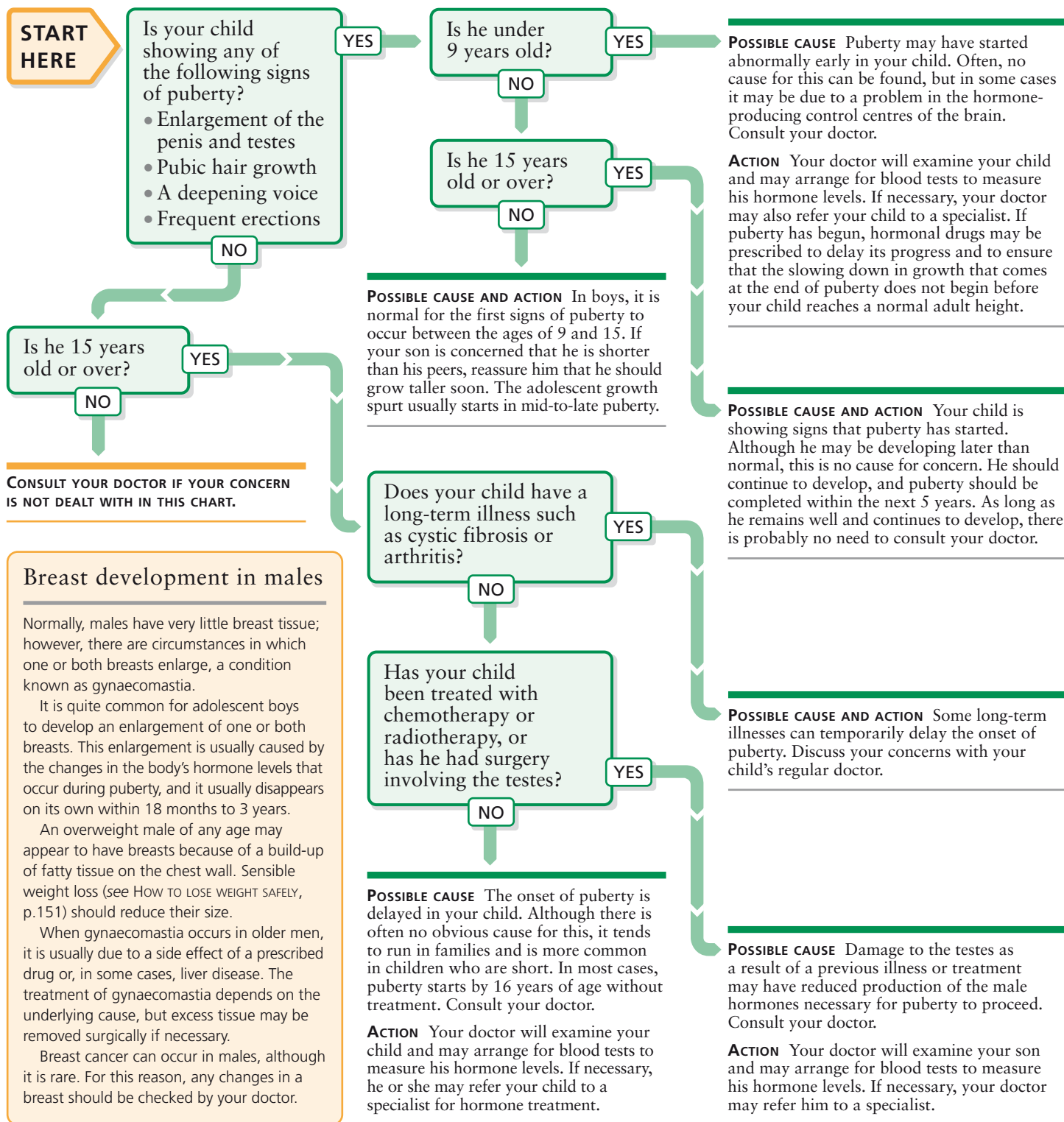
- Behavioural changes, such as unusual mood swings, irritability, or aggressiveness
- Lying and/or secretiveness about activities
- Lethargy, sleepiness, or drowsiness
- Falling school performance
- Loss of interest in friends or usual activities
- Altered sleep patterns
- Inability to account for money spent
- Disappearance of money or belongings

If you suspect that your child is abusing drugs or solvents, choose a good time to discuss your concerns. If your child denies drug or solvent use or seems unable or unwilling to stop, consult your doctor or a self-help group (see USEFUL ADDRESSES, p.311).

## 53 Problems with puberty in boys

The time when a child goes through the physical changes involved in becoming an adult is known as puberty. On average, most boys start puberty at 12 years of age; however any age between 9 and 15 years is considered normal. The earliest sign of puberty is usually enlargement of the penis and testes. Other signs of puberty include the ability to

ejaculate seminal fluid, the growth of body and facial hair, and deepening of the voice. In boys, the adolescent growth spurt does not tend to occur until puberty is well established. Occasionally, puberty may be associated with a temporary enlargement of breast tissue (see BREAST DEVELOPMENT IN MALES, below), which can be embarrassing but is no risk to health.



### Breast development in males

Normally, males have very little breast tissue; however, there are circumstances in which one or both breasts enlarge, a condition known as gynaecomastia.

It is quite common for adolescent boys to develop an enlargement of one or both breasts. This enlargement is usually caused by the changes in the body's hormone levels that occur during puberty, and it usually disappears on its own within 18 months to 3 years.

An overweight male of any age may appear to have breasts because of a build-up of fatty tissue on the chest wall. Sensible weight loss (see HOW TO LOSE WEIGHT SAFELY, p.151) should reduce their size.

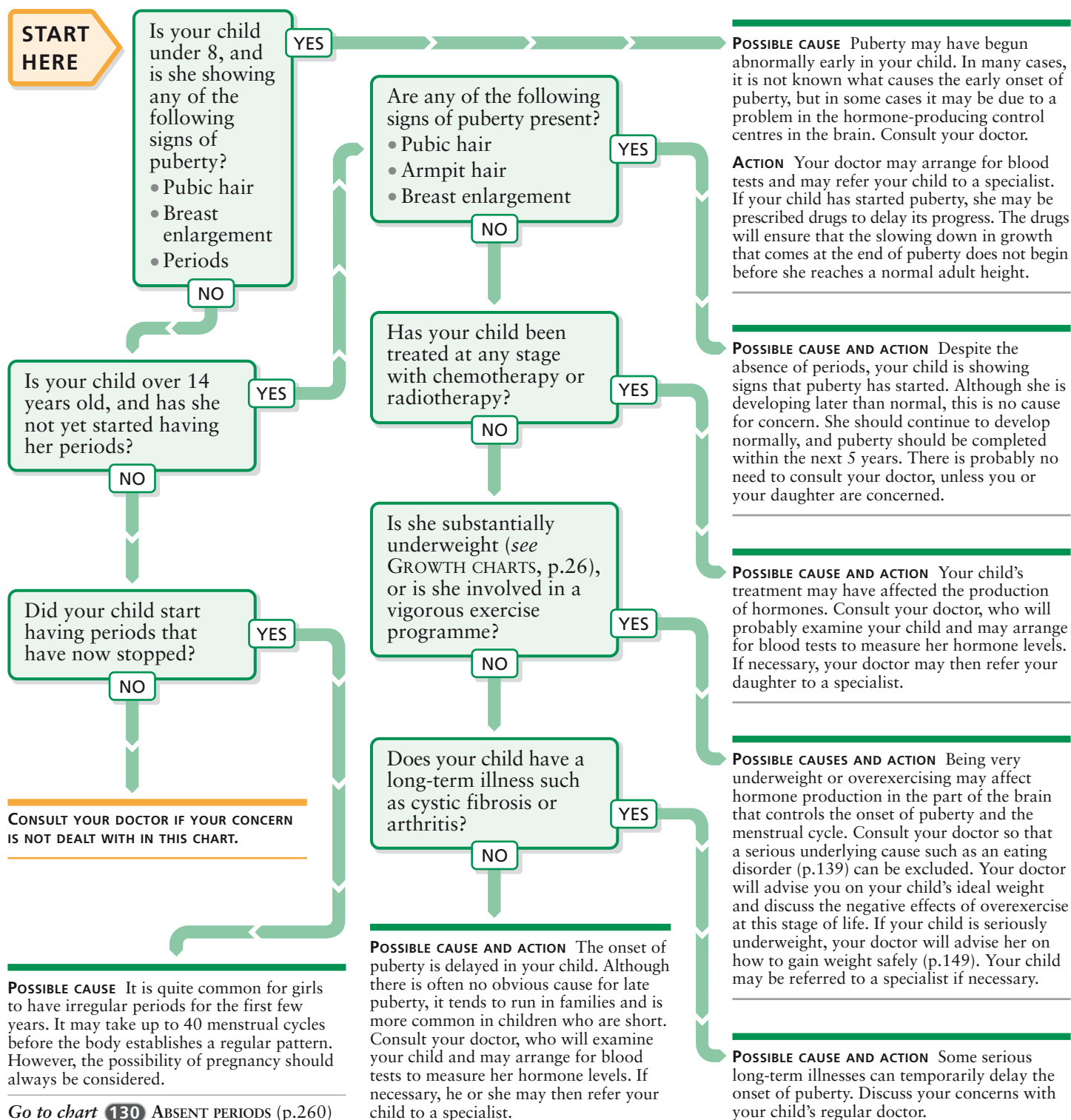
When gynaecomastia occurs in older men, it is usually due to a side effect of a prescribed drug or, in some cases, liver disease. The treatment of gynaecomastia depends on the underlying cause, but excess tissue may be removed surgically if necessary.

Breast cancer can occur in males, although it is rare. For this reason, any changes in a breast should be checked by your doctor.

## 54 Problems with puberty in girls

Puberty is the time when a child goes through the physical changes involved in becoming an adult. The average age for a girl to start puberty is 11½ years, although any age between 8 and 14 years is considered normal. The first signs of puberty are the enlargement of the breasts and the growth of pubic hair, followed by armpit hair. Girls usually have a

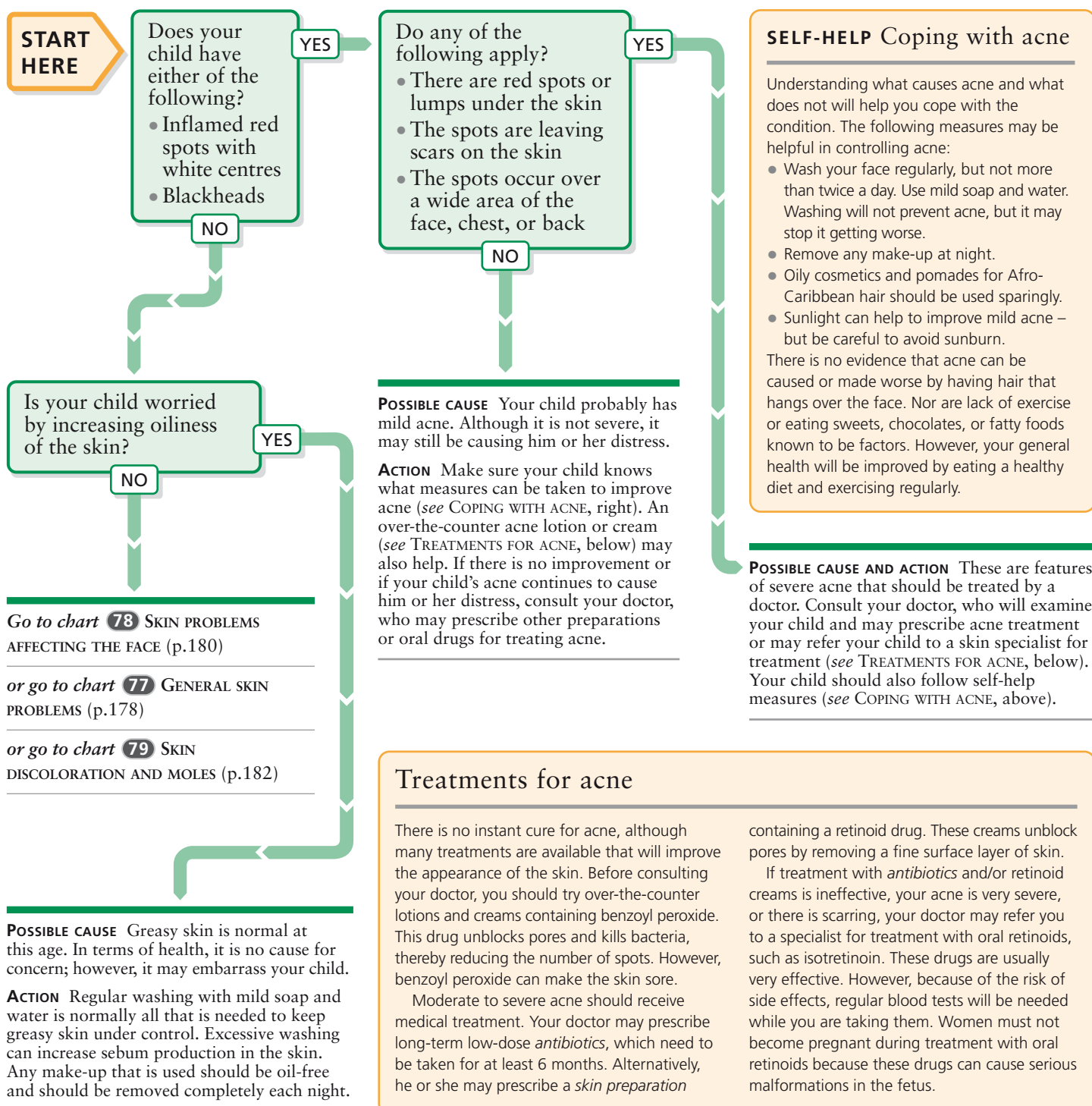
growth spurt in early puberty, and menstruation usually begins between the ages of 11 and 14. Puberty usually lasts for about 5 years, during which time all of the body features of an adult develop. Consult this chart if you are worried that your child has started puberty too early or that she seems abnormally late in reaching puberty.



# 55 Adolescent skin problems

The onset of adolescence often produces marked changes in the skin. Infantile eczema, which often affects younger children, may clear up altogether before or during adolescence. However, another form of eczema – contact eczema – may occur for the first time during this period. Contact eczema may result from contact with certain metals or cosmetics, causing an itchy, red rash. Other skin problems, such as psoriasis, may also develop for the first time during

adolescence. However, the most noticeable skin changes during adolescence are caused by the rising levels of sex hormones. These hormones encourage the sebaceous glands in the skin to produce increasing amounts of sebum – an oily substance that helps to lubricate the skin. Not only does the increased sebaceous activity give the skin an oily appearance, but it also encourages the development of acne, which affects almost all adolescents to some extent.





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# GENERAL CHARTS FOR ADULTS

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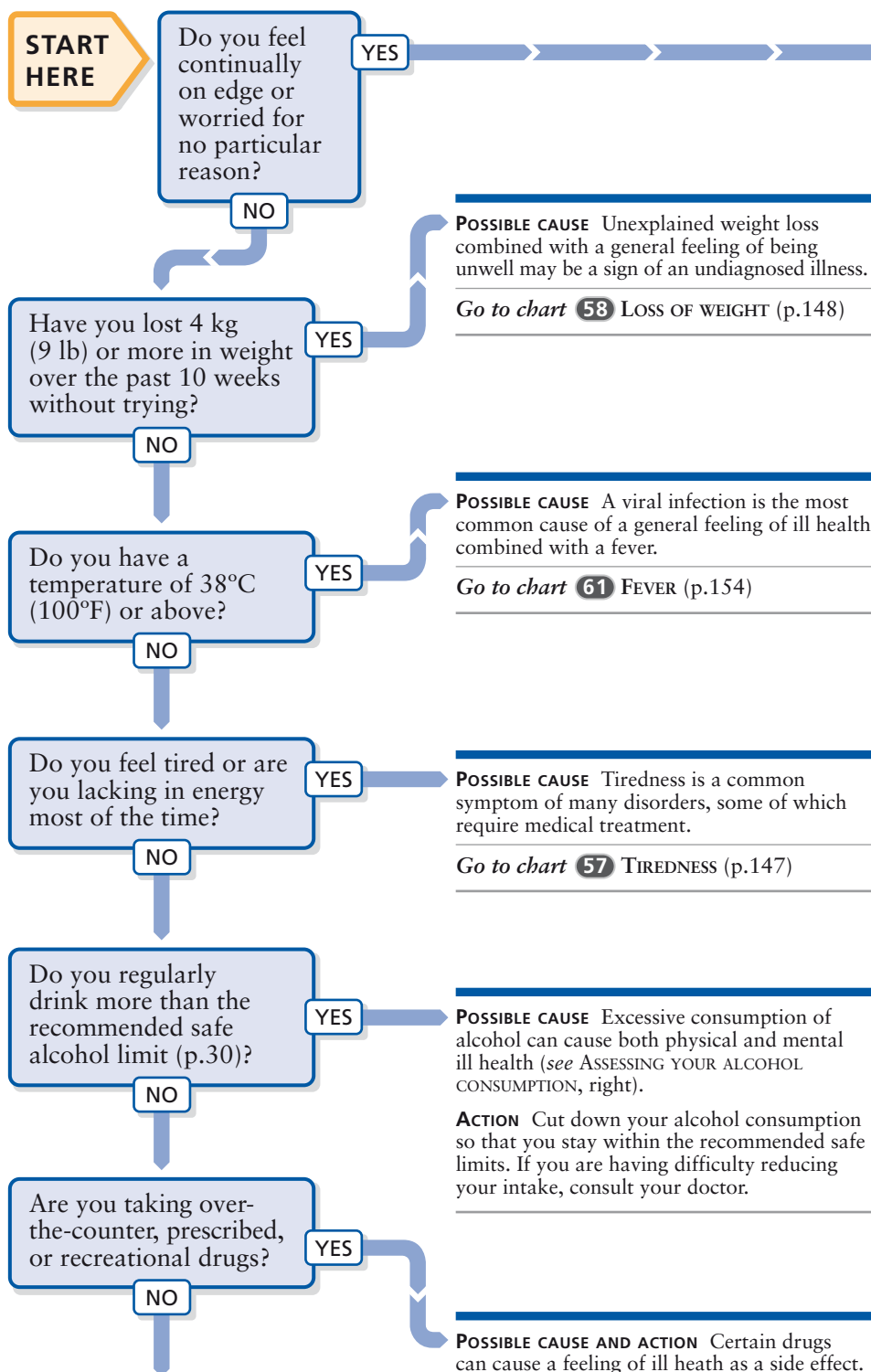
<b>56</b> Feeling unwell.....	146	<b>77</b> General skin problems.....	178	<b>97</b> Difficulty in swallowing.....	209
<b>57</b> Tiredness.....	147	<b>78</b> Skin problems affecting the face.....	180	<b>98</b> Vomiting.....	210
<b>58</b> Loss of weight.....	148	<b>79</b> Skin discoloration and moles.....	182	<b>99</b> Recurrent vomiting.....	212
<b>59</b> Overweight.....	150	<b>80</b> Rash with fever.....	184	<b>100</b> Abdominal pain.....	214
<b>60</b> Difficulty in sleeping.....	152	<b>81</b> Nail problems.....	185	<b>101</b> Recurrent abdominal pain.....	216
<b>61</b> Fever.....	154	<b>82</b> Painful or irritated eye.....	186	<b>102</b> Swollen abdomen.....	218
<b>62</b> Excessive sweating.....	156	<b>83</b> Disturbed or impaired vision.....	188	<b>103</b> Wind.....	219
<b>63</b> Headache.....	158	<b>84</b> Hearing problems.....	190	<b>104</b> Diarrhoea.....	220
<b>64</b> Feeling faint and passing out.....	160	<b>85</b> Noises in the ear.....	192	<b>105</b> Constipation.....	221
<b>65</b> Dizziness.....	162	<b>86</b> Earache.....	193	<b>106</b> Abnormal-looking faeces.....	222
<b>66</b> Numbness and/or tingling.....	163	<b>87</b> Runny or blocked nose.....	194	<b>107</b> Anal problems.....	223
<b>67</b> Forgetfulness and/or confusion.....	164	<b>88</b> Sore throat.....	195	<b>108</b> General urinary problems.....	224
<b>68</b> Twitching and/or trembling.....	166	<b>89</b> Hoarseness or loss of voice.....	196	<b>109</b> Painful urination.....	226
<b>69</b> Pain in the face.....	167	<b>90</b> Wheezing.....	197	<b>110</b> Painful joints.....	228
<b>70</b> Difficulty in speaking.....	168	<b>91</b> Coughing.....	198	<b>111</b> Painful shoulder.....	230
<b>71</b> Disturbing thoughts and feelings.....	169	<b>92</b> Shortness of breath.....	200	<b>112</b> Painful arm.....	231
<b>72</b> Depression.....	170	<b>93</b> Chest pain.....	202	<b>113</b> Painful leg.....	232
<b>73</b> Anxiety.....	172	<b>94</b> Palpitations.....	204	<b>114</b> Painful knee.....	234
<b>74</b> Lumps and swellings.....	174	<b>95</b> Teeth problems.....	206	<b>115</b> Swollen ankles.....	235
<b>75</b> Itching.....	175	<b>96</b> Mouth problems.....	208	<b>116</b> Foot problems.....	236
<b>76</b> Hair and scalp problems.....	176			<b>117</b> Back pain.....	238
				<b>118</b> Painful or stiff neck.....	240

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## 56 Feeling unwell

Sometimes you may have a vague feeling of being unwell without being able to identify a specific symptom such as pain. This feeling is usually the result of a minor infection, psychological pressures, or an unhealthy lifestyle. However,

you should always make an appointment to see your doctor if the feeling persists for more than a few days; there is a possibility that it may be a sign of a more serious underlying problem that requires medical treatment.



### SELF-HELP Assessing your alcohol consumption

Some people use alcohol to cope with stressful situations or painful emotions. If unchecked, this habit can lead to alcohol dependence. Experiencing severe hangovers or memory loss after drinking alcohol indicates that you are drinking to excess, as do arguments or accidents precipitated by drinking. If you have more than two alcoholic drinks a day on most days, your health may be at risk (see SAFE ALCOHOL LIMITS, p.30).

To assess your drinking habits, ask yourself the questions below. The answers may help you to judge whether drinking is affecting your life or becoming an uncontrollable habit.

- Have you ever thought that you ought to cut down on your drinking?
- Have other people ever annoyed you by criticizing your drinking?
- Have you ever felt guilty about drinking?
- Have you ever had an "eye-opener" drink first thing in the morning?

If you have answered yes to two or more of these questions, your drinking may be becoming a problem. Consult your doctor.



#### Social drinking

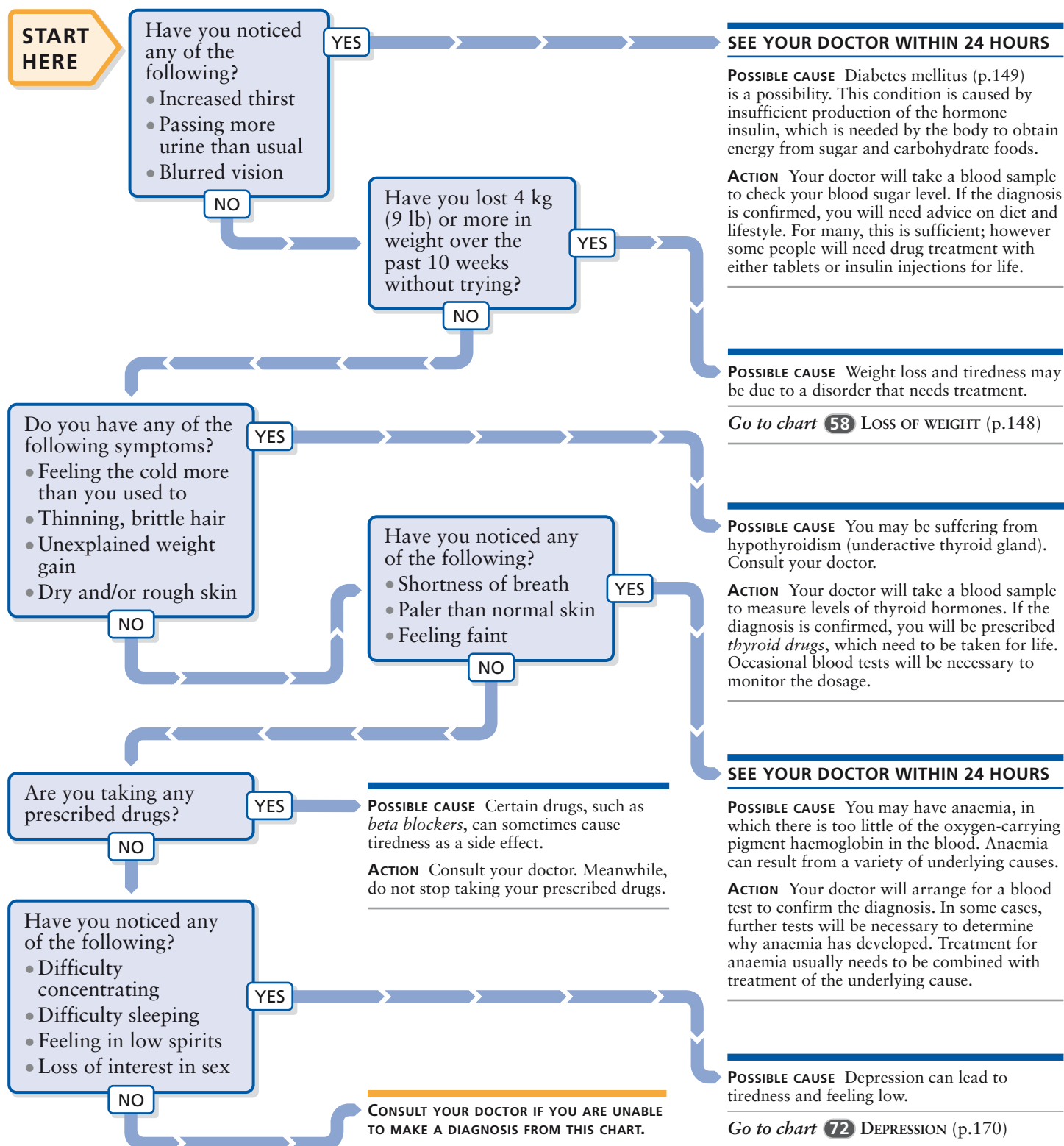
*Drinking alcohol can be an enjoyable part of your social life, but you should keep your consumption within safe limits to maintain good physical and emotional health.*

# 57 Tiredness

For problems related to sleeping, see chart 60, DIFFICULTY IN SLEEPING (p.152).

Tiredness is normal after physical exertion or long periods of hard work without a break. It is common after some infectious illnesses, such as flu or glandular fever, but should

have cleared up after 2 or 3 weeks. However, if there is no obvious explanation for your tiredness, if it prevents you from carrying out daily activities, or if it is prolonged, you should consult your doctor because in some cases tiredness may indicate a serious health problem.

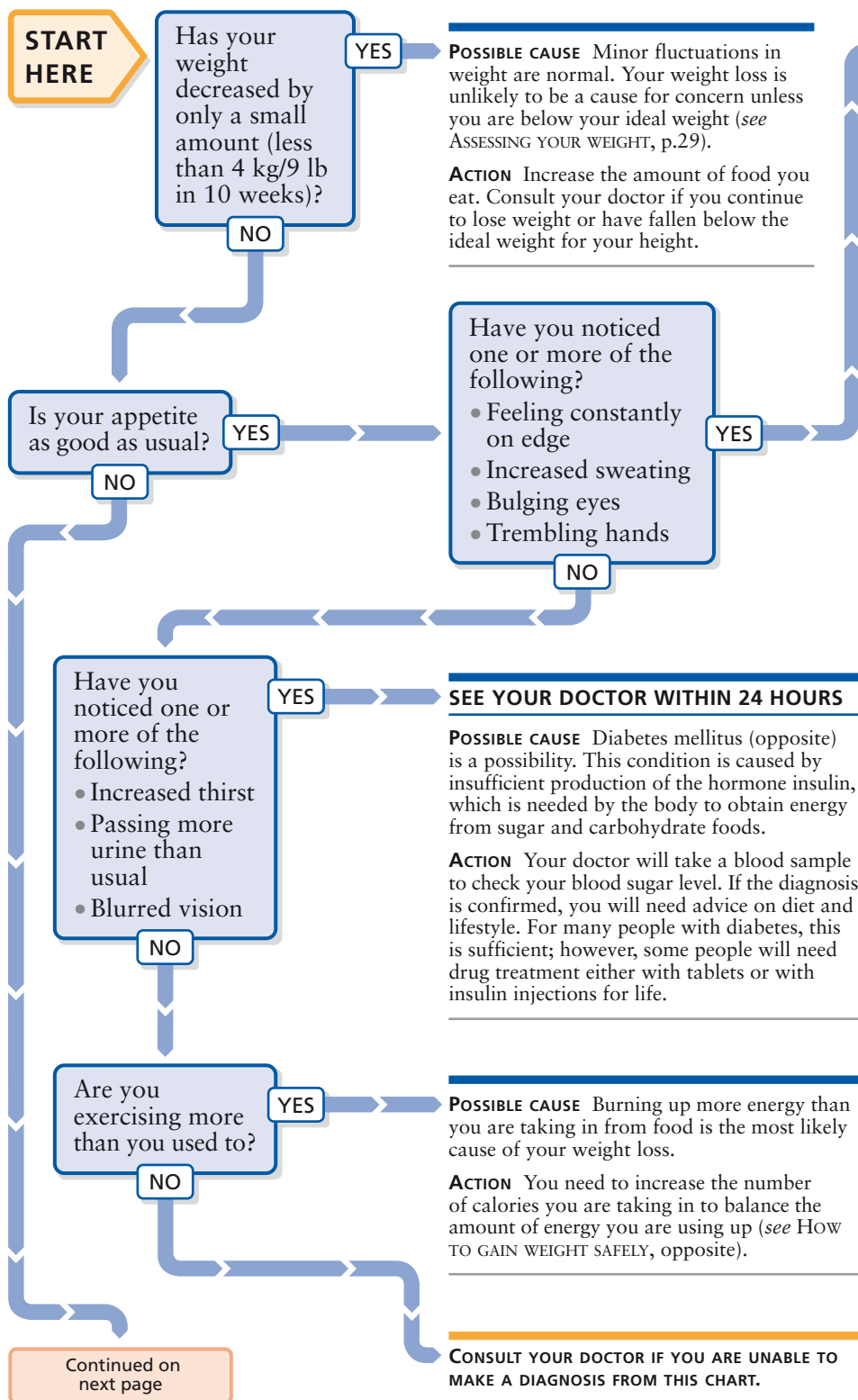


# 58 Loss of weight

For severe weight loss in adolescents, see chart 51, ADOLESCENT WEIGHT PROBLEMS (p.139).

Minor fluctuations in weight due to temporary changes in your diet and/or in the amount of exercise you are taking are normal. However, severe, unintentional weight loss,

especially if it is combined with loss of appetite or other symptoms, may be an early warning sign of some cancers or infections that require urgent medical attention. If you are worried that you have lost a lot of weight and there is no obvious cause, you should consult your doctor.



## HIV infection and AIDS

The human immunodeficiency virus (HIV) is an organism that progressively destroys cells in the immune system over several years. As a result, the body becomes unable to protect itself against other infections or cancer; this loss of immunity is known as acquired immunodeficiency syndrome (AIDS).

### How the virus is transmitted

HIV is carried in body fluids such as blood, semen, vaginal secretions, and breast milk. It is most commonly transmitted through unprotected sexual intercourse, but people who use intravenous drugs or share dirty needles are also at increased risk. The virus can be passed on from an infected mother to her baby during pregnancy, at delivery, and during breast-feeding.

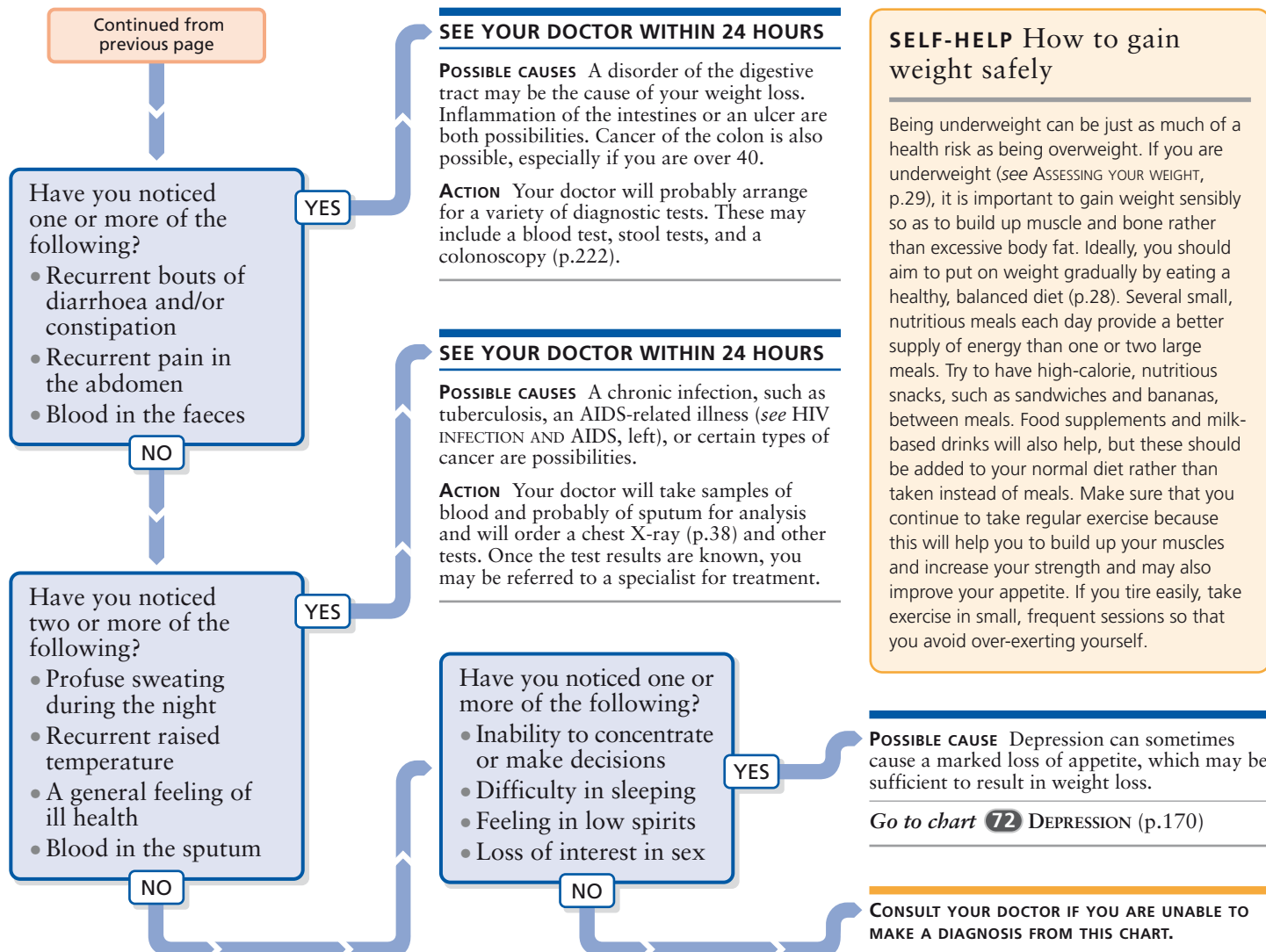
### Symptoms of HIV infection and AIDS

The initial infection with HIV may cause no symptoms or may result in a brief, flu-like illness. This is followed by a period of 5–10 years during which there are no symptoms. However, despite the absence of symptoms, the virus can still be passed on during this time. As the immune system is weakened, disorders such as fungal mouth infections and genital warts may develop. Once the immune system has been severely weakened, serious infections, cancers, and nervous system disorders begin to occur. These conditions signify the onset of AIDS.

### Treatment and prevention

Treatment for HIV infection includes multiple *antiviral drugs* that slow the rate at which the virus multiplies in the body and delay the progression to AIDS. However, the drugs are not able to completely eradicate the virus from the body. Using a condom is the only effective way of stopping the transmission of the virus during sexual intercourse.





## SELF-HELP How to gain weight safely

Being underweight can be just as much of a health risk as being overweight. If you are underweight (*see* ASSESSING YOUR WEIGHT, p.29), it is important to gain weight sensibly so as to build up muscle and bone rather than excessive body fat. Ideally, you should aim to put on weight gradually by eating a healthy, balanced diet (p.28). Several small, nutritious meals each day provide a better supply of energy than one or two large meals. Try to have high-calorie, nutritious snacks, such as sandwiches and bananas, between meals. Food supplements and milk-based drinks will also help, but these should be added to your normal diet rather than taken instead of meals. Make sure that you continue to take regular exercise because this will help you to build up your muscles and increase your strength and may also improve your appetite. If you tire easily, take exercise in small, frequent sessions so that you avoid over-exerting yourself.

## Diabetes mellitus

Diabetes mellitus is a condition in which body cells are not able to absorb enough of the sugar glucose (the body's main energy source) from the blood. This inability is due to a deficiency of the hormone insulin, normally produced by the pancreas. If there is insufficient insulin, glucose accumulates in the blood and the urine. Cells have to use fats as an energy source instead of glucose, which leads to a build-up of toxic by-products. These chemical changes cause the symptoms of diabetes: thirst, excessive passing of urine, and weight loss. Diabetes mellitus affects about 3 in every 100 people; once it develops, diabetes is a life-long condition.

There are two main forms of the disorder: type 1 and type 2. In type 1 diabetes, the pancreas produces too little insulin or none at all; this form usually develops suddenly in childhood or adolescence and causes dramatic weight loss. In type 2 diabetes, the pancreas continues to produce insulin, but body cells are resistant to it. This type of diabetes is 10 times

more common than type 1. It mainly develops after the age of 40, particularly in those who are overweight. It develops gradually and symptoms may go unrecognized for years.

### Complications of diabetes

High blood sugar over a prolonged period damages blood vessels throughout the body, which results in problems with the eyes, kidneys, heart, and nervous system. Treatment aims to keep blood sugar levels as normal as possible to delay the onset of complications.

### Treating diabetes

Anyone with diabetes needs to eat a diet high in complex carbohydrates, such as bread, pasta, and pulses, and low in fats (particularly animal fats). Keeping fit is also an important aspect of treatment. In addition to these measures, people with type 1 diabetes need lifelong treatment with insulin injections to replace the missing hormone. The injections are self-administered several times a day and the doses have to be carefully matched to food intake. Regular monitoring of blood

sugar levels is necessary to ensure that the treatment is effective. People with type 2 diabetes may be able to control their diabetes simply by keeping fit and following the right diet, but most need to take oral drugs and a few need insulin injections.

People with diabetes should visit their doctor every few months so that he or she can assess the control of blood sugar levels and detect and treat any complications of the disease at an early stage.

### A healthy diet

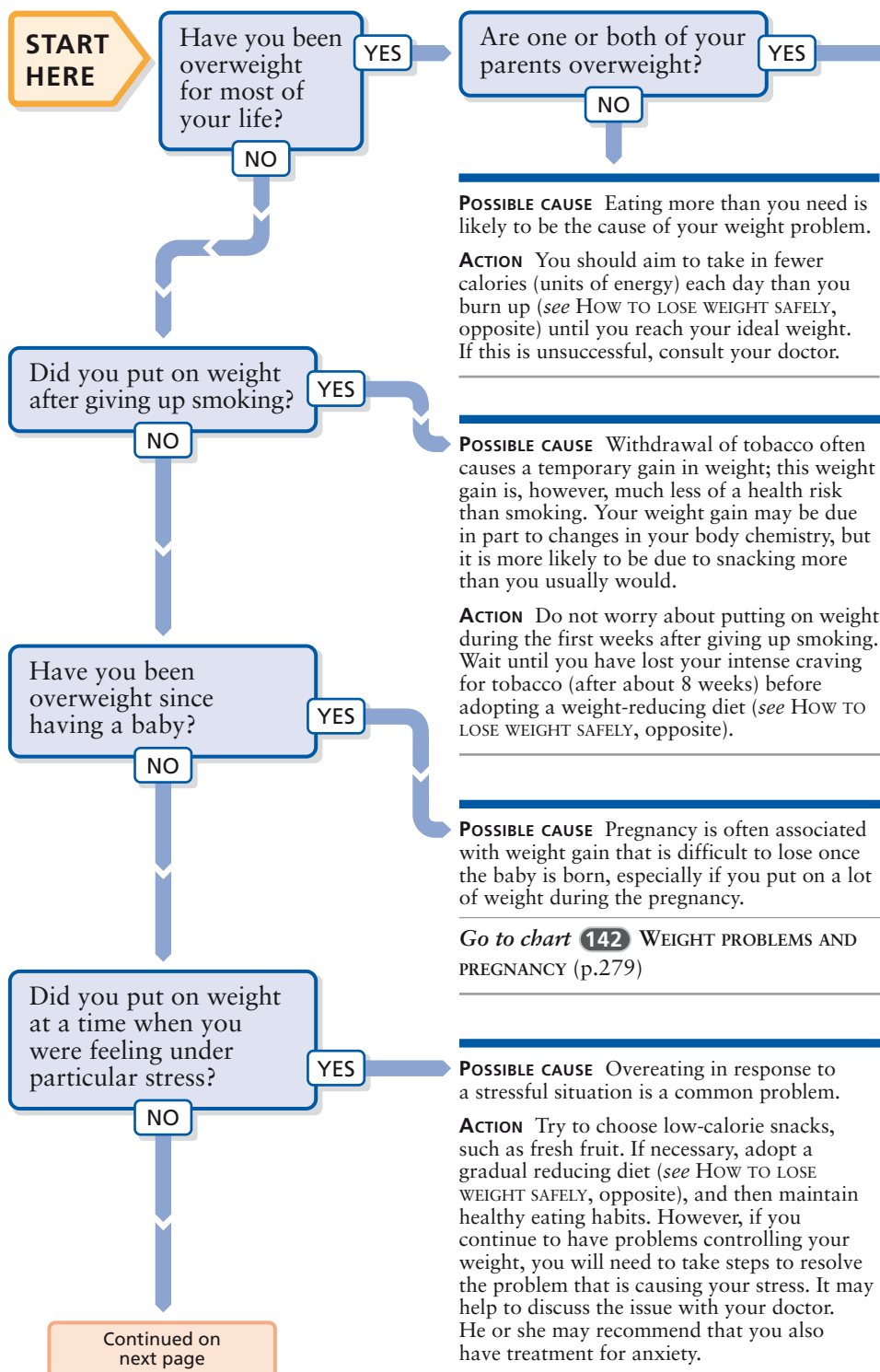
*If you have diabetes, make sure that your diet is high in complex carbohydrates, such as pasta, rice, cereals, and bread, and low in fats.*



# 59 Overweight

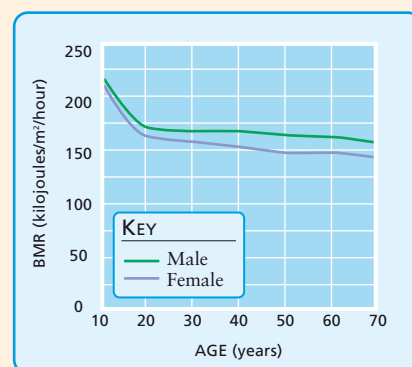
Normally, fat accounts for between 10 and 20 per cent of the weight of a man and about 25 per cent of a woman; much more than this is unhealthy, increasing the risk of diseases such as diabetes and high blood pressure and of damage to weight-bearing joints, such as the hips or knees. Most people gradually gain a little weight as they grow older, reaching their heaviest at about age 50. Consult this

chart if you weigh more than the healthy weight for your height (*see* ASSESSING YOUR WEIGHT, p.29) or if you have excess abdominal fat – a waist measurement of over 89 cm (35 in) for women and over 102 cm (40 in) for men. Excess fat around the abdomen is thought to be a greater risk for heart disease than fat elsewhere. Weight gain is usually due to overeating. Occasionally, there may be a medical reason.



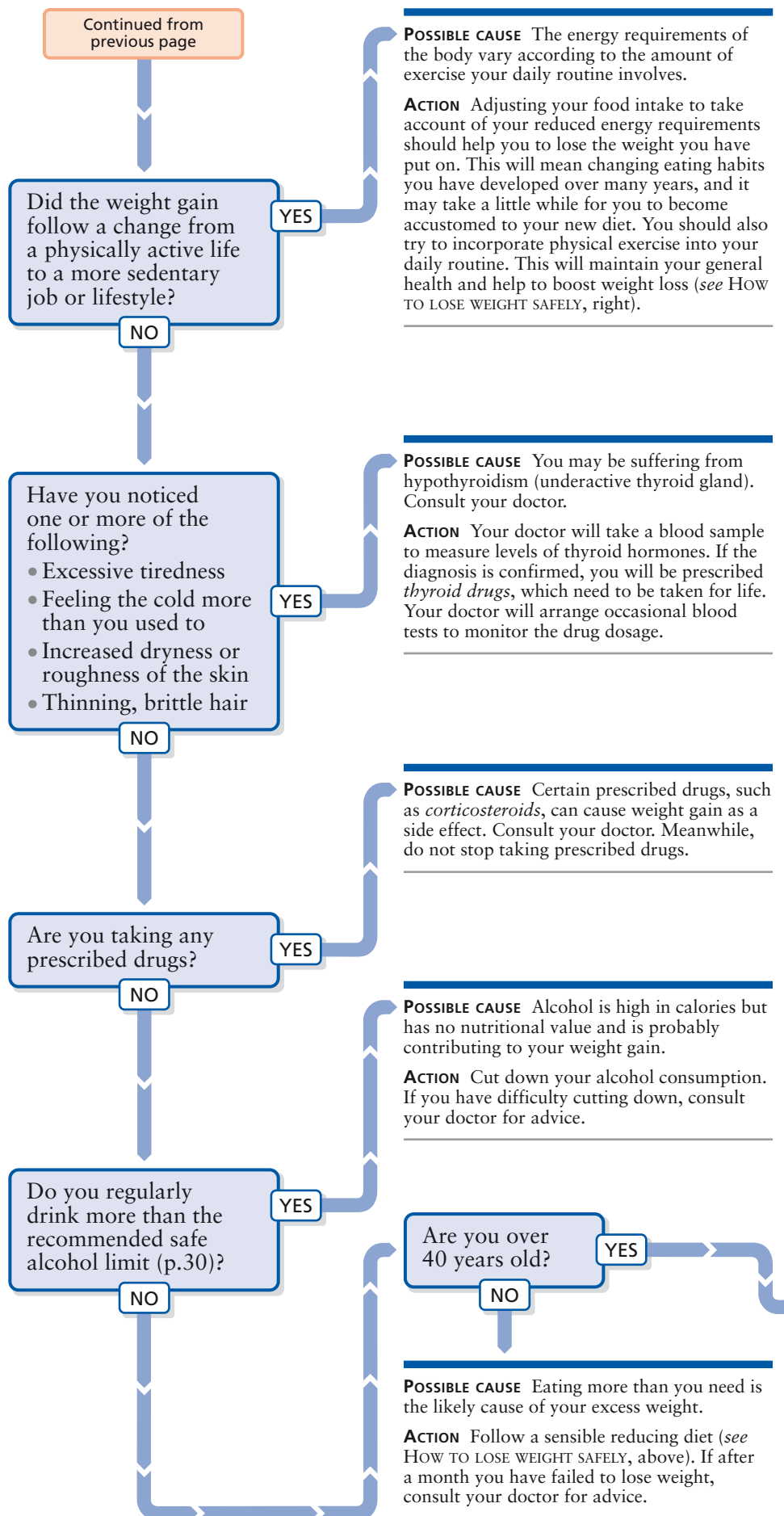
## Age and metabolic rate

From adolescence onwards, the rate at which the body consumes energy falls. This reduction in energy use even applies to the amount of energy needed to perform essential functions such as breathing and circulation (called the basal metabolic rate or BMR). The fall in BMR with age is more marked in women than men. The effect of this slowing down of metabolism, combined with the general reduction in the amount of exercise people often take as they get older, tends to result in a gradual gain in weight with age. To avoid gaining weight you may need to cut down on your food intake or increase your activity level.



### Decline in basal metabolic rate

Males and females have slightly different basal metabolic rates (BMR). BMR tends to be lower in women. As people age, BMR falls. The decline is more marked in women.



## SELF-HELP How to lose weight safely

The most likely cause of being overweight is a combination of overeating and lack of exercise. The best way to lose weight is to combine a reduced calorie intake with regular exercise. Set yourself a realistic, short-term target for weight loss; about 2–4 kg (4–9 lb) a month is sensible. Rapid weight-loss plans and fasting should be avoided.

### Calorie reduction

The best type of weight-reducing diet is one that is low in calories but balanced so that you stay well nourished. You should try to reduce your daily calorie intake by 500–1,000 calories. The following suggestions may help:

- Cut down on fatty foods; good alternatives include wholemeal bread, potatoes, and pasta.
- Oven bake or grill rather than fry food.
- Avoid excessive snacking.
- Cut down your alcohol consumption.
- Avoid shopping for food when you are feeling hungry.

### Exercise

Regular exercise benefits your general health as well as helping you to reduce weight. Exercise does not have to be strenuous, but you should aim to do 30 minutes, five times a week. Not only are calories burned up during exercise, but it also raises basal metabolic rate (BMR), the rate at which your body consumes energy when at rest to maintain basic processes such as breathing and digestion. If your BMR rises, you use up more calories, and, if you have a calorie-controlled diet, you will lose weight.

### Taking regular exercise

*Regular exercise, such as cycling, can boost weight loss. Set aside time each day for exercise.*



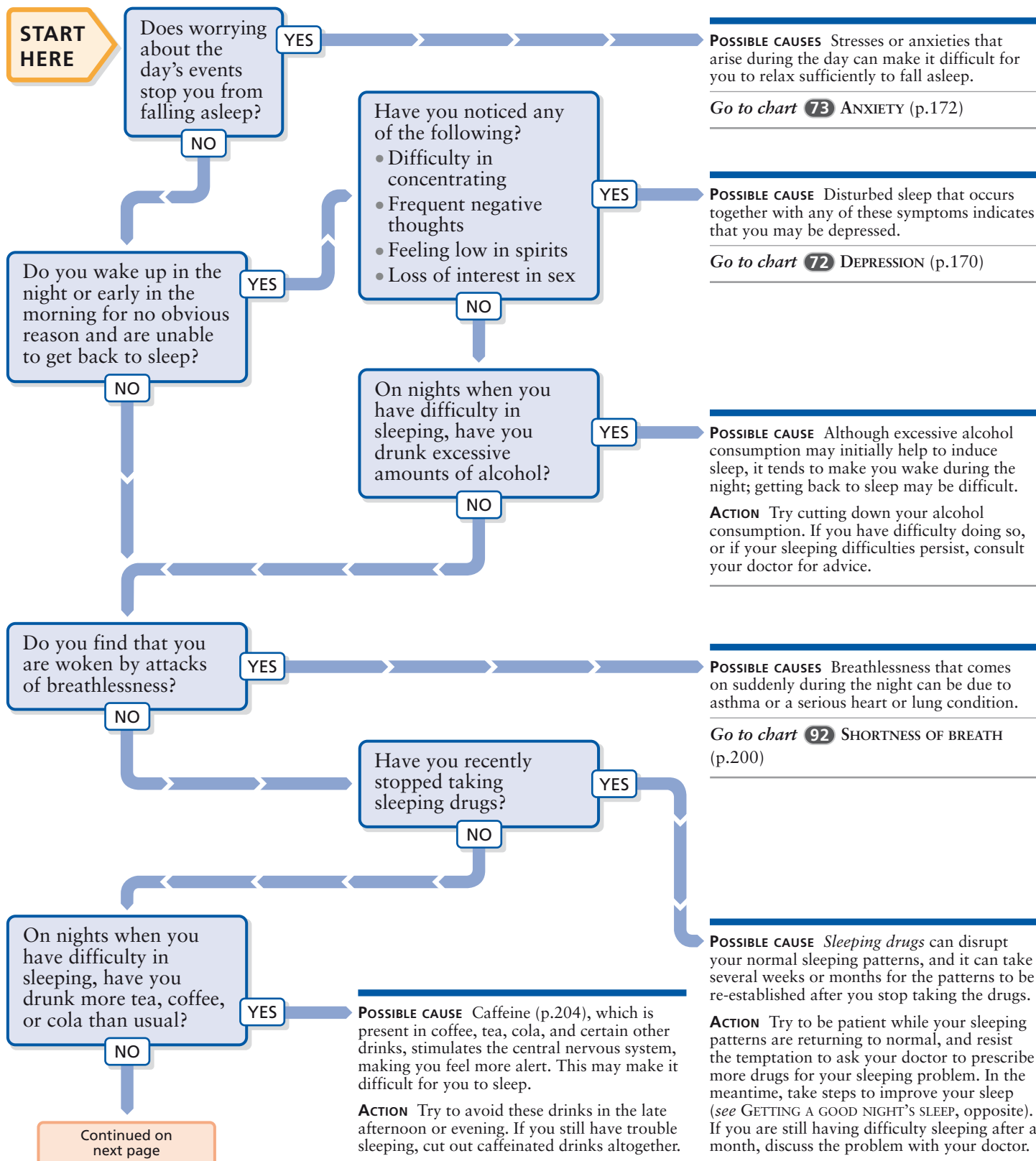
**POSSIBLE CAUSE** Growing older is often accompanied by a gain in weight. Your weight gain is probably due to the fact you are taking less exercise at a time when your body needs less food to perform basic functions (see AGE AND METABOLIC RATE, opposite).

**ACTION** Reduce your food intake and/or increase your level of activity to restore the balance of energy intake and expenditure (see HOW TO LOSE WEIGHT SAFELY, above).

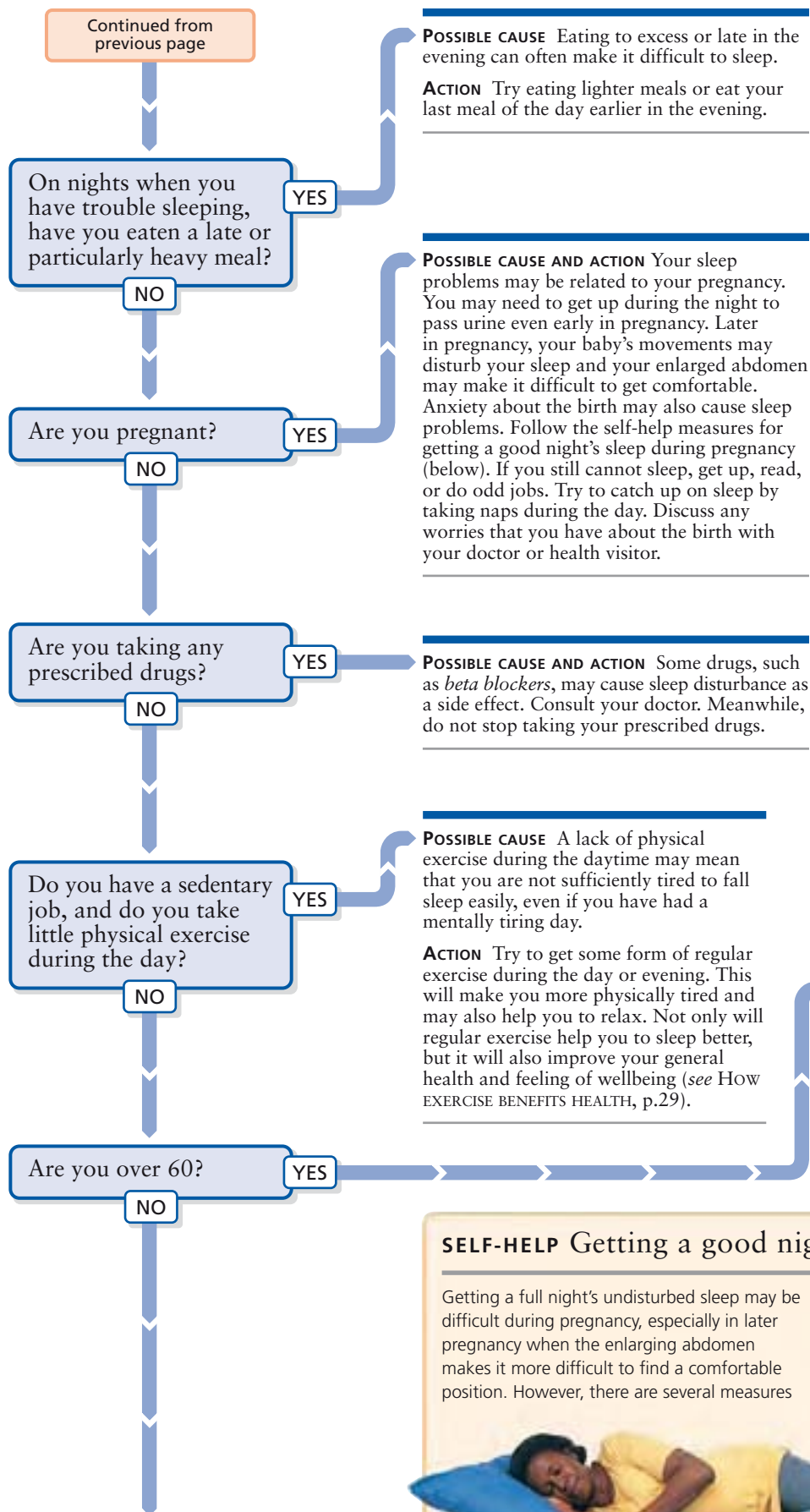
# 60 Difficulty in sleeping

It is quite common to have the odd night when you find it difficult to get to sleep or to stay asleep, and this need not cause concern. Consult this chart if you often find it hard to

get to sleep or if you frequently wake during the night. Lifestyle changes can sometimes help with sleeping problems (see GETTING A GOOD NIGHT'S SLEEP, opposite).







## SELF-HELP Getting a good night's sleep

Sleep is an important factor in maintaining good health. If you are having difficulty sleeping, these suggestions may help:

- Exercise during the day to tire yourself physically and help you relax.
- Cut out coffee, tea, cola, and other drinks containing caffeine, particularly during the afternoon and evening.
- Avoid high alcohol consumption: although alcohol may make you sleepy at first, you are more likely to wake up during the night and be unable to get back to sleep.
- Try to establish regular times for going to sleep and waking up; avoid daytime naps.
- Avoid heavy meals in the evening.
- Have a warm drink such as heated up milk or camomile tea at bedtime.
- If you need to work in the evening, stop at least 1 hour before bedtime.
- Make sure that your bed is comfortable and your bedroom is well ventilated.



**Taking daily exercise**  
Regular exercise, such as walking, will make you feel more tired and help you to sleep.

## SELF-HELP Getting a good night's sleep during pregnancy

Getting a full night's undisturbed sleep may be difficult during pregnancy, especially in later pregnancy when the enlarging abdomen makes it more difficult to find a comfortable position. However, there are several measures

you can take to help make sleeping easier. Before going to bed, try to relax. Have a warm bath, listen to the radio, or read until you feel sleepy. Avoid drinks containing caffeine, such as coffee and tea, especially in the evening.



*Pillow between legs*

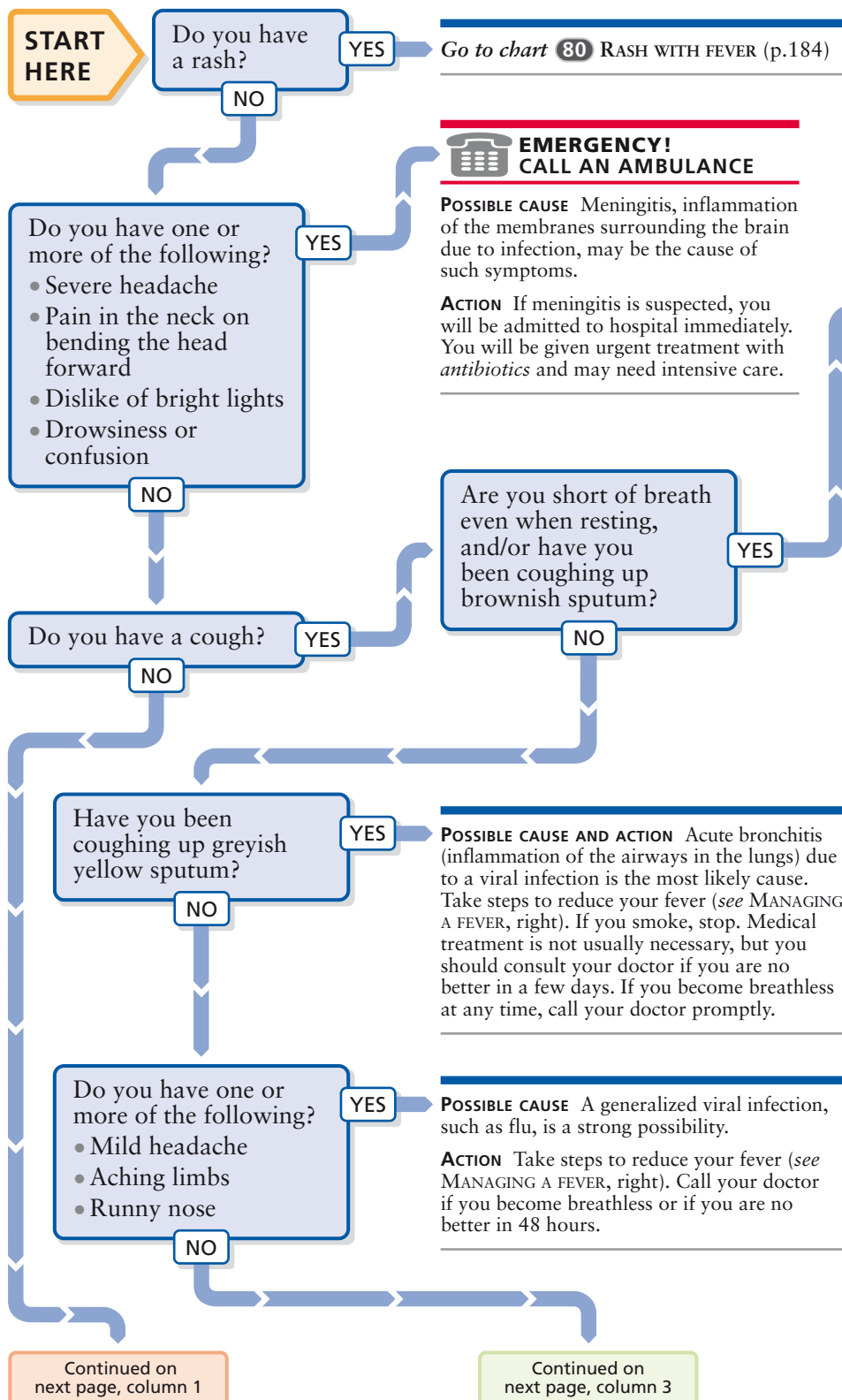
**Sleeping comfortably**  
Try to sleep on your side with a pillow between your legs. You may also feel more comfortable if you place another pillow under your abdomen.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

# 61 Fever

A fever is a body temperature higher than 38°C (100°F). It can be a symptom of many diseases, but it usually indicates that your body is fighting an infection. Heat exposure and certain drugs can also raise your body temperature. You may

suspect that you have a fever if you feel shivery, alternately hot and cold, and you are generally unwell. To check if you do have a fever, use a thermometer to measure your temperature accurately (see MANAGING A FEVER, below).



## WARNING

**HIGH FEVER** If you are not feeling well, you should measure your temperature every 4 hours. Call your doctor immediately if your temperature rises to 40°C (104°F) or above, and take steps to reduce your temperature (see MANAGING A FEVER, below).

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A chest infection such as pneumonia (infection of the air spaces in the lungs) is possible. This may be serious, especially for those already in poor health.

**ACTION** While waiting for the doctor, take steps to reduce your fever (below). If your doctor confirms that you have pneumonia, he or she will probably prescribe *antibiotics* and may arrange for you to have a chest X-ray (p.39). Hospital admission may be necessary.

## SELF-HELP Managing a fever

When you are unwell, you should measure your temperature every 4 hours. If using a mercury thermometer, carefully shake it until the mercury falls below 36°C (97°F), place it under your tongue or armpit, and leave it for 3 minutes. A digital thermometer can also be placed under the tongue or in the armpit. When taking your temperature from the armpit, add 0.6°C (1°F) to the reading to obtain the actual figure. You have a fever if your temperature is 38°C (100°F) or above.

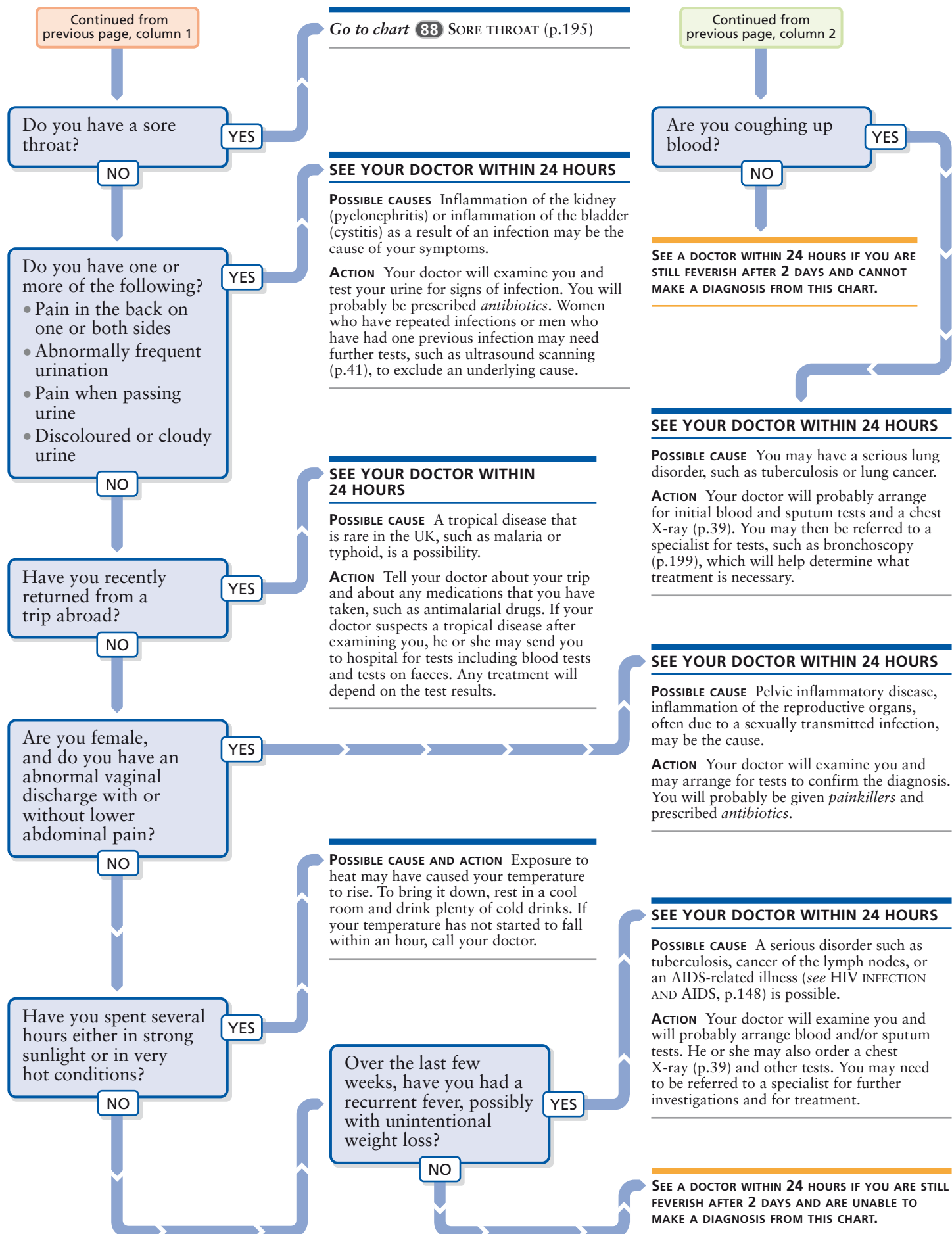
### Reducing a fever

If you have a fever, reducing it will make you feel better. Rest in a cool room, drink plenty of cool fluids, and take paracetamol, aspirin, or ibuprofen to reduce the fever.

### Measuring your temperature

Placing the thermometer under your tongue is usually the most convenient way of measuring your temperature.

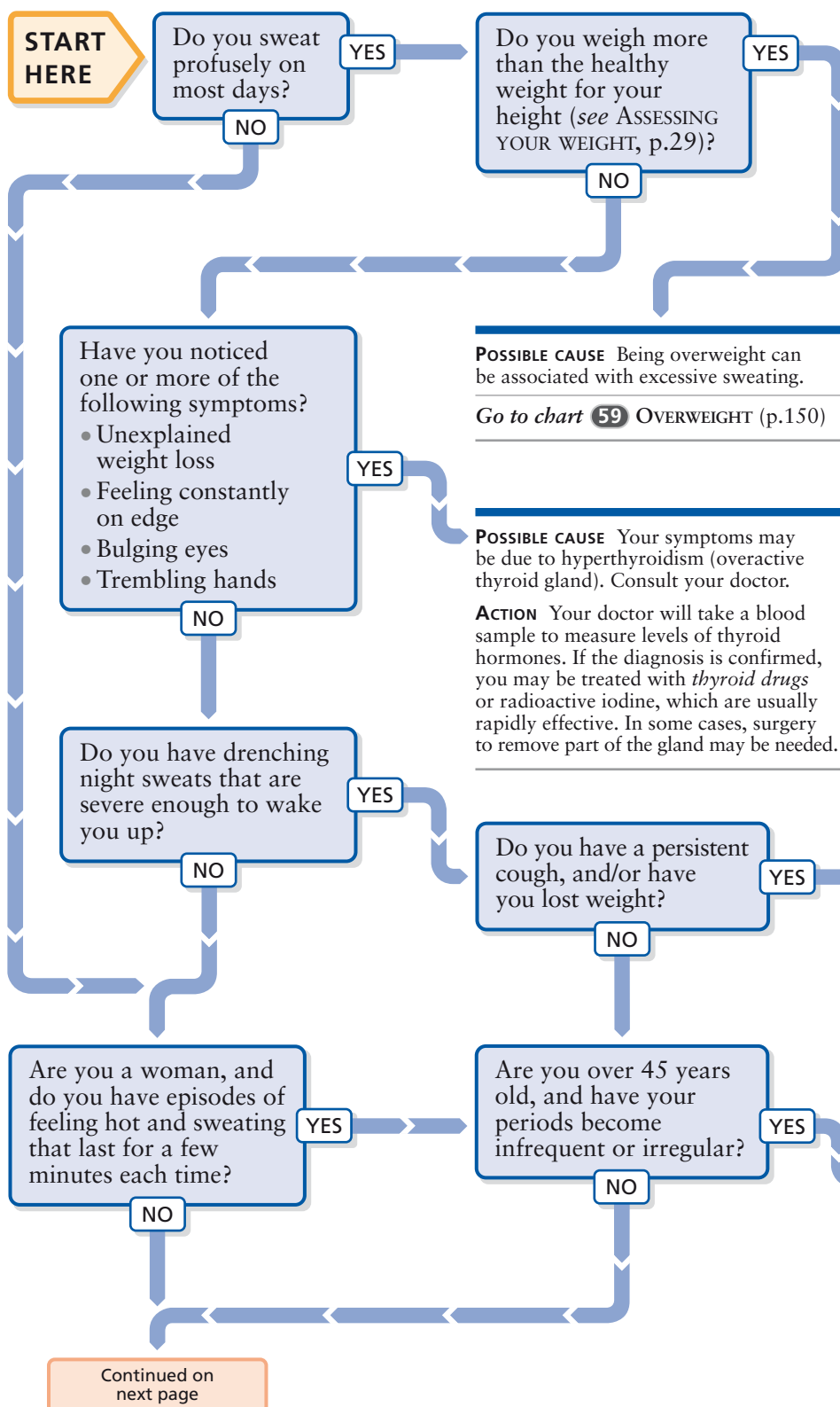




## 62 Excessive sweating

Sweating is one of the natural mechanisms for regulating body temperature and is the normal response to hot conditions or strenuous exercise. Some people naturally sweat more than others, so if you have always sweated

profusely, there is unlikely to be anything wrong. However, sweating that is not brought on by heat or exercise or that is more profuse than you are used to may be a sign of one of a number of medical conditions.

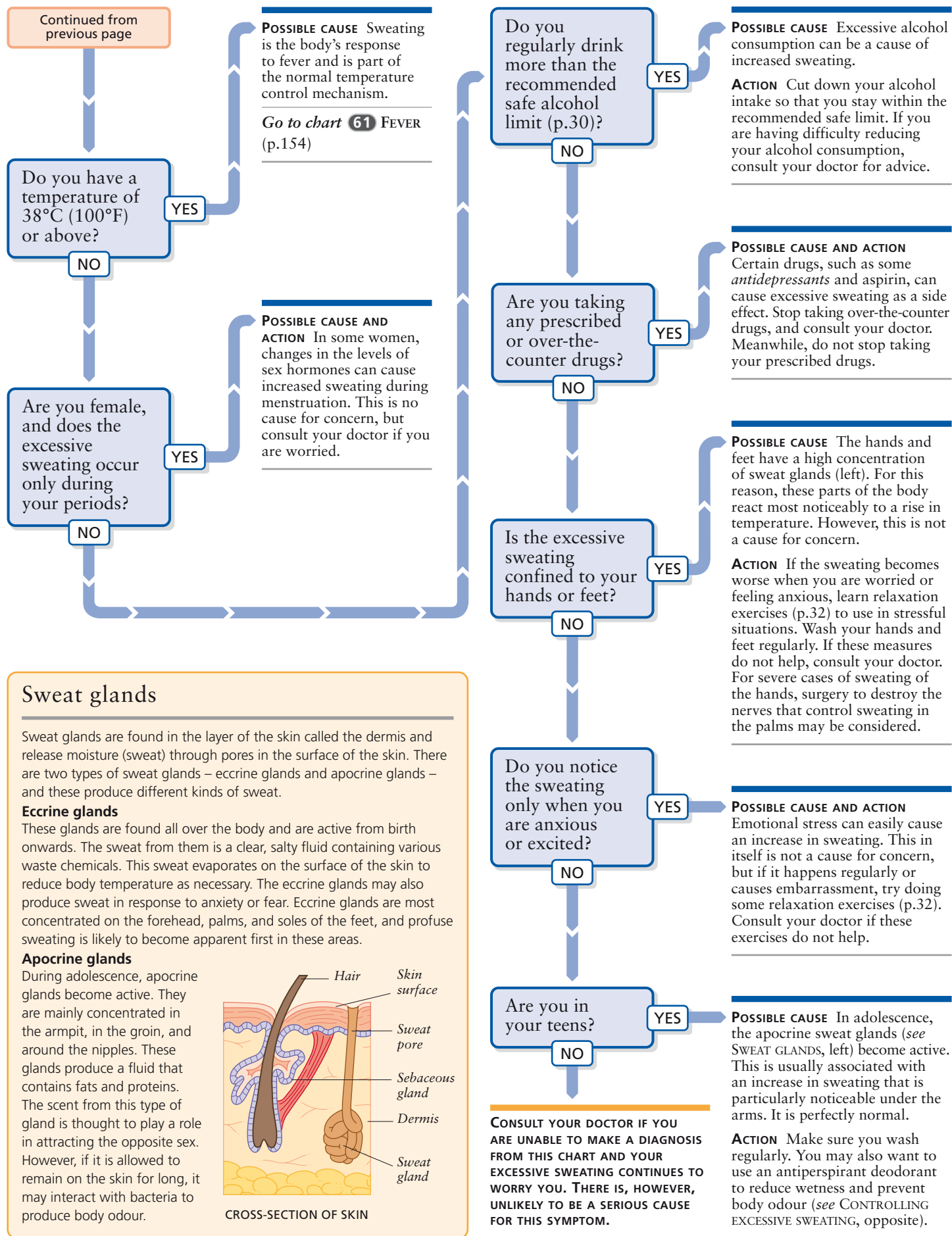


### Controlling excessive sweating

Excessive sweating can be very embarrassing, especially if it results in a noticeable body odour or causes the hands to be particularly wet and slippery. Washing regularly and wearing comfortable, loose clothing made from natural fibres that absorb sweat should help to prevent body odour. An underarm deodorant containing an antiperspirant should help to reduce the amount of sweat produced from the armpits. Such deodorants may be bought in the form of a spray, a roll-on applicator, or a cream. All of these forms of deodorant are equally effective.

If these measures do not help to combat excessive sweating, consult your pharmacist or doctor. Stronger treatments are available over the counter. Alternatively, your doctor may prescribe a cream or gel containing aluminium chloride that is applied to the skin to reduce the activity of the sweat glands. If you still sweat heavily, particularly on your hands, your doctor may suggest that you have an operation to destroy nerves near the back of the neck that supply the sweat glands under the arms and on the palms of the hands. This operation dramatically reduces sweating in these areas.





## Sweat glands

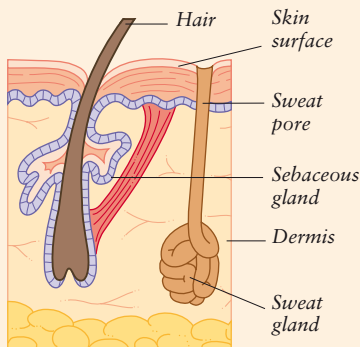
Sweat glands are found in the layer of the skin called the dermis and release moisture (sweat) through pores in the surface of the skin. There are two types of sweat glands – eccrine glands and apocrine glands – and these produce different kinds of sweat.

### Eccrine glands

These glands are found all over the body and are active from birth onwards. The sweat from them is a clear, salty fluid containing various waste chemicals. This sweat evaporates on the surface of the skin to reduce body temperature as necessary. The eccrine glands may also produce sweat in response to anxiety or fear. Eccrine glands are most concentrated on the forehead, palms, and soles of the feet, and profuse sweating is likely to become apparent first in these areas.

### Apocrine glands

During adolescence, apocrine glands become active. They are mainly concentrated in the armpit, in the groin, and around the nipples. These glands produce a fluid that contains fats and proteins. The scent from this type of gland is thought to play a role in attracting the opposite sex. However, if it is allowed to remain on the skin for long, it may interact with bacteria to produce body odour.

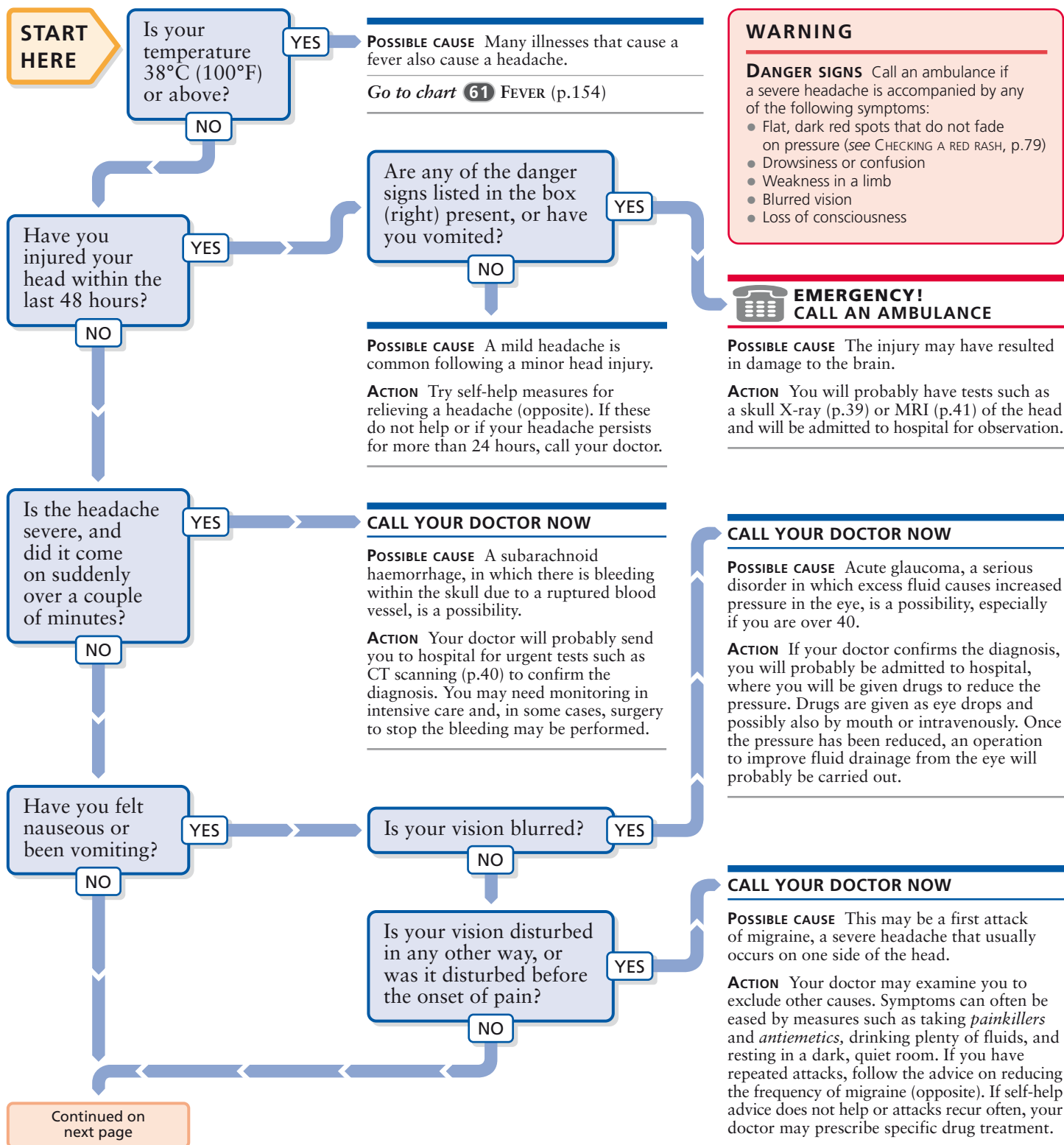


CROSS-SECTION OF SKIN

# 63 Headache

From time to time nearly everyone suffers from mild to moderate headaches that develop gradually and clear up after a few hours, leaving no after-effects. Headaches like this are extremely unlikely to be a sign of a serious underlying disorder and are usually the result of factors

such as tension, tiredness, or an excessive consumption of alcohol. However, if you have a headache that is severe, lasts for more than 24 hours, is not improved by taking over-the-counter *painkillers*, or recurs several times during one week, you should see your doctor promptly.



Continued from  
previous pageIs the pain felt mainly  
in the face, and is the  
pain worse when you  
bend down?

YES

**POSSIBLE CAUSE** Sinusitis (inflammation of the membranes lining the air spaces in the skull) may be the cause of this problem, especially if you have recently had a cold or a runny or blocked nose.

**ACTION** Try steam inhalation (see TREATING A COLD, p.194). *Painkillers* may also help. Consult your doctor if your symptoms are no better in 48 hours; you may need *antibiotics*.

NO

Is the pain felt mainly  
in the temples, and/or  
are these areas tender  
to touch?

YES

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSE** Temporal arteritis (inflammation of the arteries in the scalp and elsewhere in the body) is a possibility. Urgent treatment may be needed to prevent the condition from affecting the arteries supplying the eyes.

**ACTION** Your doctor will probably prescribe *corticosteroid drugs* to reduce the inflammation. It may be necessary for you to have regular blood tests to confirm that the dose you are taking is sufficient to control the inflammation.

NO

Did the headache  
occur after you  
had been reading  
or doing close work?

YES

**POSSIBLE CAUSE** Muscle strain in your neck, as a result of poor posture or tension from concentration, is the most likely cause of your headache.

**ACTION** Try self-help measures for relieving a headache (below). In order to prevent the problem from recurring, make sure that when you read, you are not sitting in an awkward position. Periodic rest from whatever you are doing will also help. If headaches do recur, either arrange for a vision test (p.189) with an optician or consult your doctor.

NO

Are you sleeping poorly,  
and/or are you feeling  
tense or under stress?

YES

**POSSIBLE CAUSE AND ACTION** Headaches can be caused by lack of sleep. Psychological stress often causes tension headaches. Try self-help measures for relieving a headache (left).

Go to chart **73** ANXIETY (p.172)

NO

Are you taking any  
prescription drugs?

YES

**POSSIBLE CAUSE AND ACTION** Certain drugs, including oral contraceptives, can cause headaches as a side effect. Consult your doctor, who may offer you an alternative drug if your medication is a possible cause. Meanwhile, do not stop taking any prescription drugs.

NO

Are you pregnant?

YES

**POSSIBLE CAUSE** Headaches are as common in pregnancy as at other times. However, if you develop a severe headache with swollen feet or ankles, blurred vision, or vomiting, consult your doctor or midwife at once. You may have pre-eclampsia (p.283), a condition that may threaten your life and that of your baby.

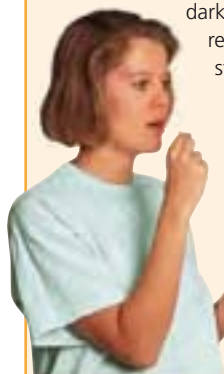
**ACTION** Your doctor will measure your blood pressure and test your urine for evidence of pre-eclampsia. You may need to be admitted to hospital for fetal monitoring (p.285).

NO

**MOST HEADACHES ARE MINOR AND ARE DUE TO THE STRESSES AND STRAINS OF EVERYDAY LIFE. IF A HEADACHE PERSISTS OVERNIGHT OR IF YOU DEVELOP OTHER SYMPTOMS, SEE YOUR DOCTOR WITHIN 24 HOURS.**

**SELF-HELP** Relieving  
a headache

Most headaches are not serious and are simply due to the pressures of everyday life. To ease the pain of a headache, take a break and get some fresh air. Try massaging your neck and shoulder muscles. If these measures do not help, rest in a quiet, cool, darkened room and take the recommended dose of a standard *painkiller*.

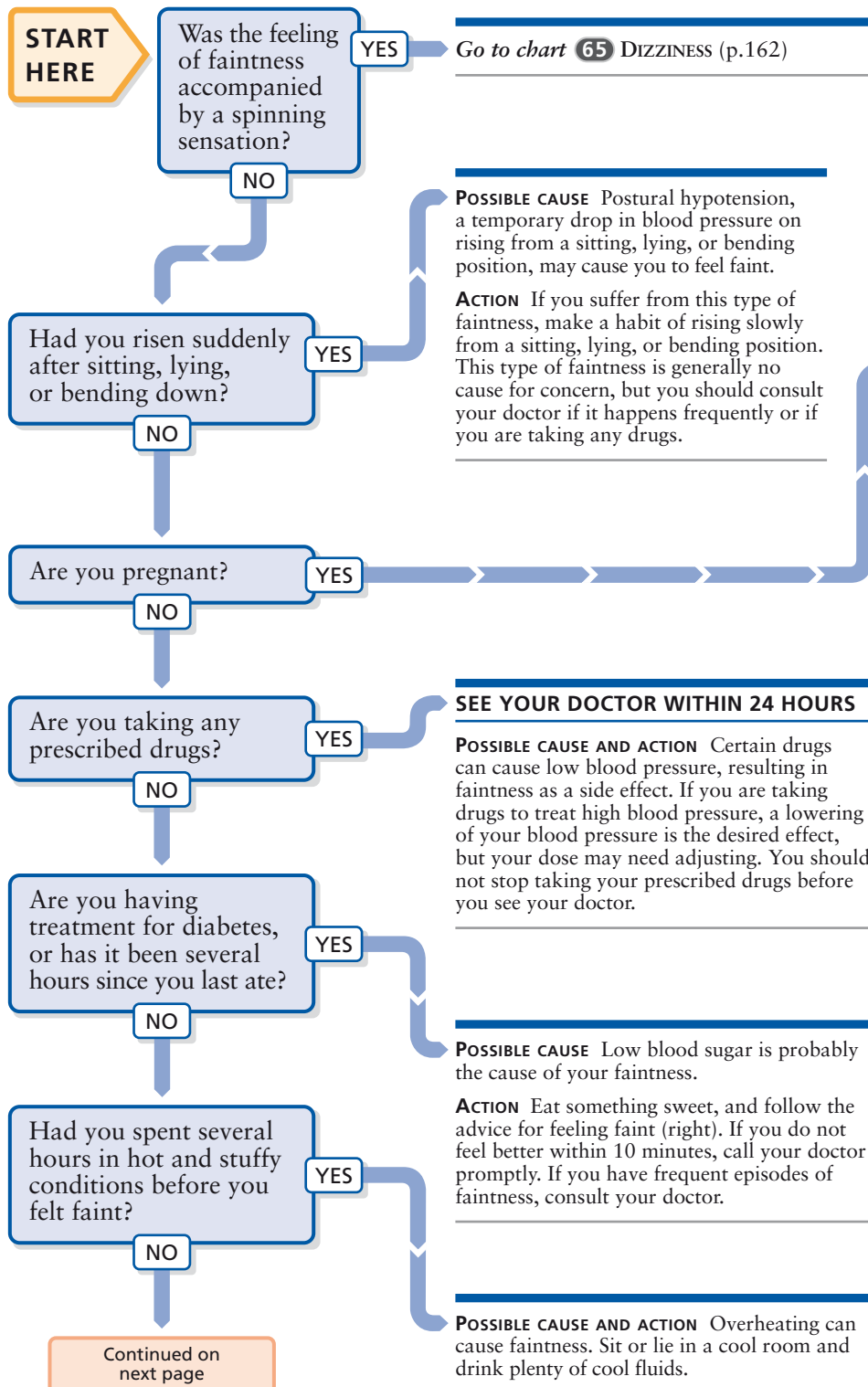


**Headache relief**  
Taking a *painkiller* is often an effective way to relieve a headache. However, do not exceed the dose that is recommended on the packet.

# 64 Feeling faint and passing out

People who feel faint usually experience a sensation of lightheadedness or dizziness and possibly nausea. Such feelings of faintness may sometimes progress to passing out – a brief loss of consciousness known as fainting. Feeling faint and passing out are usually caused by a sudden drop in blood pressure – as a result, for example, of emotional

shock – or they may be due to an abnormally low level of sugar in the blood. Isolated episodes of feeling faint are hardly ever a cause for concern, but if you suffer repeated episodes, or if you pass out for no obvious reason, you should seek medical advice. Loss of consciousness may sometimes be due to a serious underlying medical condition.



## WARNING

**RECOGNIZING A SEIZURE** Loss of consciousness that is accompanied by jerky movements, tongue-biting, or passing urine may indicate a seizure. If you think someone is having a seizure, call an ambulance. If you have just had an episode of loss of consciousness and you think you may have had a seizure, call your doctor now.

## SELF-HELP Feeling faint

Faintness may be accompanied by sweating and feeling nauseous. Your vision may close in until you feel you are looking through a tunnel. An observer may comment on your skin looking pale. These symptoms are due to a reduction in the blood flow to the brain. Follow the instructions below to relieve the symptoms and avoid loss of consciousness.

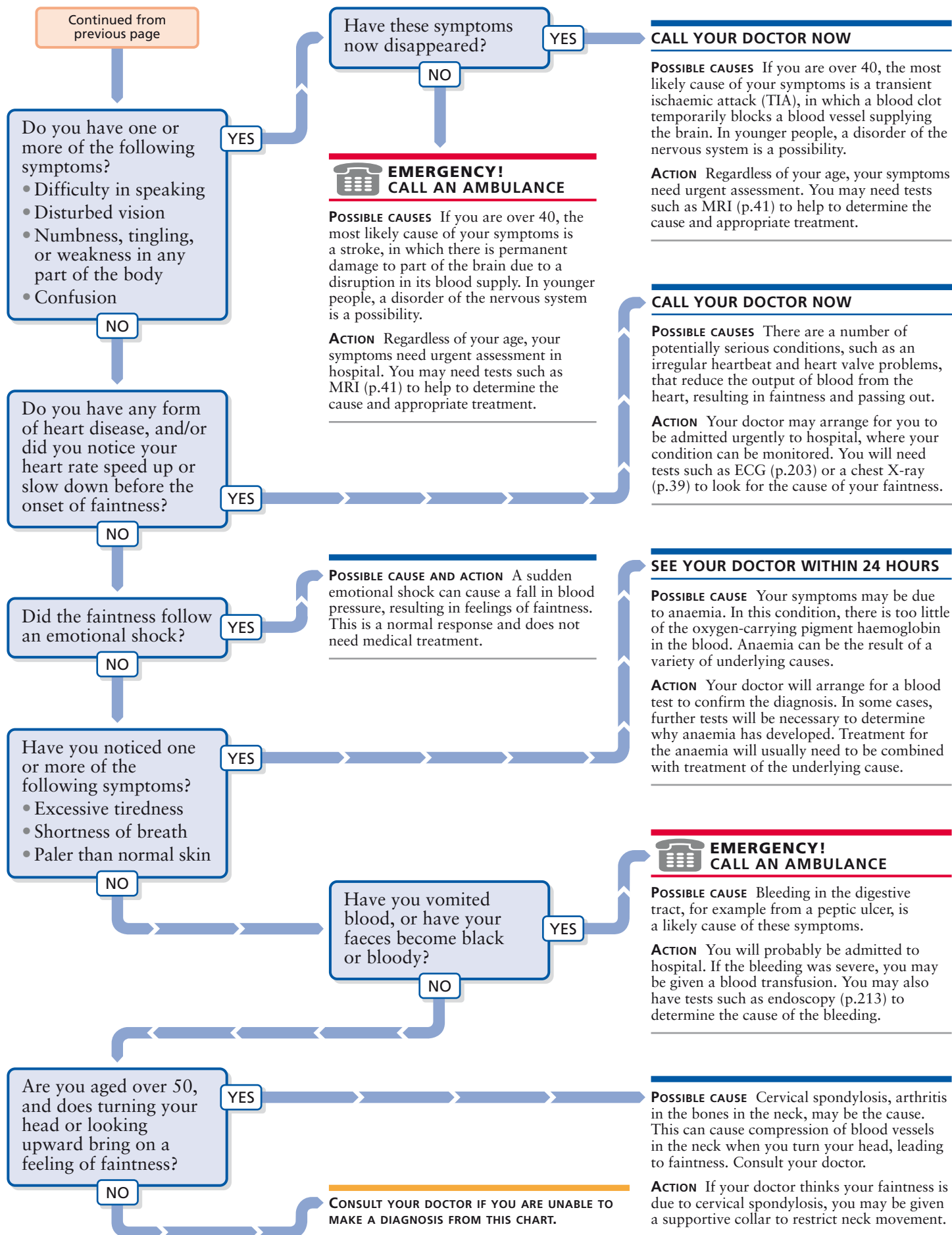
Head between the knees



### Relieving faintness

Sit down and put your head between your knees, or lie down and raise your legs on a cushion or a chair.

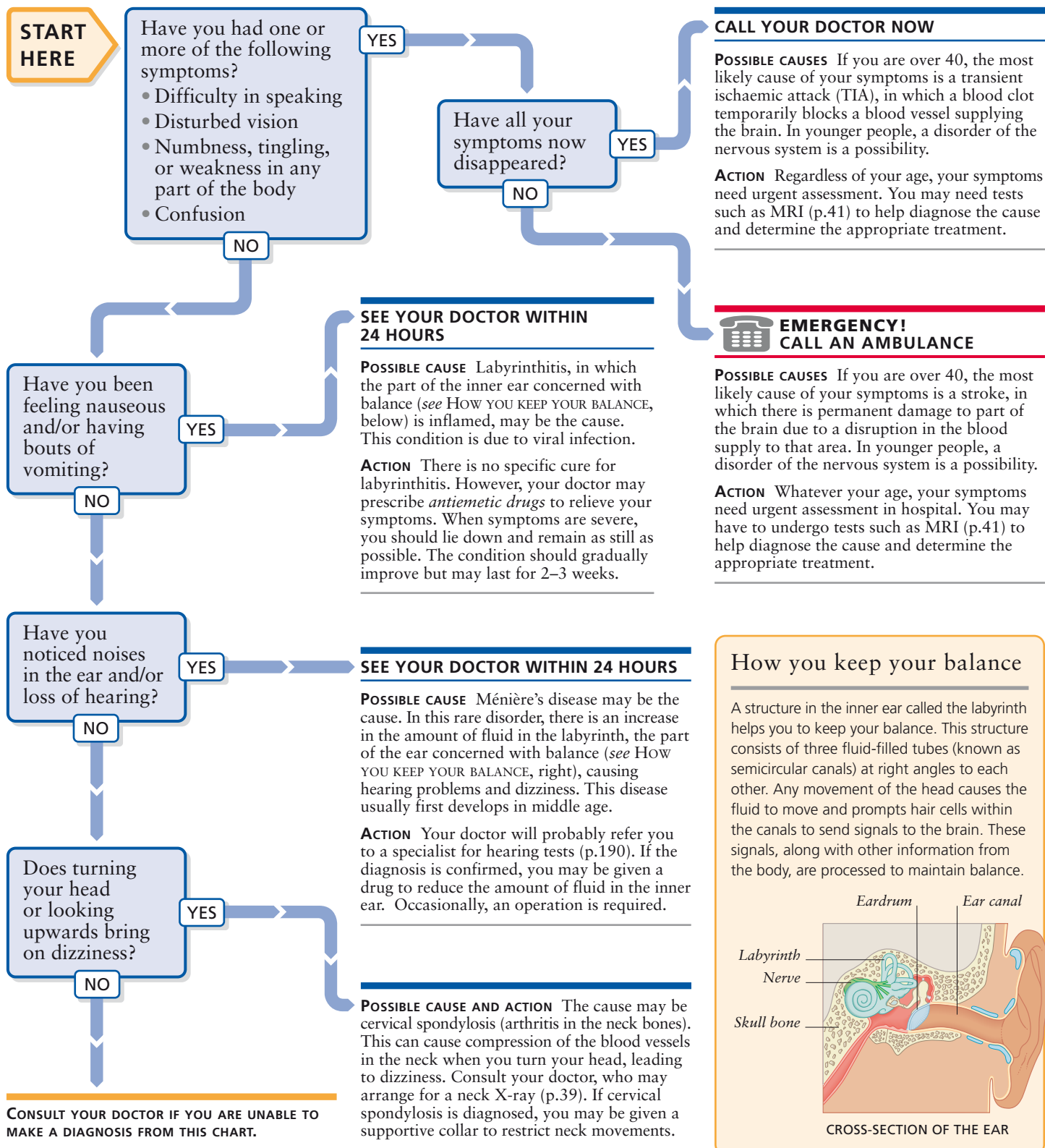




# 65 Dizziness

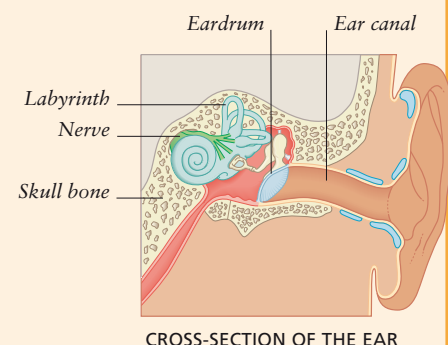
Feeling unsteady on your feet for a moment is a common experience and need not be a matter for concern. However, true dizziness (also known as vertigo), in which there is a sensation that everything is spinning around, is not normal

unless you have drunk too much alcohol or have been spinning around yourself – for example on a fairground ride. Dizziness may be a symptom of an underlying disorder and should be brought to your doctor's attention.



## How you keep your balance

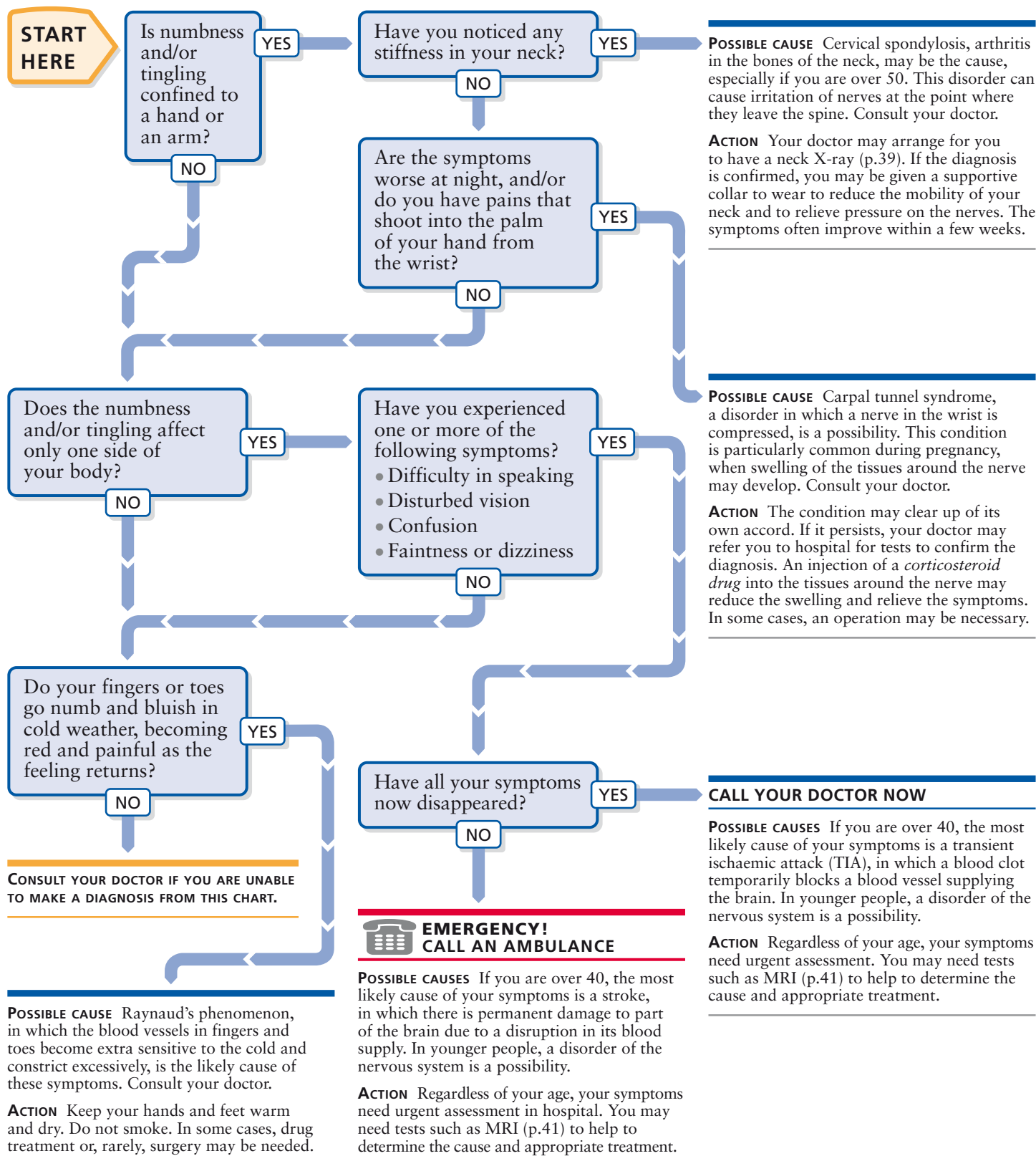
A structure in the inner ear called the labyrinth helps you to keep your balance. This structure consists of three fluid-filled tubes (known as semicircular canals) at right angles to each other. Any movement of the head causes the fluid to move and prompts hair cells within the canals to send signals to the brain. These signals, along with other information from the body, are processed to maintain balance.



# 66 Numbness and/or tingling

It is normal to experience numbness and/or tingling if you have been sitting in an awkward position. This is commonly called “pins and needles” and can occur in any part of the

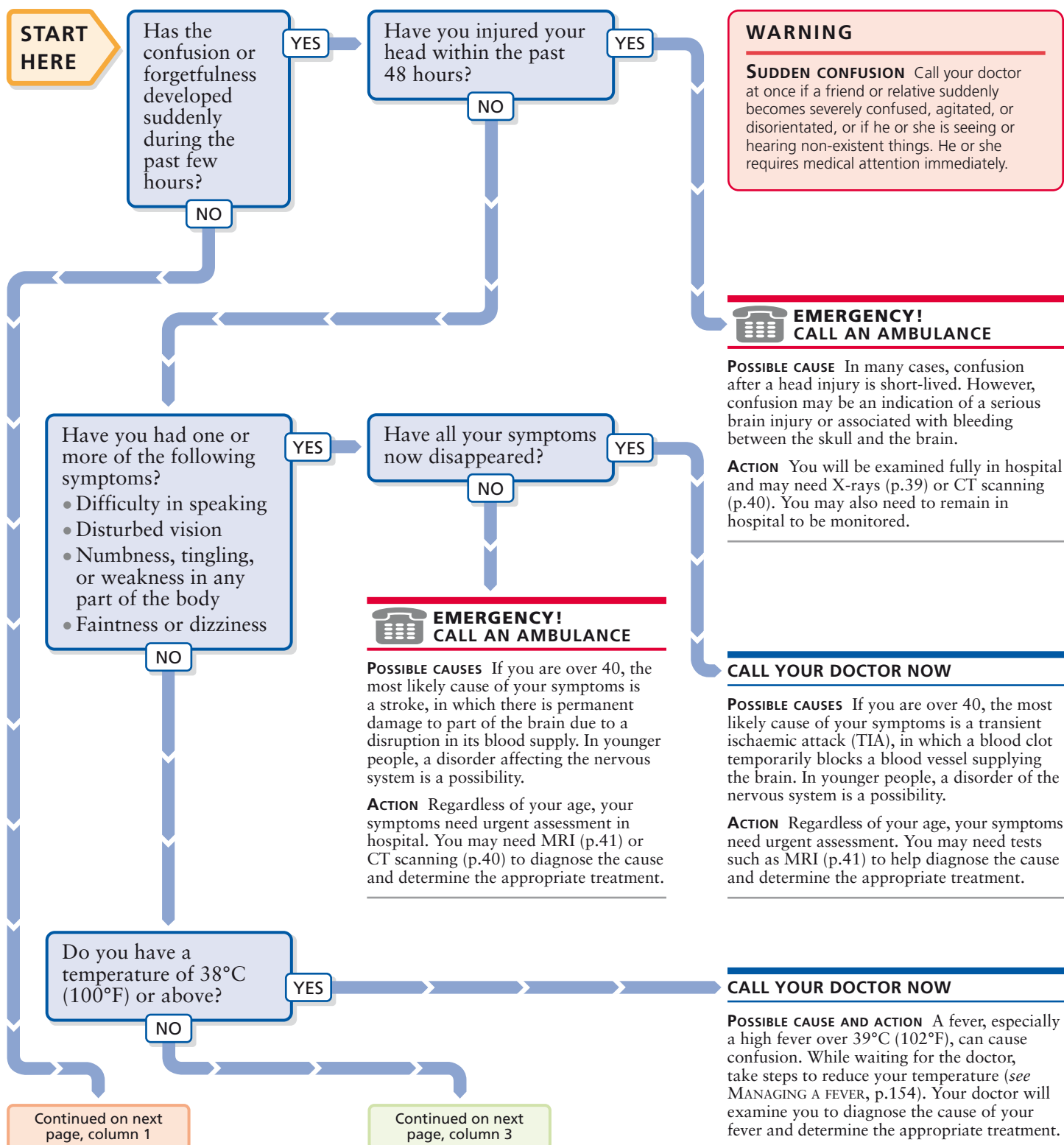
body. The feeling disappears as soon as you move around. Numbness or tingling that occurs without apparent cause may be due to a disorder that needs medical treatment.



# 67 Forgetfulness and/or confusion

We all suffer from mild forgetfulness from time to time, especially in later life when such “absent-mindedness” is a natural part of aging. People often forget details when they have been preoccupied with other things, and this is no cause for concern. However, confusion, particularly if it comes on

suddenly, or forgetfulness and confusion severe enough to disrupt everyday life, may be due to an underlying medical problem. This chart deals with sudden or severe confusion or forgetfulness that you are aware of in yourself or in someone else who may not realize they have a problem.



## WARNING

**SUDDEN CONFUSION** Call your doctor at once if a friend or relative suddenly becomes severely confused, agitated, or disorientated, or if he or she is seeing or hearing non-existent things. He or she requires medical attention immediately.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** In many cases, confusion after a head injury is short-lived. However, confusion may be an indication of a serious brain injury or associated with bleeding between the skull and the brain.

**ACTION** You will be examined fully in hospital and may need X-rays (p.39) or CT scanning (p.40). You may also need to remain in hospital to be monitored.

## CALL YOUR DOCTOR NOW

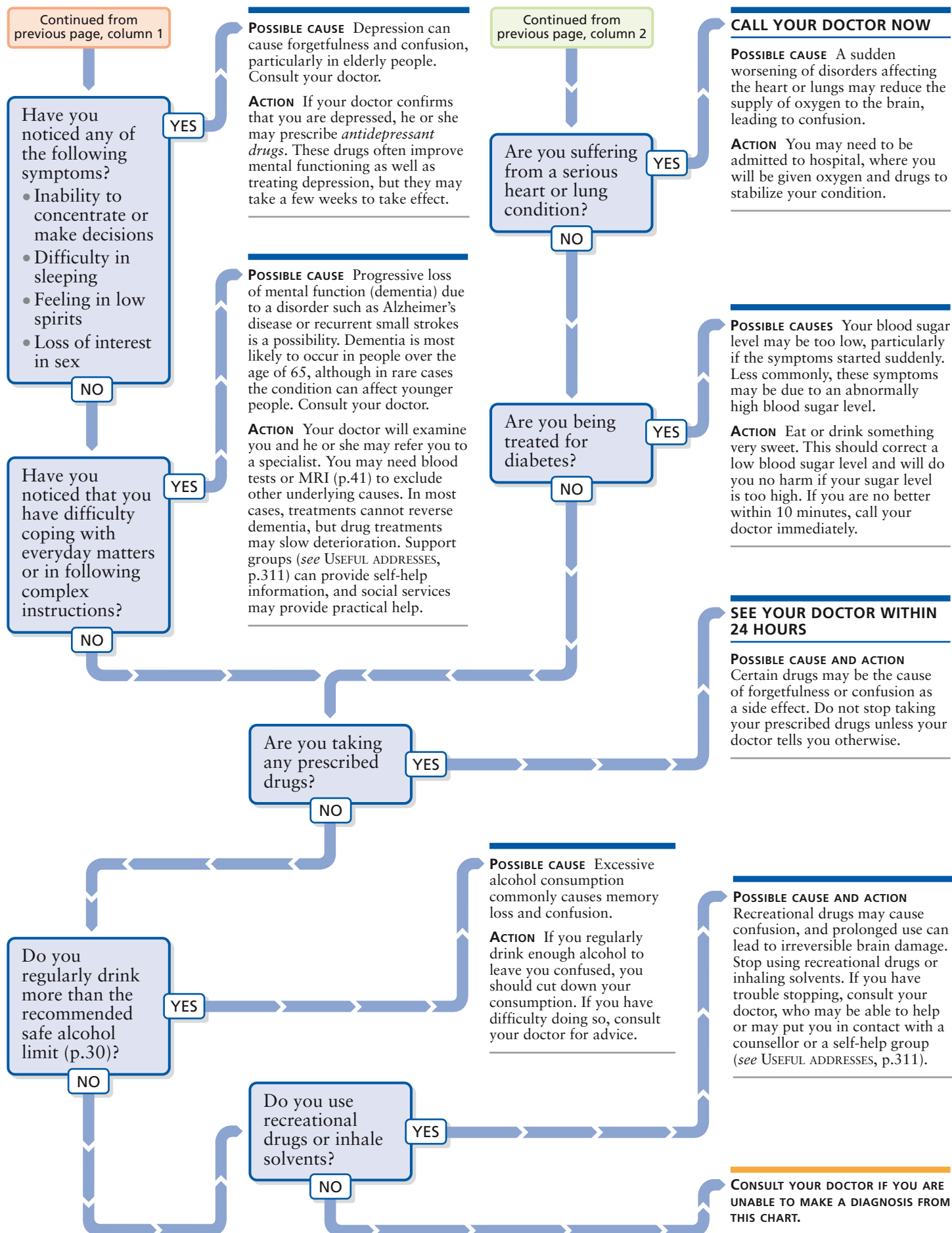
**POSSIBLE CAUSES** If you are over 40, the most likely cause of your symptoms is a transient ischaemic attack (TIA), in which a blood clot temporarily blocks a blood vessel supplying the brain. In younger people, a disorder of the nervous system is a possibility.

**ACTION** Regardless of your age, your symptoms need urgent assessment. You may need tests such as MRI (p.41) to help diagnose the cause and determine the appropriate treatment.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE AND ACTION** A fever, especially a high fever over 39°C (102°F), can cause confusion. While waiting for the doctor, take steps to reduce your temperature (see MANAGING A FEVER, p.154). Your doctor will examine you to diagnose the cause of your fever and determine the appropriate treatment.

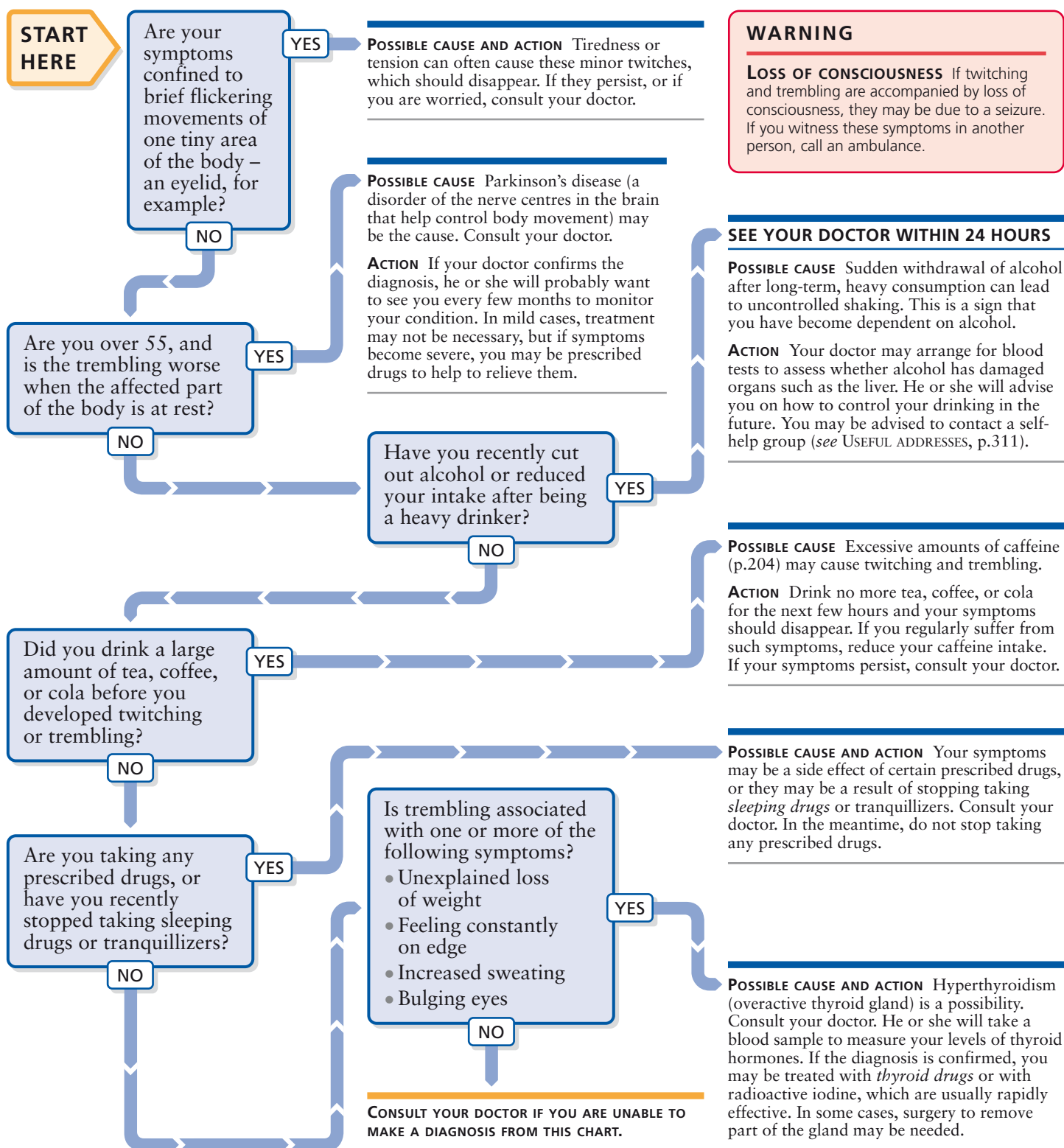




# 68 Twitching and/or trembling

Consult this chart if you experience any involuntary or uncontrolled movements. Such movements may range from slight twitching to prolonged, repeated trembling or shaking of the arms, legs, or head. Brief episodes are often simply the result of tiredness or stress and are rarely a cause for

concern. Jerking movements that happen while you are falling asleep are also common and harmless. Occasionally, however, involuntary movements may be caused by problems that require medical treatment, such as excessive alcohol consumption or a neurological disorder.

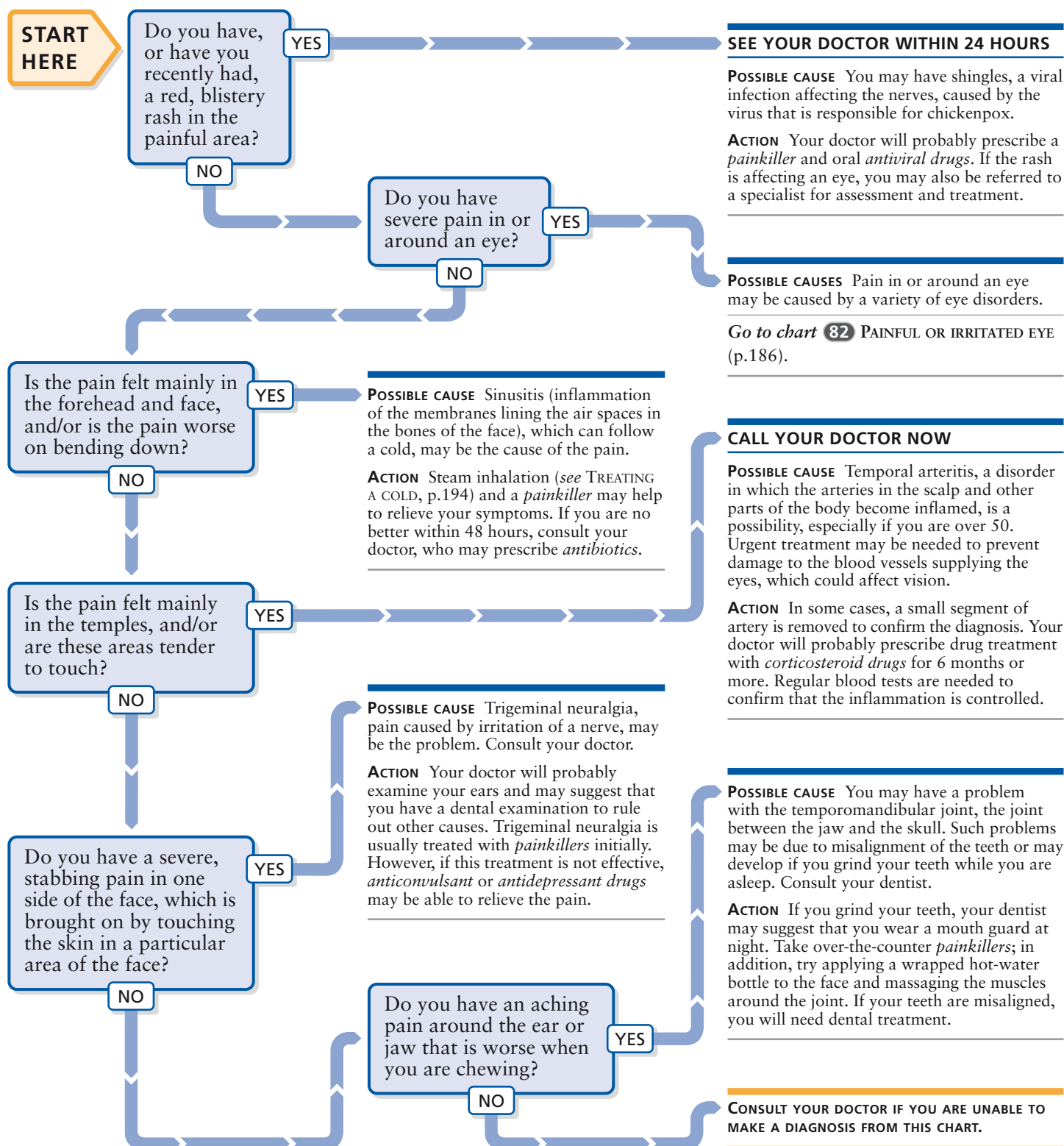


## 69 Pain in the face

For toothache, see chart 95, TEETH PROBLEMS (p.206). For pain in or around the mouth, see chart 96, MOUTH PROBLEMS (p.208). For a headache, see chart 63, HEADACHE (p.158).

Consult this chart if you develop pain or discomfort that is limited to the area of the face and/or the forehead. Facial

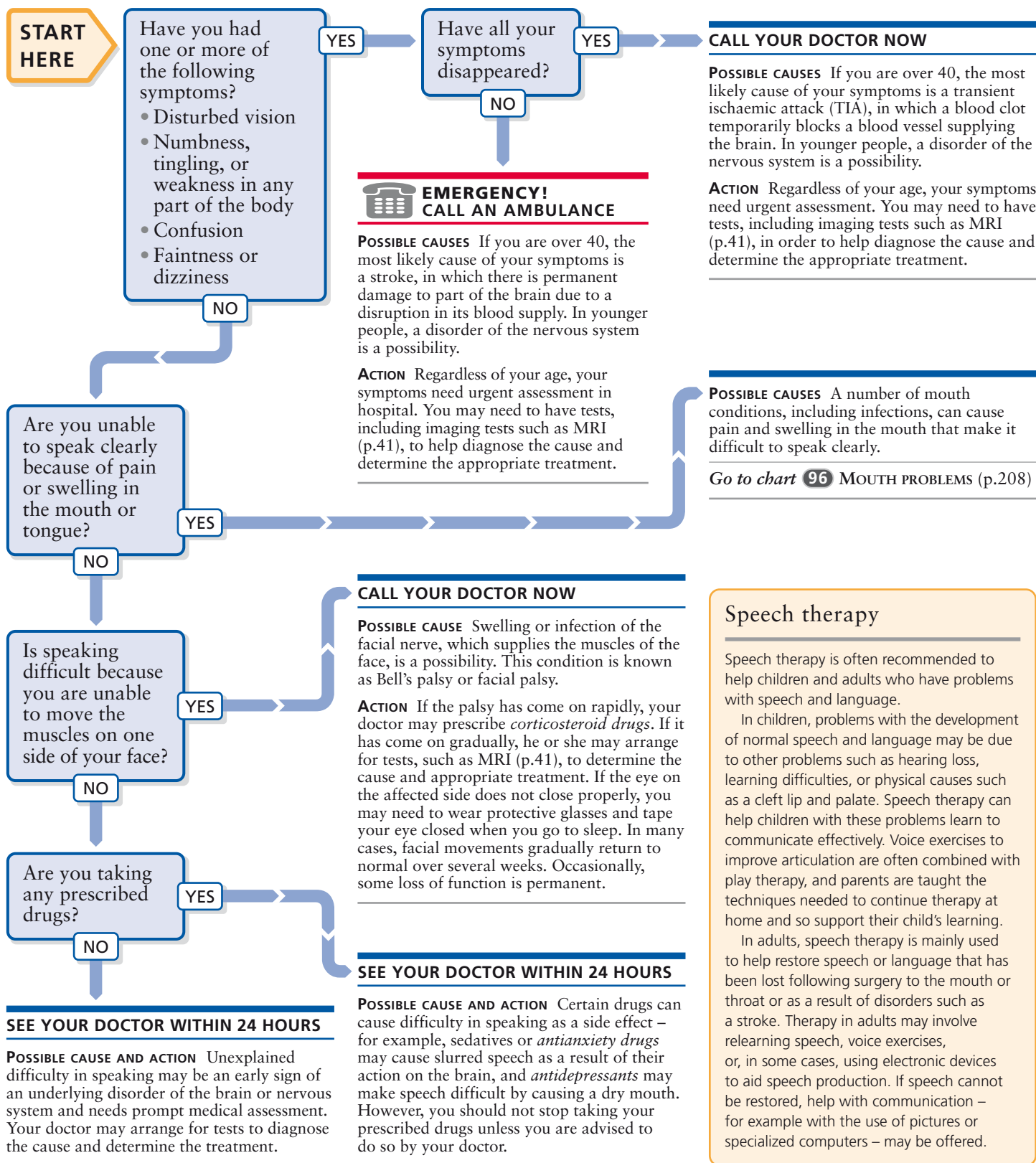
pain may be a dull, throbbing ache or a sharp, stabbing sensation. It is often caused by infection or inflammation of the underlying tissues or irritation of a nerve. Although pain in the face can be distressing and may require medical treatment, it is rarely a sign of a serious disorder.



# 70 Difficulty in speaking

Consult this chart if you have, or recently have had, difficulty in finding or using words or if your speech has become unclear. Such speech difficulties may be related

to disorders affecting the brain, the mouth, or the facial nerves. In some cases, speech may be affected permanently, although speech therapy (below) is often beneficial.

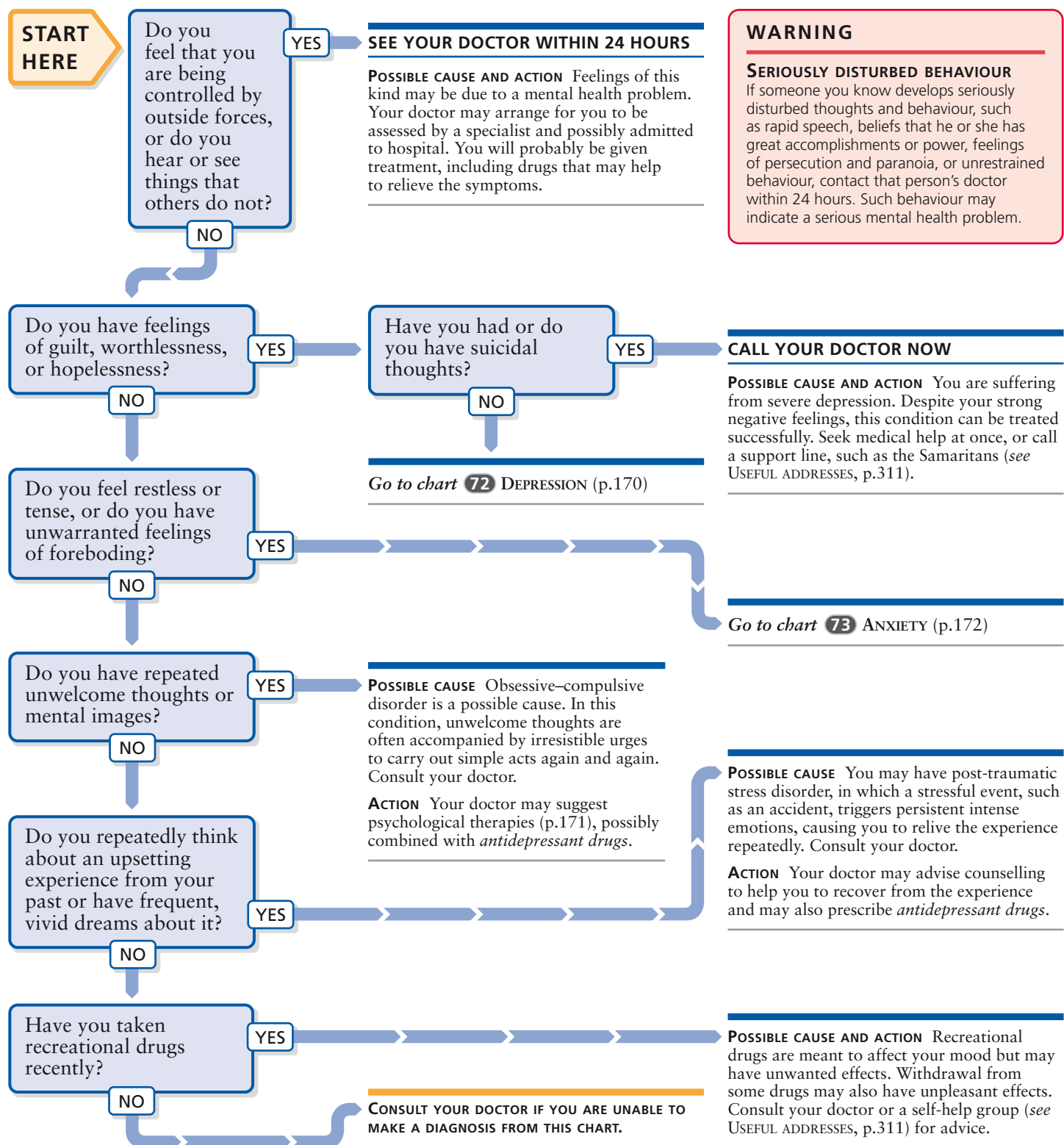




# 71 Disturbing thoughts and feelings

Consult this chart if you begin to have thoughts and feelings that worry you or that seem to you or to other people to be abnormal or unhealthy. You may be having upsetting or intrusive thoughts or you may be experiencing unfamiliar or uncontrolled emotions. If your thoughts and feelings

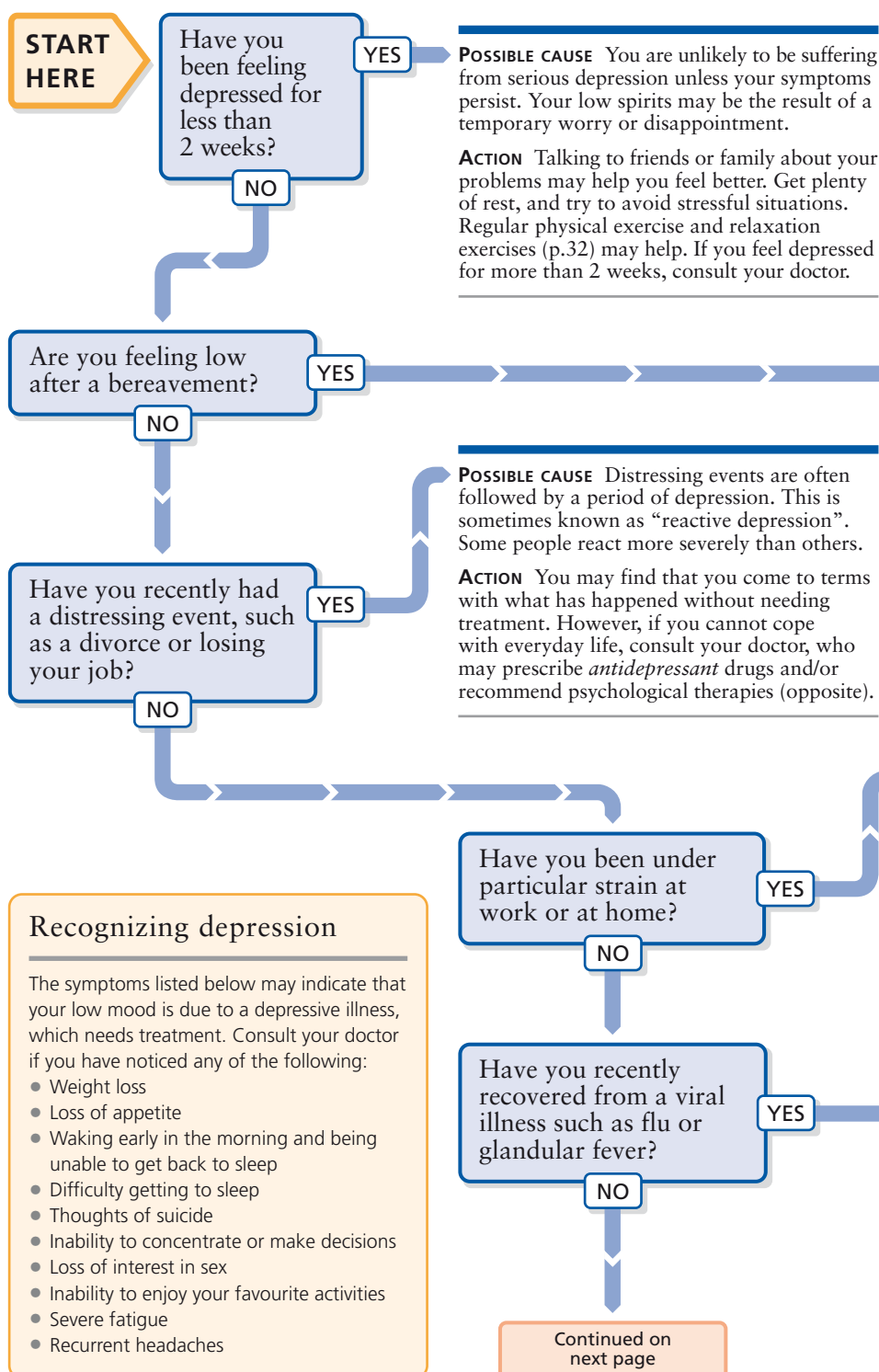
continue to worry you, whatever your particular problem, talk to your doctor about them. He or she may be able to help you to put your feelings into context by discussing them with you. If your concerns are justified, he or she may suggest treatment or refer you to a specialized therapist.



# 72 Depression

Most people have minor ups and downs in mood, feeling good one day but low the next. These changes often have an identifiable cause and usually pass quickly. True depression is associated with physical symptoms including excessive tiredness, loss of weight, and sleep disturbances, such as early waking (see **RECOGNIZING DEPRESSION**, below). In some cases, a depressive illness follows a traumatic event, such as divorce,

bereavement, or loss of a job. In other cases, it follows a time a major life change, such as retirement. It may also be precipitated by hormonal changes at the menopause or after childbirth. However, in many cases, depression has no apparent cause, and some people have repeated episodes. Depression is a treatable disorder, and you should always see your doctor if you think you might be depressed.



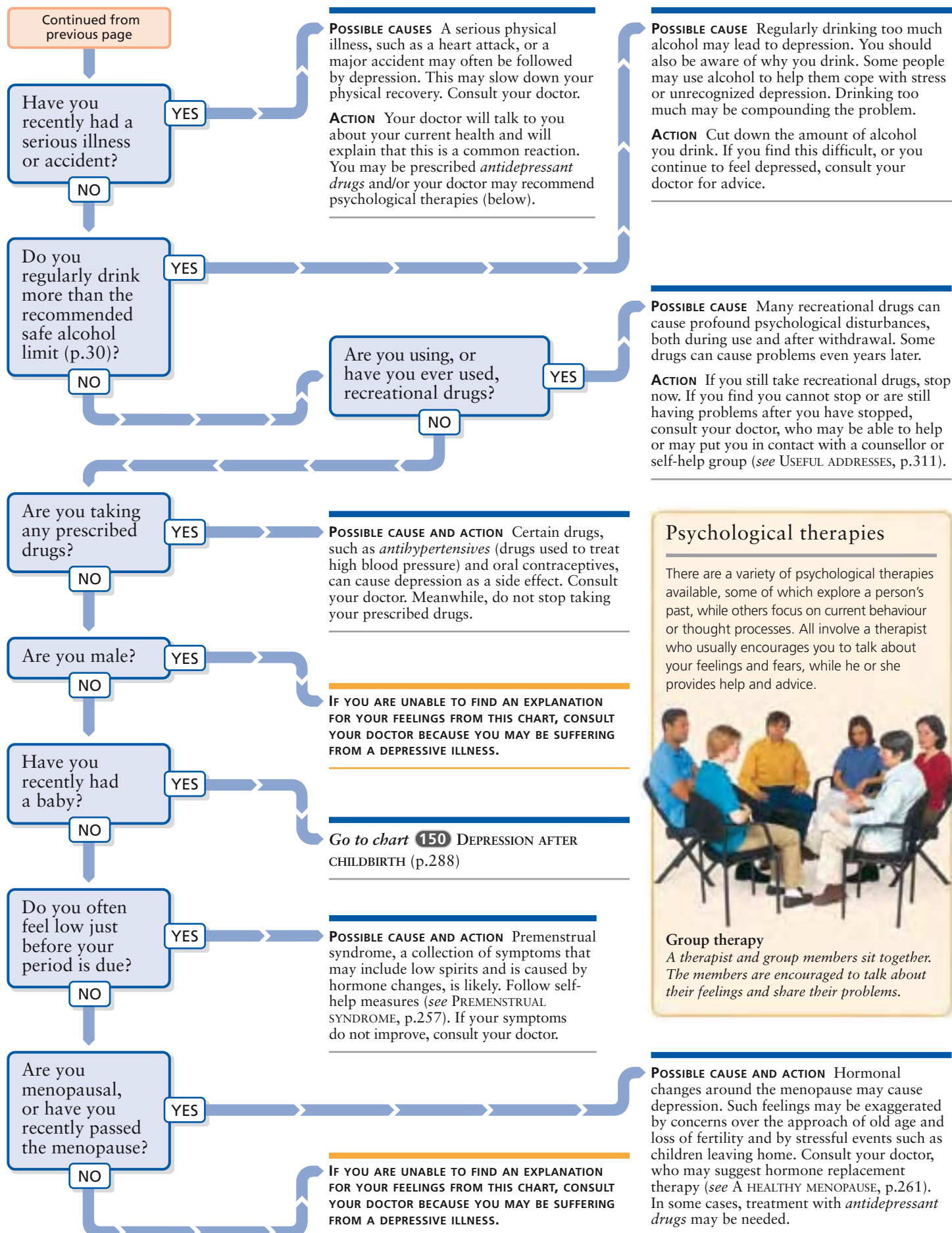
## WARNING

**THOUGHTS OF SUICIDE** Anyone who contemplates suicide is in need of urgent help. A person who is so depressed that he or she feels that life is no longer worthwhile, or who has considered suicide, should seek medical help by contacting his or her doctor. Alternatively, the Samaritans provide advice and support and can be called 24 hours a day (see **USEFUL ADDRESSES**, p.311).

## Recognizing depression

The symptoms listed below may indicate that your low mood is due to a depressive illness, which needs treatment. Consult your doctor if you have noticed any of the following:

- Weight loss
- Loss of appetite
- Waking early in the morning and being unable to get back to sleep
- Difficulty getting to sleep
- Thoughts of suicide
- Inability to concentrate or make decisions
- Loss of interest in sex
- Inability to enjoy your favourite activities
- Severe fatigue
- Recurrent headaches



## Psychological therapies

There are a variety of psychological therapies available, some of which explore a person's past, while others focus on current behaviour or thought processes. All involve a therapist who usually encourages you to talk about your feelings and fears, while he or she provides help and advice.



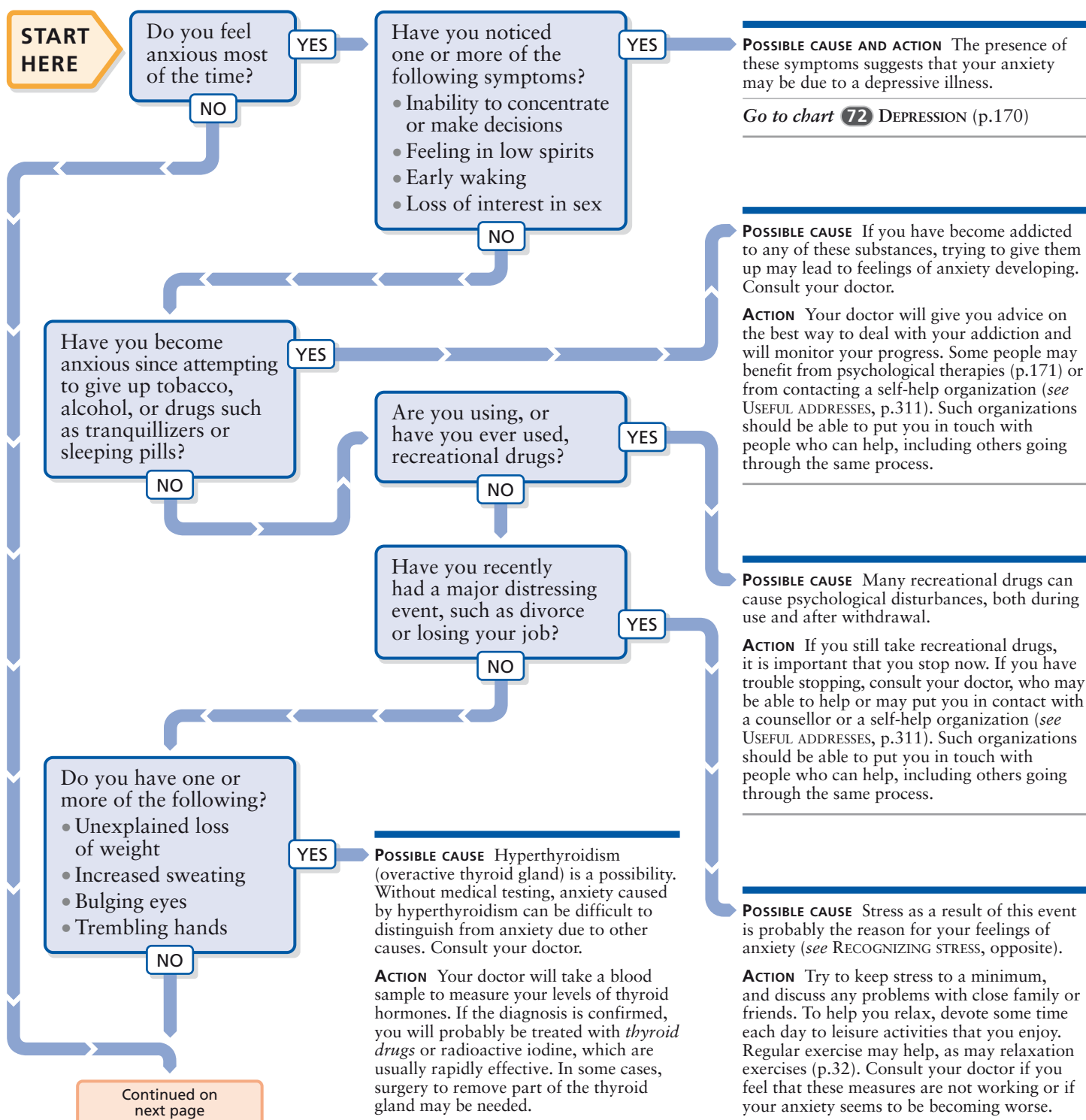
### Group therapy

A therapist and group members sit together. The members are encouraged to talk about their feelings and share their problems.

# 73 Anxiety

If you are suffering from anxiety, you will probably feel apprehensive and tense and be unable to concentrate, think clearly, or sleep well. You may have a sense of foreboding for no obvious reason or have repetitive worrying thoughts. Some people also have physical symptoms such as headaches, excessive sweating, chest pains, palpitations, abdominal cramps, and a general feeling of tiredness. Anxiety is a

natural reaction to stress, and it is normal to feel anxious if, for example, you are worried about money or family matters or if you have exams coming up. Such anxiety may help you to deal with stressful events and can help to improve your performance in certain situations. However, anxiety is not normal if it comes on without an apparent cause or if it is so severe that you can no longer cope with everyday life.





Continued from  
previous page

## Recognizing stress

Stress is a normal part of life for many people and has a beneficial effect under certain circumstances, readying the body for action. The normal stress response causes the release of epinephrine (adrenaline), which increases heart rate and maximizes blood flow to the muscles in preparation for action. These responses are beneficial if stress is released. However, prolonged or excessive stress can result in a range of symptoms, including chest pain, stomach upsets, headaches, tiredness,

insomnia, and anxiety. Having a series of infections, such as colds, or getting recurrent mouth ulcers is often a sign of stress as stress tends to depress the immune system. Stress can also result in flare-ups of existing disorders such as eczema. In the long term, stress may seriously damage health; it can, for example, contribute to high blood pressure, which increases the risk of heart attack. It is therefore important that you learn to recognize signs of stress and take action to deal with it (see **STRESS**, p.32).

Do you have any worries related to sex?

YES

NO

Do you only feel anxious in certain social situations – for instance, meeting people or going to parties?

YES

NO

Do you feel anxious only when confronted with specific objects or if you are prevented from doing things in your usual way?

YES

NO

Do you have episodes of intense anxiety coupled with sweating, trembling, nausea, and/or dizziness?

YES

NO

**POSSIBLE CAUSE** In some situations, a degree of anxiety is natural, and the problem usually improves with experience. If your anxiety is so severe that you avoid certain types of social interaction, consult your doctor.

**ACTION** Your doctor may be able to teach you coping strategies for dealing with social situations, or he or she may refer you to a counsellor for help. If your anxiety is severe, drug treatment with *beta blockers* or some types of *antidepressant* may be helpful.

**POSSIBLE CAUSES** Your anxiety may be caused by a phobia, which is an irrational fear of a specific object or situation – for example, you may be afraid of spiders. Otherwise, you may have obsessive-compulsive disorder, in which you feel an irresistible need to behave in a certain fashion, even though you may know that it is not necessary – for example, you may feel the need to repeatedly wash your hands and become excessively anxious if you are unable to do so. Consult your doctor.

**ACTION** Your doctor will ask you about your feelings. He or she may advise psychological therapies (p.171) or drug treatment for your anxiety. Most people can learn to manage their fears and anxiety so that they do not affect their lives on a day-to-day basis.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** You may be having panic attacks, in which feelings of intense anxiety are coupled with alarming physical symptoms. Panic attacks are unpredictable and usually have no obvious cause.

**ACTION** It is important to see your doctor as soon as possible so that he or she can confirm the diagnosis and rule out a physical cause for your symptoms. If you are having panic attacks, you will need treatment with psychological therapies (p.171). Follow self-help measures for coping with panic attacks (right).

**POSSIBLE CAUSES** Anxiety about sex is common, particularly during early adult life. A specific difficulty affecting you or your partner, such as premature ejaculation or a fear of pregnancy or contracting a sexually transmitted disease, can be a source of anxiety. Worries about sexual orientation (p.251) may also cause anxiety. In later life, anxiety may be related to decreasing sexual activity or worries about attractiveness (see **SEX IN LATER LIFE**, p.270).

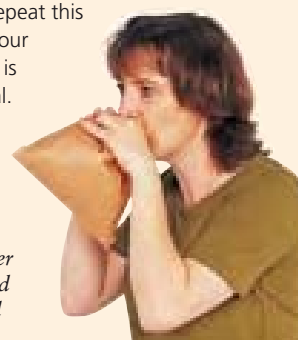
**ACTION** If you have a regular partner, you should discuss your feelings with him or her. Talking about sex openly (see **COMMUNICATING YOUR SEXUAL NEEDS**, p.273) is often the best way to deal with anxiety. If you are unable to communicate satisfactorily or if you do not have a regular partner with whom you can talk, consult your doctor. He or she may be able to advise you or may suggest that you receive counselling (see **SEX COUNSELLING**, p.251).

## SELF-HELP Coping with a panic attack

Rapid breathing during a panic attack reduces carbon dioxide levels in the blood and may lead to frightening physical symptoms, such as palpitations and muscle spasms. You can control the symptoms by breathing into and out of a paper bag. When you do this, you rebreathe carbon dioxide, restoring your blood levels. Place the bag over your mouth, and breathe in and out 10 times. Then, remove the bag and breathe normally for 15 seconds. Repeat this process until your breathing rate is back to normal.

### Rebreathing from a bag

Hold a paper bag tightly over the mouth, and breathe in and out slowly.



**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO FIND A CAUSE FOR YOUR ANXIETY FROM THIS CHART AND/OR UNEXPLAINED ANXIETY PERSISTS FOR MORE THAN A FEW DAYS.**

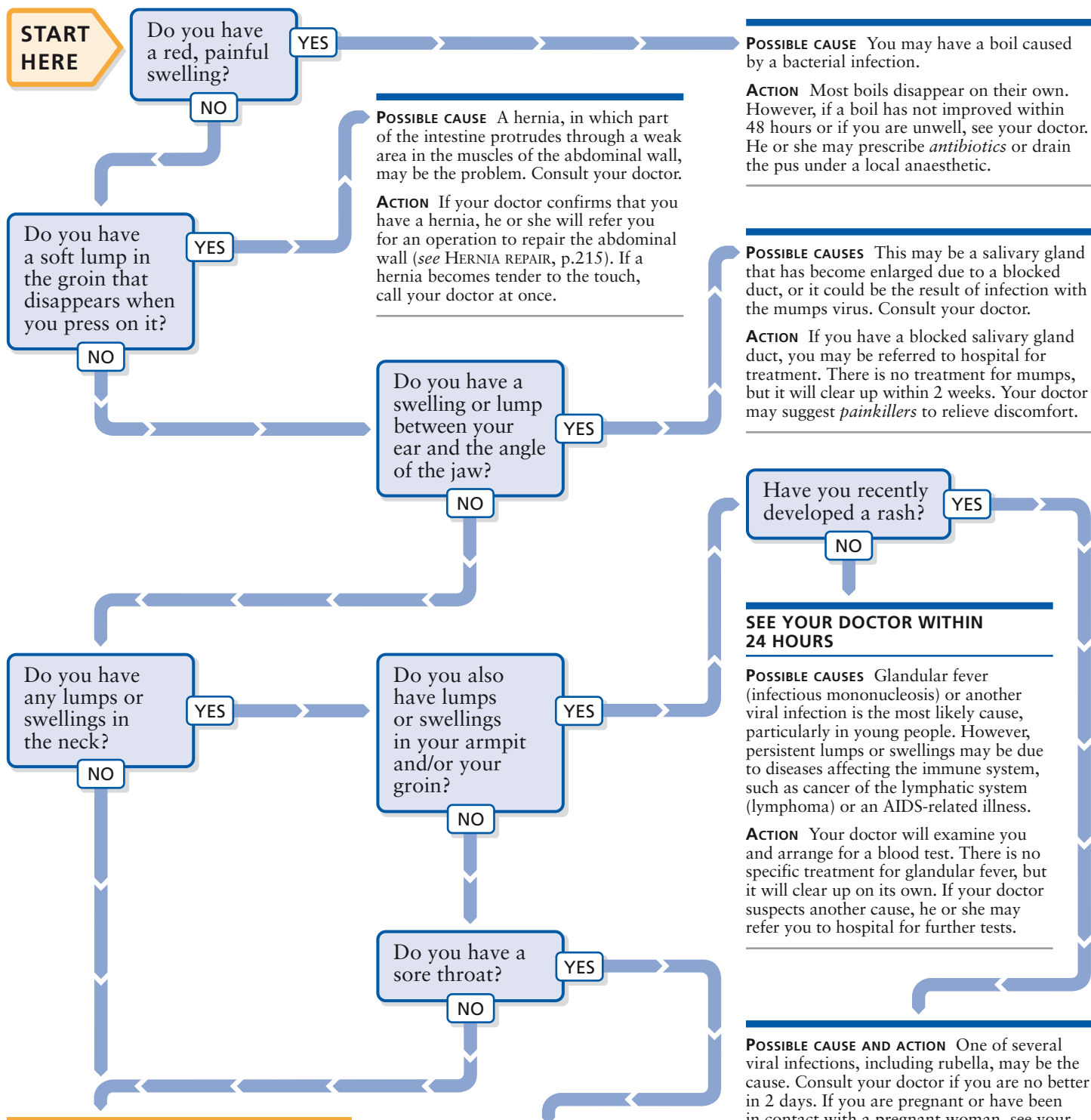
# 74 Lumps and swellings

For breast lumps, see chart 128, BREAST PROBLEMS (p.256).

For lumps and swellings in the scrotum, see chart 123, TESTES AND SCROTUM PROBLEMS (p.248).

Consult this chart if you develop one or more swellings or lumps beneath the surface of the skin. In some cases,

a swelling is due to enlargement of a lymph gland in response to an infection. However, multiple swellings that last longer than about a month may be the result of an underlying disorder. Always consult your doctor if you have one or more painless or persistent lumps or swellings.



CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

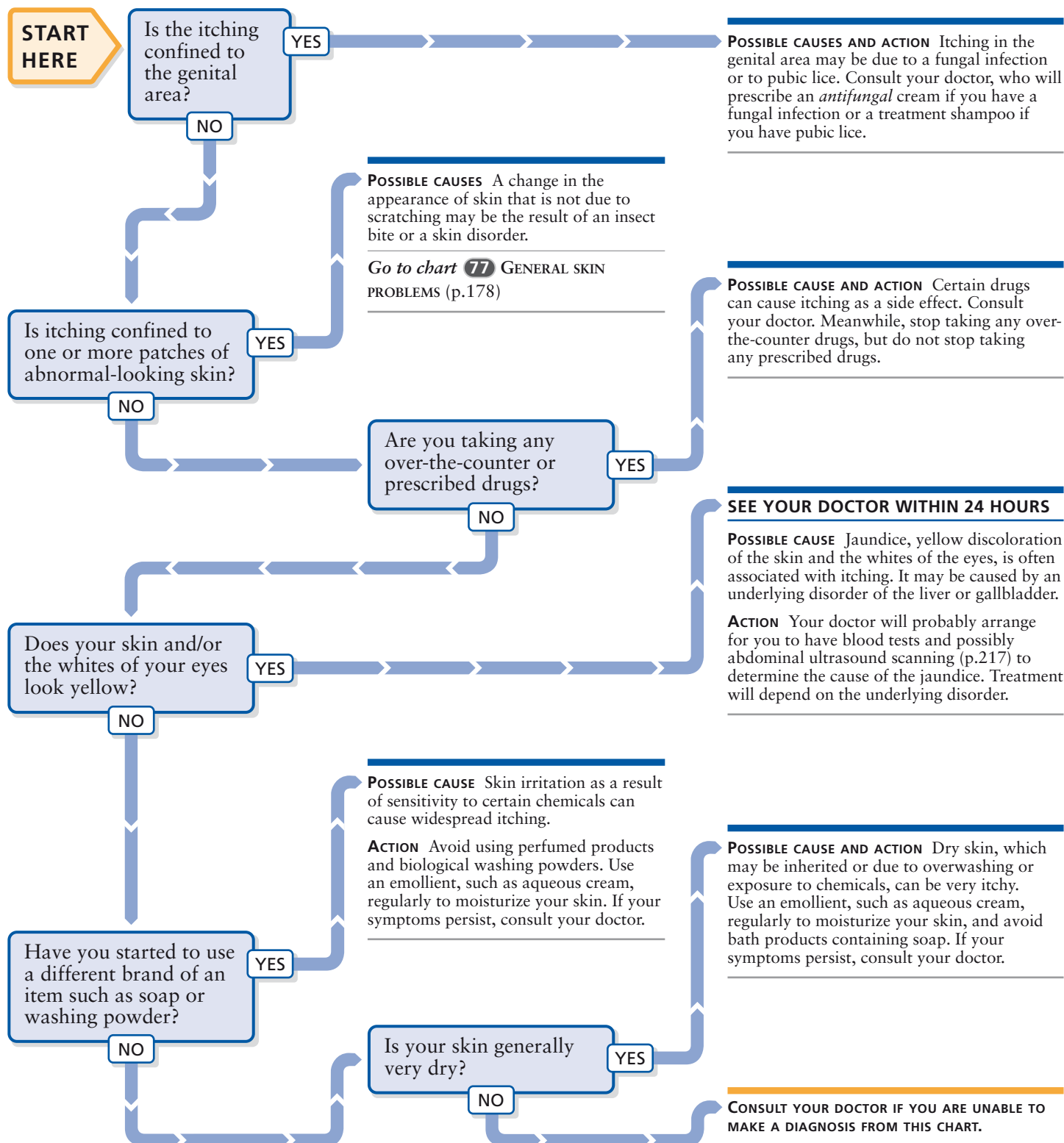
Go to chart 88 SORE THROAT (p.195)

# 75 Itching

For *itching confined to the scalp*, see chart 76, HAIR AND SCALP PROBLEMS (p.176). For *itching confined to the anus*, see chart 107, ANAL PROBLEMS (p.223).

Itching (irritation of the skin that leads to an intense desire to scratch) may be caused by an infection or by an allergic

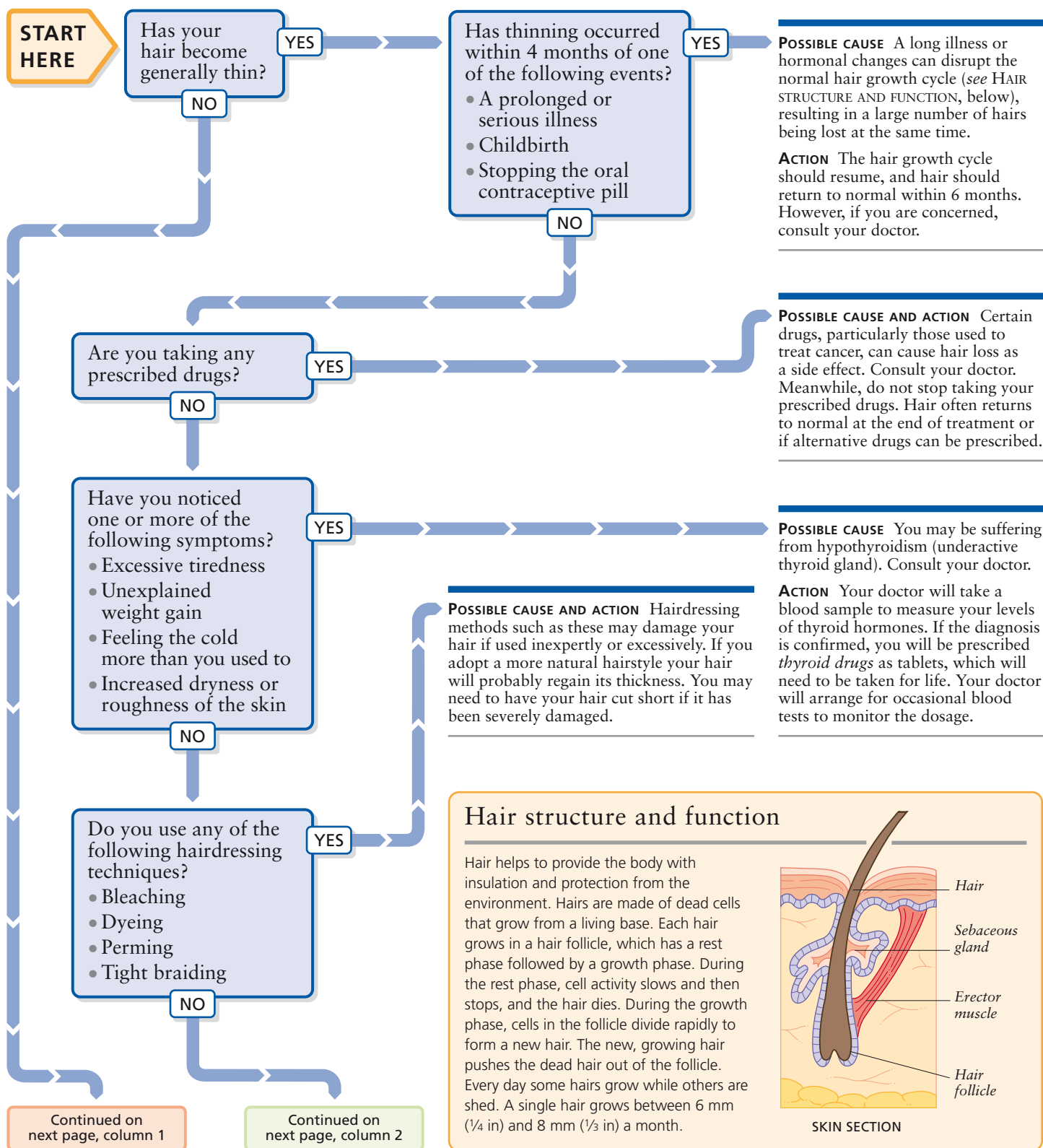
reaction to a particular substance. In other cases, itching can be a feature of a skin disorder or may even indicate an underlying disease or psychological stress. Loss of natural oils in the skin as a result of aging or from excessive washing may cause dryness and itching of the skin.



# 76 Hair and scalp problems

Fine hairs grow on most areas of the body. The hair on the head is usually far thicker and problems affecting its growth are therefore very noticeable. Your hair colour and type (straight, wavy, or curly) are inherited, but the condition of

your hair may be affected by your overall state of health and factors such as your diet and age. This chart deals with some of the more common problems affecting the hair on the head and the condition of the scalp.



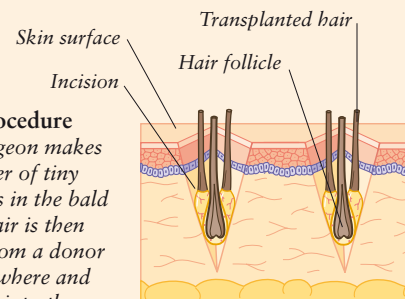


## Hair transplant

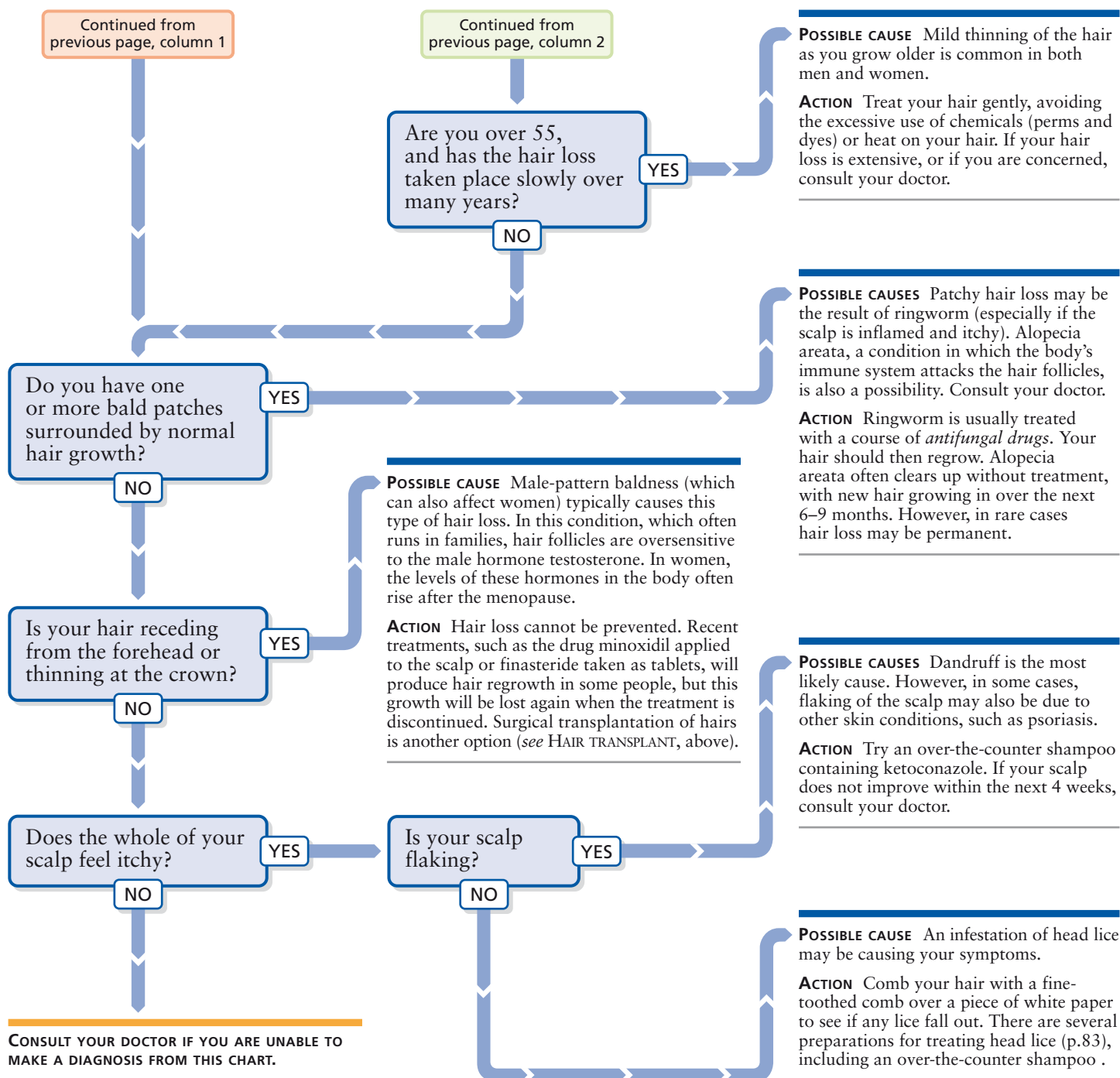
Baldness can be treated surgically by several different methods of hair transplantation. In the method shown, skin and hair are taken from a donor site, often at the back of the scalp or behind the ears. The removed hairs and their attached follicles are then inserted in the bald area (the recipient site). A mild sedative is usually given, and both sites are anaesthetized. The transplanted hairs will fall out shortly after the transplant, but new hair starts to grow from the transplanted follicles 3 weeks to 3 months later.



**The procedure**  
The surgeon makes a number of tiny incisions in the bald area. Hair is then taken from a donor site elsewhere and inserted into the incisions.



TRANSPLANTED HAIRS

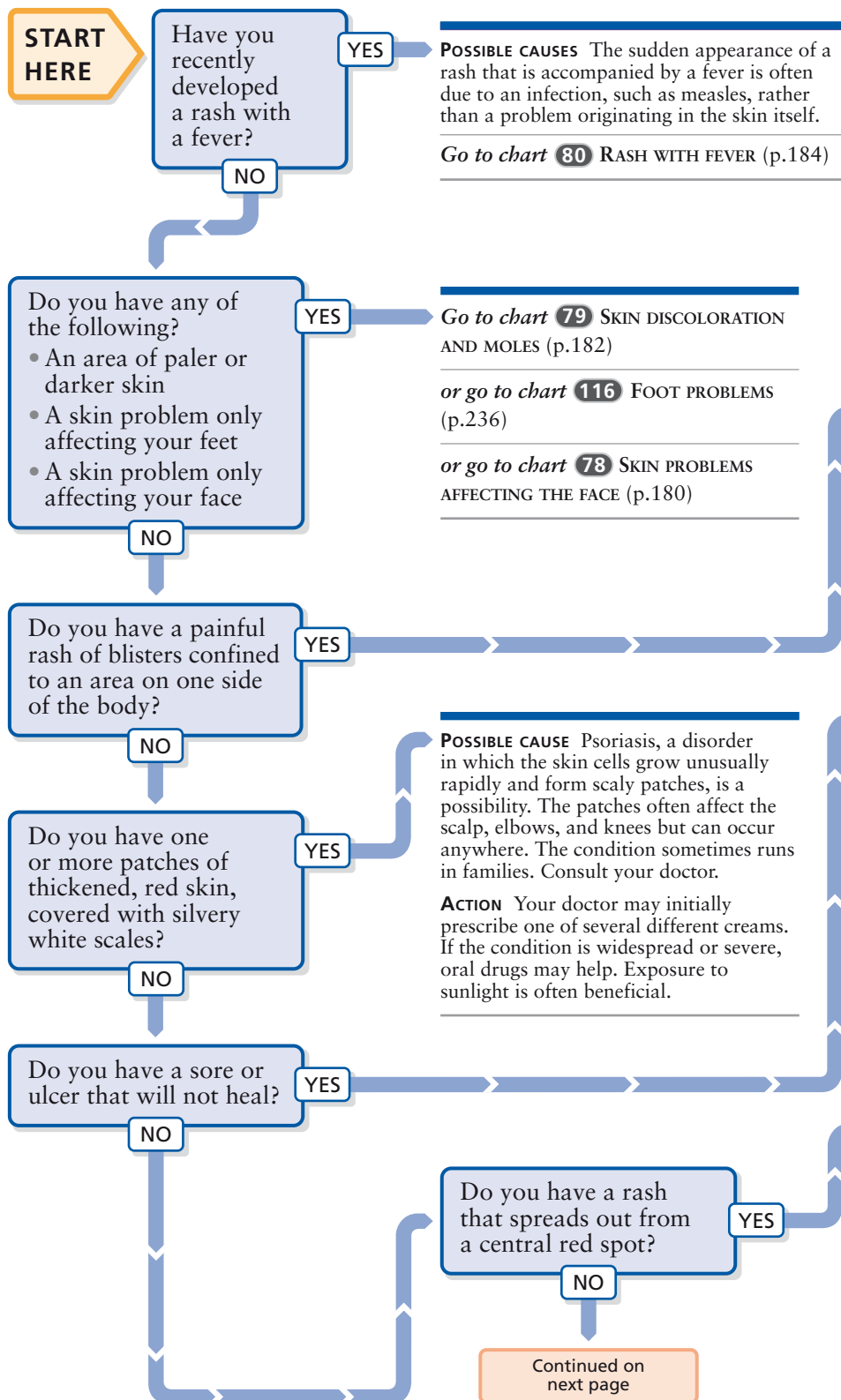


# 77 General skin problems

For itching in skin that appears normal, see chart 75, ITCHING (p.175).

Short-term skin problems are often the result of a minor injury or a superficial infection and are easily treated. Many skin

conditions can be distressing if they persist or affect visible areas of skin, but most do not pose a serious risk to health. It is important, however, that potentially fatal conditions, such as skin cancer, are recognized and treated early.



## WARNING

**CHANGES IN THE SKIN** If you have any of the following symptoms, you should consult your doctor promptly. They may be signs of skin cancer.

- An ulcer or sore that has failed to heal within 3 weeks
- A slowly growing lump
- A change in a long-standing mole or the development of a new mole

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE AND ACTION** Shingles, a viral infection affecting the nerves and caused by the same virus that is responsible for chickenpox, is a possibility. Your doctor will probably prescribe a *painkiller* and oral *antiviral drugs*.

## SEE YOUR DOCTOR WITHIN 24 HOURS

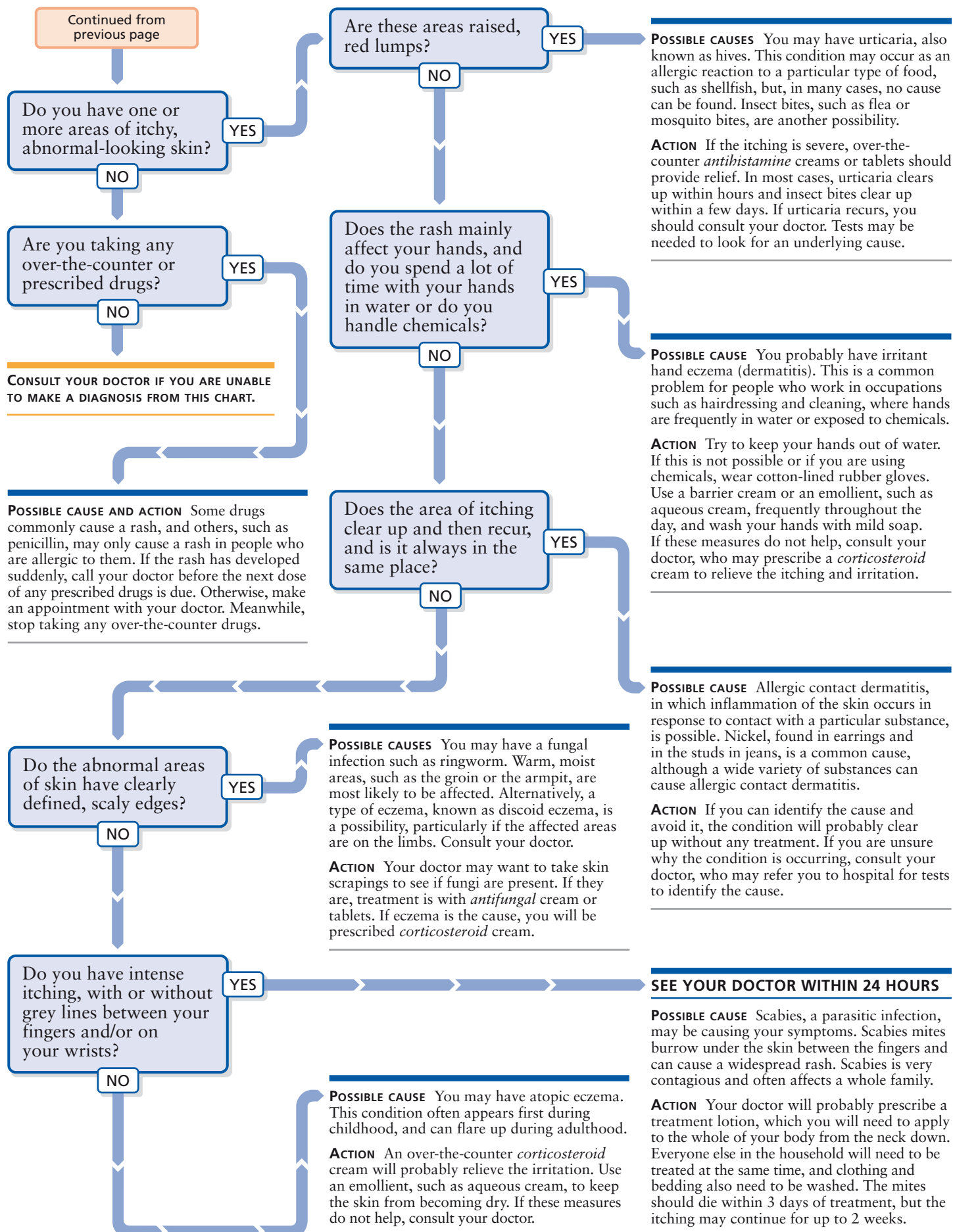
**POSSIBLE CAUSE** A type of skin cancer (p.183) is a possibility. Exposed areas of skin, such as the hands or face, are most commonly affected.

**ACTION** Your doctor will probably refer you to hospital for a skin biopsy (p.183), in which the abnormal area will be removed under local anaesthetic and examined in a laboratory to confirm the diagnosis. For many skin cancers, removal of the abnormal area is the only treatment necessary.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** You may have Lyme disease, an infection transmitted by ticks and often picked up after walking in woodland areas. The initial tick bite may often go unnoticed.

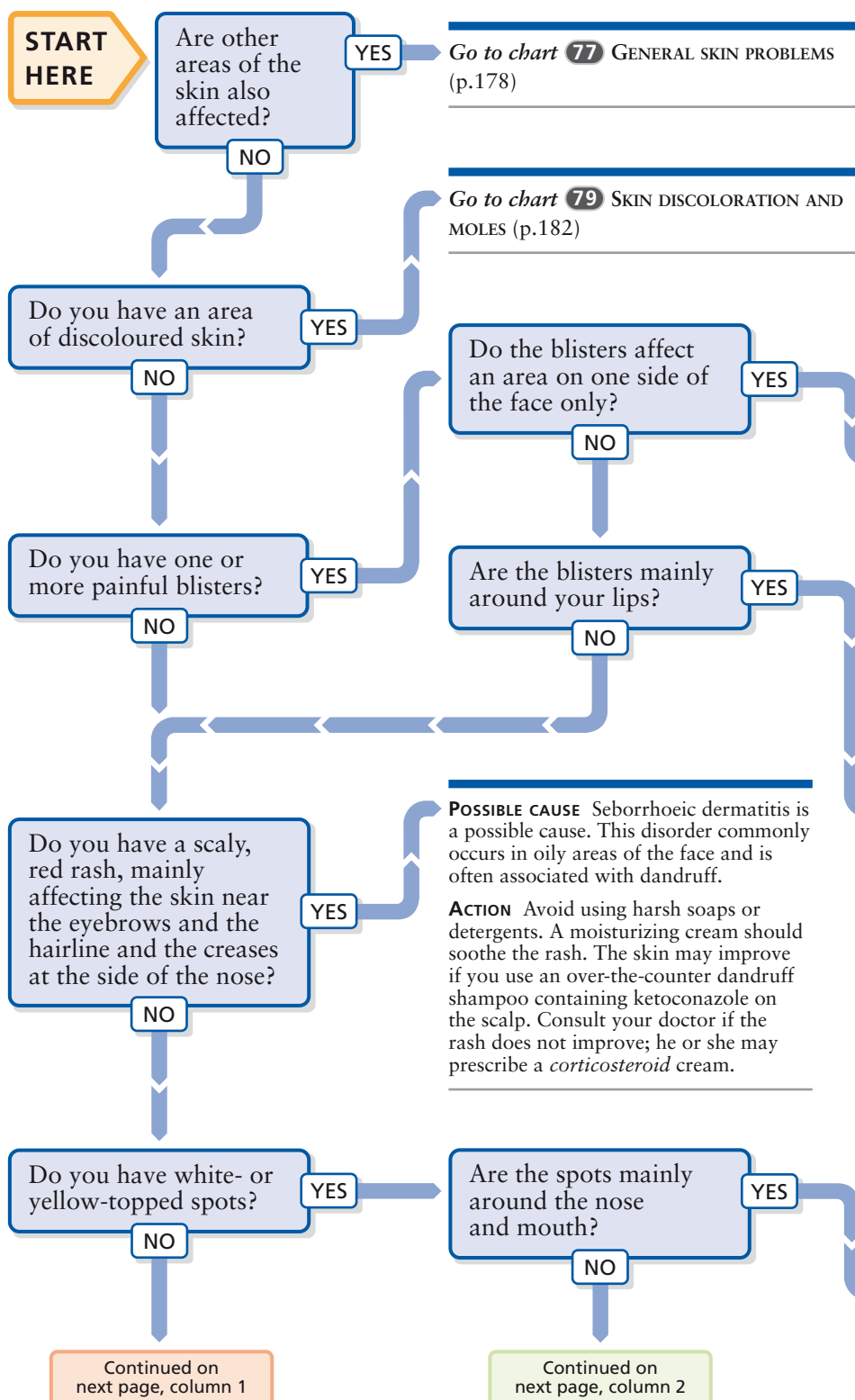
**ACTION** Your doctor will probably prescribe *antibiotics*. You may also be prescribed *nonsteroidal anti-inflammatory drugs*. To reduce the risk of future bites, make sure your arms and legs are covered whenever you are in an area where ticks are found.



# 78 Skin problems affecting the face

Consult this chart if you have a skin problem confined to the face. The skin of the face can be affected by conditions that rarely appear on other parts of the body, such as cold sores. Facial skin may also be at risk of damage from external factors that are not as likely to affect other areas of the body. For

example, the face is exposed to weather conditions such as sunlight, cold, and wind, and in women, cosmetics are a common cause of skin irritation and allergy. Abnormal areas of skin on the face are more noticeable than on other parts of the body and may therefore be more distressing.



## WARNING

**CORTICOSTEROID CREAMS** Never use a corticosteroid cream on the face unless your doctor has advised it. One of the side effects of corticosteroid creams is to make the skin thinner and more fragile; these changes can be permanent. Facial skin, particularly around the eyes, is thinner than skin on other parts of the body and is especially vulnerable to such damage. If corticosteroids are needed, your doctor will prescribe a mild form.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** Shingles, a viral infection affecting the nerves and caused by the virus that is responsible for chickenpox, is a possibility.

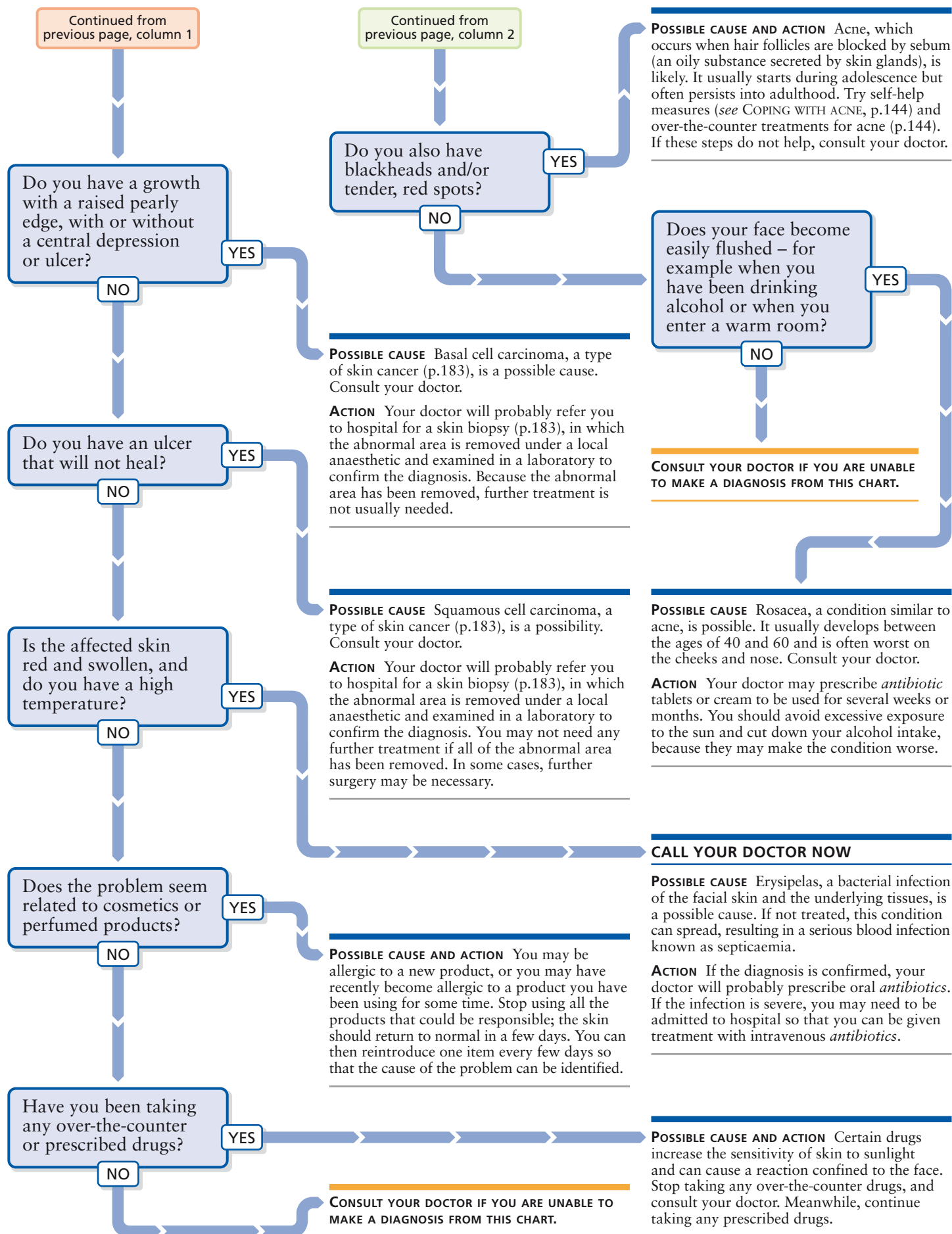
**ACTION** Your doctor will probably prescribe painkillers and an oral antiviral drug. If your eye is affected, you will probably be referred to a specialist for assessment and treatment.

**POSSIBLE CAUSE** These are probably cold sores caused by herpes simplex virus. By adulthood, most people have had an infection with this virus, which then lies dormant. In some people, the virus is reactivated by a cold, exposure to strong sunshine, cold weather, or stress.

**ACTION** Cold sores will clear up of their own accord. If they recur, over-the-counter antiviral creams may speed up healing if used at the first sign of symptoms. The herpes simplex virus can be passed on by direct skin contact such as kissing. If you have cold sores, do not kiss other people, particularly babies, small children, and people who have eczema, in order to avoid giving the infection to them.

**POSSIBLE CAUSE AND ACTION** Perioral dermatitis, which is related to acne and may occur after using corticosteroid creams, is a possible cause. Consult your doctor, who may prescribe antibiotics for several weeks or months.

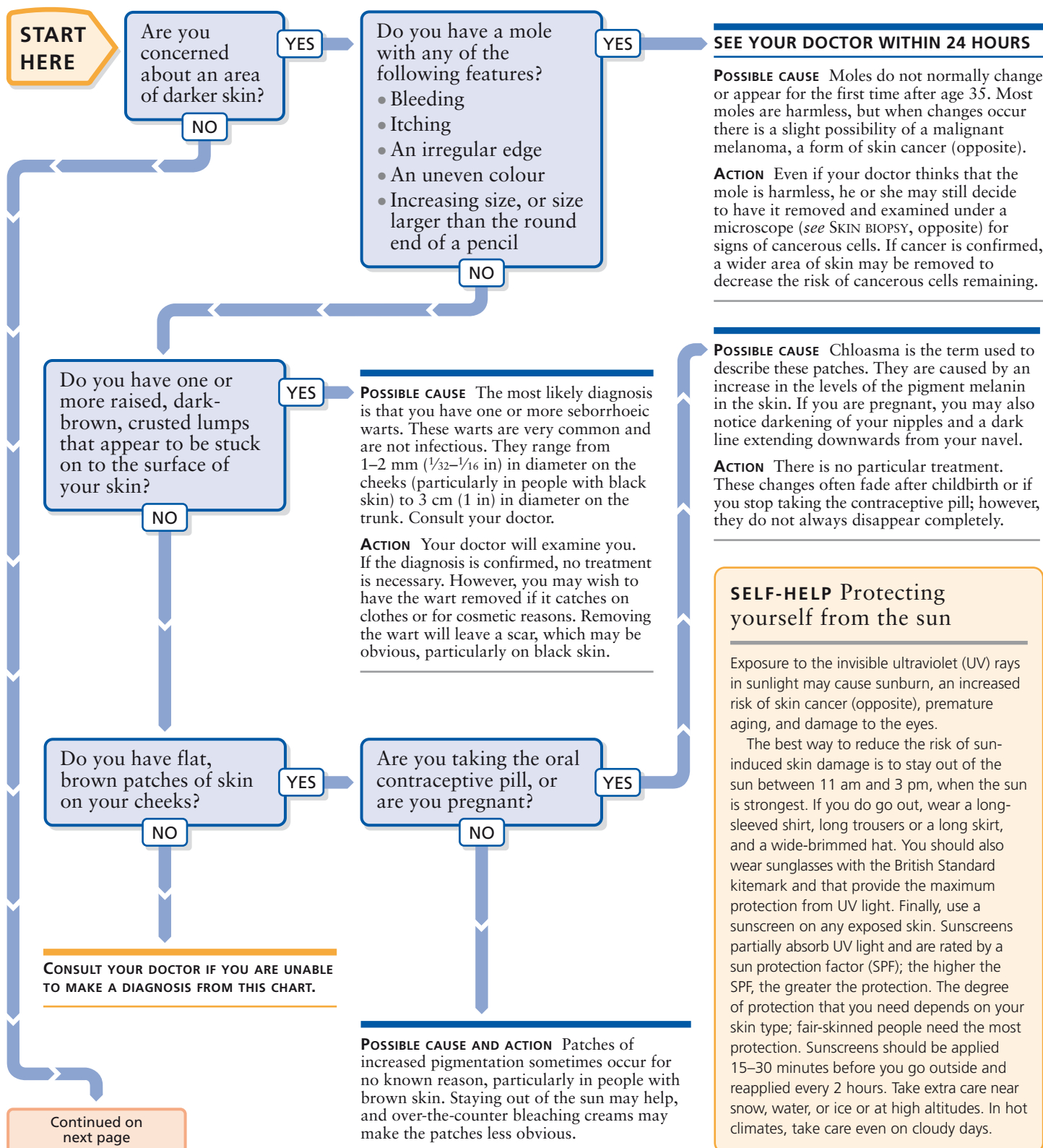




# 79 Skin discoloration and moles

For birthmarks, see chart 8, SKIN PROBLEMS IN BABIES (p.64). Consult this chart if areas of your skin have become darker or paler than the surrounding skin or if you are worried about a new mole or changes in a mole. Although changes

in skin colour are most often due to exposure to the sun, you may have a skin condition that needs medical attention. Too much exposure to the sun can cause the skin to burn and increases the risk of developing skin cancer in later life.



Continued from  
previous pageDo you have patches  
of paler skin?

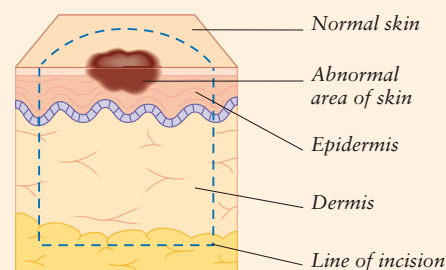
YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.

## Skin biopsy

A skin biopsy is a procedure used to make or confirm a diagnosis of a variety of skin diseases, such as cancers. The biopsy site is anaesthetized with local anaesthetic. In one form of the procedure (excision biopsy), the entire abnormal area is removed. Another form of the procedure is used if a skin condition is widespread. In this case, a small representative area of skin, about 1–2 cm ( $\frac{3}{8}$ – $\frac{3}{4}$  in) in diameter, which includes both normal and abnormal skin, is removed. It is usually removed in an ellipse shape to ease stitching of the biopsy site. The removed tissue is then examined under a microscope in a laboratory.



### Excision biopsy

After the biopsy site is anaesthetized, an incision is made to remove the abnormality and the whole thickness of skin.

Do the patches have  
clearly defined edges,  
and do they affect the  
same area on both sides  
of the body?

YES

NO

**POSSIBLE CAUSE** Vitiligo, an autoimmune disorder in which the body attacks its own tissue, causing patches of skin to lose pigment, is a likely cause. Consult your doctor.

**ACTION** Your doctor may arrange for blood tests to look for other autoimmune conditions. Although there is no treatment for vitiligo, in some cases, strong *corticosteroid* creams can help. Otherwise, cosmetics may help to disguise the discoloured areas. Because these paler patches cannot tan and will burn, you should avoid exposing them to the sun (*see* PROTECTING YOURSELF FROM THE SUN, opposite).

Do you have several  
small patches of paler  
skin affecting only your  
back and/or chest?

YES

NO

**POSSIBLE CAUSE** This may be due to pityriasis versicolor, a minor fungal skin infection.

**ACTION** This condition is harmless and does not need treatment. However, if you are concerned about its appearance, consult your doctor, who may advise you to use an over-the-counter *antifungal* shampoo on the body as a lotion. Your skin colour may take several weeks to return to normal after treatment.

**POSSIBLE CAUSE AND ACTION** This is probably a halo naevus, which occurs when pigment disappears from a mole. Eventually the mole may disappear completely, and skin colour will return to normal. No treatment is necessary, but consult your doctor if you are concerned.

Do you have a  
pale area of skin  
surrounding a mole?

YES

NO

## Skin cancer

Skin cancer is the most common form of cancer worldwide. It is usually caused by exposure to ultraviolet rays in sunlight. Fair-skinned people are particularly at risk. There are three main types of skin cancer: basal cell carcinoma, squamous cell carcinoma, and malignant melanoma. All three can usually be cured by surgical removal if they are diagnosed at an early stage.

### Basal cell carcinoma

This is the most common type of skin cancer but the least dangerous because it very rarely spreads to other parts of the body. A typical lesion develops as a small, painless lump of a pink to brownish-grey colour with a waxy or pearl-like border. It may form a shallow ulcer.

### Squamous cell carcinoma

Another common skin cancer is squamous cell carcinoma. It often affects the face, taking the

form of a hard, painless, slowly enlarging lump with an irregular edge. It is red or reddish-brown and may form a non-healing ulcer.

### Malignant melanoma

This rare but serious form of cancer can spread and may be fatal if not treated early. A new mole or a fast-growing, irregularly shaped, unevenly coloured, itchy, or bleeding mole may be malignant and needs urgent attention.



### Malignant melanoma

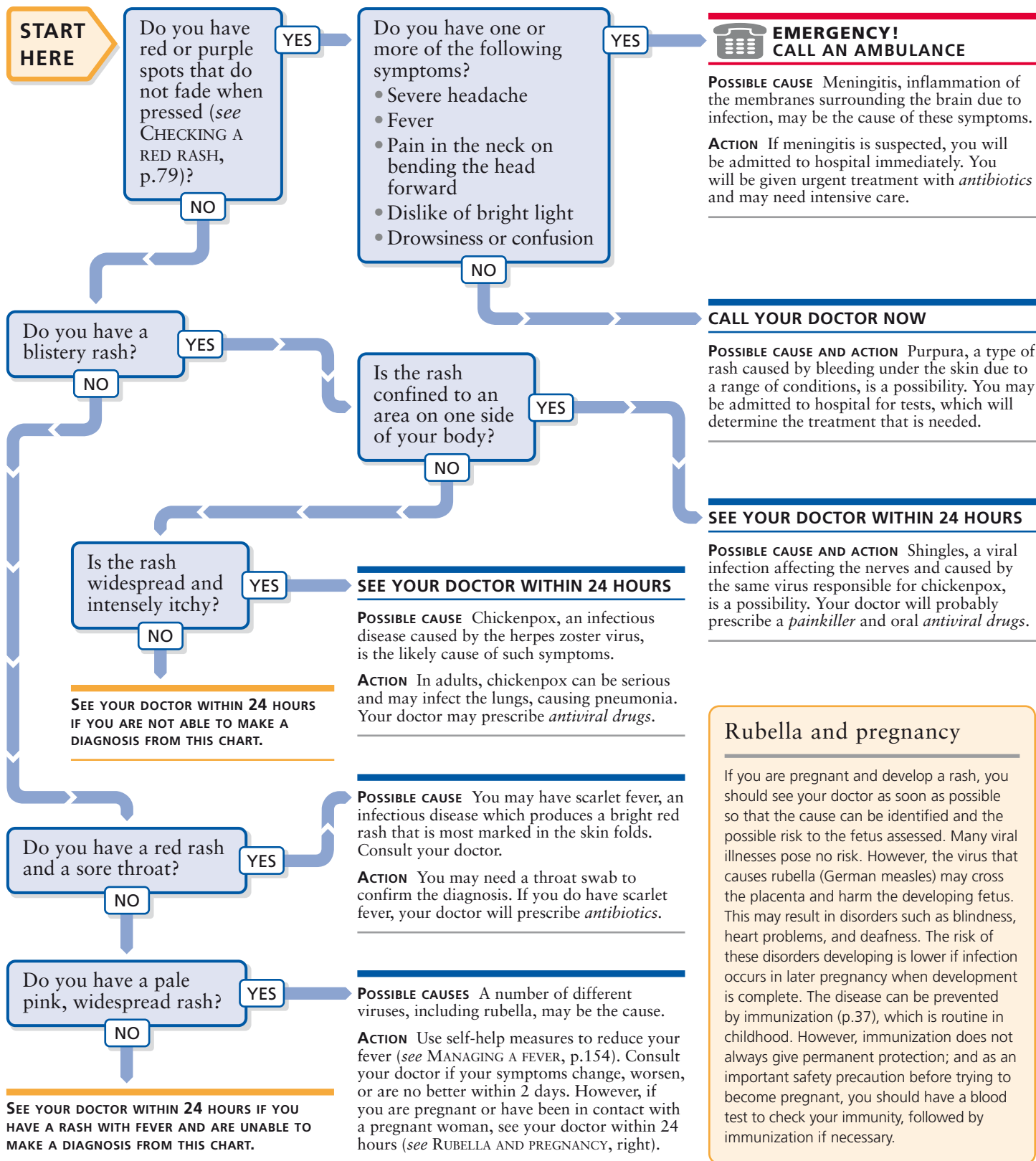
The uneven colour and irregular edges of this growth are characteristic of a malignant melanoma.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.

# 80 Rash with fever

Consult this chart if you have widespread spots or discoloured areas of skin and a temperature of 38°C (100°F) or above. You may have an infectious disease. These diseases may be

more likely to cause complications in adults than children. To find out if you have a fever, measure your temperature with a thermometer (*see* MANAGING A FEVER, p.154).



## Rubella and pregnancy

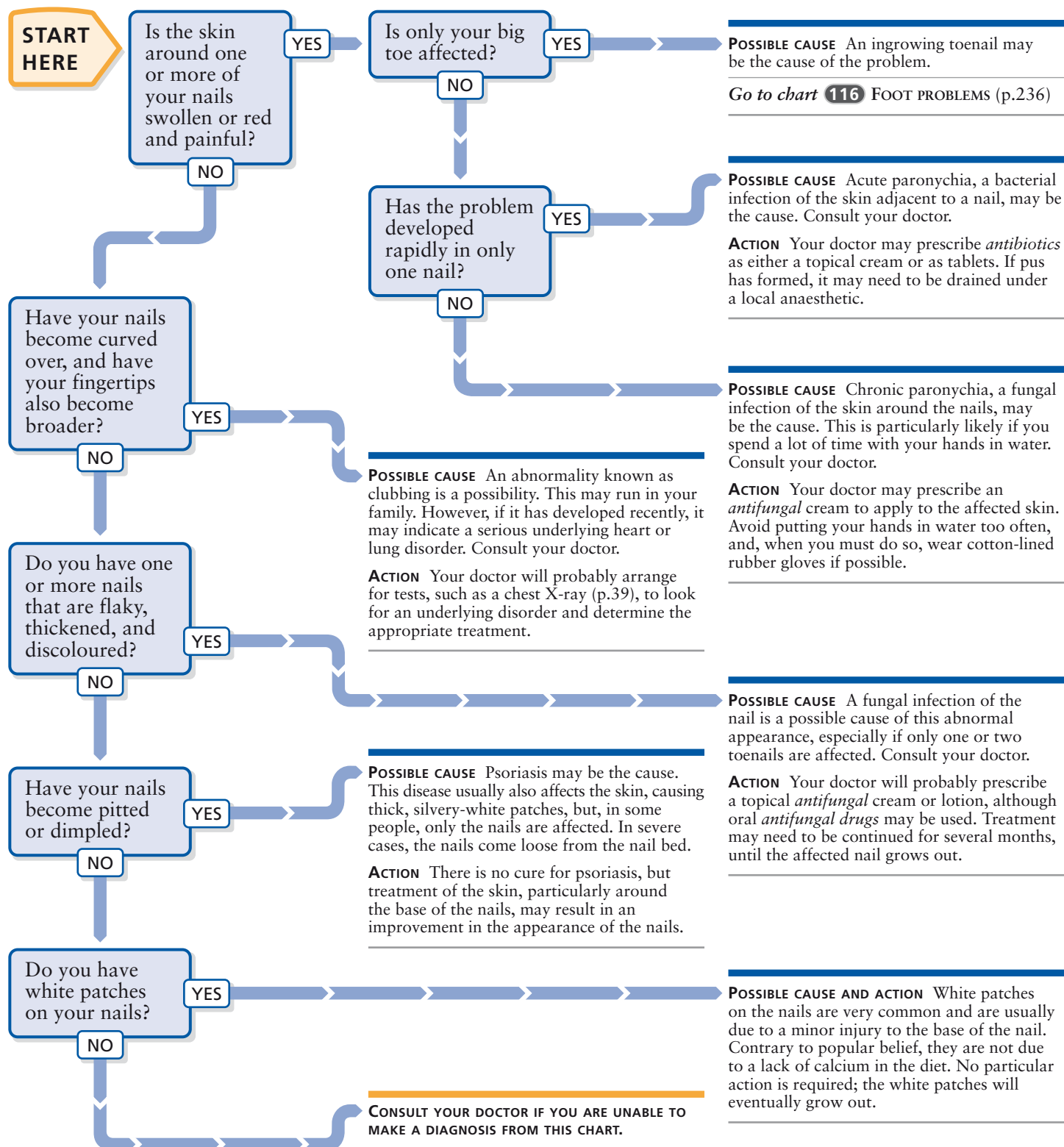
If you are pregnant and develop a rash, you should see your doctor as soon as possible so that the cause can be identified and the possible risk to the fetus assessed. Many viral illnesses pose no risk. However, the virus that causes rubella (German measles) may cross the placenta and harm the developing fetus. This may result in disorders such as blindness, heart problems, and deafness. The risk of these disorders developing is lower if infection occurs in later pregnancy when development is complete. The disease can be prevented by immunization (p.37), which is routine in childhood. However, immunization does not always give permanent protection; and as an important safety precaution before trying to become pregnant, you should have a blood test to check your immunity, followed by immunization if necessary.



# 81 Nail problems

Nails are made of hard, dead tissue called keratin, which protects the sensitive tips of the fingers and toes from damage. Common problems affecting the nails include distortion of the nail and painful or inflamed skin around the nail. The most common causes of misshapen nails are injury and fungal

infections. However, most widespread skin conditions, including psoriasis and eczema, can also affect the growth and appearance of the nails. It takes between 6 months and 1 year for a nail to replace itself, so treatment for nail problems often needs to be continued for some time.

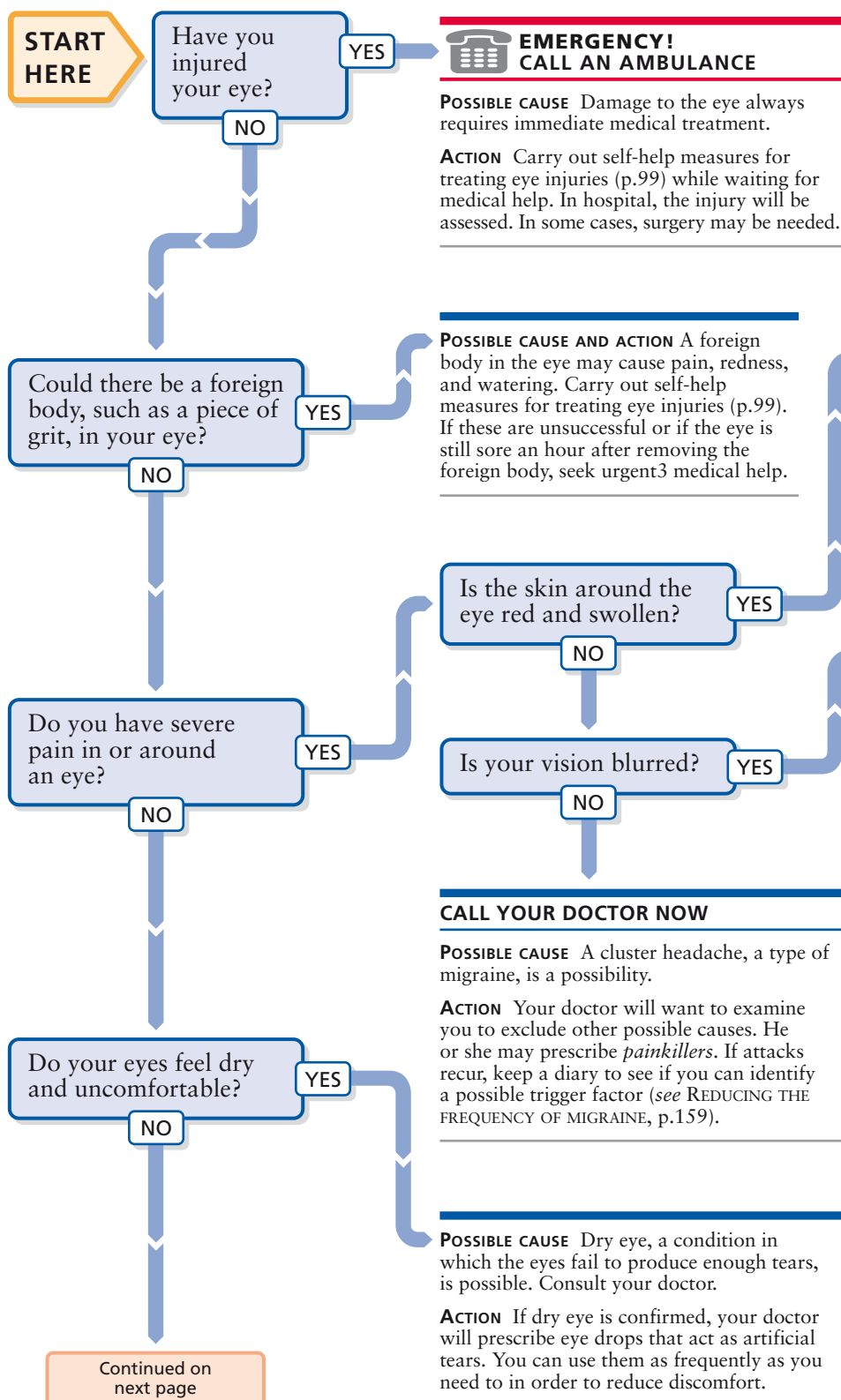


# 82 Painful or irritated eye

For blurred vision, see chart 83, DISTURBED OR IMPAIRED VISION (p.188).

In most cases, a painful or irritated eye is due to a relatively minor problem and, unless you wear contact lenses, may not

need professional attention. However, an eye problem that persists or impairs vision should always be seen by a doctor. A red, painless area in the white of the eye is probably a burst blood vessel and should clear up on its own.



## WARNING

**CONTACT LENS WEARERS** If you wear contact lenses and experience any kind of eye pain or irritation, remove your contact lenses at once. You should not use them again until the cause of the problem has been identified and treated. If the pain was caused by a piece of grit under the lens, there is a risk that the cornea may have been scratched. See your optician promptly.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** You may have orbital cellulitis, which is a bacterial infection of the skin and soft tissues around the eye.

**ACTION** Depending on the severity of the infection, your doctor may prescribe oral *antibiotics* or may arrange for you to be admitted to hospital so that intravenous *antibiotics* can be administered.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** A serious eye disorder such as glaucoma, in which excess fluid causes increased pressure in the eye, or iritis, inflammation of the coloured part of the eye, are possible causes of your symptoms.

**ACTION** Your doctor will examine you and may send you to hospital for urgent assessment. If you have glaucoma, you will need drugs to reduce the pressure. An operation to improve fluid drainage from the eye may also be necessary. Iritis needs immediate treatment with *corticosteroid* eye drops or tablets. Both conditions will be monitored carefully.

## Eyestrain

Temporary discomfort or aching in or around the eyes is often described as eyestrain. In contrast to widespread belief, reading for long periods or doing close work in poor light does not strain the eyes themselves. The aching is usually due to fatigue of the muscles around the eye. The symptoms usually disappear on their own and do not require treatment. However, if the problem occurs frequently, consult your doctor or see your optician for vision testing (p.189).

Continued from  
previous pageDo you have bloodshot  
eyes with or without a  
sticky discharge?

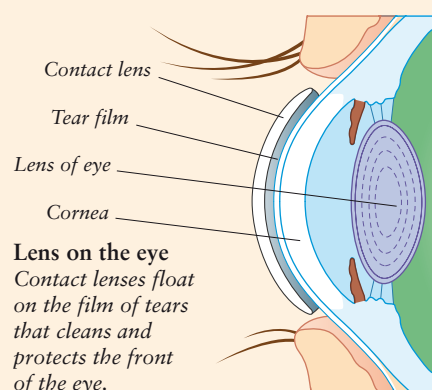
NO

Do you have a problem  
with one or more of  
your eyelids?

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.**SELF-HELP** Avoiding contact lens problems

Most people who wear contact lenses do so to correct their vision and have few problems with them. If your eyes become irritated while wearing or after wearing contact lenses, you may have an allergy to the cleaning or soaking solutions. To prevent potentially serious eye infections, use strict hygiene when cleaning non-disposable lenses, and never moisten contact lenses with saliva. If not treated promptly, an infection may result in permanent damage to your vision. If you wear contact lenses, always consult your pharmacist before using any over-the-counter eye drops because some may be incompatible with contact lenses.

Is your vision normal  
after cleaning away any  
discharge?

NO

YES

**POSSIBLE CAUSE AND ACTION** Conjunctivitis, inflammation of the membrane covering the white of the eye and the inside of the eyelids, is possible. This may be caused by a bacterial or viral infection, an allergy, or irritation by chemicals. Clear away any discharge from the eyes regularly using moist cotton wool. If your eyes are itchy, try over-the-counter anti-allergy eyedrops. If the condition is no better within 48 hours, consult your doctor.

**CALL YOUR DOCTOR NOW**

**POSSIBLE CAUSE** Iritis, inflammation of the coloured part of the eye, is a possibility.

**ACTION** Your doctor may refer you to a specialist for a detailed eye examination and for other tests to look for disorders that sometimes occur with iritis, such as arthritis. Iritis needs immediate treatment with *corticosteroid* eye drops or tablets to prevent permanent damage to vision.

Are your eyelids red  
and itchy?

NO

YES

**POSSIBLE CAUSE AND ACTION** Blepharitis (inflammation and scaling of the lid margins) may be the cause. This condition is often associated with dandruff. If you do have dandruff, using an *antifungal* shampoo may help clear up both conditions. Using an unperfumed moisturizing cream on your eyelids may also help. If the condition does not improve, consult your doctor, who may prescribe a *corticosteroid* eye ointment.

Do you have a tender,  
red lump on an eyelid?

NO

YES

**POSSIBLE CAUSE** A stye (a boil-like infection at the base of an eyelash) is likely.

**ACTION** A stye will usually either burst and release pus or dry up within a week without treatment. If the stye bursts, carefully wipe away the pus using moistened cotton wool. Consult your doctor if a stye fails to heal within a week, the eye itself becomes red and painful, or if styes recur frequently.

Is an eyelid turned  
inwards or outwards?

NO

YES

**POSSIBLE CAUSES** You may have entropion, a condition in which the eyelid turns inwards so that the lashes rub on the eye, or ectropion, in which the eyelid droops away from the eye, exposing the inner surface of the lid. Although they are not serious, both conditions can look unpleasant and increase the risk of damage to the cornea. Consult your doctor.

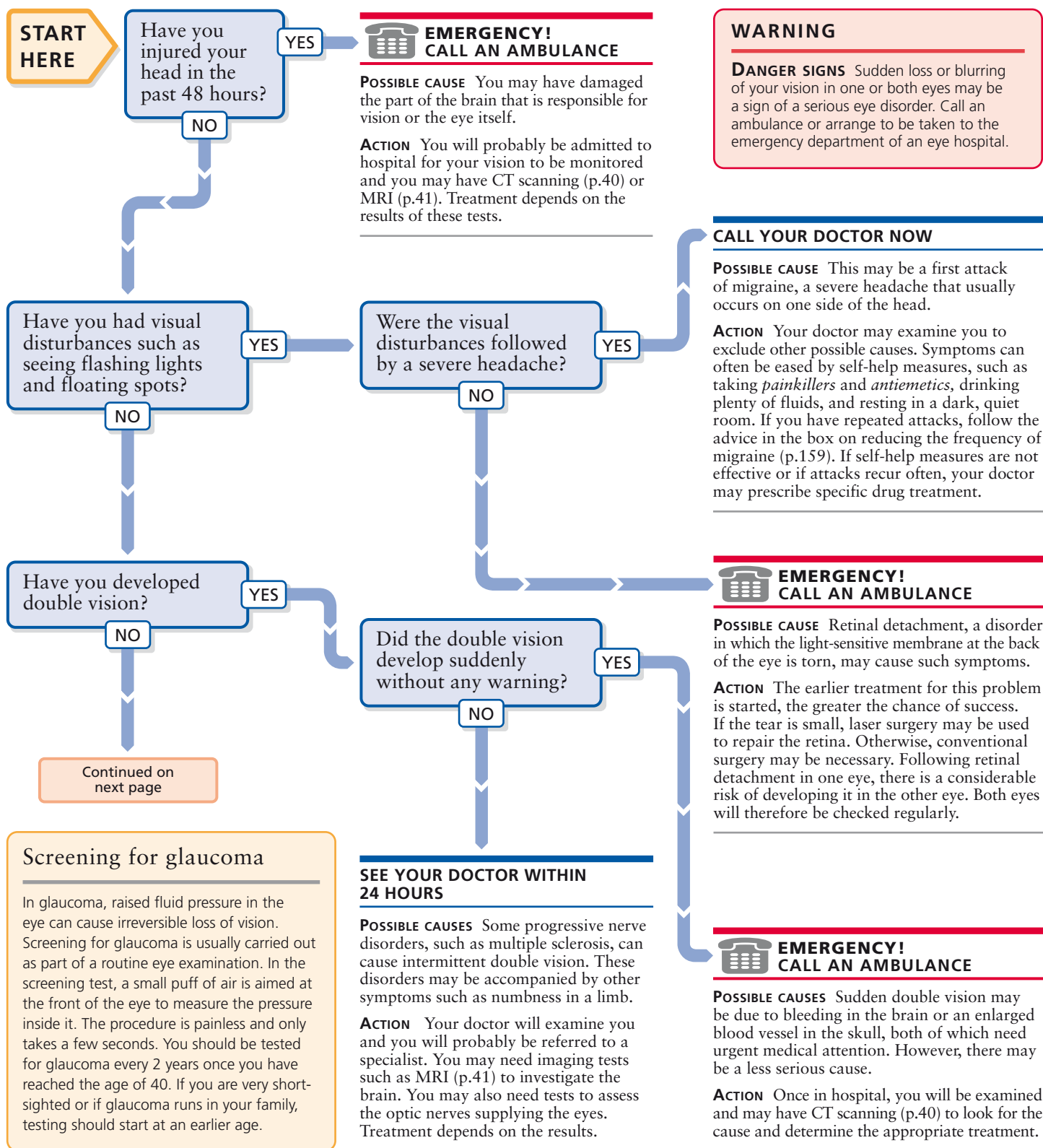
**ACTION** Your doctor may refer you to an eye specialist. He or she may recommend a minor operation to realign the eyelid.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.

# 83 Disturbed or impaired vision

This chart deals with any change in your vision, including blurring, double vision, seeing flashing lights or floating spots, and loss of part or all of your field of vision. Any such change in vision should be brought to your doctor's

attention to rule out the possibility of a serious nervous system or eye disorder, some of which could damage your sight. Successful treatment of many of these disorders may depend on detecting the disease in its early stages.





Continued from  
previous pageHas your vision  
become blurred?

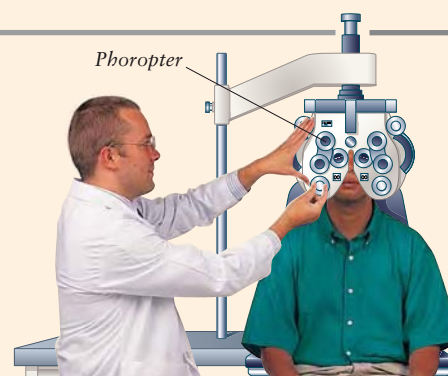
YES

NO

CONSULT YOUR DOCTOR IF YOU ARE UNABLE  
TO MAKE A DIAGNOSIS FROM THIS CHART.

## Vision testing

You should have your vision tested every 2 years, especially once you are over 40. The most common test gauges the sharpness of your distance vision by assessing how well you can read letters lined up in decreasing size on a Snellen chart. Your ability to focus on near objects may also be measured by asking you to read very small print on a chart held at normal reading distance. These tests show whether you need corrective lenses, and, if so, which ones. In addition, your optician will examine your eyes to look for disorders such as diabetes and high blood pressure, which can cause changes in the back of the eye before general symptoms develop. You may also be tested for glaucoma (see SCREENING FOR GLAUCOMA, opposite).



**Having a vision test**

*Different lenses are put into the phoropter and are changed until you are able to read letters near the bottom of the chart.*

Do you have pain in  
one or both eyes?

YES

NO

### CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** A serious eye disorder such as glaucoma, in which excess fluid causes increased pressure in the eye, or iritis, inflammation of the coloured part of the eye, are possible causes of your symptoms.

**ACTION** Your doctor may send you to hospital for urgent assessment. If you have glaucoma, you will need drugs to reduce the pressure in the eye. Iritis needs immediate treatment with *corticosteroid* eye drops or tablets.

Do you experience  
blurred vision only  
when undertaking tasks  
such as reading or  
other close work?

YES

NO

**POSSIBLE CAUSE** Presbyopia, progressive loss of the ability to see near objects with increasing age, may be the cause.

**ACTION** Arrange for a vision test (above). You may need glasses to correct your sight. You should have regular eye tests, including screening for glaucoma (opposite), from the age of 40.

Do you have diabetes?

YES

NO

**POSSIBLE CAUSE** Diabetic retinopathy, in which the tiny fragile blood vessels of the eye are progressively damaged, is a possibility. Consult your doctor.

**ACTION** If you are found to have diabetic retinopathy, it may be possible to use laser surgery to treat the condition and preserve your remaining vision.

Are you taking any  
prescribed drugs?

YES

NO

**POSSIBLE CAUSE AND ACTION** Certain drugs, such as *antidepressants*, may cause blurred vision as a side effect. Consult your doctor. Meanwhile, do not stop taking your prescribed drugs.

Are you over 50?

YES

NO

**POSSIBLE CAUSES** A cataract, in which the lens of the eye becomes cloudy, or macular degeneration (deterioration of part of the retina) are both possible causes of blurred vision. Consult your doctor.

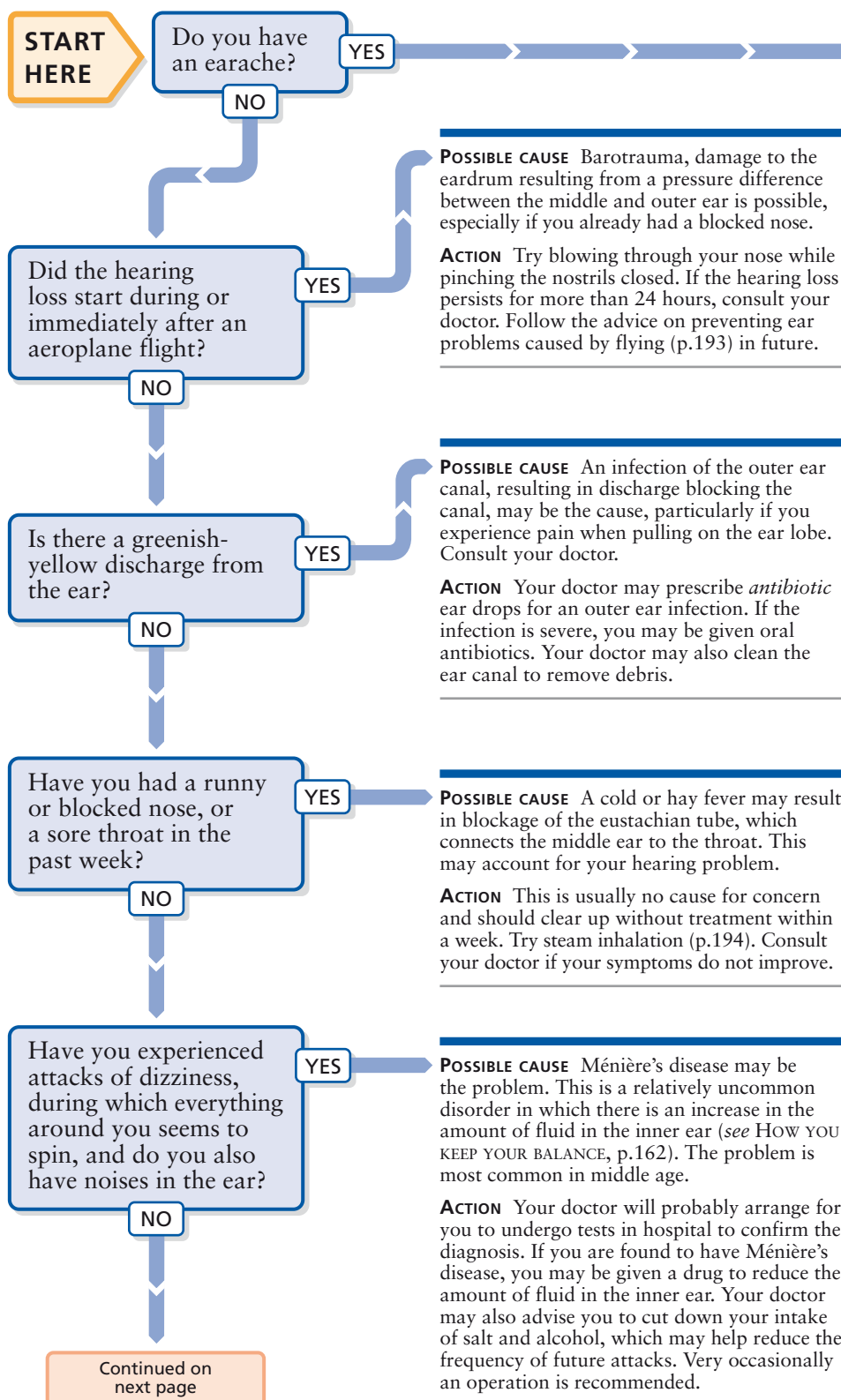
**ACTION** In the early stages of the development of a cataract, you may need only to have glasses. Later, an operation to replace the affected lens with an artificial one is often recommended. Following this operation, you may still need glasses for reading. Macular degeneration may be halted by laser surgery, but in some cases vision is progressively lost.

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART. IF A VISION PROBLEM HAS DEVELOPED RAPIDLY, SEE YOUR DOCTOR WITHIN 24 HOURS.**

# 84 Hearing problems

Deterioration in the ability to hear some or all sounds may come on gradually over a period of several months or years or may occur suddenly over a matter of hours or days. In many cases, hearing loss is the result of an ear infection or

a wax blockage and can be treated easily. Hearing loss is also a common feature of aging. However, if you suddenly develop severe hearing loss in one or both ears for no obvious reason, always consult your doctor.



## Hearing tests

Preliminary hearing tests assess the type of hearing loss you might have.

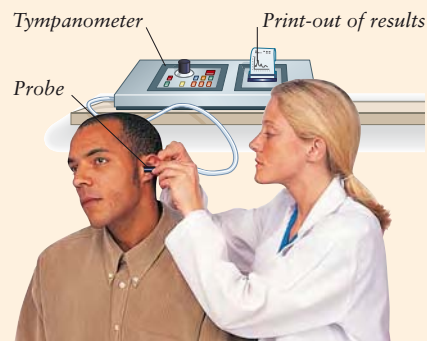
Audiometry measures the degree of hearing loss. Sounds of increasing volume and at different frequencies are transmitted to one ear at a time through headphones.

Tympanometry shows whether the eardrum moves normally when sounds hit it. A probe with a sound generator, microphone, and air pump is placed in the ear canal. Sounds are played while the air pressure is varied and the pattern of the sound waves reflected by the eardrum is recorded.



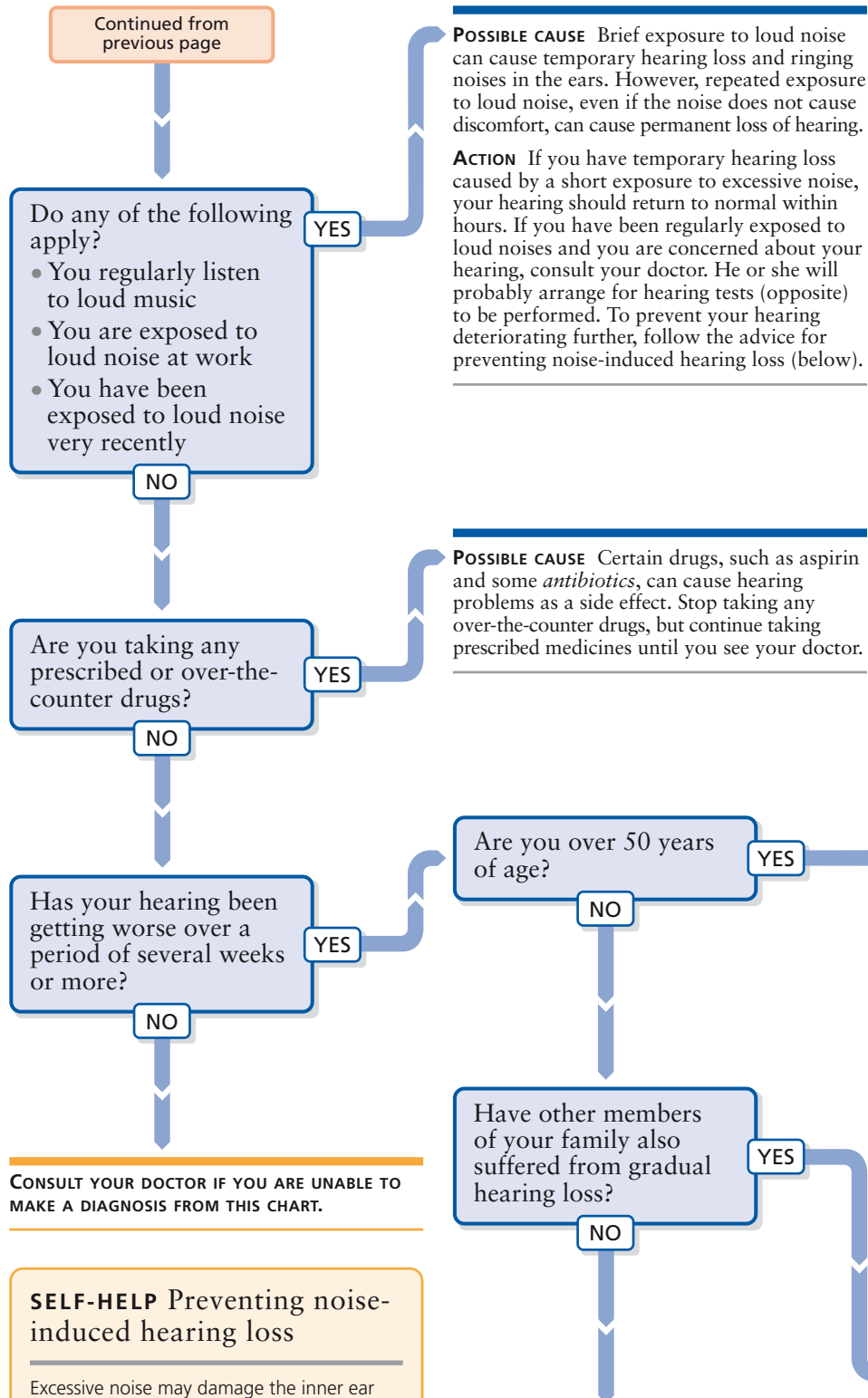
### Audiometry

You will be asked to press a button every time you hear a sound. The quietest sound you can hear at each frequency is recorded.



### Tympanometry

A probe is placed in the ear canal. The pattern of sound reflected off the eardrum is recorded at different air pressures.

Continued from  
previous pageCONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.**SELF-HELP** Preventing noise-induced hearing loss

Excessive noise may damage the inner ear and cause hearing problems. To prevent such problems, avoid exposure to loud noise whenever possible. For example, do not listen to very loud music, especially through headphones. If you do listen to music through headphones, make sure that the volume is low enough for you to hear conversation above the music. If you are exposed to loud noise at work, always wear ear protectors or ear plugs. These should be provided by your employer to protect you.

**Hearing aids**

Hearing aids amplify sounds, improving hearing in people with most types of hearing loss. All types of hearing aids have a tiny microphone, amplifier, and speaker, which are all powered by a battery. In older hearing aids, these parts are often housed in a small case that is worn behind the ear. However, newer hearing aids are much smaller and can fit entirely within the ear canal. The range of sounds that is amplified by a hearing aid is usually tailored to an individual's own pattern of hearing loss.

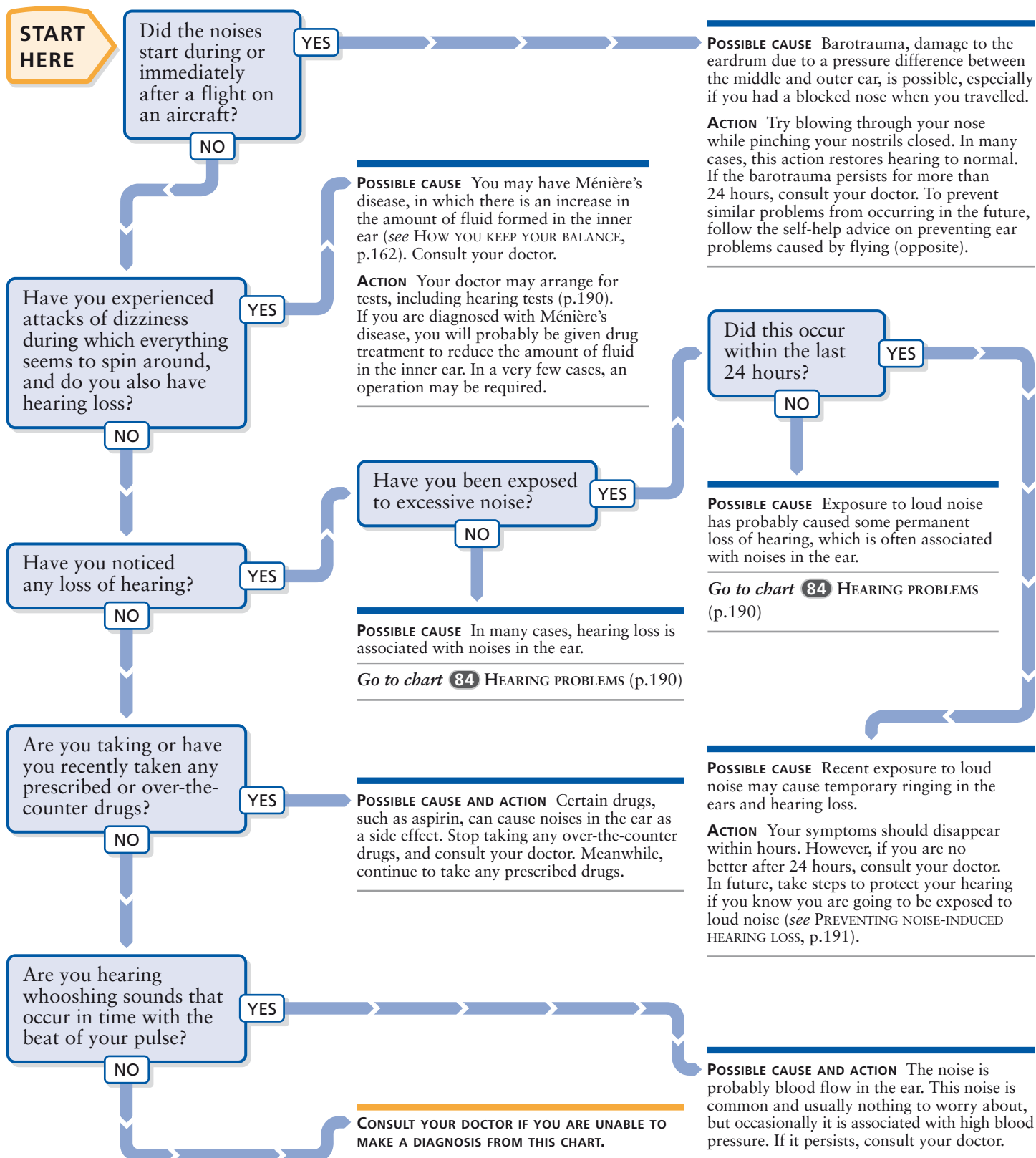
**Modern hearing aid**

*This type of hearing aid fits entirely within the ear canal. All the components are fitted inside the small moulded case.*

# 85 Noises in the ear

Hearing noises inside your ear, such as buzzing, ringing, or hissing, is known as tinnitus. Some people have brief episodes of tinnitus that are not due to an ear disorder and

that clear up without needing medical treatment. Others have persistent tinnitus that is not only distressing but may also indicate an ear problem that should be investigated.

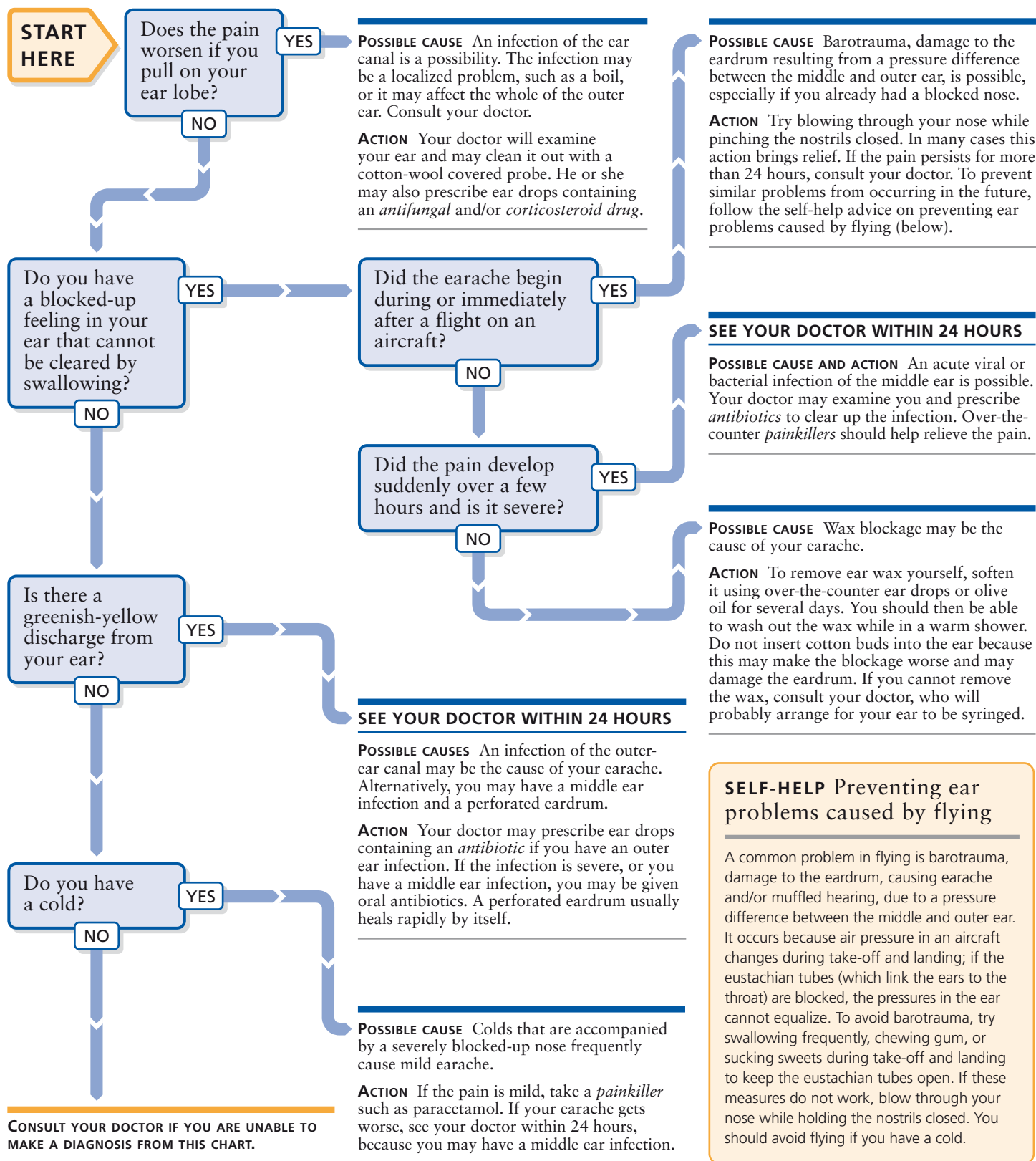




# 86 Earache

Earache may vary from a dull, throbbing sensation to a sharp, severe, stabbing pain. Although it is very common in childhood, it occurs much less frequently in adults. The pain

is often due to infection of the ear canal or of the middle ear behind the eardrum. If severe, the pain will require medical attention and, in some cases, treatment with *antibiotics*.

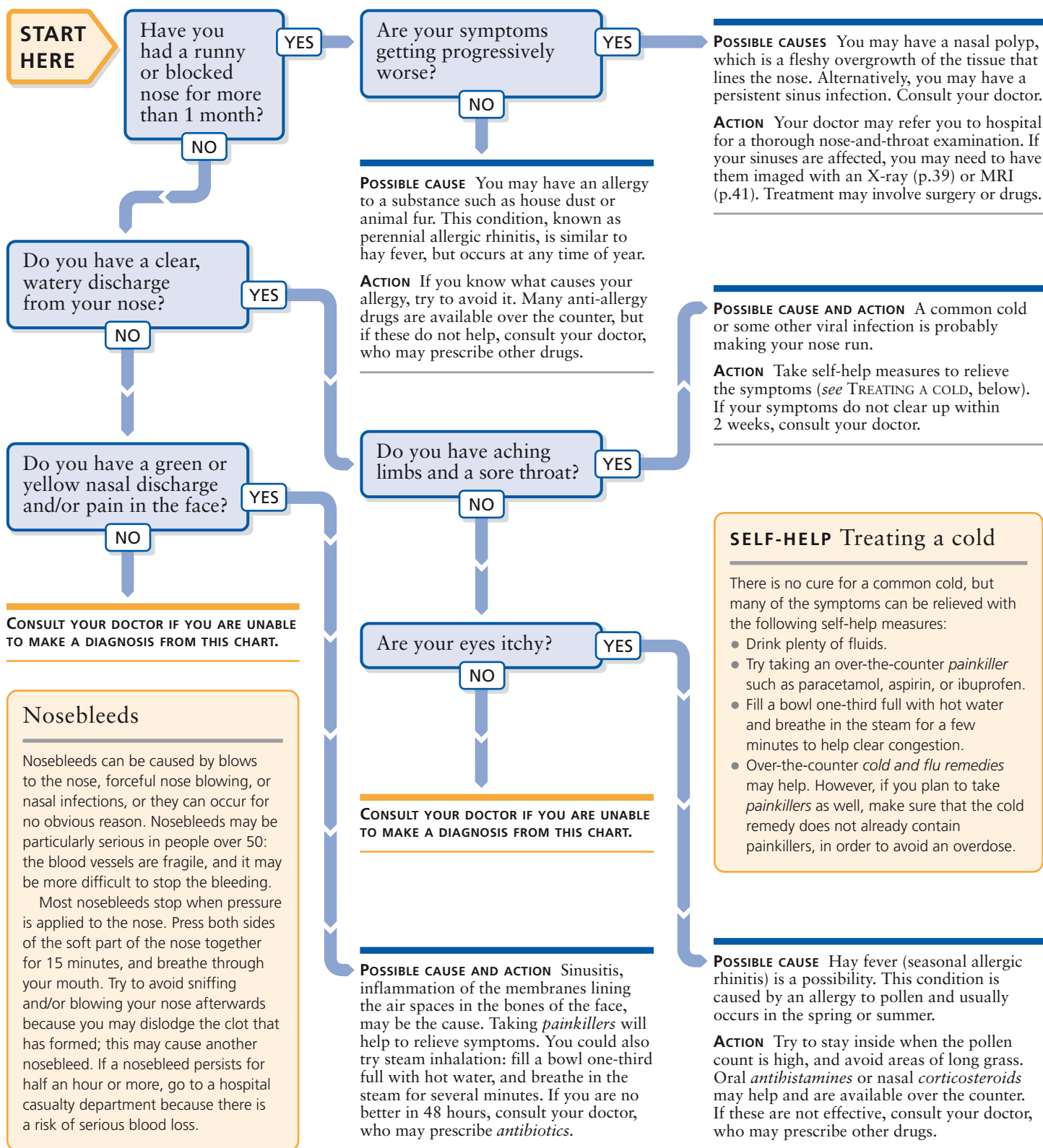


# 87 Runny or blocked nose

Most people have a blocked or runny nose at least once a year. The usual cause of these symptoms is irritation of the lining of the nose. This irritation can be caused by a viral infection, such as a cold, or it can result from an allergic

reaction, such as hay fever (seasonal allergic rhinitis).

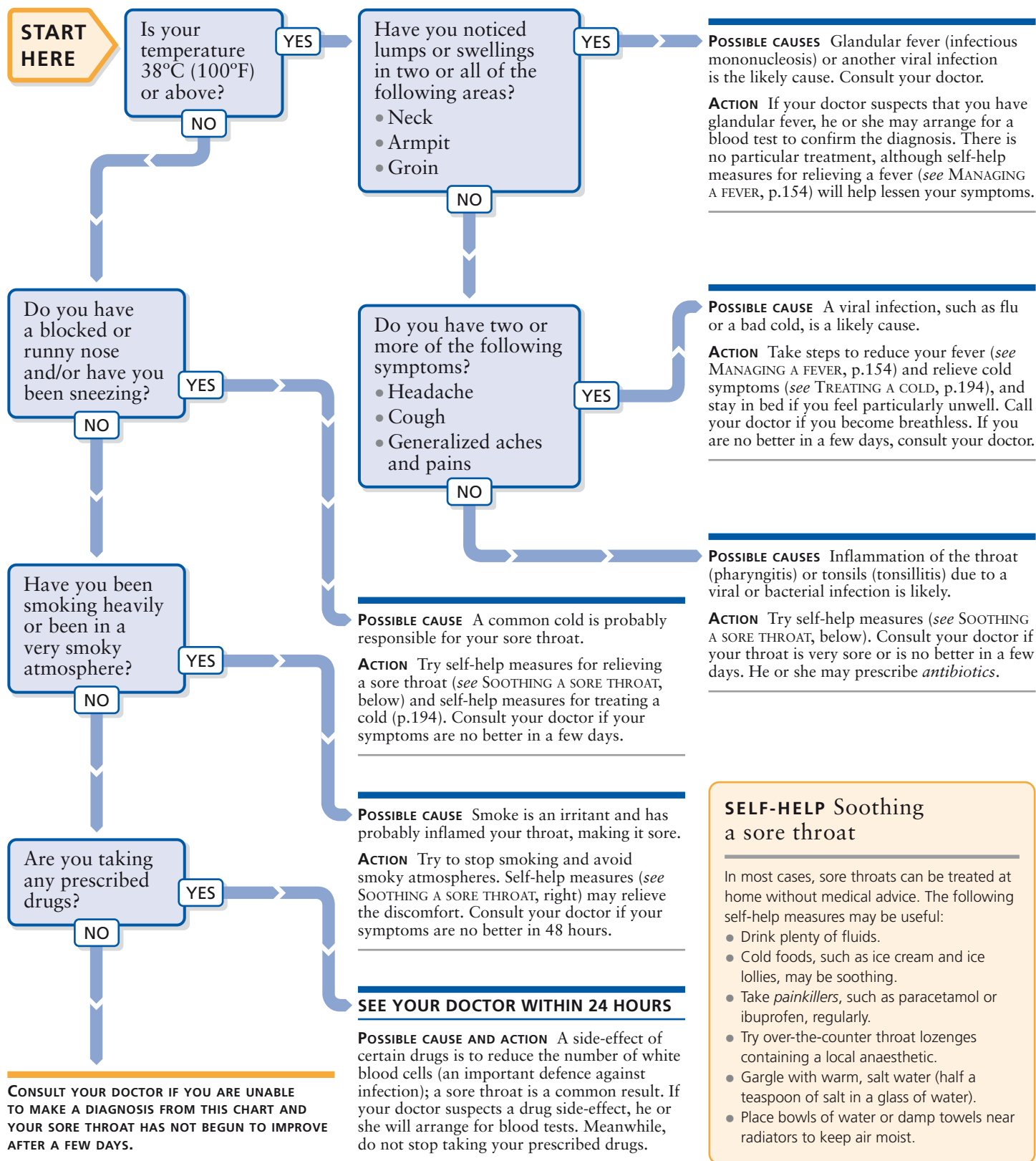
Nosebleeds (below) may have a specific cause, such as injury or forceful nose blowing, but they may occur spontaneously. They can be serious in people over the age of 50.



# 88 Sore throat

Most people suffer from a painful, rough, or raw feeling in the throat from time to time. A sore throat usually clears up within a few days and is most commonly due to a minor

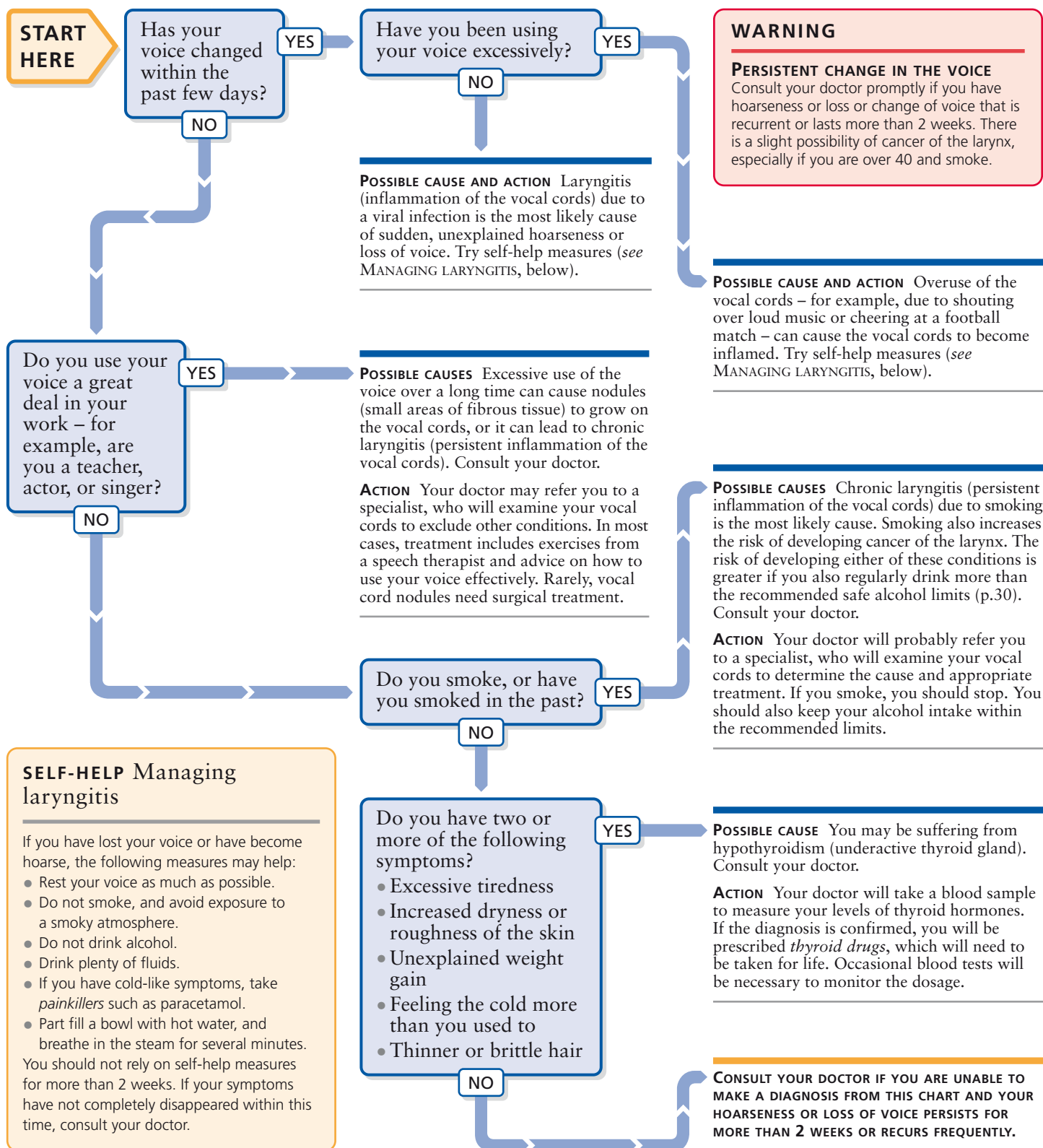
infection, such as a cold, or irritation from smoke. Swallowing something sharp, such as a fish bone, can scratch the throat. The cause of the soreness in this case is usually obvious.



# 89 Hoarseness or loss of voice

Hoarseness, huskiness, or loss of voice is almost always due to laryngitis – inflammation and swelling of the vocal cords. In most cases, the cause of the inflammation is a viral infection or overuse of the voice; symptoms can be relieved by using

self-help measures, and there is no need to consult your doctor. However, persistent or recurrent hoarseness or loss or change of voice may have a serious cause, and, in these cases, you should always consult your doctor.

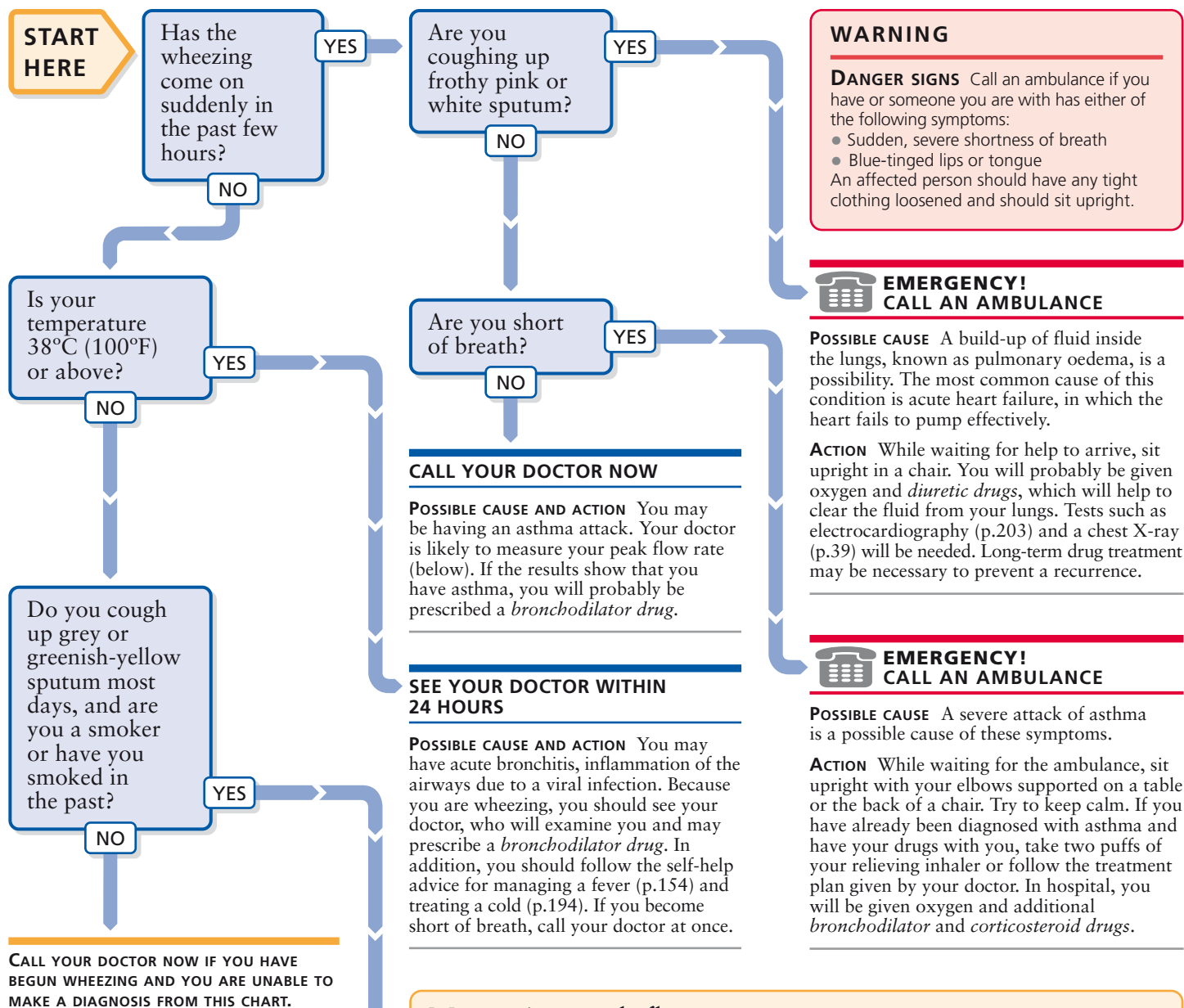




# 90 Wheezing

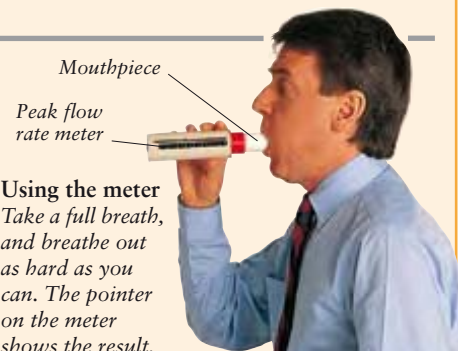
Wheezing is a whistling or rasping sound made when you breathe out. It is usually due to narrowing of the airways as a result of inflammation caused by infection, asthma, or

smoking. Rarely, wheezing is due to a small foreign body or a tumour partially blocking an airway. If you suddenly start to wheeze or are short of breath, get medical help at once.



## Measuring peak flow rate

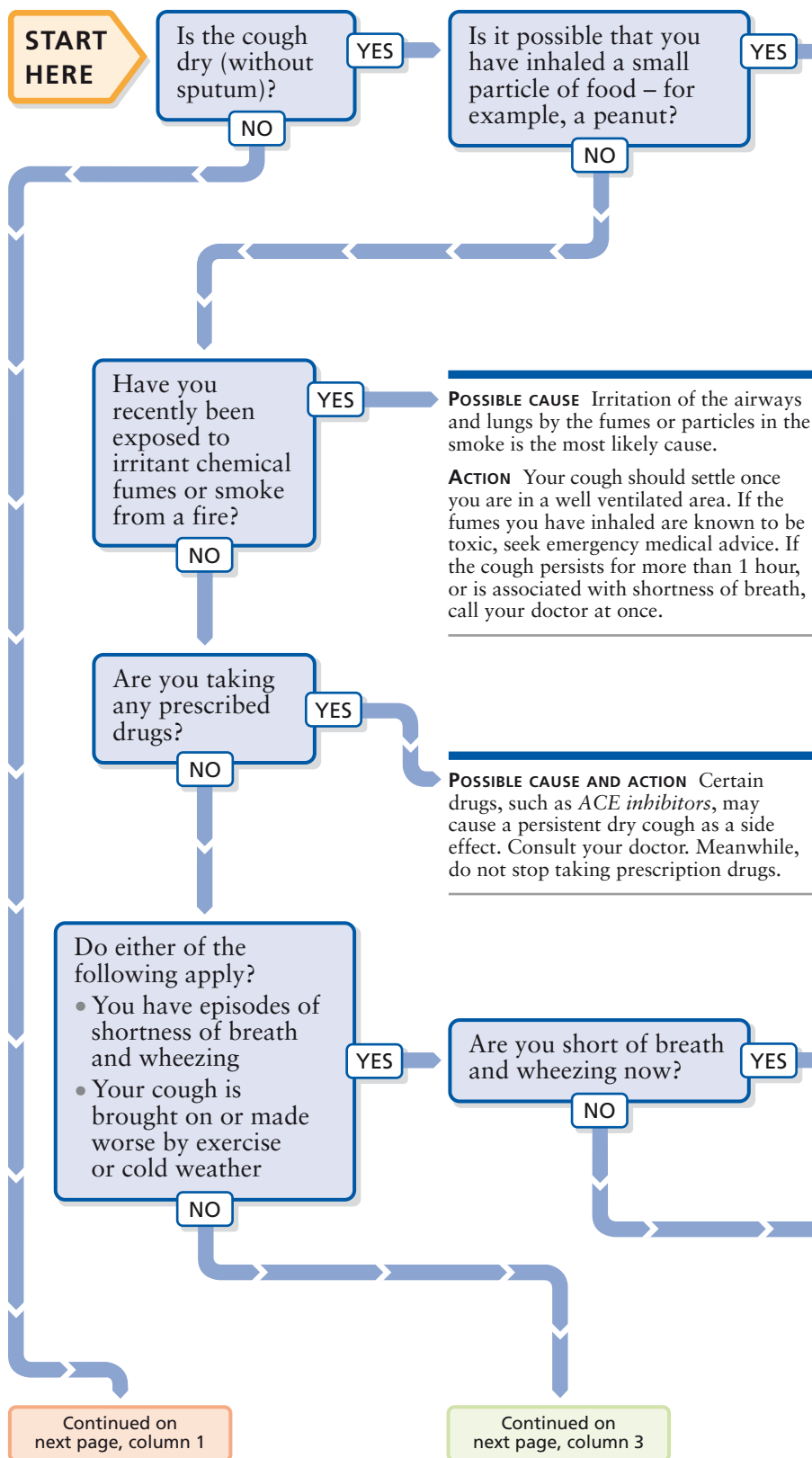
Your peak flow rate is the maximum rate at which you can breathe out and is measured in litres per minute. Your doctor may measure your peak flow rate in order to assess the severity of respiratory conditions in which the airways become narrowed. Asthma is commonly diagnosed and monitored by measuring peak flow rate. You may be given a peak flow rate meter to use at home so that you can check your condition regularly and adjust your treatment as necessary.



# 91 Coughing

Coughing is the body's response to irritation or inflammation in the lungs or the throat; the cough may either produce sputum or be "dry". The most common causes of coughing

are colds, smoking, asthma, or inhaling a foreign body. Sometimes, however, a persistent cough may signal a more serious respiratory disorder, such as a tumour.



## WARNING

**COUGHING UP BLOOD** If you cough up sputum containing small streaks of blood on one occasion only, the most likely cause is a small burst blood vessel in the lining of the windpipe; this problem is unlikely to be serious. However, if you cough up blood on more than one occasion, there may be a more serious cause such as a tumour, and you should see your doctor within 24 hours.

**POSSIBLE CAUSE** A foreign body in the lungs has probably made you cough. A cough is the body's natural response to irritation of an airway and causes the particle to be forcefully expelled from the lungs.

**ACTION** Once you have coughed up the foreign body, your cough should disappear. If the cough continues for more than an hour, call your doctor immediately.



## EMERGENCY! CALL AN AMBULANCE

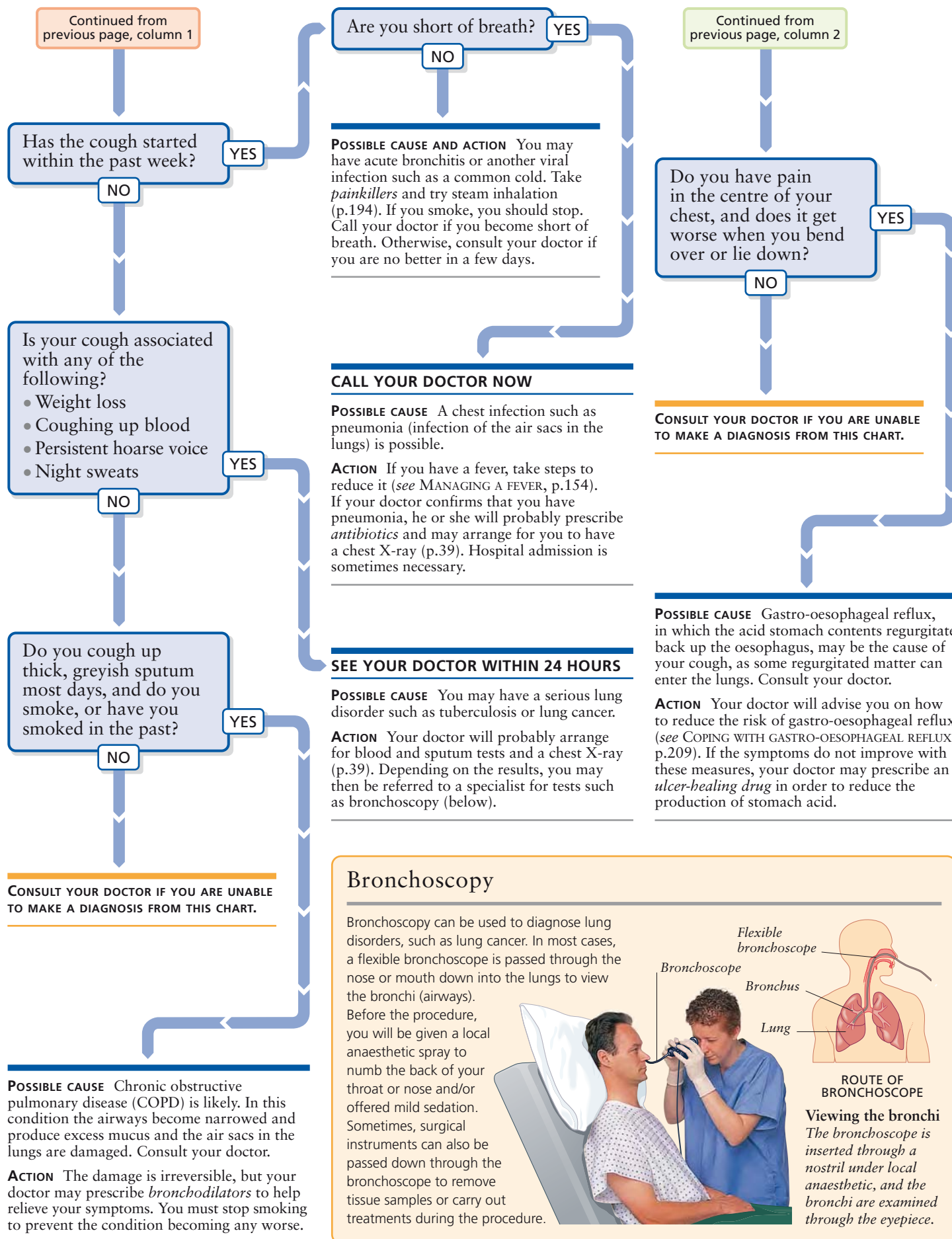
**POSSIBLE CAUSE** Coughing with a wheeze and shortness of breath may be due to an asthma attack and needs urgent medical treatment.

**ACTION** While waiting for medical help, sit upright with your elbows supported on a table or the back of a chair. Try to keep calm. If you have already been diagnosed with asthma and have your drugs with you, take two puffs of your relieving inhaler or else follow your treatment plan. In hospital, treatment will probably include oxygen and *corticosteroids*.

## SEE YOUR DOCTOR WITHIN 24 HOURS

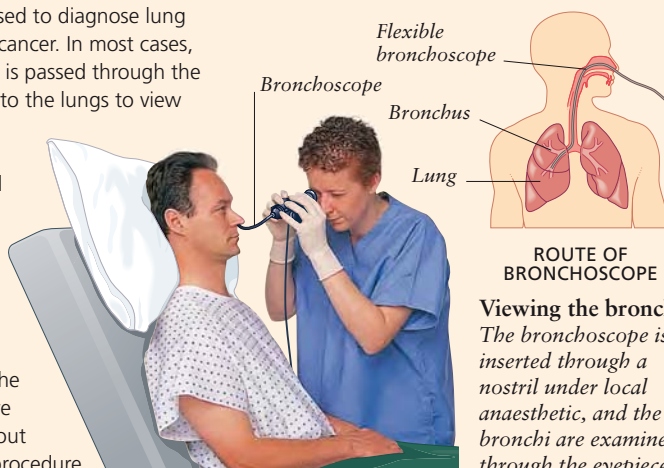
**POSSIBLE CAUSE** A cough may be a symptom of asthma, particularly when it is brought on by exercise or cold weather.

**ACTION** Your doctor will examine you and may measure your peak flow rate (see MEASURING PEAK FLOW RATE, p.197). If asthma is diagnosed, your doctor will probably prescribe inhaled *bronchodilator* and *corticosteroid* drugs.



## Bronchoscopy

Bronchoscopy can be used to diagnose lung disorders, such as lung cancer. In most cases, a flexible bronchoscope is passed through the nose or mouth down into the lungs to view the bronchi (airways). Before the procedure, you will be given a local anaesthetic spray to numb the back of your throat or nose and/or offered mild sedation. Sometimes, surgical instruments can also be passed down through the bronchoscope to remove tissue samples or carry out treatments during the procedure.



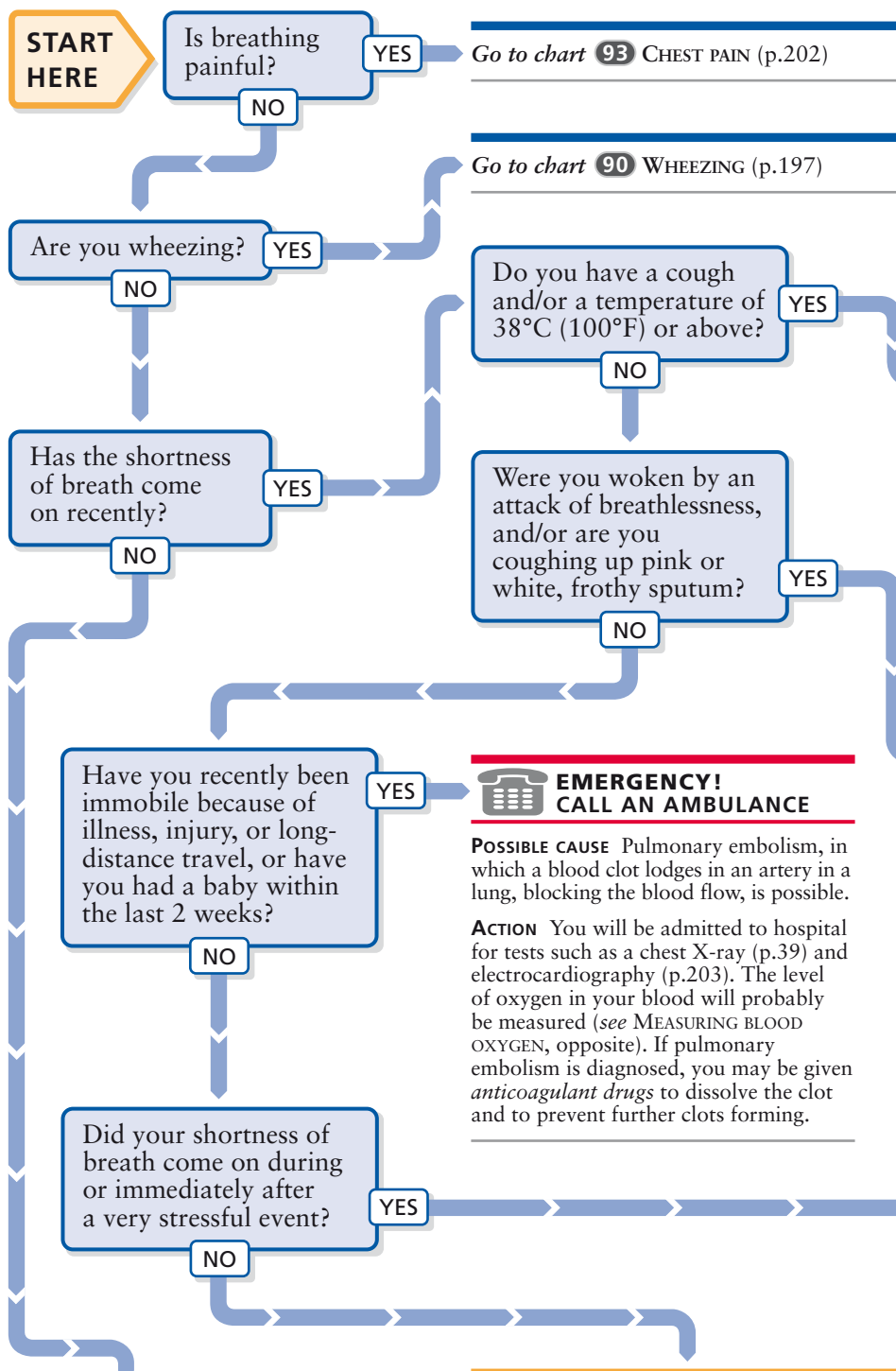
ROUTE OF BRONCHOSCOPE

**Viewing the bronchi**  
The bronchoscope is inserted through a nostril under local anaesthetic, and the bronchi are examined through the eyepiece.

# 92 Shortness of breath

It is normal to become short of breath after strenuous exercise. Pregnant women and people who are overweight become short of breath most easily. However, if you are breathing rapidly or you are “puffing” at rest or after very gentle exercise, you may have a problem affecting the heart or respiratory system. Because such problems may be serious

and threaten the oxygen supply to the tissues, it is very important to seek medical advice without delay if you become short of breath for no apparent reason. A sudden shortness of breath and an inability to make any sound that comes on while eating is probably due to choking and needs urgent first-aid treatment (*see* CHOKING, p.294).



## WARNING

**DANGER SIGNS** Call an ambulance if you or someone you are with has either of the following symptoms:

- Sudden, severe shortness of breath
- Blue-tinged lips or tongue

While waiting for help to arrive, loosen any tight clothing on the affected person and help him or her to sit in an upright position.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A chest infection such as pneumonia (infection of the air spaces in the lungs) is possible. This may be serious, especially for those already in poor health.

**ACTION** Take steps to reduce your fever (*see* MANAGING A FEVER, p.154). If your doctor confirms that you have pneumonia, he or she will probably prescribe *antibiotics* and may arrange for you to have a chest X-ray (p.39). Hospital admission is sometimes necessary.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** A sudden accumulation of fluid in the lungs, known as pulmonary oedema, is a possibility. The most common cause of this condition is acute heart failure, in which the heart fails to pump effectively.

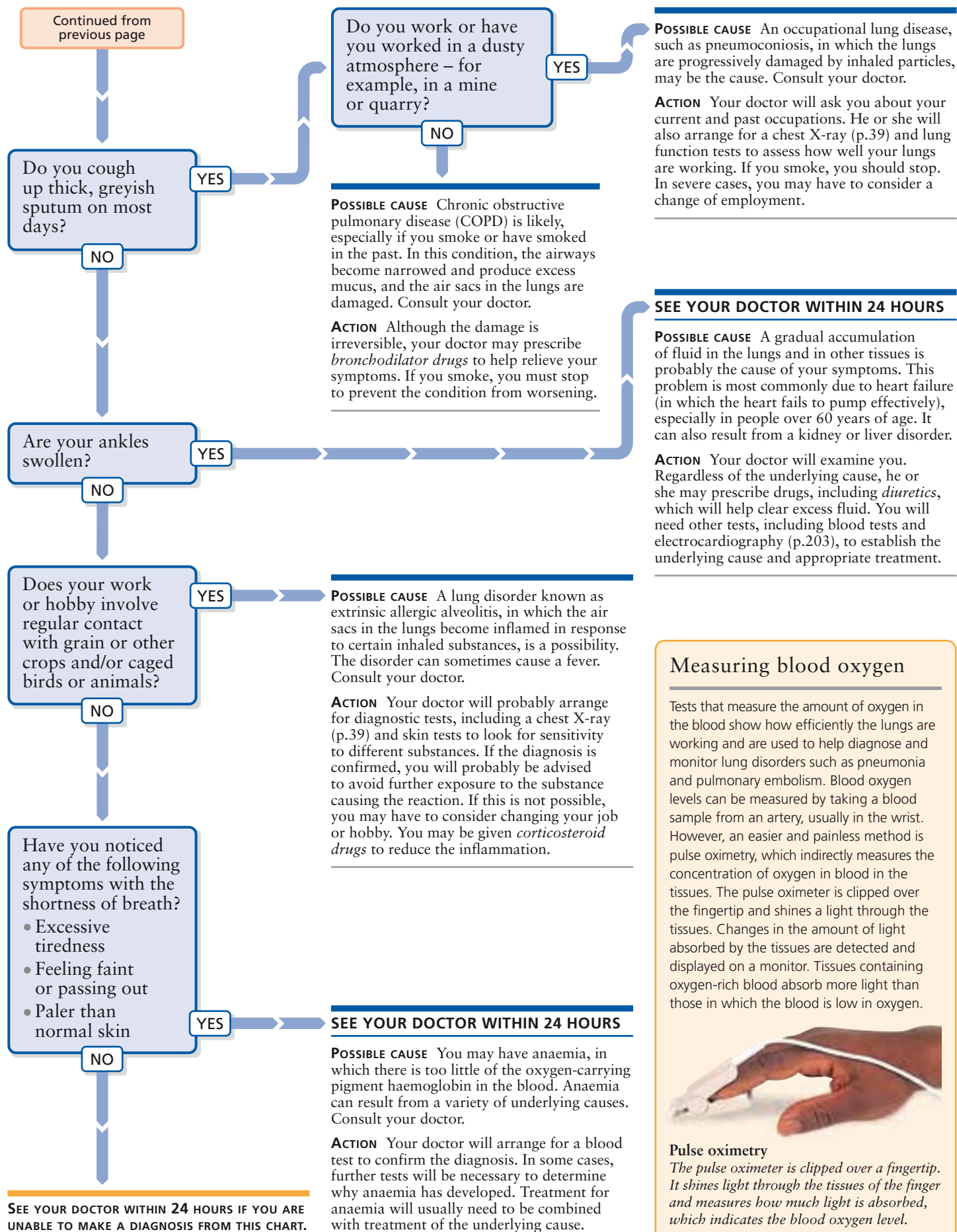
**ACTION** While waiting for help to arrive, sit upright in a chair. You will probably be given oxygen and *diuretic drugs*, which will help to clear the fluid from your lungs. You may also be admitted to hospital for tests such as electrocardiography (p.203). Long-term drug treatment may be necessary to prevent a recurrence of the condition.

**POSSIBLE CAUSE AND ACTION** A panic attack brought on by stress can cause sudden, severe shortness of breath. If you have had such attacks before and have had them diagnosed as panic attacks, follow self-help measures (*see* COPING WITH A PANIC ATTACK, p.173). However, if this is the first time you have had these symptoms, call your doctor at once. He or she will need to examine you to exclude other possible causes of your shortness of breath.

**CALL YOUR DOCTOR NOW IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

Continued on next page





## Measuring blood oxygen

Tests that measure the amount of oxygen in the blood show how efficiently the lungs are working and are used to help diagnose and monitor lung disorders such as pneumonia and pulmonary embolism. Blood oxygen levels can be measured by taking a blood sample from an artery, usually in the wrist. However, an easier and painless method is pulse oximetry, which indirectly measures the concentration of oxygen in blood in the tissues. The pulse oximeter is clipped over the fingertip and shines a light through the tissues. Changes in the amount of light absorbed by the tissues are detected and displayed on a monitor. Tissues containing oxygen-rich blood absorb more light than those in which the blood is low in oxygen.



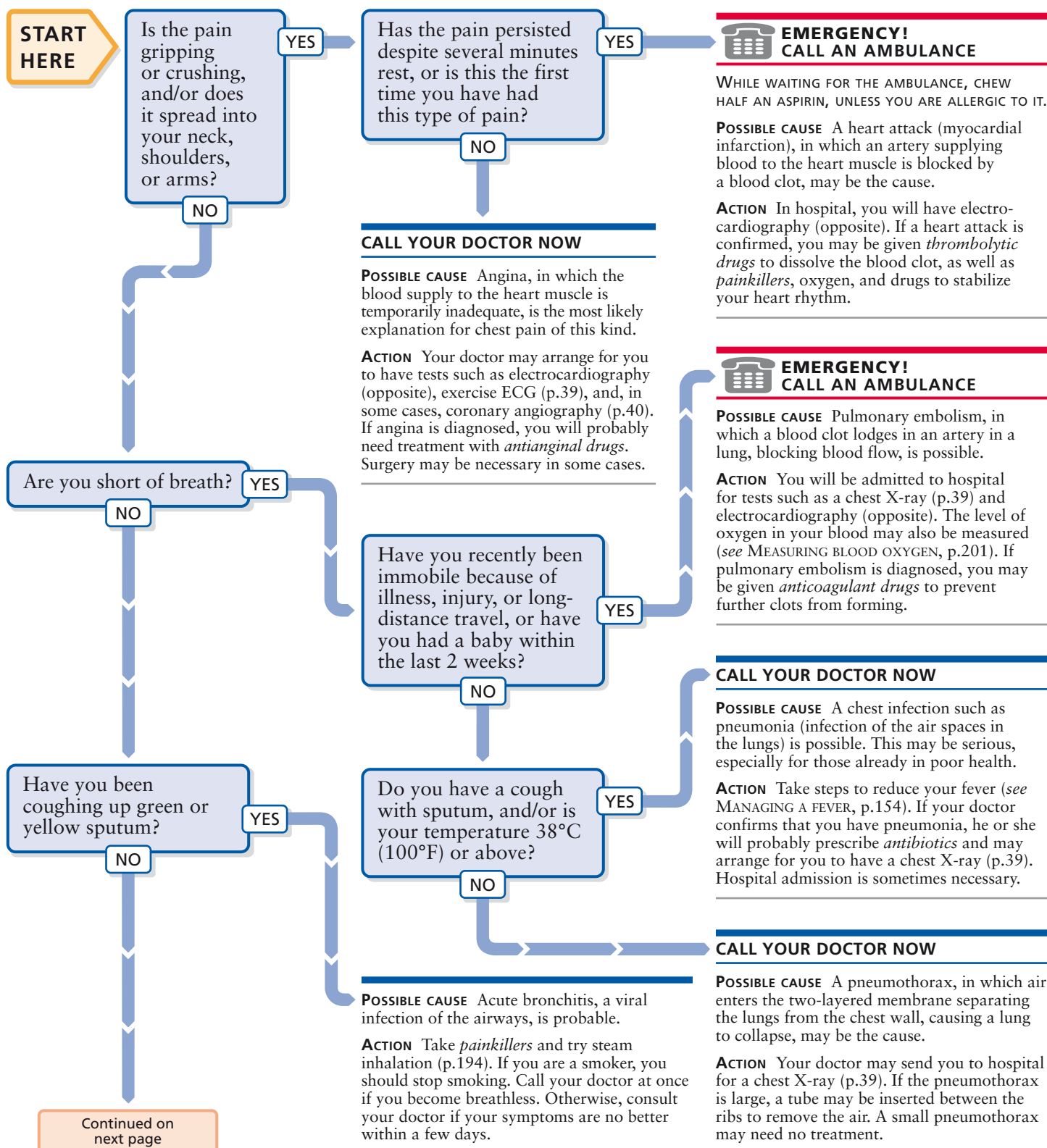
### Pulse oximetry

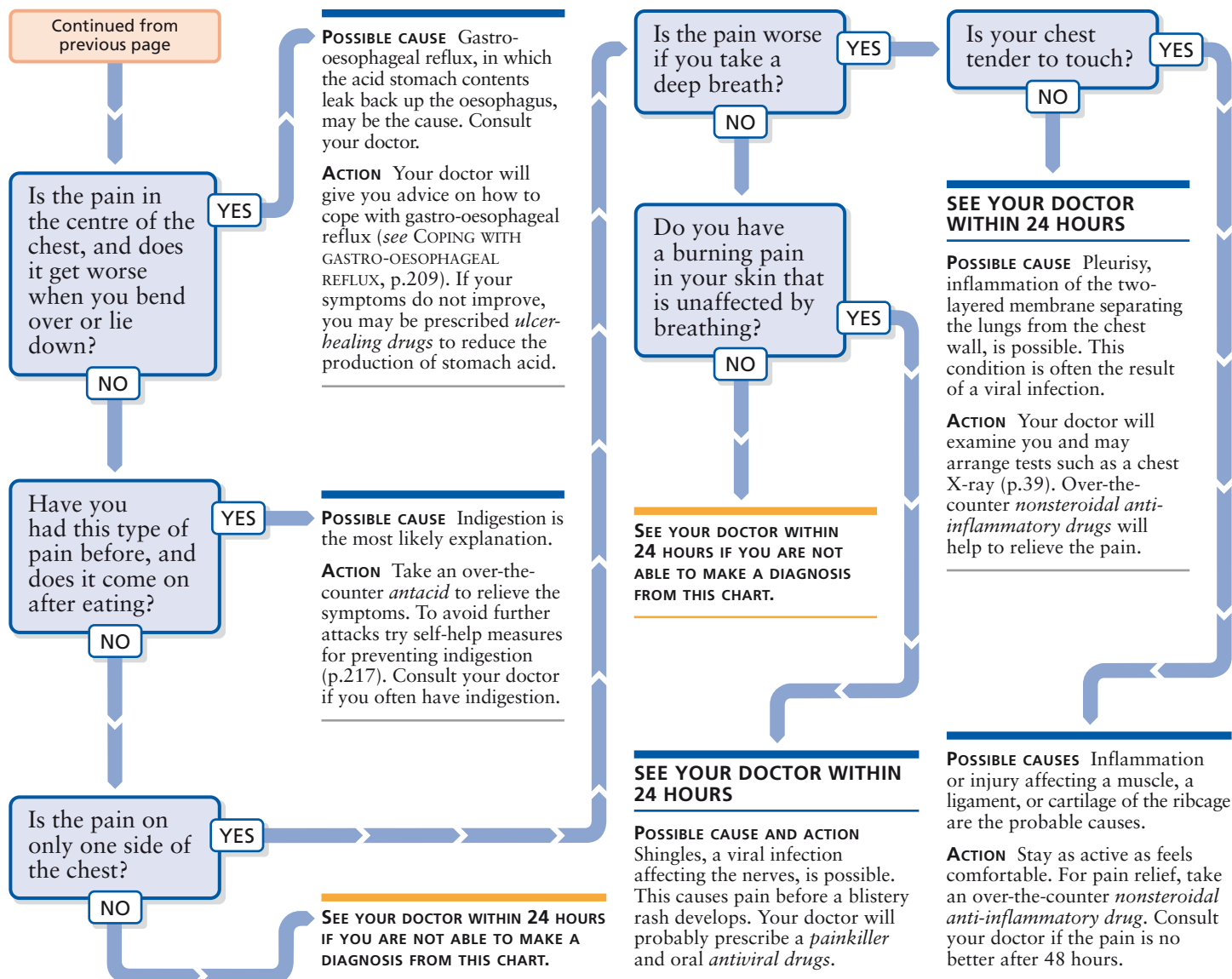
The pulse oximeter is clipped over a fingertip. It shines light through the tissues of the finger and measures how much light is absorbed, which indicates the blood oxygen level.

# 93 Chest pain

Pain in the chest (anywhere between the neck and the bottom of the ribcage) may be alarming but usually does not have a serious cause. Most chest pain is due to minor disorders such as muscle strain or indigestion. Severe,

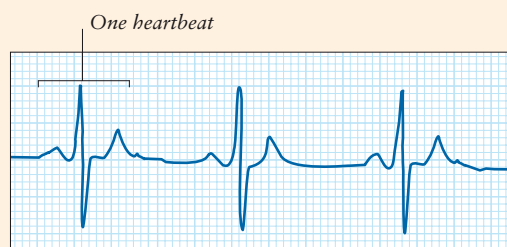
crushing, central chest pain, or pain that is associated with breathlessness, an irregular heartbeat, nausea, sweating, or faintness, may be a sign of a serious disorder of the heart or lungs and may need emergency treatment.



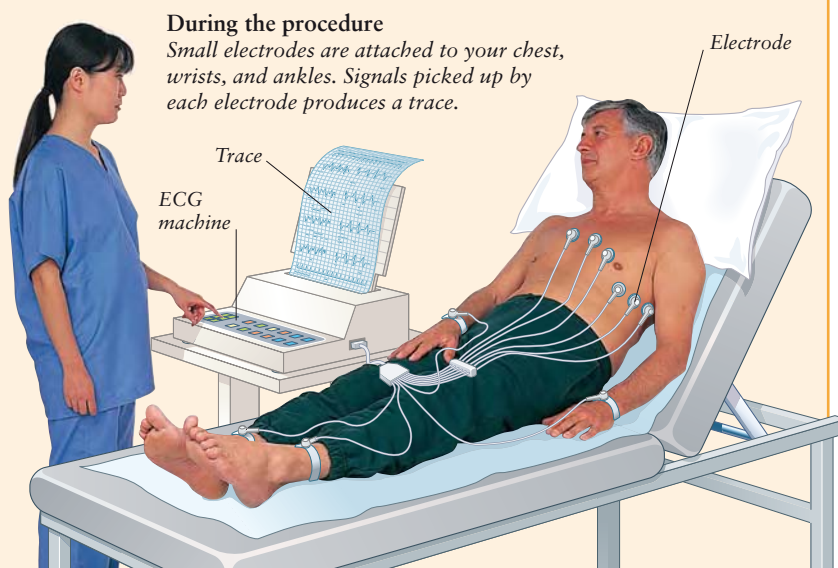


## Electrocardiography

Electrocardiography (ECG) is used to record the electrical activity produced by the heart as it beats. The procedure is frequently used to investigate the cause of chest pain and to diagnose abnormal heart rhythms. Electrodes are attached to the skin of the chest, wrists, and ankles and transmit the electrical activity of the heart to an ECG machine. This records the transmitted information as a trace on a moving graph paper or a screen. Each of the traces shows electrical activity in a different area of the heart. The test usually takes several minutes to complete, is safe, and causes no discomfort.



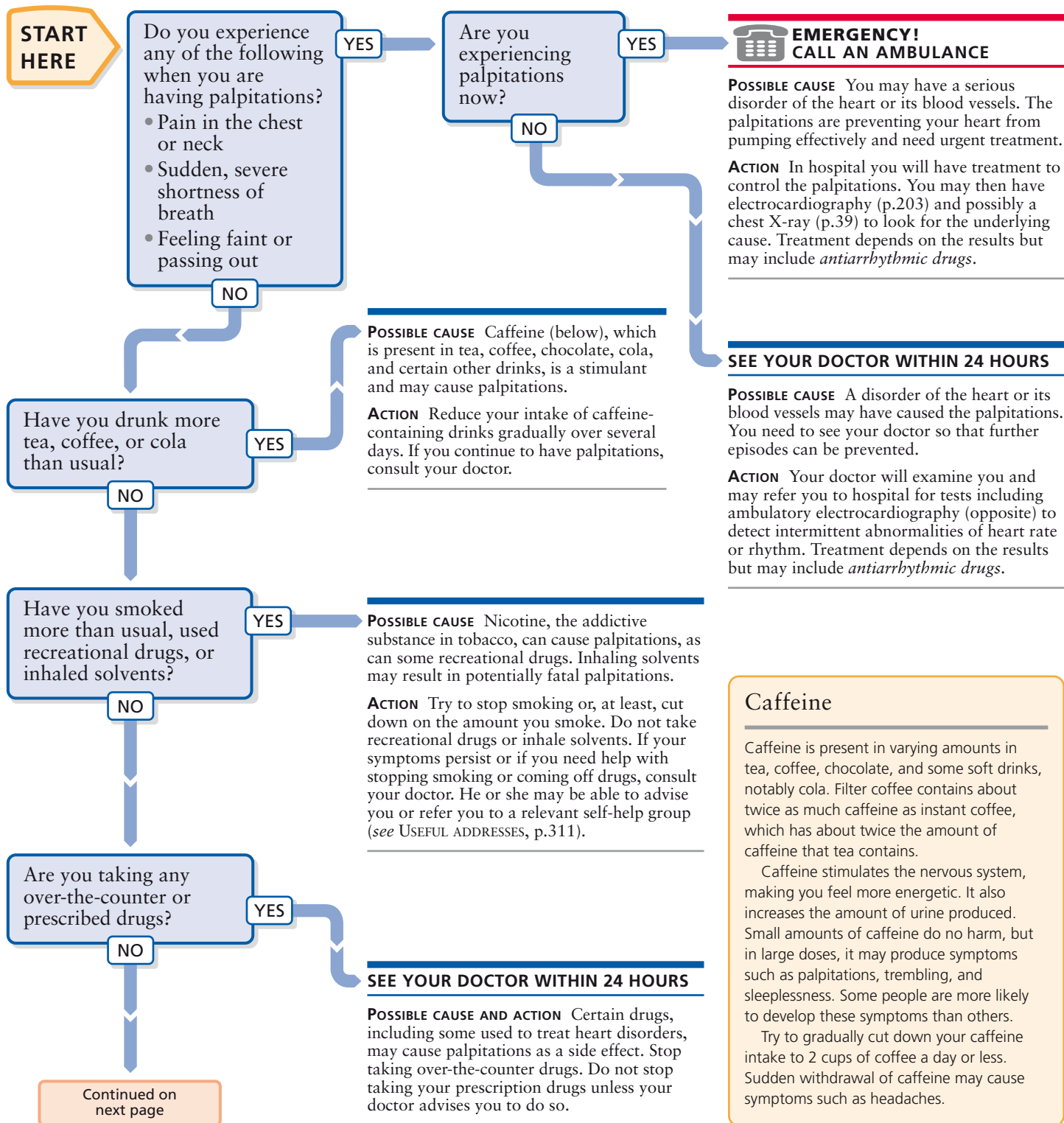
ECG TRACING OF NORMAL HEART RHYTHM



# 94 Palpitations

Palpitations are an awareness of unusually rapid, strong, or irregular beating of the heart. It is normal for the heart rate to speed up during strenuous exercise, and you may feel your heart “thumping” for some minutes afterwards. This is usually no cause for concern. In most cases, palpitations that occur at rest are caused by the effect of drugs such as

caffeine or nicotine or may simply be due to anxiety. However, in a small proportion of people, palpitations that occur at rest are a symptom of an underlying illness. If you have recurrent palpitations that have no obvious cause or that are associated with chest pain or shortness of breath, you should always seek medical advice.



## Caffeine

Caffeine is present in varying amounts in tea, coffee, chocolate, and some soft drinks, notably cola. Filter coffee contains about twice as much caffeine as instant coffee, which has about twice the amount of caffeine that tea contains.

Caffeine stimulates the nervous system, making you feel more energetic. It also increases the amount of urine produced. Small amounts of caffeine do no harm, but in large doses, it may produce symptoms such as palpitations, trembling, and sleeplessness. Some people are more likely to develop these symptoms than others.

Try to gradually cut down your caffeine intake to 2 cups of coffee a day or less. Sudden withdrawal of caffeine may cause symptoms such as headaches.



Continued from  
previous pageDo you have any of the  
following symptoms?

- Weight loss with increased appetite
- Feeling constantly on edge
- Bulging eyes
- Increased sweating

NO

YES

Have you been feeling  
generally tired, been  
short of breath after  
mild exercise, and do  
you have pale skin?

NO

YES

Do you have a pre-  
existing heart condition?

NO

YES

Do either of the  
following describe your  
palpitations?

- Missed beats
- Particularly strong or early beats

NO

YES

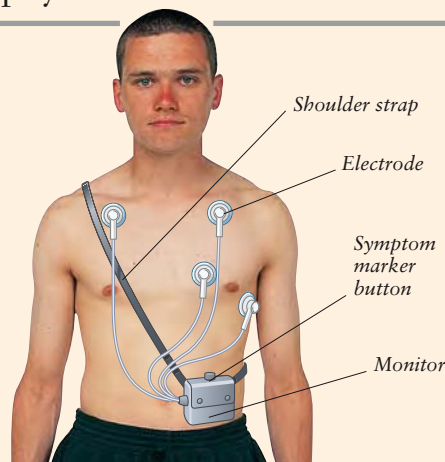
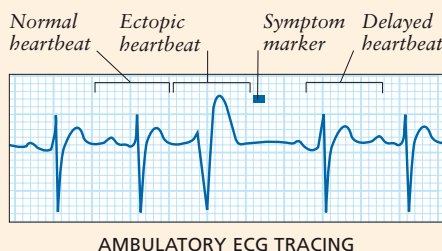
Are you tense and  
under stress?

NO

YES

## Ambulatory electrocardiography

In ambulatory electrocardiography (ECG), a wearable device called a Holter monitor records the electrical activity of the heart by means of electrodes attached to the chest. The device is usually worn for 24 hours or longer and detects intermittent arrhythmias (abnormal heart rates and rhythms). Whenever symptoms occur, you press a button, which adds a mark to the recording. The recording is then analysed to see if there are any periods of arrhythmia and if they coincide with the marks denoting symptoms.



### Using a Holter monitor

The device is worn under clothing. This trace (left) produced by the device shows an early abnormal beat (ectopic beat), which coincides with a symptom marker.

**POSSIBLE CAUSE** Hyperthyroidism (overactive thyroid gland) is a possible cause of these symptoms. Consult your doctor.

**ACTION** Your doctor will take a blood sample to measure levels of thyroid hormones. If the diagnosis is confirmed, you may be treated with *thyroid drugs* or radioactive iodine, which are usually rapidly effective. In some cases, surgery to remove part of the gland may be needed.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** You may have anaemia, in which there is too little of the oxygen-carrying pigment haemoglobin in the blood. Anaemia can result from a variety of underlying causes.

**ACTION** Your doctor will take a sample of blood to measure your haemoglobin levels. If anaemia is confirmed, you will probably need further tests to determine why the condition has developed. You will need treatment for anaemia and for the underlying cause.

### CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** The palpitations may indicate that your condition has worsened. Whatever the cause, the palpitations will put additional strain on your heart and require investigation.

**ACTION** Your doctor will arrange for you to have tests such as electrocardiography (p.203) and a chest X-ray (p.39). Treatment will depend on the results, but you may be prescribed *antiarrhythmic drugs*.

**POSSIBLE CAUSE AND ACTION** Ectopic beats, in which a heartbeat is slightly delayed or early compared with the regular pattern, is a likely cause. Ectopic beats are more common when resting quietly and disappear on exercise. Occasional ectopic beats are common and are very unlikely to be a sign of heart disease. Caffeine (opposite) and stress make ectopic beats more likely and should be avoided.

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

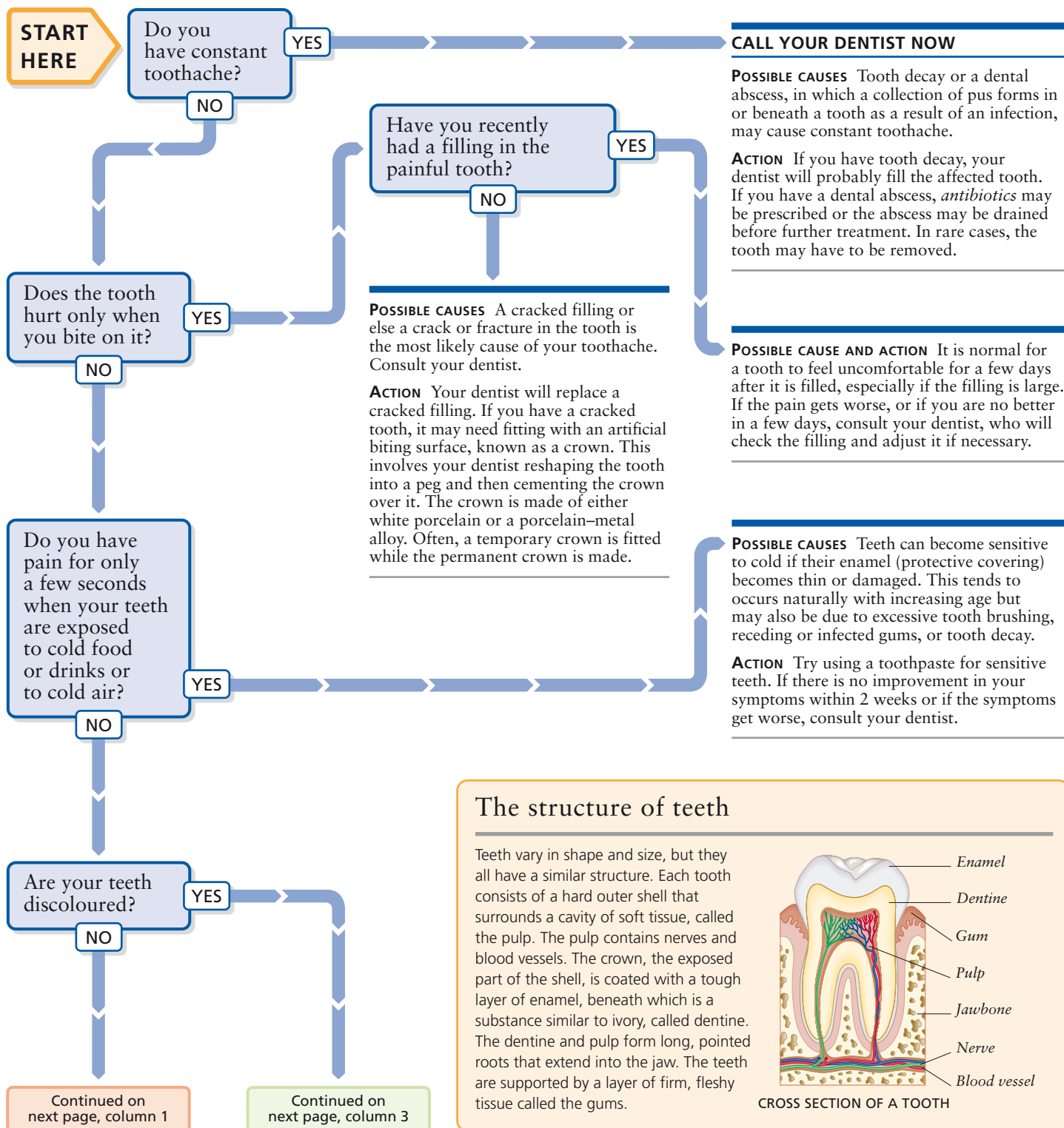
**POSSIBLE CAUSE AND ACTION** Anxiety can increase your awareness of your heartbeat, as well as increase the heart rate itself. Try to keep stress to a minimum and use relaxation techniques (p.32). If these measures do not help, consult your doctor.

# 95 Teeth problems

For pain affecting other parts of the mouth, see chart 96, MOUTH PROBLEMS (p.208).

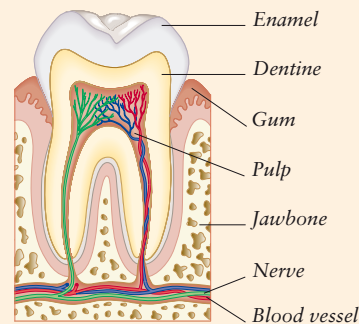
Teeth are at constant risk of decay because bacteria act on sugars in our diet to create acids that erode the surface of the teeth. If untreated, decay can spread to the centre of the teeth. The same conditions that cause decay can also cause gum

disorders and are often associated with poor dental hygiene (see CARING FOR YOUR TEETH AND GUMS, opposite). You should see your dentist every 6–12 months. If you have a heart valve disorder, tell your dentist; you will need to have *antibiotics* before dental treatment. Let your dentist know if you are pregnant so that any X-rays can be postponed.



## The structure of teeth

Teeth vary in shape and size, but they all have a similar structure. Each tooth consists of a hard outer shell that surrounds a cavity of soft tissue, called the pulp. The pulp contains nerves and blood vessels. The crown, the exposed part of the shell, is coated with a tough layer of enamel, beneath which is a substance similar to ivory, called dentine. The dentine and pulp form long, pointed roots that extend into the jaw. The teeth are supported by a layer of firm, fleshy tissue called the gums.

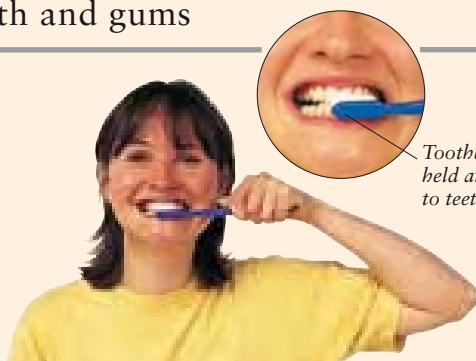


CROSS SECTION OF A TOOTH

## SELF-HELP Caring for your teeth and gums

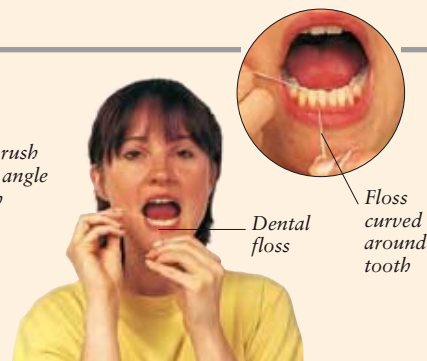
Daily care is vital to maintain dental health. You need to limit your intake of foods and drinks containing sugar because these contribute to tooth decay. You should also brush and floss your teeth regularly to prevent food particles from building up on your teeth and so reduce the risk of tooth decay and gum disease.

Brush your teeth at least twice a day, or, if possible, after every meal. Use a soft electric or manual toothbrush with a small head and a fluoride toothpaste. Brush for at least 2 minutes, cleaning all the surfaces of your teeth, especially where they meet the gum. Next, use dental floss or tape to clean between the teeth, removing food particles that a brush cannot reach.



### Brushing your teeth

*Brush your teeth in small circular motions, using a small-headed toothbrush held at an angle to the teeth. Make sure you clean each tooth.*



### Using dental floss

*Keeping the floss taut, guide it between the teeth. Gently scrape the side of the tooth, working away from the gum.*

Continued from  
previous page, column 1

Do you have pain or discomfort around one or more of your back teeth?

YES

**POSSIBLE CAUSE** You may have a problem with one of your wisdom teeth, such as inflammation of the gum over an unerupted tooth. Consult your dentist.

**ACTION** Your dentist may take an X-ray of your mouth to look at the position of your wisdom teeth within the jaw. If a tooth is causing pain, it may need to be extracted, but most problems get better on their own.

NO

Are your gums tender and/or bleeding?

YES

**POSSIBLE CAUSES** You may have gingivitis, the most common type of gum disease. In this condition, the gums become inflamed, often as a result of poor oral hygiene. Rarely, painless bleeding from gums can be due to a blood disorder. Consult your dentist.

**ACTION** Your dentist will probably scale and polish your teeth and advise you on oral hygiene (see CARING FOR YOUR TEETH AND GUMS, above). If your symptoms are severe, you may be prescribed *antibiotics*. You may need blood tests if gingivitis is not the cause.

NO

Does your jaw ache when you wake up in the mornings, or do you grind your teeth at night?

YES

**POSSIBLE CAUSE AND ACTION** It is quite common for people to grind their teeth during sleep, particularly if they are stressed or anxious. Prolonged grinding can damage the teeth, causing cracks to develop or wearing away the surface. Consult your dentist, who may provide you with a mouth guard to protect your teeth while you sleep.

NO

**CONSULT YOUR DENTIST IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

Continued from  
previous page, column 2

Is the discoloration in discrete patches?

YES

NO

**POSSIBLE CAUSE** Teeth may be stained by smoking or drinking tea or coffee. Poor oral hygiene can also cause discoloration.

**ACTION** Stop smoking and cut down your intake of tea and coffee. Brush and floss your teeth regularly (see CARING FOR YOUR TEETH AND GUMS, above). If these measures do not help, consult your dentist or oral hygienist, who will scale and polish your teeth.

**POSSIBLE CAUSES** Discoloration can occur if certain drugs are given to children while their teeth are developing. Excessive fluoride intake, possibly due to too high a dose of fluoride tablets or drops, may also cause patchy discoloration. Consult your dentist.

**ACTION** Your dentist may recommend a cosmetic coating that can be bonded to the front of the affected teeth.

A sore mouth or tongue is most commonly due to a minor injury. For example, biting your tongue or cheek may cause a painful area. Such injuries should heal within a week. Minor infections are another relatively common cause of

soreness in the mouth. Occasionally, a widespread skin condition or an intestinal disorder such as Crohn's disease may also affect the mouth, causing sore areas to develop. It is important that you keep your mouth and gums healthy by maintaining good oral hygiene (*see* CARING FOR YOUR TEETH AND GUMS, p.207) and having regular dental check-ups.

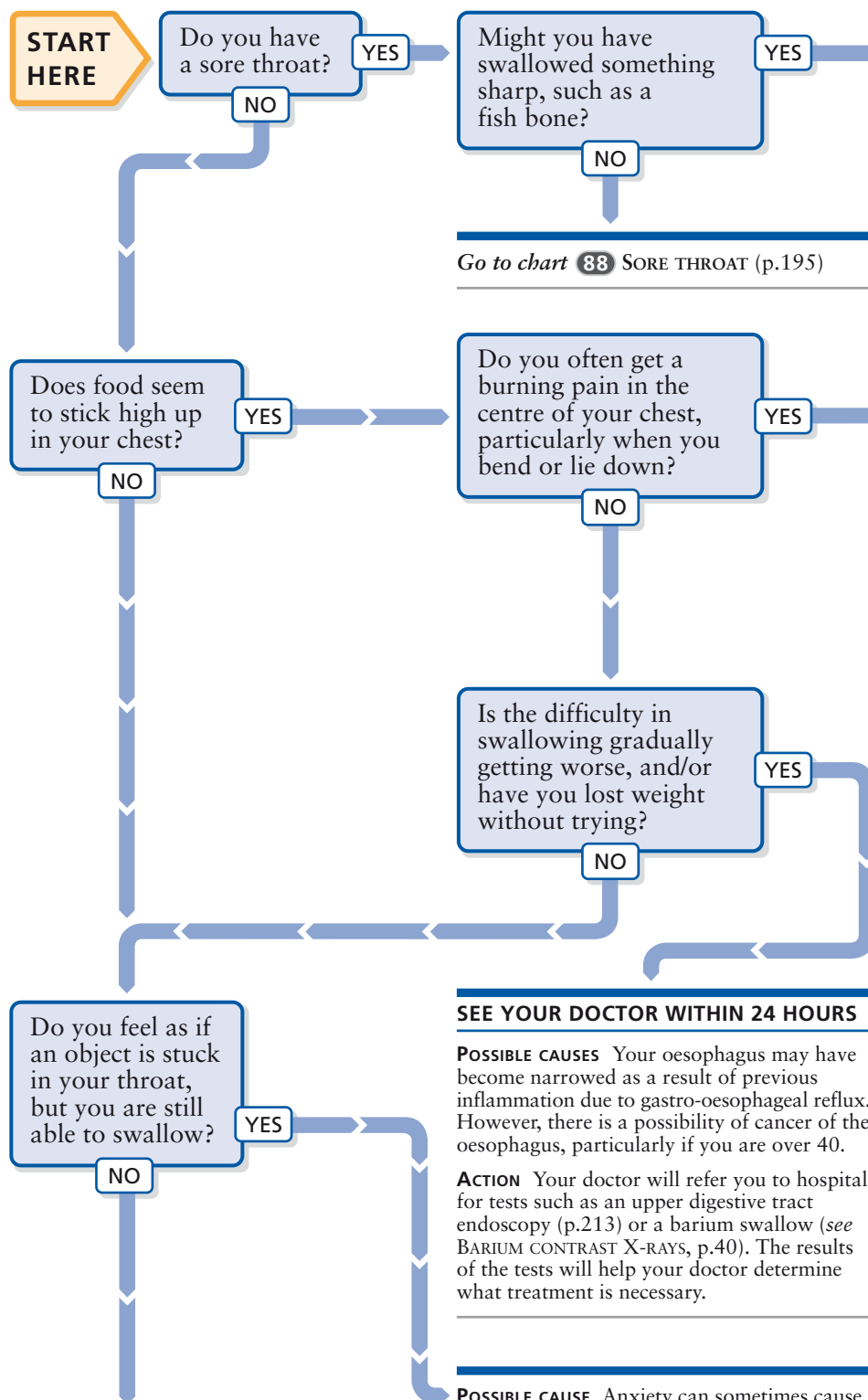




# 97 Difficulty in swallowing

Difficulty in swallowing is most often due to a sore throat caused by an infection and usually clears up within a few days. However, difficulty in swallowing or pain that is not related

to a sore throat may be due to a disorder of the oesophagus, the tube that leads from the throat to the stomach. In this case, you should seek medical advice.



## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** An object may be lodged in your throat, or your throat may be scratched.

**ACTION** Your doctor will examine your throat. If something is lodged there, he or she may remove it. Alternatively, you may be sent to the casualty department of a hospital, where you may have a more thorough examination of your throat and an X-ray (p.39) to check for a foreign body. Any obstruction found there may need to be removed under an anaesthetic.

**POSSIBLE CAUSE** Gastro-oesophageal reflux, in which the acid stomach contents leak back up the oesophagus, causing inflammation and a burning pain in the chest, may be the cause. Consult your doctor.

**ACTION** Your doctor will advise you on coping with gastro-oesophageal reflux (below). If your symptoms do not improve, you may be prescribed *ulcer-healing drugs* that reduce the production of stomach acid. You may also need upper digestive tract endoscopy (p.213) or a barium swallow (see BARIUM CONTRAST X-RAYS, p.40) to confirm the diagnosis.

## SELF-HELP Coping with gastro-oesophageal reflux

If you have been diagnosed as having gastro-oesophageal reflux, the following measures will help reduce the severity of the symptoms:

- Eat small, frequent meals.
- Avoid spicy or acidic foods and high-fat foods, such as chocolate or cream.
- Do not eat late at night.
- Cut down your alcohol and coffee intake.
- Stop smoking.
- If you are overweight (see ASSESSING YOUR WEIGHT, p.29), try to lose weight.
- Do not exercise, bend over, or lie down after a meal.
- Do not wear tight belts or clothes with a tight waistband.
- To prevent heartburn at night, prop up the head of your bed or use an extra one or two pillows.

If, despite these measures, your symptoms are still a problem, over-the-counter *antacids* may help. However, if you need to take *antacids* for more than 2 weeks, you should be reassessed by your doctor.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** Your oesophagus may have become narrowed as a result of previous inflammation due to gastro-oesophageal reflux. However, there is a possibility of cancer of the oesophagus, particularly if you are over 40.

**ACTION** Your doctor will refer you to hospital for tests such as an upper digestive tract endoscopy (p.213) or a barium swallow (see BARIUM CONTRAST X-RAYS, p.40). The results of the tests will help your doctor determine what treatment is necessary.

**POSSIBLE CAUSE** Anxiety can sometimes cause this type of difficulty in swallowing.

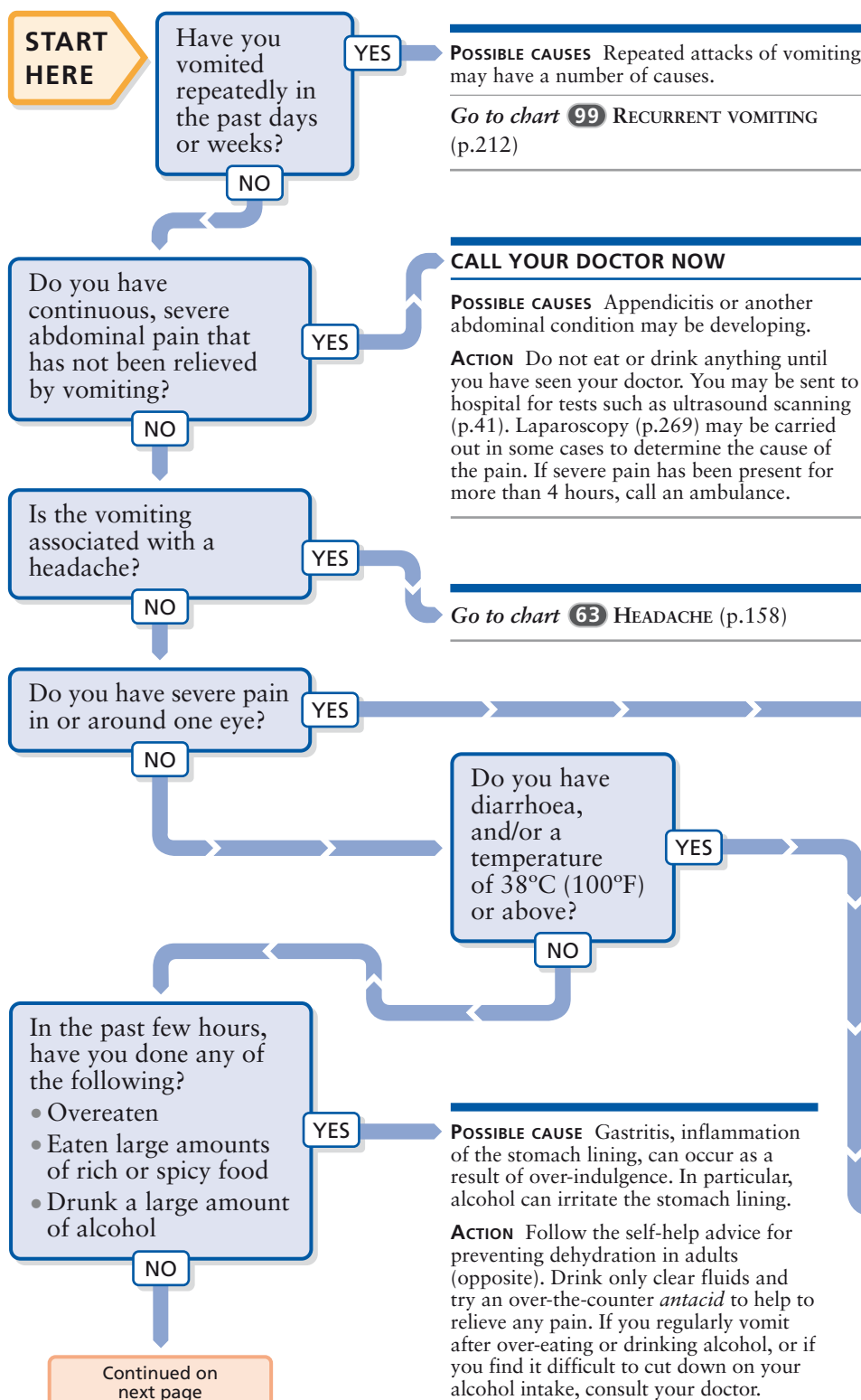
Go to chart 73 ANXIETY (p.172)

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

# 98 Vomiting

Vomiting is often the result of irritation of the stomach from infection or over-indulgence in rich food or alcohol, but it may also follow a disturbance elsewhere in the digestive tract. Occasionally, a disorder affecting the nerve signals from the brain or from the balance mechanism in the inner ear can

produce vomiting. People who have recurrent migraine attacks recognize the familiar symptoms of headache with nausea and/or vomiting, but in other cases of vomiting accompanied by severe headache or when vomiting occurs with acute abdominal pain, urgent medical attention is needed.



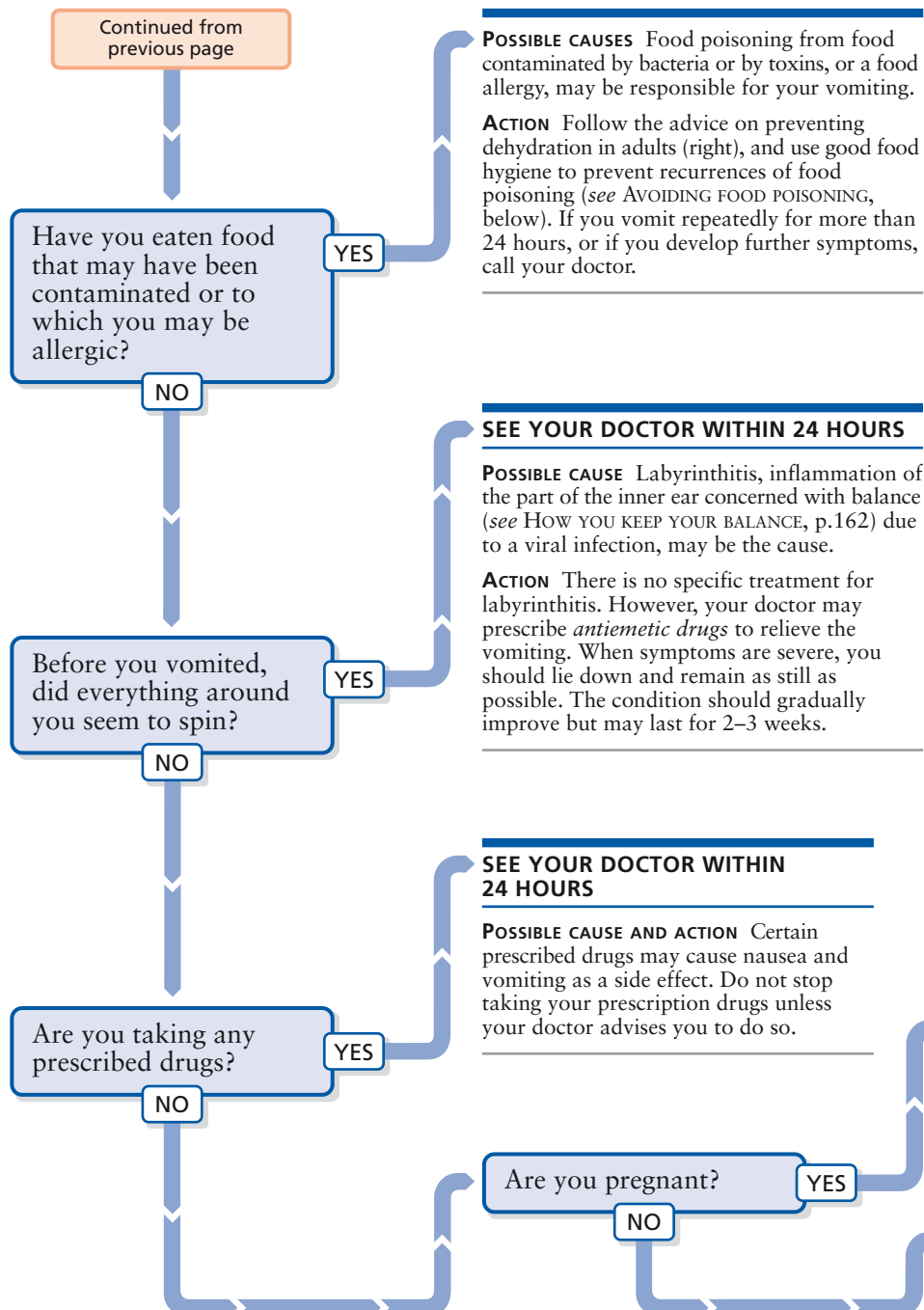
## WARNING

**RED OR BLACK BLOOD IN VOMIT** Call an ambulance if your vomit contains blood, which may appear as any of the following:

- Bright red streaks
- Black matter resembling coffee grounds
- Blood clots

## WARNING

**VOMITING AND DRUGS** Vomiting may prevent oral drugs from being absorbed and may thus reduce the effectiveness of the medication. If you use oral contraceptives, you will need to use an additional form of contraception such as condoms for some time after the vomiting has stopped. Follow the instructions provided with the oral contraceptives or consult your doctor if you are not sure what to do. You should consult your doctor if you are taking any other prescribed drugs and have been vomiting.

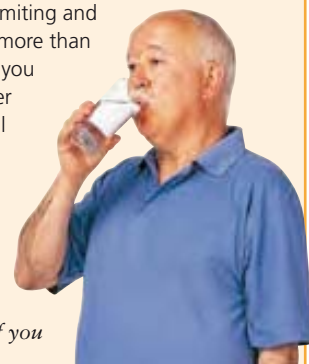


## SELF-HELP Preventing dehydration in adults

Vomiting and diarrhoea can cause dehydration as a result of the loss of large amounts of fluids and salts from the body. Elderly people are particularly vulnerable to dehydration, as are babies and children. The following self-help measures may be useful in reversing or preventing dehydration:

- Drink plenty of fluids every 1–2 hours, while symptoms last. Choose fluids such as dilute orange juice or weak sweet tea.
- Alternatively, drink oral rehydrating solution, which is available over the counter as a powder that you reconstitute.

If you have vomiting and diarrhoea for more than 24 hours or if you develop further symptoms, call your doctor.



### Fluid intake

*Make sure that you have frequent drinks, even if you are vomiting.*

## SELF-HELP Avoiding food poisoning

Food poisoning is usually caused by eating food contaminated with bacteria or toxins and may be avoided by taking the following measures:

- Regularly clean work surfaces with disinfectant and hot water.
- Wash your hands thoroughly before and after handling food.
- Use separate chopping boards for raw meat, cooked meat, and vegetables, and clean each board thoroughly after use.
- Make sure the refrigerator is set at the recommended temperature.
- Always use food by the expiry date.

- Put chilled food in the refrigerator as soon as possible after purchase.
- Store raw meat and fish away from other foods inside the refrigerator.
- Once left-over food has cooled, cover or wrap it properly and store it in the refrigerator.
- Defrost frozen food before cooking it, and never refreeze thawed food.

### Safe food preparation

*Always wash fresh fruit and vegetables before preparing them. Chopping boards should be washed in hot soapy water after use.*

*Use a clean board*

*Wash salad thoroughly*

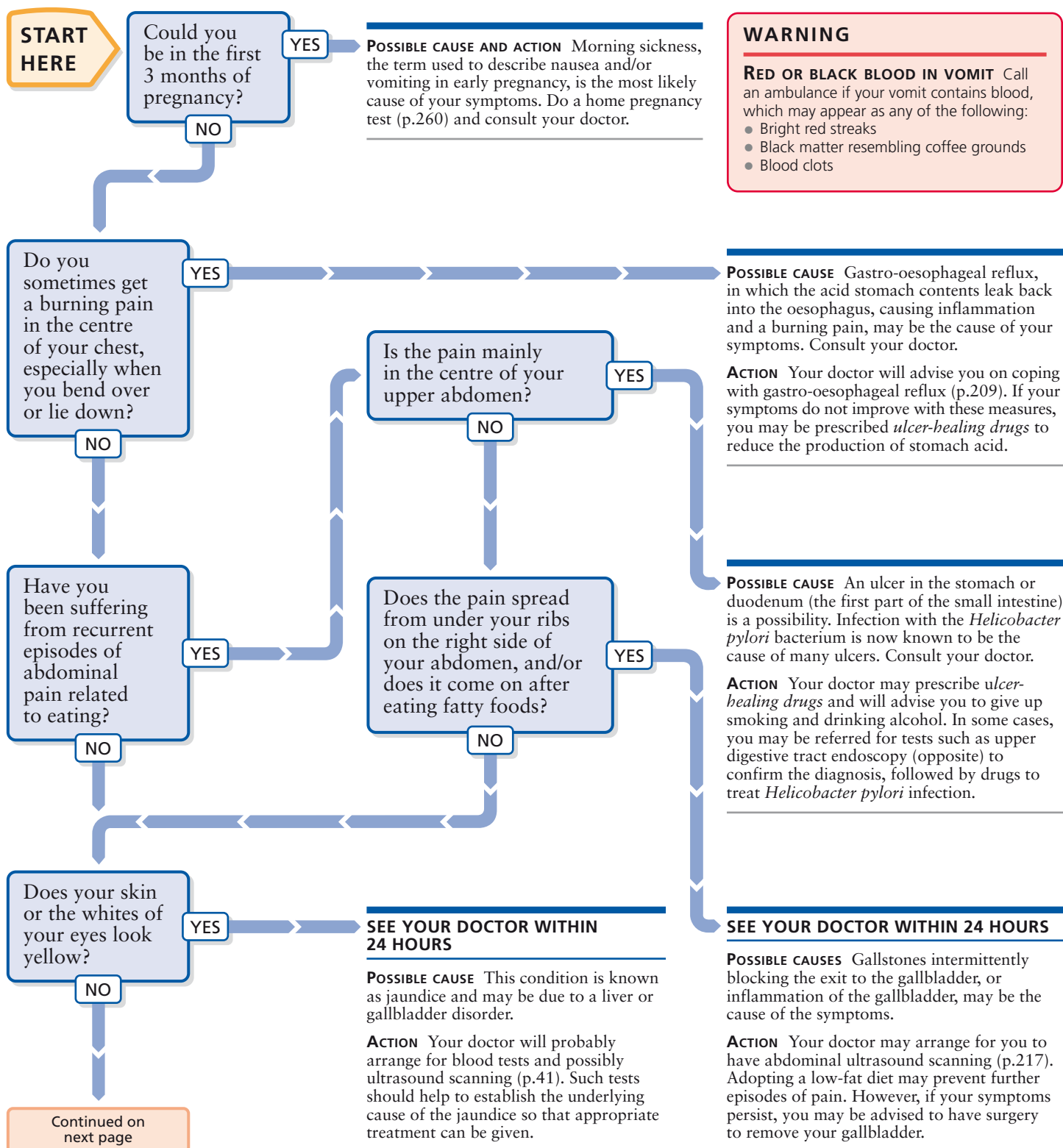


# 99 Recurrent vomiting

For isolated attacks of vomiting, see chart 98, VOMITING (p.210). For vomiting during pregnancy, see chart 141, NAUSEA AND VOMITING IN PREGNANCY (p.278).

Consult this chart if you have vomited or felt nauseated repeatedly over a number of days or weeks. Recurrent

vomiting can be caused by inflammation of the stomach lining or by an ulcer. Lifestyle factors such as irregular meals or excess alcohol can make the symptoms worse. Recurrent vomiting associated with weight loss or abdominal pain may have a serious cause, and you should consult your doctor.





Continued from  
previous pageDo you have either of  
the following?

- Reduced appetite
- Unintentional weight loss of more than 4 kg (9 lb)

YES

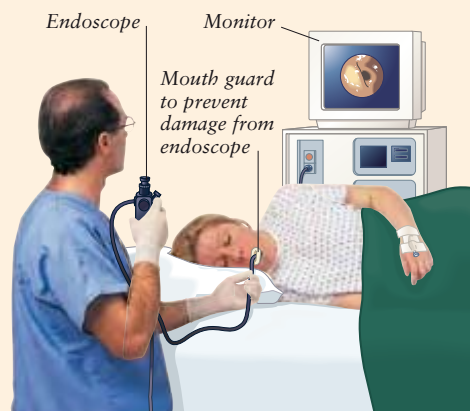
NO

## Upper digestive tract endoscopy

Endoscopy of the upper digestive tract involves passing a flexible viewing tube through the mouth to examine the inside of the oesophagus, stomach, and duodenum (first part of the small intestine) to look for disorders such as ulcers. Your throat may be sprayed with a local anaesthetic and/or you may be sedated. The procedure usually takes around 15 minutes. Samples for analysis can be taken during the procedure.

## Viewing the digestive tract

*The doctor can inspect the lining of the digestive tract, which is displayed on the monitor as the endoscope is moved around.*



## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** An ulcer in the stomach or duodenum (the first part of the small intestine) is the most likely cause of your symptoms, but there is a slight possibility of stomach cancer.

**ACTION** Your doctor will probably arrange for you to have upper digestive tract endoscopy (above). Ulcers are usually treated with a course of *antibiotics* to kill the *Helicobacter pylori* bacteria that are responsible for the majority of these ulcers. Stomach cancer usually needs to be treated surgically.

Have you recently  
developed severe  
constipation and/or  
swelling of the  
abdomen?

YES

NO

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A blockage in the intestine could be the cause of your symptoms.

**ACTION** Your doctor will examine you and may send you to hospital for tests such as X-rays (p.39). If the vomiting is severe, you may be given fluids intravenously instead of by mouth. In some cases, surgery may be needed to relieve the blockage.

Do you regularly  
drink more than the  
recommended safe  
alcohol limit (p.30)?

YES

NO

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** A condition that causes increased pressure on the brain, such as a tumour, may be the cause. However, such conditions are rare, and recurrent attacks of vomiting associated with headaches are more likely to be due to migraine.

**ACTION** If you have not previously been diagnosed as having migraine, your doctor will examine you to exclude other causes. He or she may also refer you to hospital for MRI scanning (p.41) of the brain. If migraine is the cause of your symptoms, follow the advice on relieving a headache (p.159) and reducing the frequency of migraine (p.159).

**POSSIBLE CAUSE** Chronic gastritis (persistent inflammation of the stomach lining) is a possibility. This disorder is aggravated by excessive alcohol intake. Consult your doctor.

**ACTION** Your doctor will advise you to cut down your alcohol intake to within the recommended limits. He or she may also prescribe *antacids*. Eat small, regular meals and, if you smoke, stop. If your symptoms persist, your doctor may refer you for upper digestive tract endoscopy (above).

Have you been  
suffering from  
recurrent headaches?

YES

NO

Are you taking any  
prescribed drugs?

YES

NO

## SEE YOUR DOCTOR WITHIN 24 HOURS

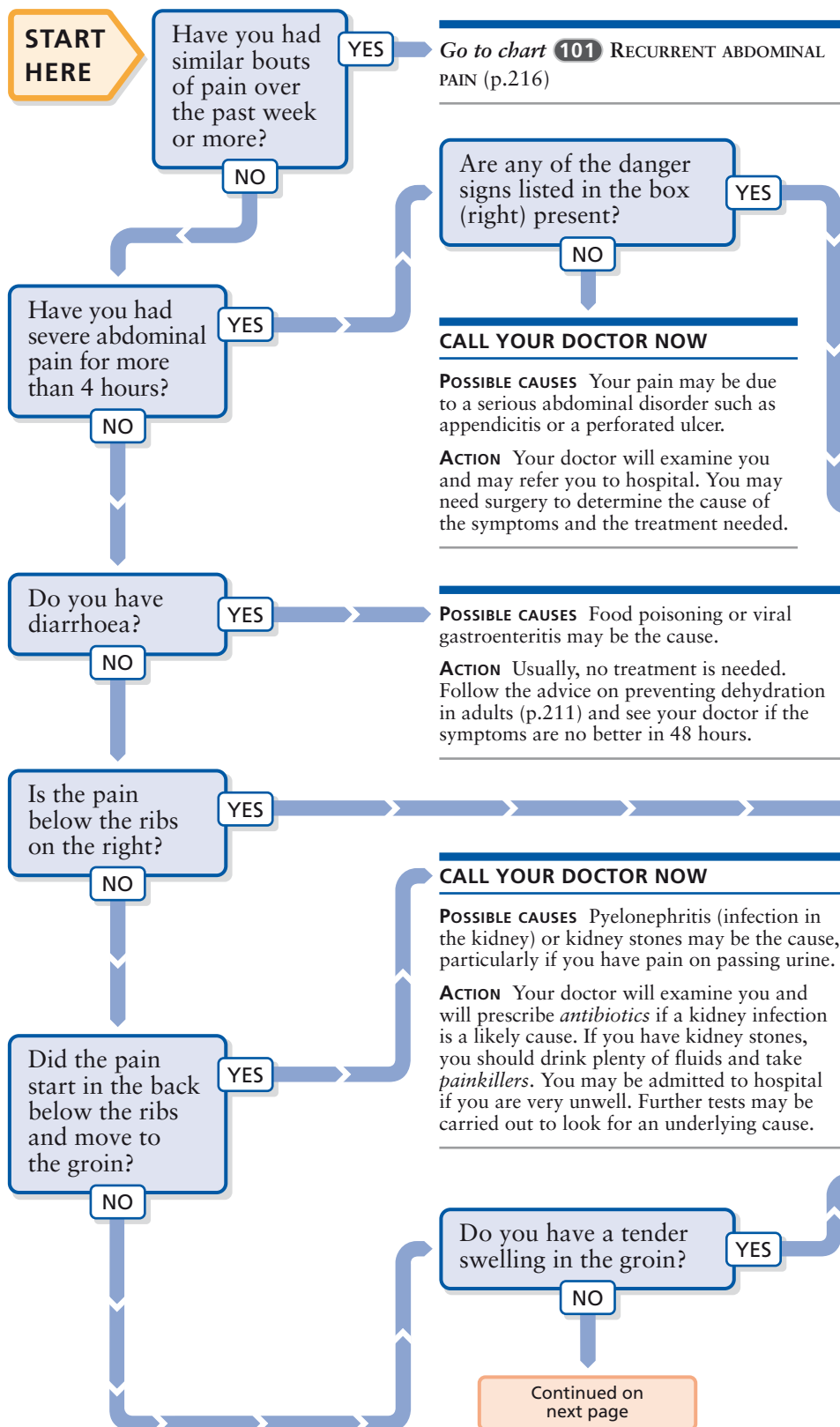
**POSSIBLE CAUSE AND ACTION** Certain drugs can cause recurrent vomiting as a side effect. Do not stop taking your prescribed drugs without your doctor's advice. Remember that vomiting can reduce the effectiveness of certain drugs (see VOMITING AND DRUGS, p.210).

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

# 100 Abdominal pain

Many cases of abdominal pain are short-lived and are due simply to eating or drinking too much or too quickly. However, pain in the abdomen may also be due to a disorder

affecting the digestive system, urinary system, or, in women, the reproductive system. Any abdominal pain that is severe or persistent should receive prompt medical attention.



## WARNING

**DANGER SIGNS** Call an ambulance if you have severe abdominal pain that lasts for longer than 4 hours and is associated with any of the following danger signs:

- Vomiting
- Fever
- Swollen or tender abdomen
- Swelling in the groin or scrotum
- Feeling faint, drowsy, or confused
- Black or bloodstained faeces
- Blood in the urine

Do not take *painkillers* or eat or drink while waiting for medical help because you may need emergency surgery.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSES AND ACTION** A serious abdominal condition, such as appendicitis or a perforated ulcer, may be the cause. Do not eat or drink anything or take *painkillers* while waiting for medical help. You will probably be admitted to hospital and may need surgery to look for and treat the cause.

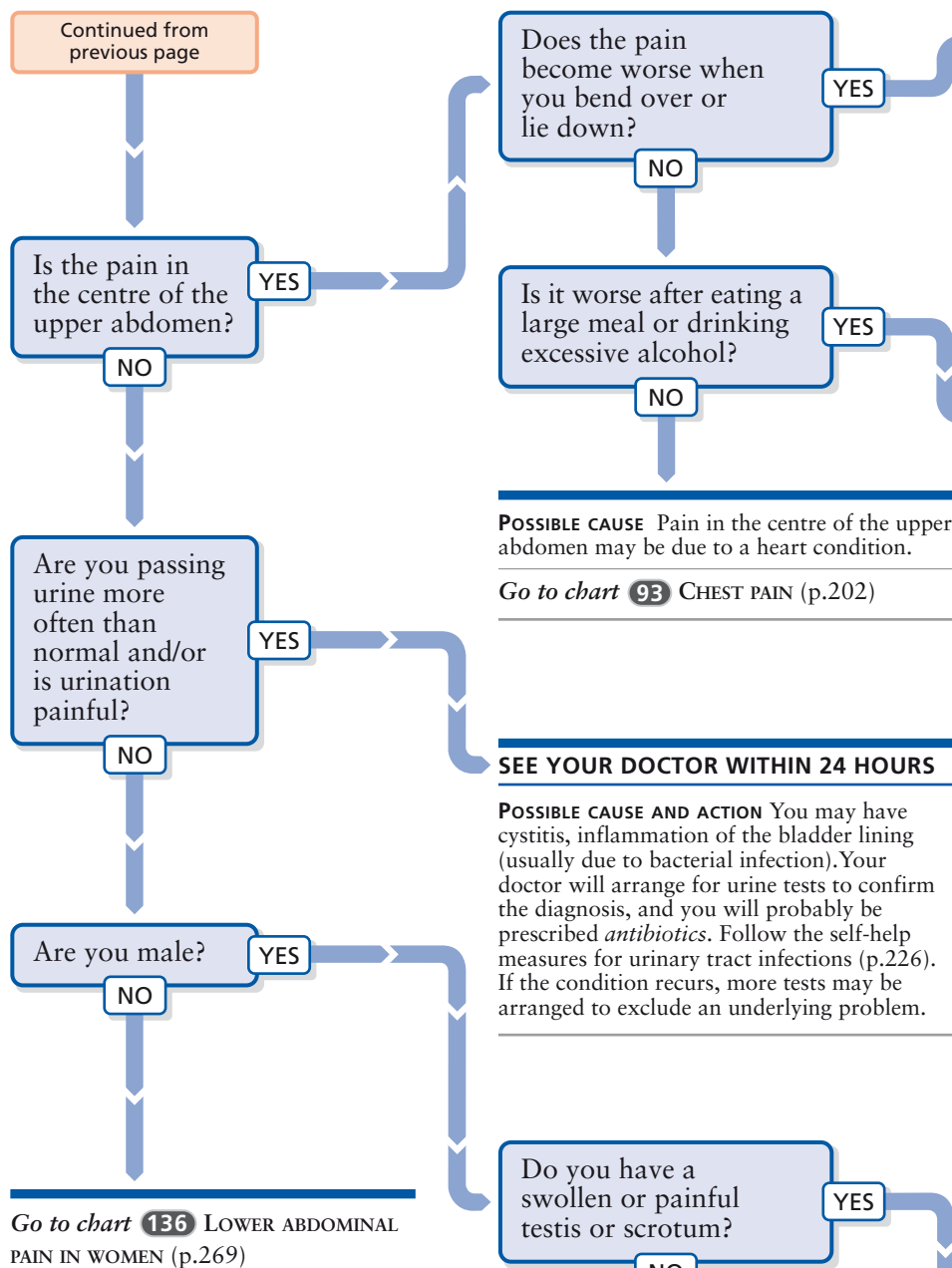
## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES AND ACTION** These symptoms may be due to gallstones (opposite) causing inflammation of the gallbladder or blocking the flow of bile to the intestine. Your doctor will examine you. He or she may prescribe *antibiotics* and *painkillers*. If you are very unwell, you may be admitted to hospital. When the symptoms have subsided, you may have ultrasound scanning (p.217) to confirm the diagnosis. Avoiding fatty foods reduces the risk of the pain recurring, but you may be advised to have your gallbladder removed.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A hernia, in which part of the intestine pushes through a weak area in the abdominal wall, may be the cause. If the intestine becomes trapped, its blood supply may be cut off, causing severe pain.

**ACTION** If your doctor confirms the diagnosis, you will probably need urgent admission to hospital for surgery to release the intestine and repair the hernia (see HERNIA REPAIR, opposite).

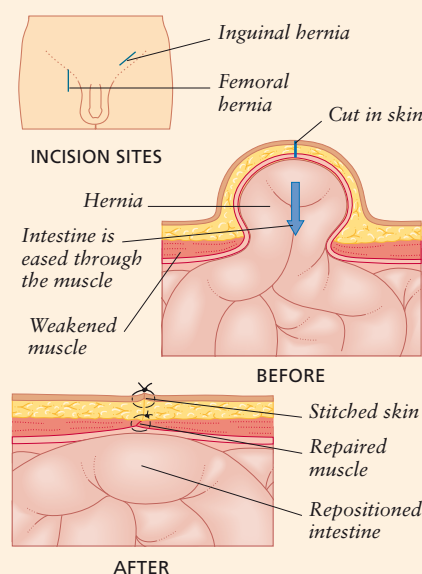


## Gallstones

About 1 in 10 people over the age of 40 has gallstones. The stones are formed in the gallbladder from bile (a liquid produced by the liver that aids in digestion). There is often no obvious cause for gallstone formation, although they are more common in people who are overweight and/or who eat a high-fat diet. Gallstones do not always result in symptoms, but they sometimes inflame the gallbladder or block its exit so that bile cannot be emptied into the intestine. In both these cases, the result may be episodes of abdominal pain, nausea, and vomiting. The frequency of these painful episodes may be reduced by eating a low-fat diet, but in some cases the gallbladder needs to be removed.

## Hernia repair

When part of an organ, usually the intestine, protrudes through a weakened muscle, it forms a hernia. Common types of hernia include inguinal and femoral hernias, both of which occur in the groin. Most hernias can be repaired by a simple operation, which is done under a local or general anaesthetic. During the procedure, the contents of the hernia are eased back into place and the weakened muscle is repaired. In some cases a piece of synthetic mesh is sewn into the weakened muscle to strengthen it.



### Repairing a hernia

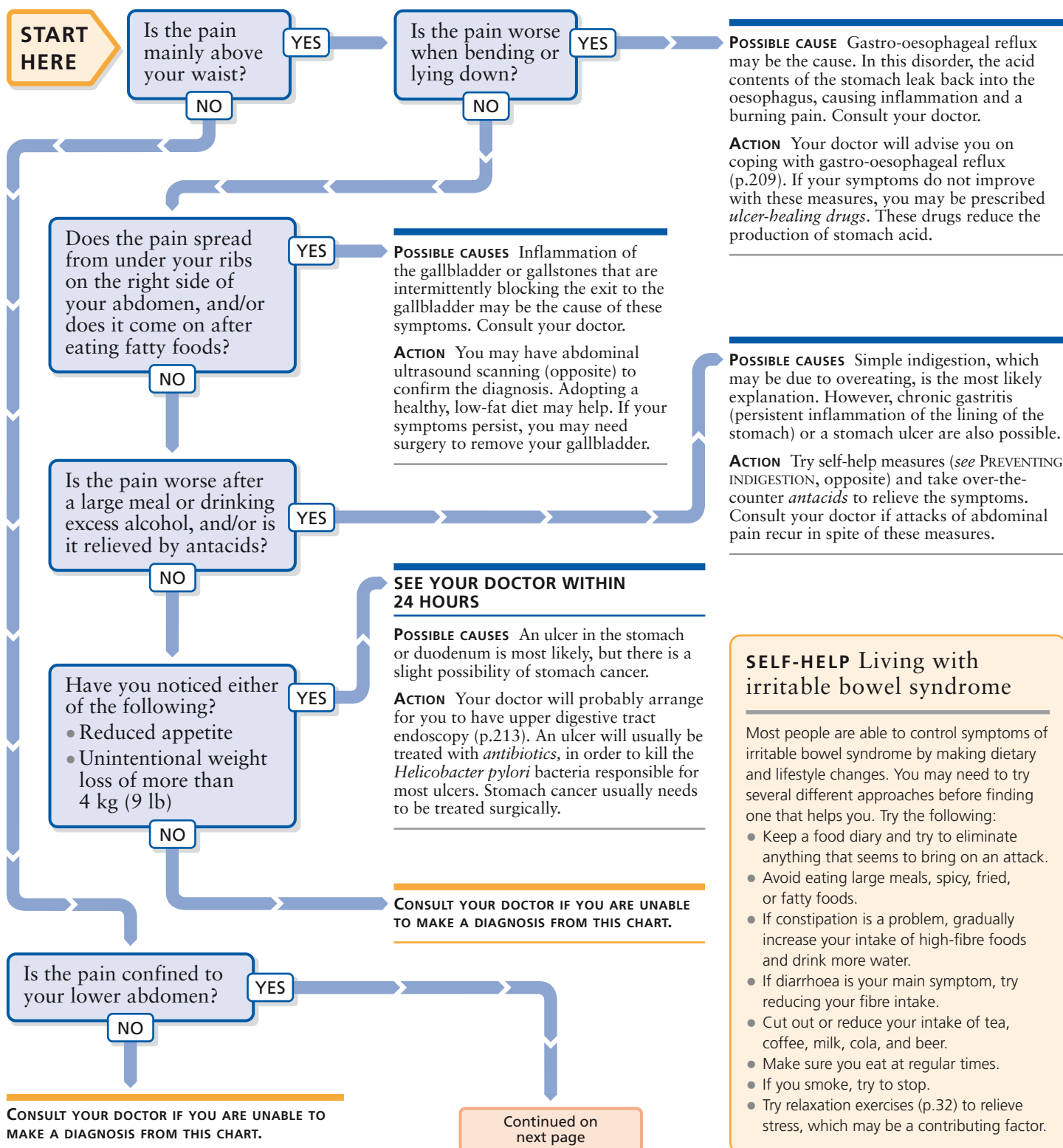
An incision is made in the skin, and the hernia is pushed back through the muscle. The muscle and skin are then stitched.

# 101 Recurrent abdominal pain

For an isolated attack of abdominal pain, see chart 100, ABDOMINAL PAIN (p.214).

Consult this chart if you have had several episodes of pain in the abdomen (between the ribcage and the groin) over a number of days or weeks. Most recurrent abdominal pain is

the result of minor digestive disorders and can be relieved by a change in eating habits. If the pain persists, you should consult your doctor, even if you think you know what is causing the pain, so that he or she can eliminate the slight possibility of a serious underlying problem.



## SELF-HELP Living with irritable bowel syndrome

Most people are able to control symptoms of irritable bowel syndrome by making dietary and lifestyle changes. You may need to try several different approaches before finding one that helps you. Try the following:

- Keep a food diary and try to eliminate anything that seems to bring on an attack.
- Avoid eating large meals, spicy, fried, or fatty foods.
- If constipation is a problem, gradually increase your intake of high-fibre foods and drink more water.
- If diarrhoea is your main symptom, try reducing your fibre intake.
- Cut out or reduce your intake of tea, coffee, milk, cola, and beer.
- Make sure you eat at regular times.
- If you smoke, try to stop.
- Try relaxation exercises (p.32) to relieve stress, which may be a contributing factor.



Continued from  
previous pageIs the pain  
associated  
with diarrhoea  
and/or  
constipation?

YES

NO

Do you have  
any swelling  
or discomfort  
in the groin that  
is made worse  
by coughing  
or lifting  
heavy objects?

YES

NO

Do you also  
have any of  
the following  
symptoms?

- Passing urine more often than normal
- Pain on passing urine
- Cloudy or bloodstained urine

YES

NO

Are you female?

YES

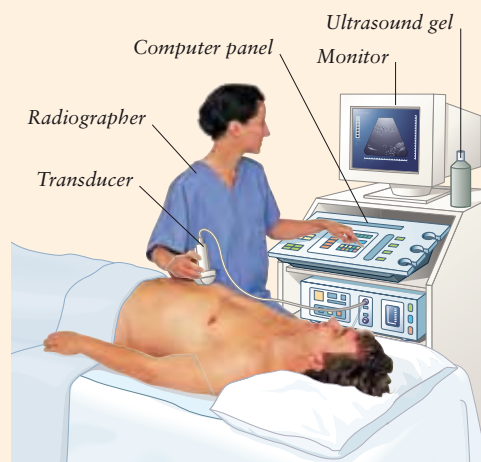
NO

## Abdominal ultrasound scanning

In ultrasound scanning (p.41), a device called a transducer emits high-frequency sound waves and receives their echoes to produce images of internal organs. Ultrasound scanning of the abdomen is often used to investigate the liver, the gallbladder, and the kidneys. To produce good contact between the transducer and the abdomen, gel is placed on the skin over the area to be examined. The radiographer moves the transducer over the area, using gentle pressure, and images from it are displayed on a monitor. The procedure is painless and safe.

### During the procedure

*The hand-held transducer is moved over the skin of the abdomen. The images displayed on the monitor are continually updated.*

Have you lost weight,  
and/or do you have  
blood in your faeces?

YES

NO

**POSSIBLE CAUSE** You probably have irritable bowel syndrome, a disorder in which there is a combination of intermittent abdominal pain, constipation, and/or diarrhoea. However, there is a slight possibility of cancer of the colon. Consult your doctor.

**ACTION** Your doctor will examine you and may arrange for tests such as colonoscopy (p.222) to rule out cancer of the colon. Most people are able to control the symptoms of irritable bowel syndrome using the self-help measures described (see LIVING WITH IRRITABLE BOWEL SYNDROME, opposite).

**POSSIBLE CAUSE** A hernia, in which part of the intestine pushes through a weak area in the abdominal wall, may be the cause of these symptoms. Consult your doctor.

**ACTION** If your doctor confirms the diagnosis, you will probably need to have an operation to repair the hernia (p.215).

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** Ulcerative colitis and Crohn's disease, disorders in which areas of the intestine become inflamed, are possible causes. However, there is a possibility of cancer of the colon.

**ACTION** You will probably be referred to hospital for tests such as colonoscopy (p.222) to establish the cause. Inflammation of the intestines may be treated with *corticosteroid drugs*. If cancer of the colon is the cause, it will be treated with surgery.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** A urinary tract infection is likely. However, the possibility of a more serious condition, such as a bladder stone or a tumour, needs to be ruled out.

**ACTION** Your doctor will arrange for urine tests to confirm the diagnosis. If you have an infection, you will probably be prescribed *antibiotics*. Drink plenty of fluids and take *painkillers* to relieve the symptoms. If there is no infection, you will need ultrasound scanning (p.41) and intravenous urography (p.227) to determine the correct treatment.

### SELF-HELP Preventing indigestion

The following measures may be helpful in preventing bouts of indigestion:

- Eat at regular intervals without rushing.
- Avoid eating large meals late at night.
- Cut down on alcohol, coffee, and tea.
- Avoid eating rich, fatty foods.
- Keep a food diary and avoid foods that trigger indigestion.
- Avoid medicines that irritate the stomach, such as aspirin.

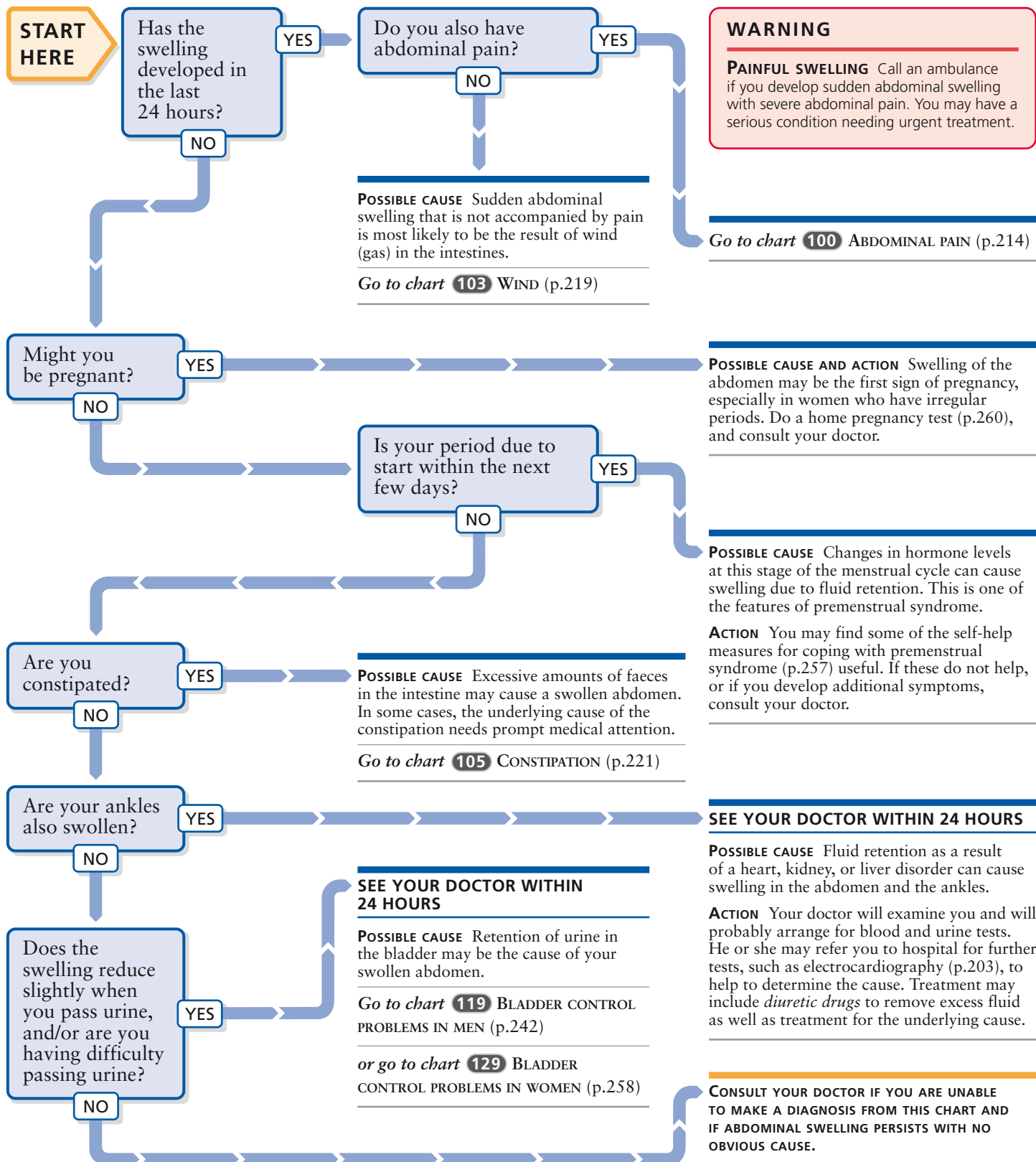
Go to **chart 136** LOWER ABDOMINAL PAIN IN WOMEN (p.269)

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

# 102 Swollen abdomen

An enlarged abdomen is most often due to excess weight that builds up over a period of years. Abdominal swelling that develops over a relatively short time is usually caused by

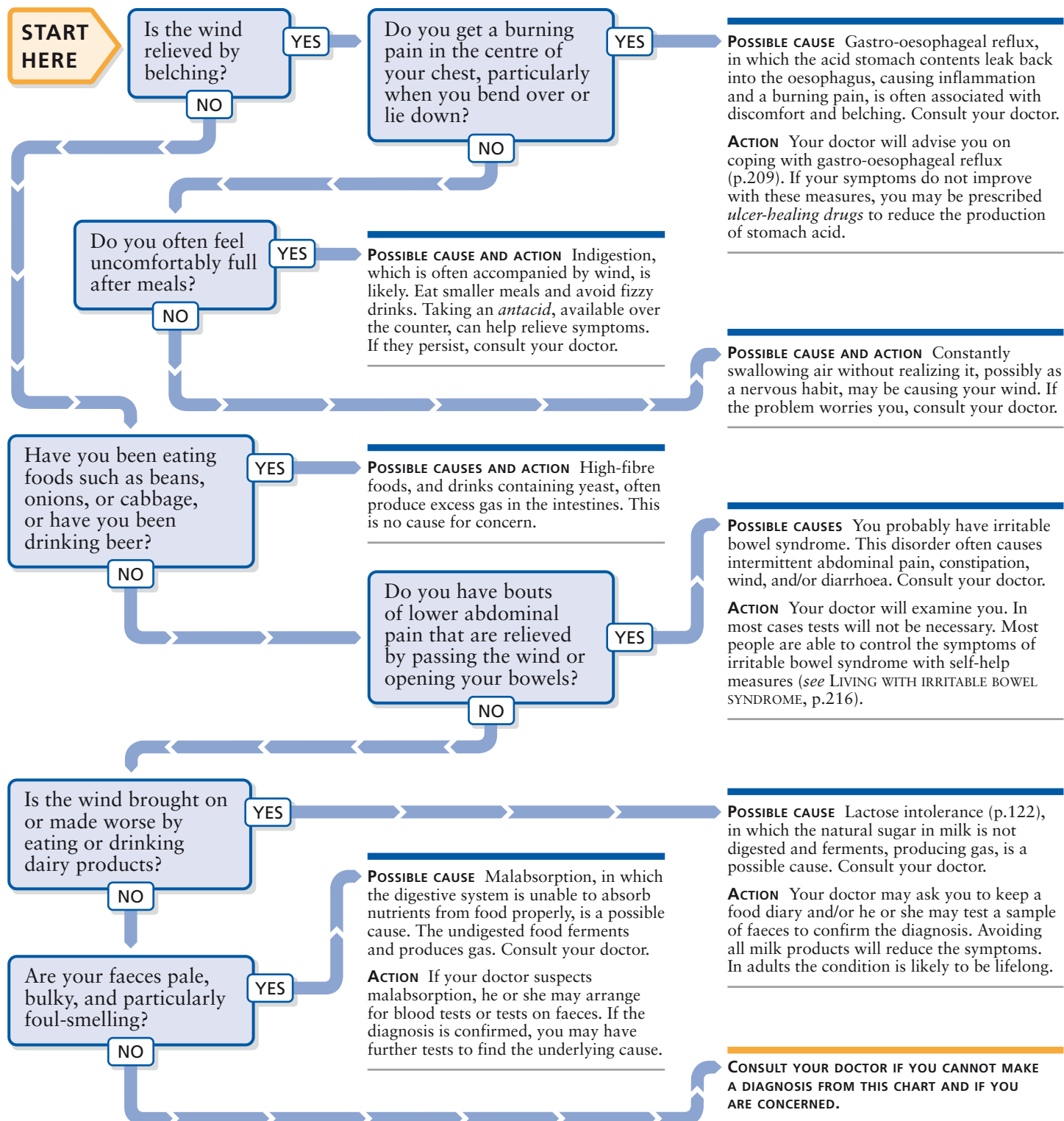
excess wind in the intestines or by a disorder of the urinary system. In women, abdominal swelling may also be due to a disorder of the reproductive organs or to pregnancy.



# 103 Wind

Excess wind (gas) in the digestive system can cause discomfort and a bloated feeling. Expelling the gas through either the mouth (belching) or the anus generally relieves these symptoms. Wind is often caused by swallowing air while eating. It may also occur when certain foods are not broken down properly in the intestines; the food residues

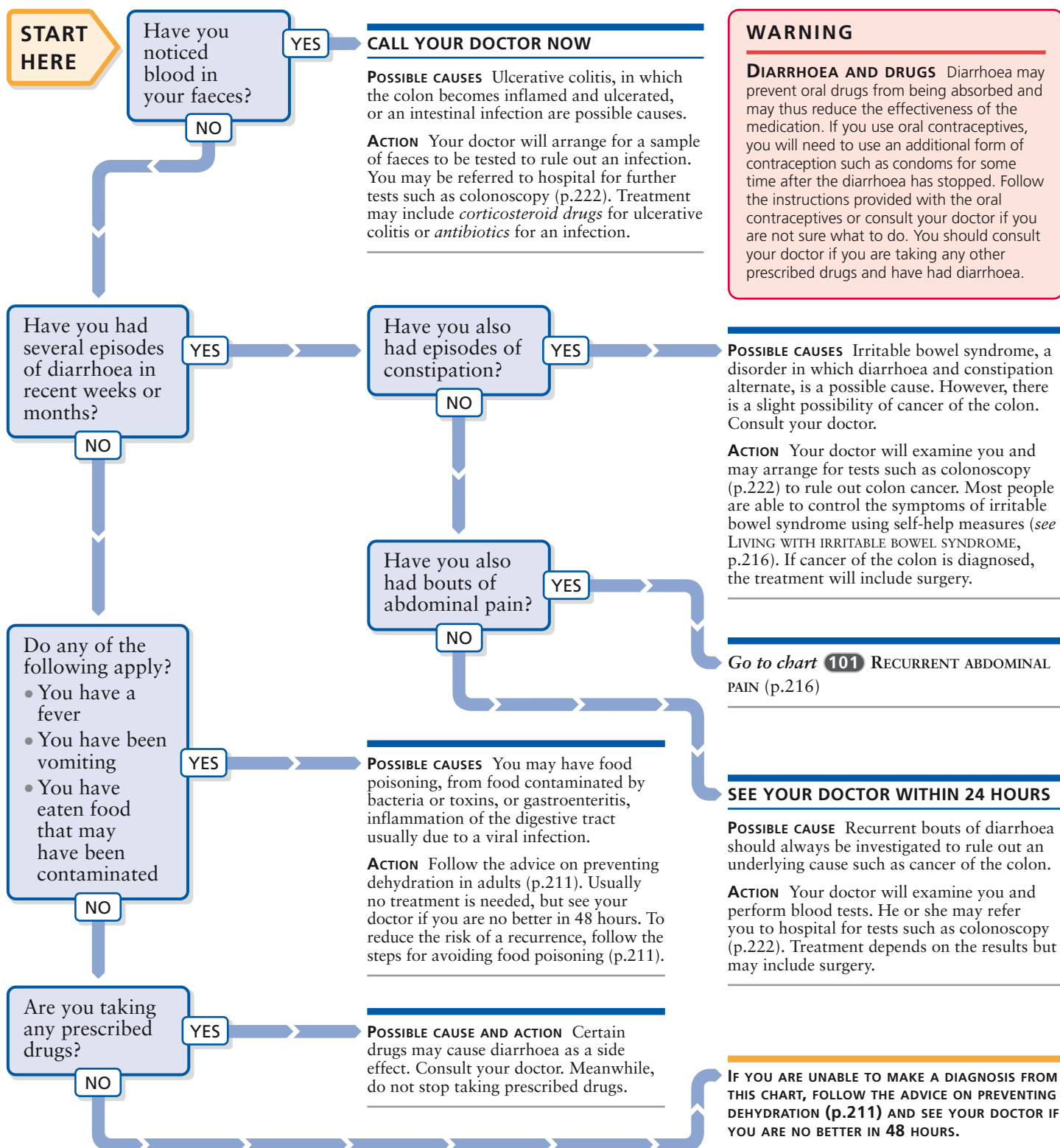
then ferment, producing gas. High-fibre foods such as cabbage are common causes of wind, although some people are affected by other types of food, such as dairy products. Usually, wind is nothing to worry about, but you should consult your doctor if you suddenly develop problems with wind without having had a change in your diet.



# 104 Diarrhoea

Diarrhoea is the frequent passing of unusually loose or watery faeces. It is often accompanied by cramping pains in the lower abdomen. In the UK, most attacks of diarrhoea result from viral infections and last for less than 48 hours. Diarrhoea is rarely serious, and usually no treatment is

needed other than ensuring that you drink plenty of fluids in order to avoid dehydration. However, you should see your doctor if diarrhoea lasts more than 48 hours or if you have frequent episodes of diarrhoea. Also see your doctor if you have diarrhoea and your job involves handling food.

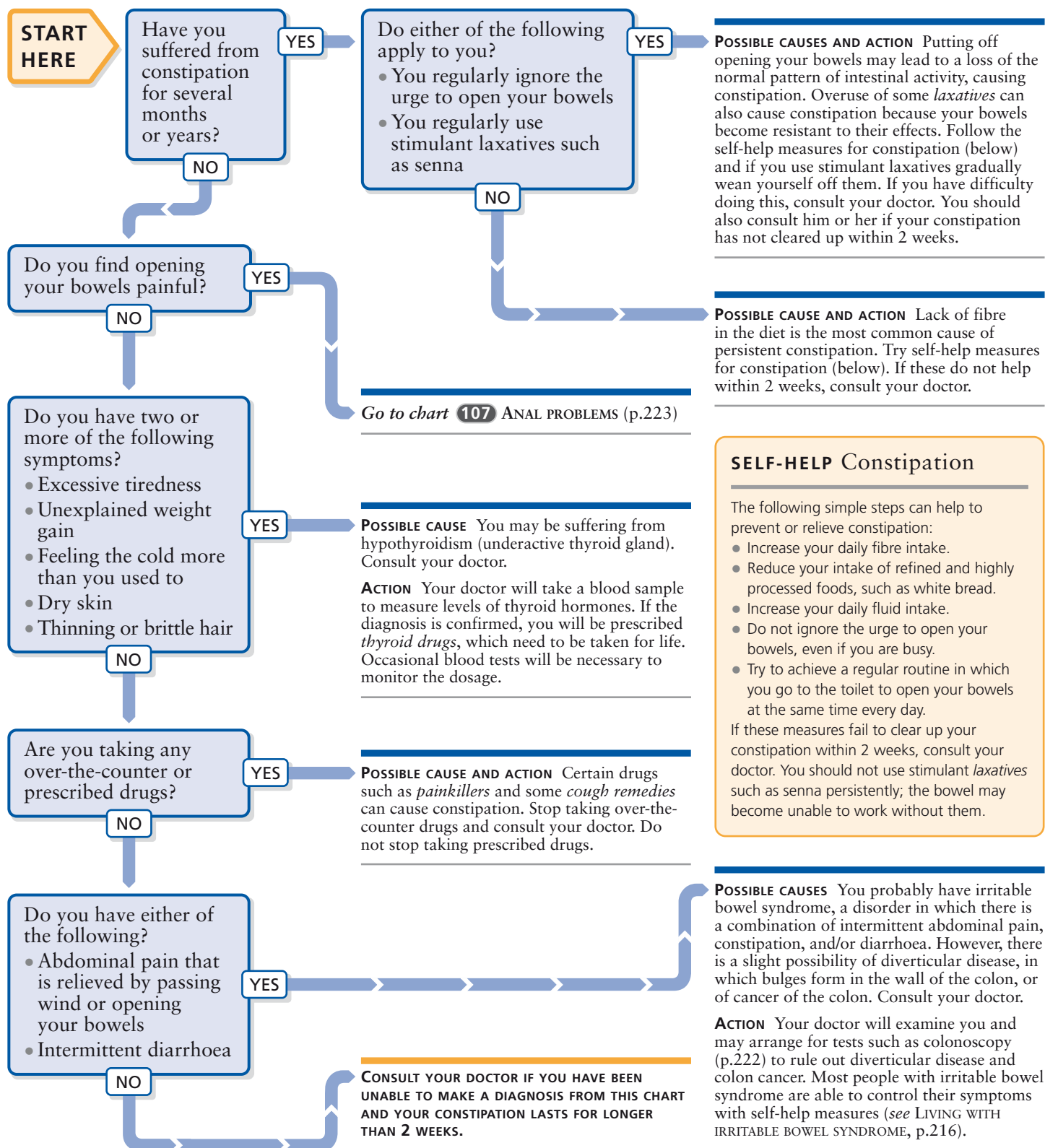




# 105 Constipation

Some people open their bowels once or twice a day; others do so less frequently. If you have fewer bowel movements than usual, or if your faeces are small and hard, you are constipated. The cause is often a lack of fluid or fibre-rich

foods in the diet. Constipation is also common in pregnancy because hormone changes cause intestinal muscles to relax. If you are constipated for longer than 2 weeks, consult your doctor so that cancer of the colon can be ruled out.



## SELF-HELP Constipation

The following simple steps can help to prevent or relieve constipation:

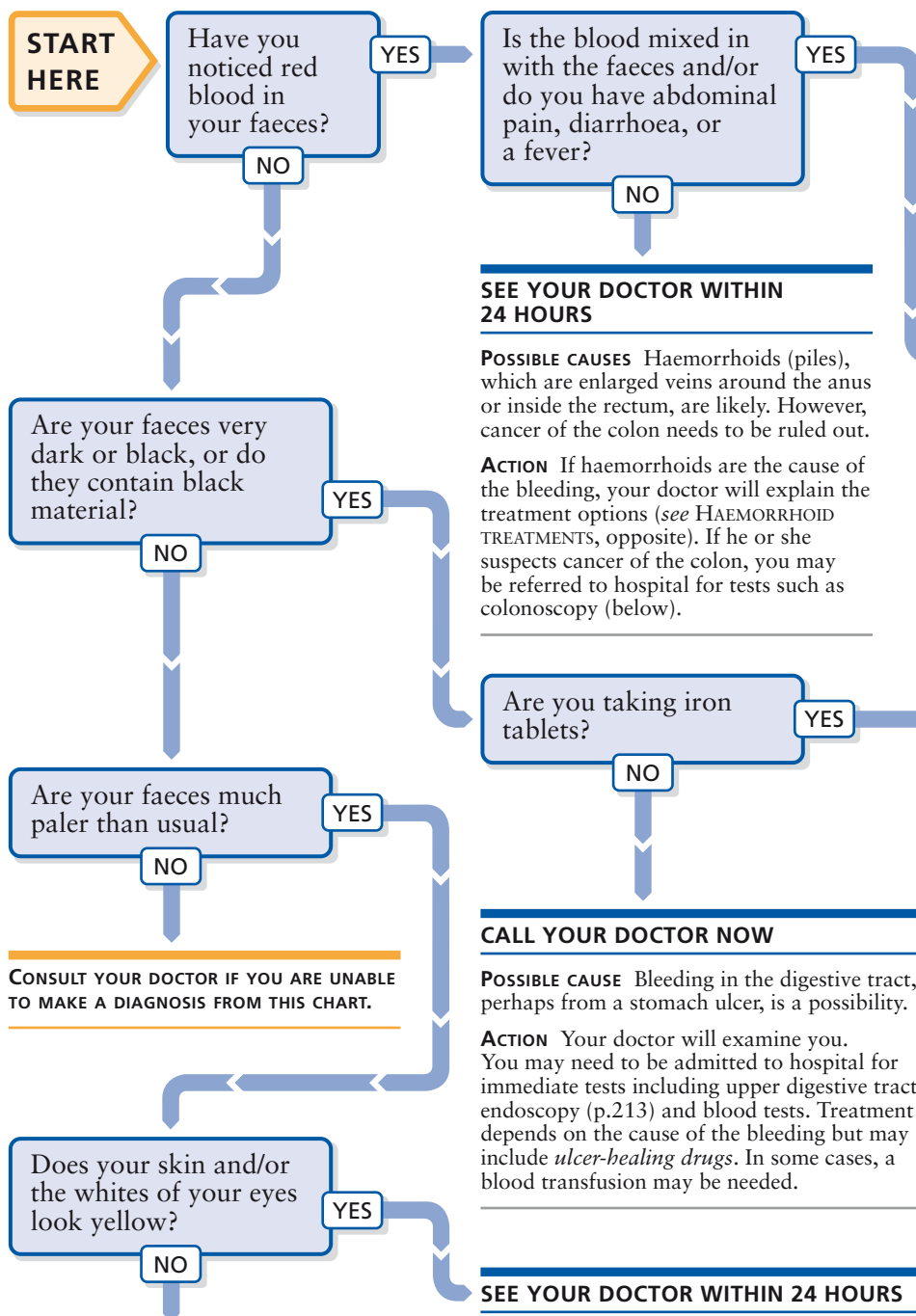
- Increase your daily fibre intake.
- Reduce your intake of refined and highly processed foods, such as white bread.
- Increase your daily fluid intake.
- Do not ignore the urge to open your bowels, even if you are busy.
- Try to achieve a regular routine in which you go to the toilet to open your bowels at the same time every day.

If these measures fail to clear up your constipation within 2 weeks, consult your doctor. You should not use stimulant *laxatives* such as senna persistently; the bowel may become unable to work without them.

# 106 Abnormal-looking faeces

Most minor changes in the colour and consistency of your faeces are due to a recent change in diet or a temporary digestive upset. However, if the faeces are significantly

darker or lighter in colour than usual, or if they are streaked with blood, this may indicate a potentially serious disorder of the digestive system that requires medical attention.



## WARNING

**BLOOD IN THE FAECES** If you notice bright red blood in your faeces, you should see your doctor within 24 hours even if you think that haemorrhoids (piles) are the cause. Although haemorrhoids are most likely, your doctor will need to exclude more serious causes, such as cancer of the colon.

## CALL YOUR DOCTOR NOW

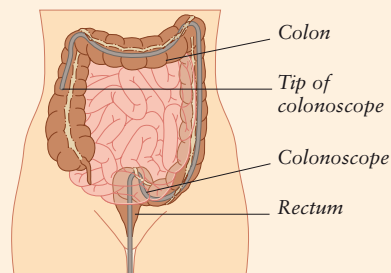
**POSSIBLE CAUSES** Ulcerative colitis, in which the colon becomes inflamed and ulcerated, or a bowel infection, are possible causes.

**ACTION** Your doctor will arrange for a sample of faeces to be tested to rule out an infection. You may be referred to hospital for further tests such as colonoscopy (below). Treatment may include *antibiotics* for an infection or *corticosteroid drugs* for ulcerative colitis.

**POSSIBLE CAUSE AND ACTION** Unabsorbed iron causes the faeces to appear black. Consult your doctor if you are particularly concerned.

## Colonoscopy

The lining of the large intestine (colon) can be inspected using a long, flexible tube called a colonoscope. This procedure, known as colonoscopy, is used to look for disorders such as colon cancer. Attachments on the colonoscope may be used to take tissue samples or perform treatments. Colonoscopy takes about 40 minutes. It is uncomfortable, so you may be offered a sedative drug first.



### During the procedure

The colonoscope is passed via the anus through the rectum up into the colon. Air is passed in to give a clearer view of the colon.

**POSSIBLE CAUSE** Malabsorption, failure of the digestive system to absorb nutrients from food properly, is a possibility. Consult your doctor.

**ACTION** If your doctor suspects malabsorption, he or she may arrange for tests on blood and faeces. If the diagnosis is confirmed, you may have further tests to determine the cause of the malabsorption so that treatment can be given.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Bleeding in the digestive tract, perhaps from a stomach ulcer, is a possibility.

**ACTION** Your doctor will examine you. You may need to be admitted to hospital for immediate tests including upper digestive tract endoscopy (p.213) and blood tests. Treatment depends on the cause of the bleeding but may include *ulcer-healing drugs*. In some cases, a blood transfusion may be needed.

## SEE YOUR DOCTOR WITHIN 24 HOURS

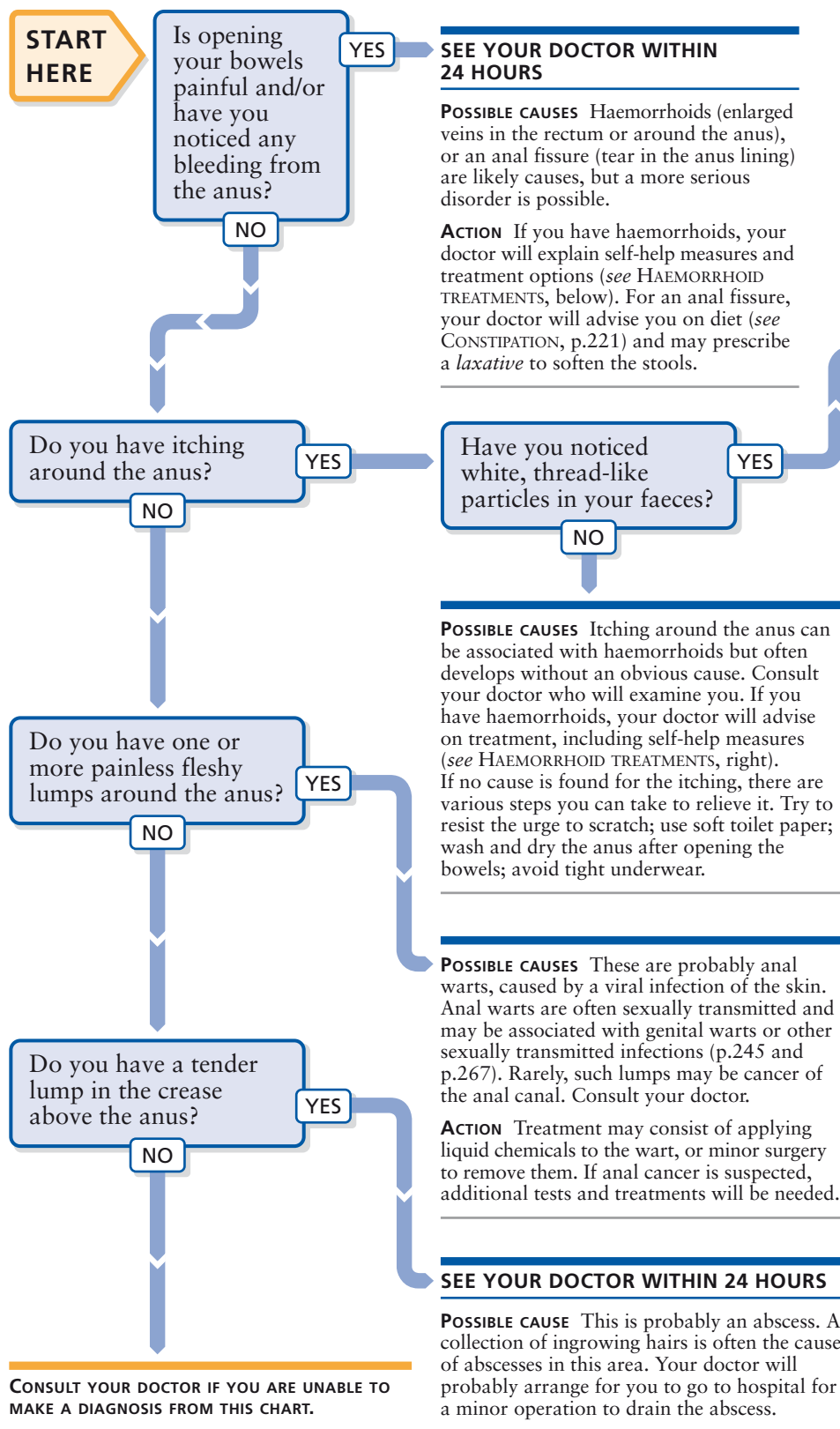
**POSSIBLE CAUSE** This condition is known as jaundice. The symptoms may be due to a liver or gallbladder disorder in which the flow of bile to the intestine is blocked.

**ACTION** Your doctor will probably arrange for blood tests and possibly for abdominal ultrasound scanning (p.217). Such tests should help to establish the underlying cause so that appropriate treatment can be given.

# 107 Anal problems

The anus is the last part of the digestive tract and links the rectum to the outside of the body. The anus contains a ring of powerful muscles that keep it closed except when passing

faeces. The most common symptoms affecting the anus are itching and pain, which are not usually signs of a serious disorder. Bleeding should always be assessed by your doctor.



## WARNING

**BLEEDING FROM THE ANUS** You should always consult your doctor if you notice bright red blood in your faeces, or bleeding from the anus. Even though bleeding is most commonly due to haemorrhoids, other, more serious causes, such as cancer of the colon, should be excluded.

## Haemorrhoid treatments

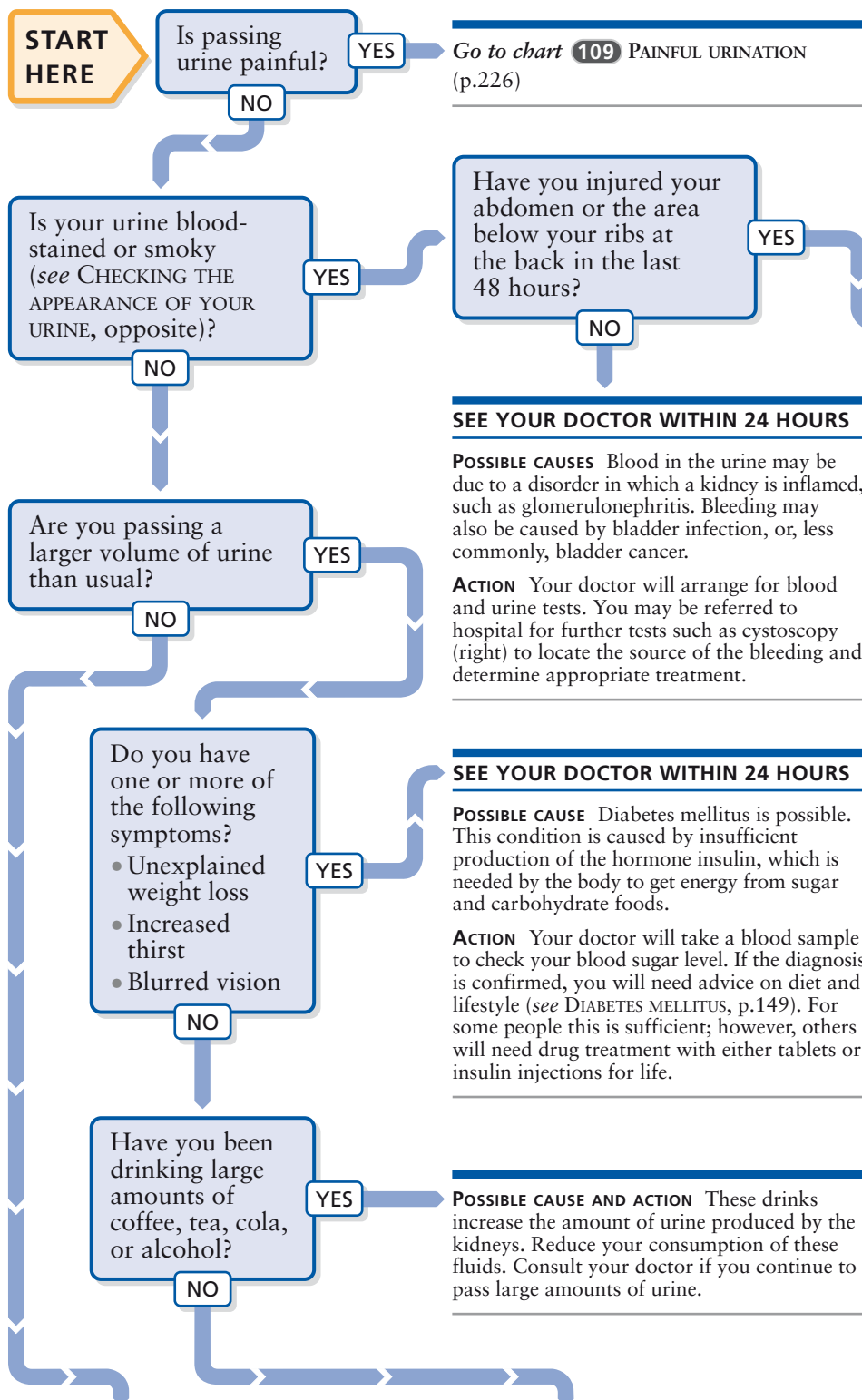
In many cases, no medical treatment is needed for haemorrhoids, and self-help measures solve the problem. You should eat plenty of high-fibre foods (see A HEALTHY DIET, p.28) to prevent constipation, which can aggravate the condition. Avoid straining when opening the bowels; wipe the anus with soft toilet tissue; then wash the area with warm water and dry it thoroughly. Over-the-counter creams or suppositories may help to relieve discomfort.

If your symptoms are still troublesome or if you have bleeding from the anus, your doctor may refer you to a specialist for treatment. Haemorrhoids may be injected with a chemical that causes them to shrink. An alternative procedure is "banding", in which a rubber band is placed tightly around the base of a haemorrhoid. This procedure is painless, and the haemorrhoid shrinks over a few days and falls off. Surgery to remove enlarged veins is another treatment option.

# 108 General urinary problems

Consult this chart for problems such as a change in the number of times you need to pass urine or the amount of urine produced. In some cases, these variations may be due

simply to drinking large amounts of coffee or tea or to anxiety. However, a change may be caused by a bladder or kidney problem or a disorder of the nerves to the urinary tract.



## WARNING

**BLOOD IN THE URINE** See your doctor within 24 hours if you notice blood in your urine. Although bleeding is usually due to an infection and can be easily treated, it may be caused by a more serious underlying disorder such as bladder cancer.

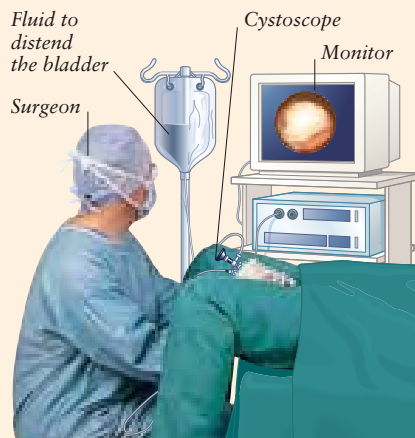
## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Your injury may have resulted in damage to a kidney or the bladder.

**ACTION** You will probably be referred to hospital for tests such as abdominal ultrasound scanning (p.217) to assess any damage. In some cases, bleeding will stop without specific treatment. However, surgery may be needed if the damage is substantial.

## Cystoscopy

During cystoscopy, a thin viewing tube, known as a cystoscope, is inserted through the urethra and into the bladder. The bladder is filled with fluid to distend it. This enables the lining of the bladder to be examined and minor procedures, such as taking tissue samples, to be carried out through the cystoscope. Cystoscopy may be carried out under a local or a general anaesthetic.



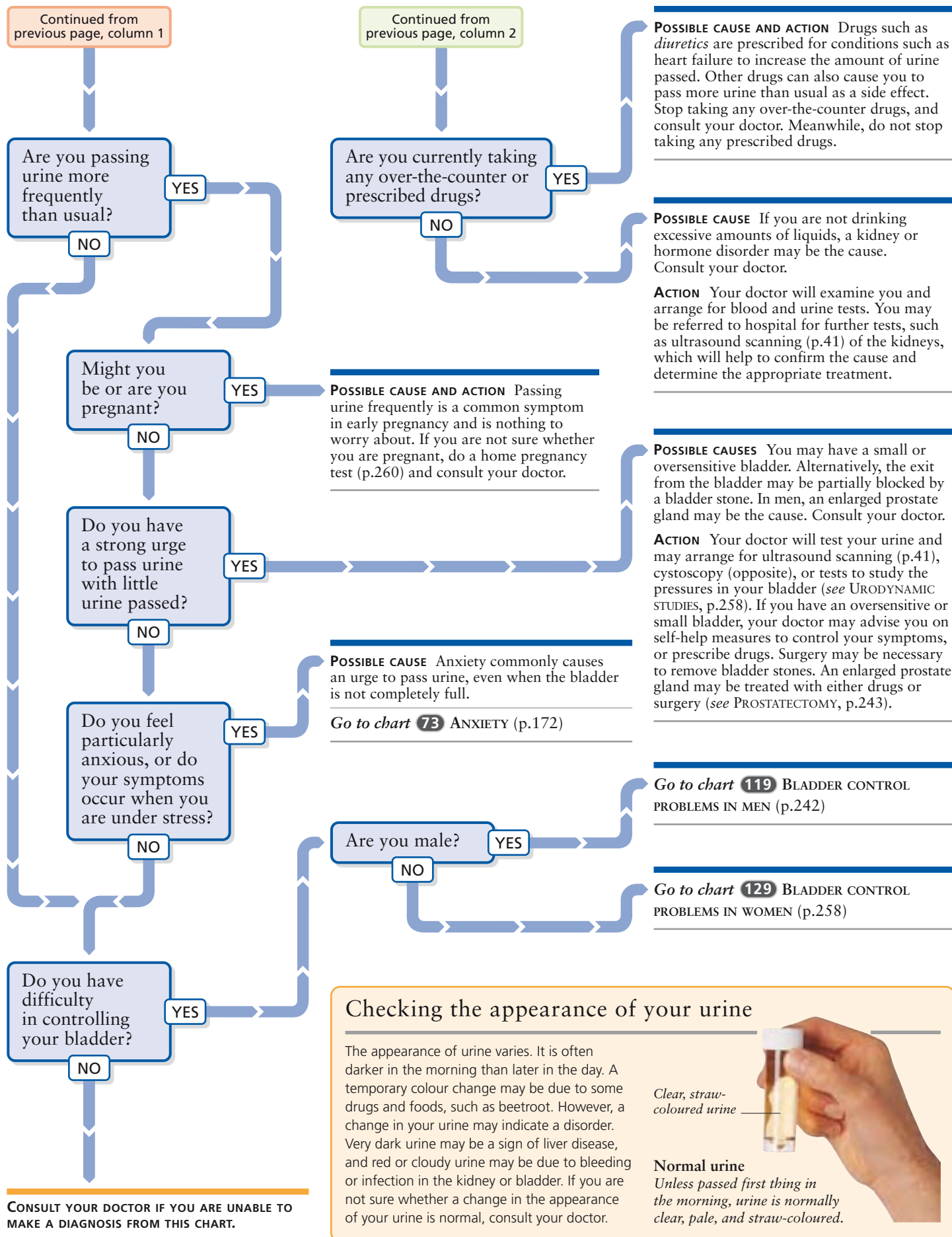
### Viewing the bladder

An illuminated and magnified view of the bladder lining is transmitted from the cystoscope to the monitor.

Continued on  
next page, column 1

Continued on  
next page, column 2

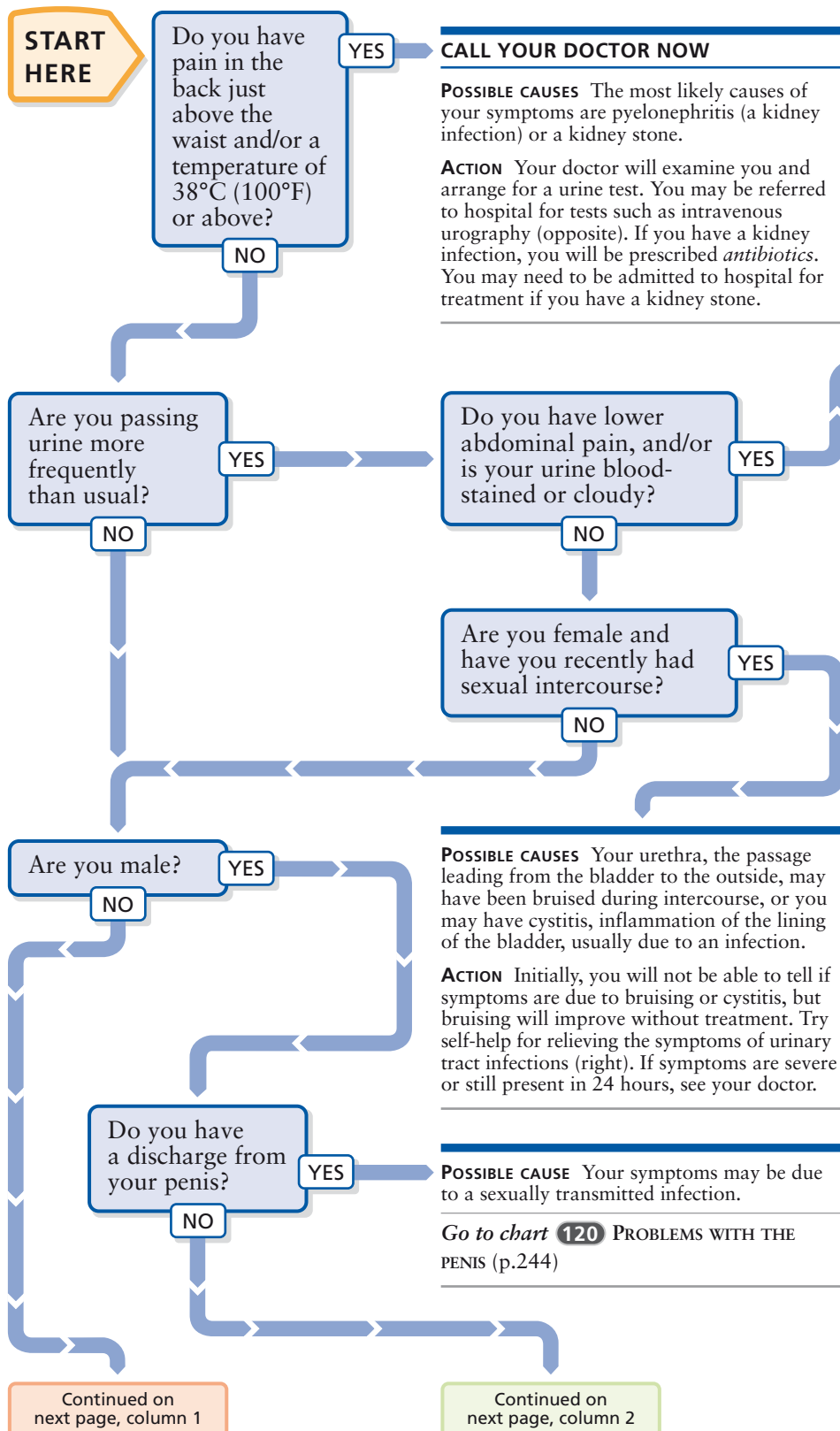




# 109 Painful urination

Pain or discomfort while passing urine is usually caused by inflammation of the lower urinary tract, often due to infection. In women, pain when passing urine may be due

to inflammation in the genital area. Painful urination may sometimes be accompanied by cloudy or blood-stained urine (see CHECKING THE APPEARANCE OF YOUR URINE, p.225).



## WARNING

**BLOOD IN THE URINE** See your doctor within 24 hours if you notice blood in your urine. Although bleeding is usually due to an infection and can be easily treated, it may be caused by a more serious underlying disorder such as bladder cancer.

## SEE YOUR DOCTOR WITHIN 24 HOURS

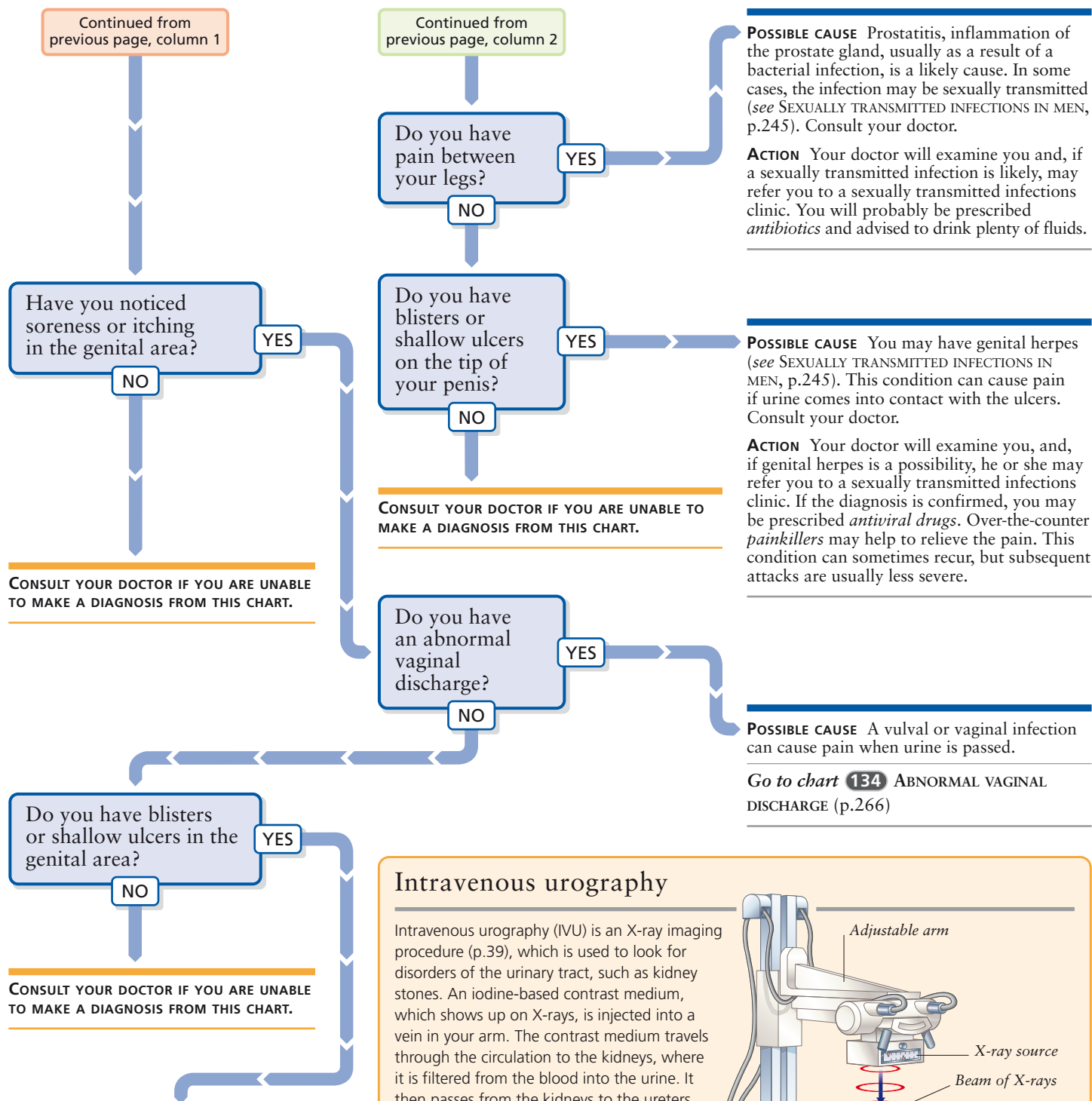
**POSSIBLE CAUSE** You probably have cystitis, inflammation of the lining of the bladder, usually due to a bacterial infection.

**ACTION** Your doctor will arrange for a urine test and will probably prescribe *antibiotics*. To relieve symptoms and help to avoid a recurrence, try self-help measures (see URINARY TRACT INFECTIONS, below).

## SELF-HELP Urinary tract infections

Urinary tract infections usually need treating with *antibiotics*. The following measures may also help to relieve the symptoms:

- Drinking about ½ litre (1 pint) of fluid every hour for the first 4 hours.
  - Drinking cranberry juice.
  - Taking *painkillers*, such as paracetamol.
- To help prevent further attacks, you should drink 2–3 litres (4–6 pints) of fluids per day, and even more in hot weather. Emptying your bladder frequently and completely is also important. In addition, women who have recurrent urinary tract infections should take the following preventative measures:
- Be careful about hygiene. After a bowel movement, wipe yourself from front to back to prevent bacteria around the anus from entering the urethra.
  - Pass urine shortly after sexual intercourse.
  - Use unperfumed toiletries when you wash, and do not use vaginal deodorants.
  - Change your contraceptive method if your symptoms occur after using either a diaphragm or a spermicide.



**POSSIBLE CAUSE** You may have genital herpes (see SEXUALLY TRANSMITTED INFECTIONS IN WOMEN, p.267). This condition can cause pain if urine comes into contact with the ulcers. Consult your doctor.

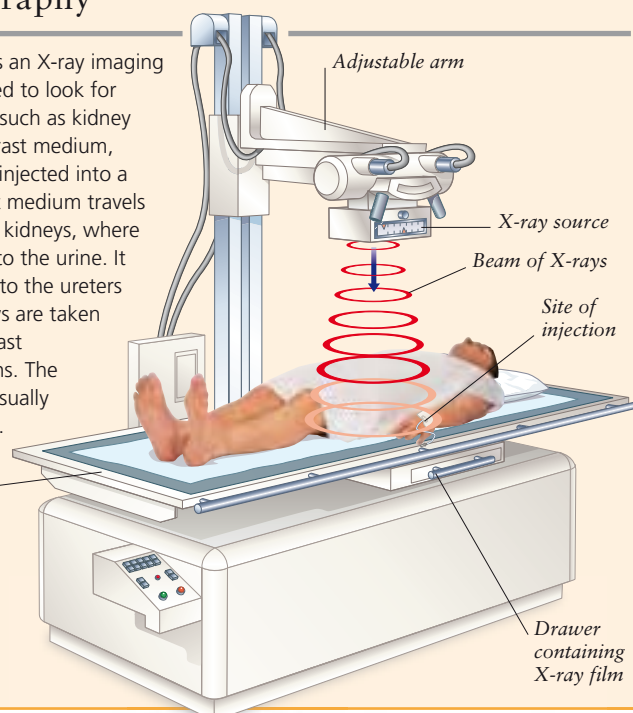
**ACTION** Your doctor will examine you, and, if genital herpes is a possibility, he or she may refer you to a sexually transmitted infections clinic. If the diagnosis is confirmed, you may be prescribed *antiviral drugs*. Over-the-counter *painkillers* may help to relieve the pain. This condition can sometimes recur, but subsequent attacks are usually less severe.

## Intravenous urography

Intravenous urography (IVU) is an X-ray imaging procedure (p.39), which is used to look for disorders of the urinary tract, such as kidney stones. An iodine-based contrast medium, which shows up on X-rays, is injected into a vein in your arm. The contrast medium travels through the circulation to the kidneys, where it is filtered from the blood into the urine. It then passes from the kidneys to the ureters and the bladder. Several X-rays are taken at intervals to show the contrast medium outlining these organs. The procedure is painless, and it usually takes less than 1 hour in total.

### During the procedure

While you lie on the X-ray table, a contrast medium is injected into a vein in your arm. X-rays of your kidneys and ureters are taken at intervals.



# 110 Painful joints

For swelling of the ankles with no associated pain, see chart 115, SWOLLEN ANKLES (p.235).

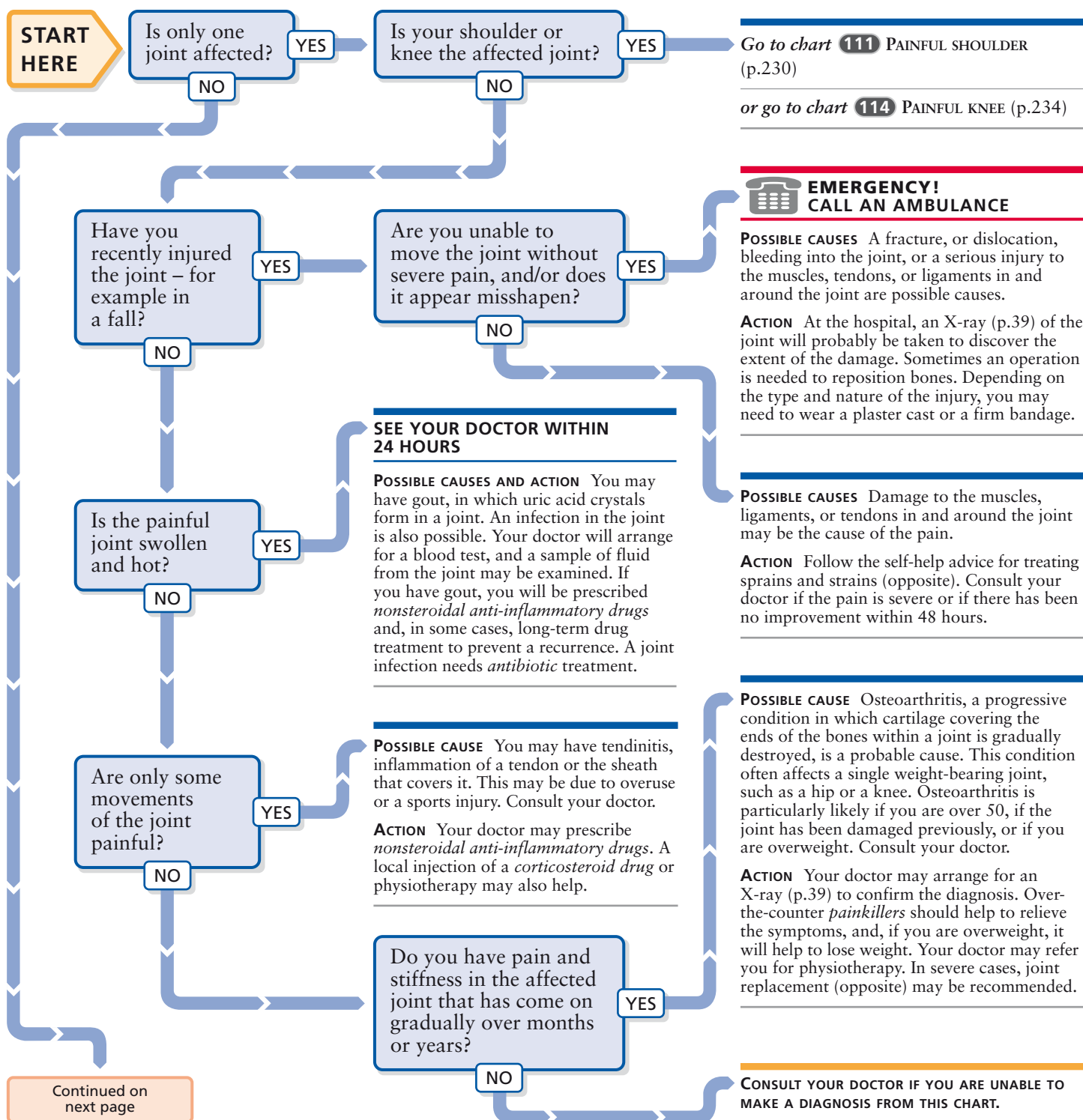
A joint is the junction of two or more bones. Most joints are designed to allow some movement, but the range and type of movement depend on the structure of the joint.

Aches and pains in joints are common and are most often the result of overuse or of a minor injury. Such symptoms

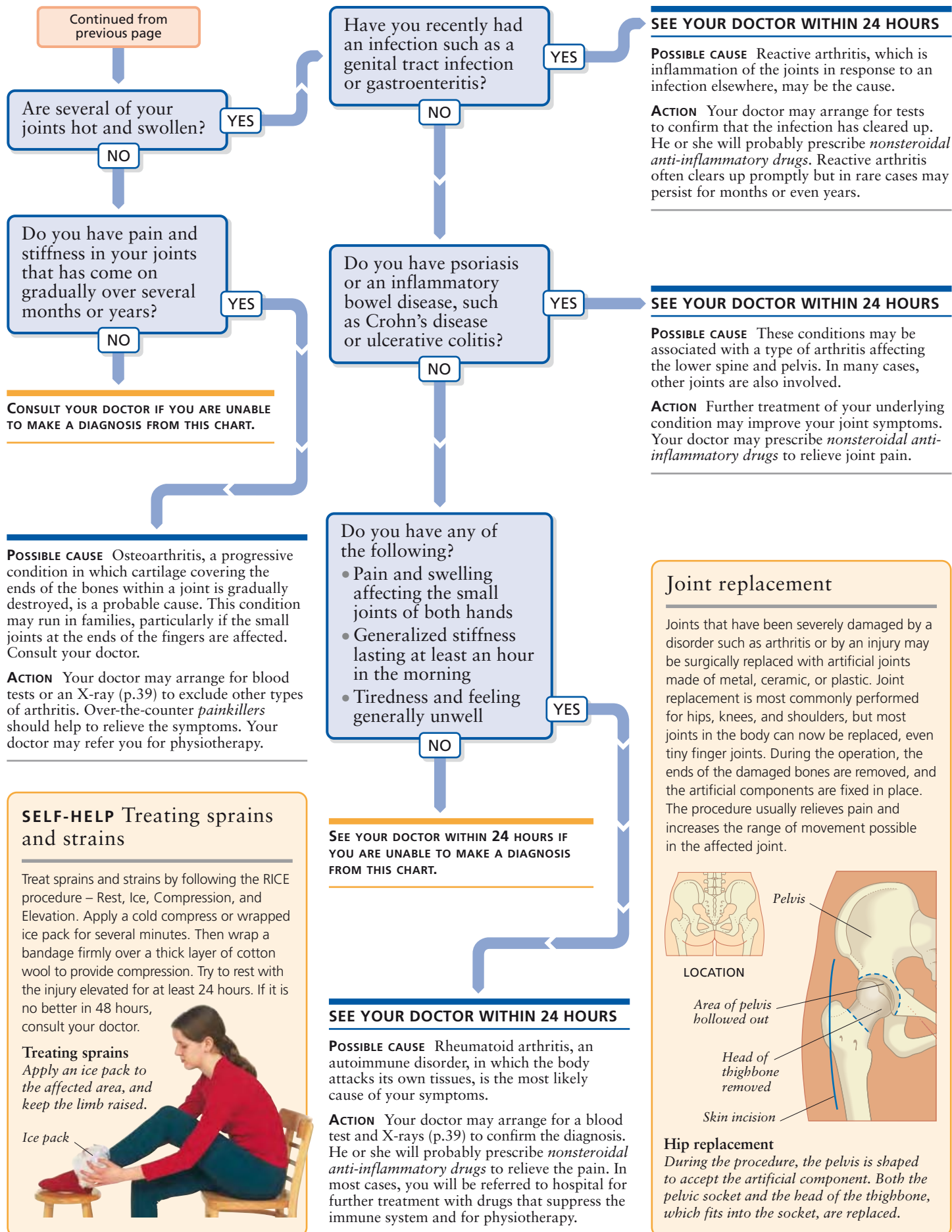
are usually short-lived and do not need medical treatment.

However, persistent pain in a joint implies a potentially serious underlying disorder and should be investigated.

The major weight-bearing joints, such as the hips and the knees, undergo constant wear and tear and are particularly prone to disorders such as osteoarthritis. Consult this chart if you have one or more painful joints.



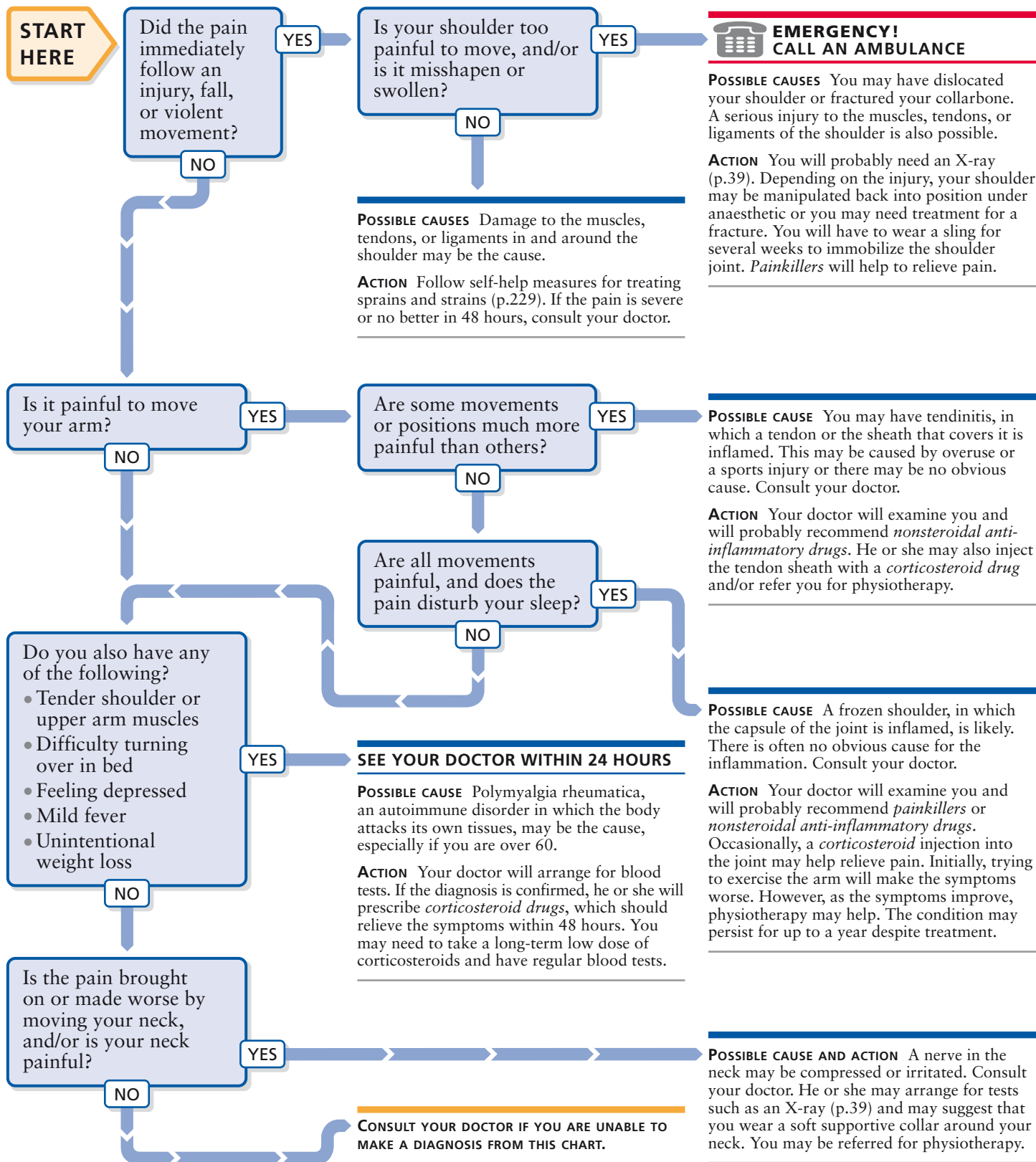




# 111 Painful shoulder

The shoulder is one of the most complex joints in the body and has a very wide range of movements. If you play sports that involve strenuous arm movements, such as tennis, or

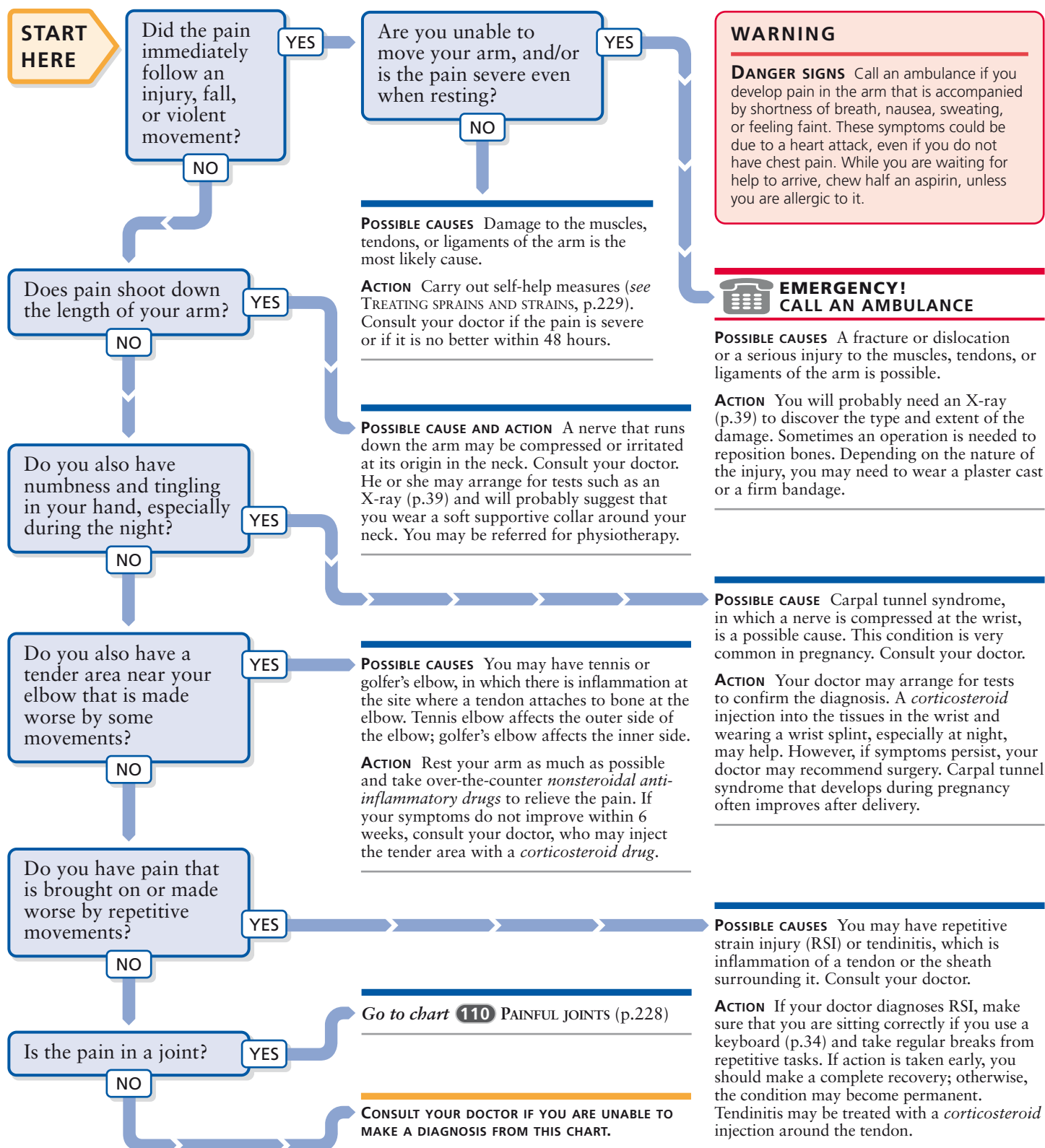
regularly lift heavy weights, shoulder injuries are a risk. Shoulder pain and/or stiffness without any obvious cause occurs most commonly in elderly people.



# 112 Painful arm

Pain in the arm may result from injury or straining of the muscles, tendons, or ligaments that hold the various bones and joints in place. Such injuries are particularly likely to occur after any unaccustomed, strenuous physical activity,

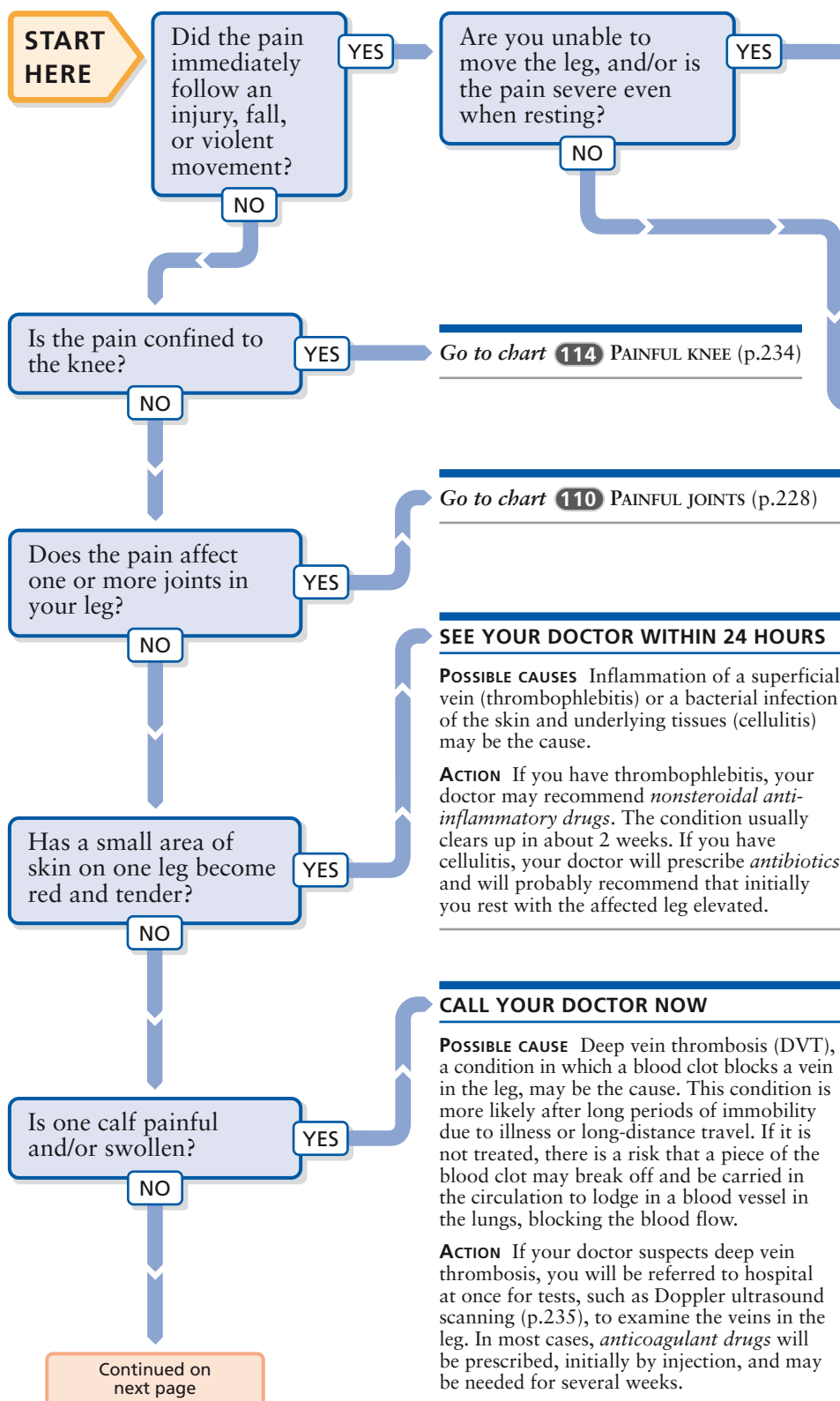
such as playing a sport for the first time in many years. Arm pain that develops gradually may originate from problems in the neck. In some cases, pain may be related to repetitive movements such as typing or playing a musical instrument.



# 113 Painful leg

*For pain in the foot, see chart 116, FOOT PROBLEMS (p.236).* Pain in the leg is often the result of minor damage to muscles, tendons, or ligaments. Such injuries are likely to be the cause of pain that comes on after unaccustomed strenuous exercise

or playing a sport for the first time in years. However, pain in the leg may also have a more serious cause such as a disorder affecting the blood vessels that supply the leg. If you are in any doubt about the cause of a painful leg, consult your doctor.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSES** You may have a fracture or dislocation or a serious injury to the muscles, tendons, or ligaments of the leg or to the cartilage within the knee joint.

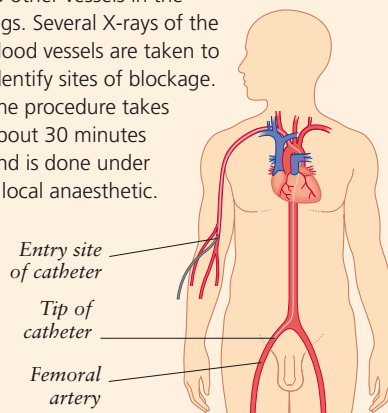
**ACTION** You will probably need to have an X-ray (p.39) in order to discover the type and extent of the damage. Sometimes an operation is needed to reposition bones. Depending on the nature of the injury, you may need to wear a plaster cast or a firm bandage.

**POSSIBLE CAUSE** Damage to muscles, tendons, or ligaments of the leg or to the cartilage within the knee joint may be the cause.

**ACTION** Carry out self-help measures (see TREATING SPRAINS AND STRAINS, p.229). Consult your doctor if the pain is severe or if it is no better within 48 hours.

## Femoral angiography

Femoral angiography is a contrast X-ray procedure (p.40) used to detect narrowed or blocked arteries in the legs. A catheter is inserted into an artery in the arm and is threaded towards the heart and then to the femoral artery. A dye is injected into the catheter and flows from the femoral artery to other vessels in the legs. Several X-rays of the blood vessels are taken to identify sites of blockage. The procedure takes about 30 minutes and is done under a local anaesthetic.



### During the procedure

A catheter is inserted into an artery in an arm and guided to the femoral artery in the leg. A dye that shows up on X-ray images is then injected through the catheter.

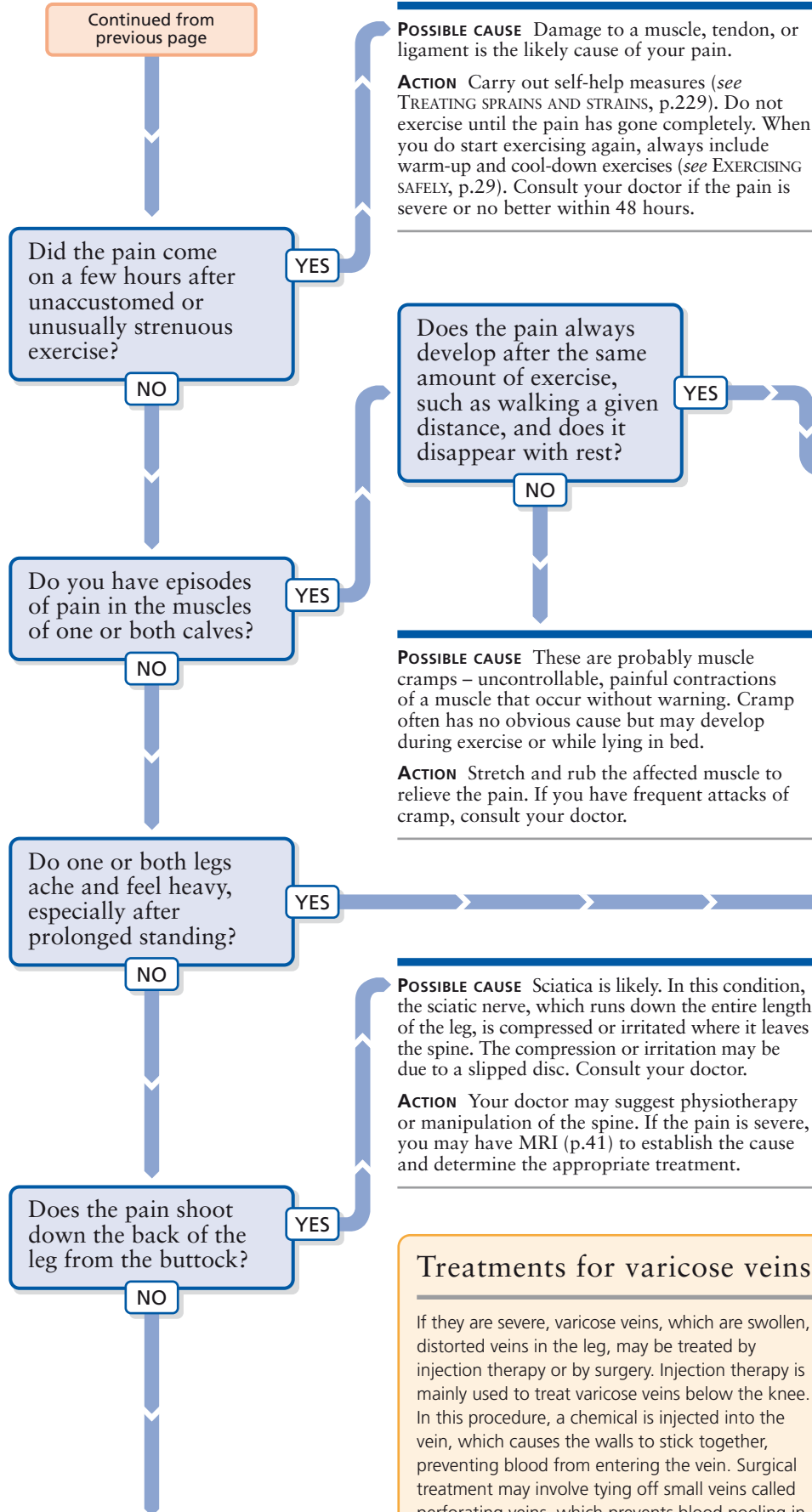
**POSSIBLE CAUSES** Inflammation of a superficial vein (thrombophlebitis) or a bacterial infection of the skin and underlying tissues (cellulitis) may be the cause.

**ACTION** If you have thrombophlebitis, your doctor may recommend *nonsteroidal anti-inflammatory drugs*. The condition usually clears up in about 2 weeks. If you have cellulitis, your doctor will prescribe *antibiotics* and will probably recommend that initially you rest with the affected leg elevated.

**POSSIBLE CAUSE** Deep vein thrombosis (DVT), a condition in which a blood clot blocks a vein in the leg, may be the cause. This condition is more likely after long periods of immobility due to illness or long-distance travel. If it is not treated, there is a risk that a piece of the blood clot may break off and be carried in the circulation to lodge in a blood vessel in the lungs, blocking the blood flow.

**ACTION** If your doctor suspects deep vein thrombosis, you will be referred to hospital at once for tests, such as Doppler ultrasound scanning (p.235), to examine the veins in the leg. In most cases, *anticoagulant drugs* will be prescribed, initially by injection, and may be needed for several weeks.



Continued from  
previous page

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

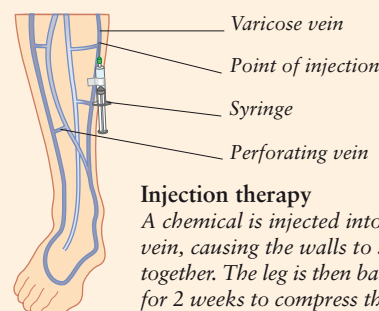
## SELF-HELP Coping with varicose veins

If you have aching legs caused by varicose veins, the following measures may help:

- Avoid prolonged standing.
- If you must stand, move your feet and legs at regular intervals to keep the blood flowing.
- When sitting, keep your legs elevated on a stool or footrest.
- Avoid tight clothing that may restrict the blood flow in the legs either at the knee or in the groin.
- If you are overweight, try to lose weight.

## Treatments for varicose veins

If they are severe, varicose veins, which are swollen, distorted veins in the leg, may be treated by injection therapy or by surgery. Injection therapy is mainly used to treat varicose veins below the knee. In this procedure, a chemical is injected into the vein, which causes the walls to stick together, preventing blood from entering the vein. Surgical treatment may involve tying off small veins called perforating veins, which prevents blood pooling in the affected vein. Alternatively, the entire varicose vein may be surgically removed.



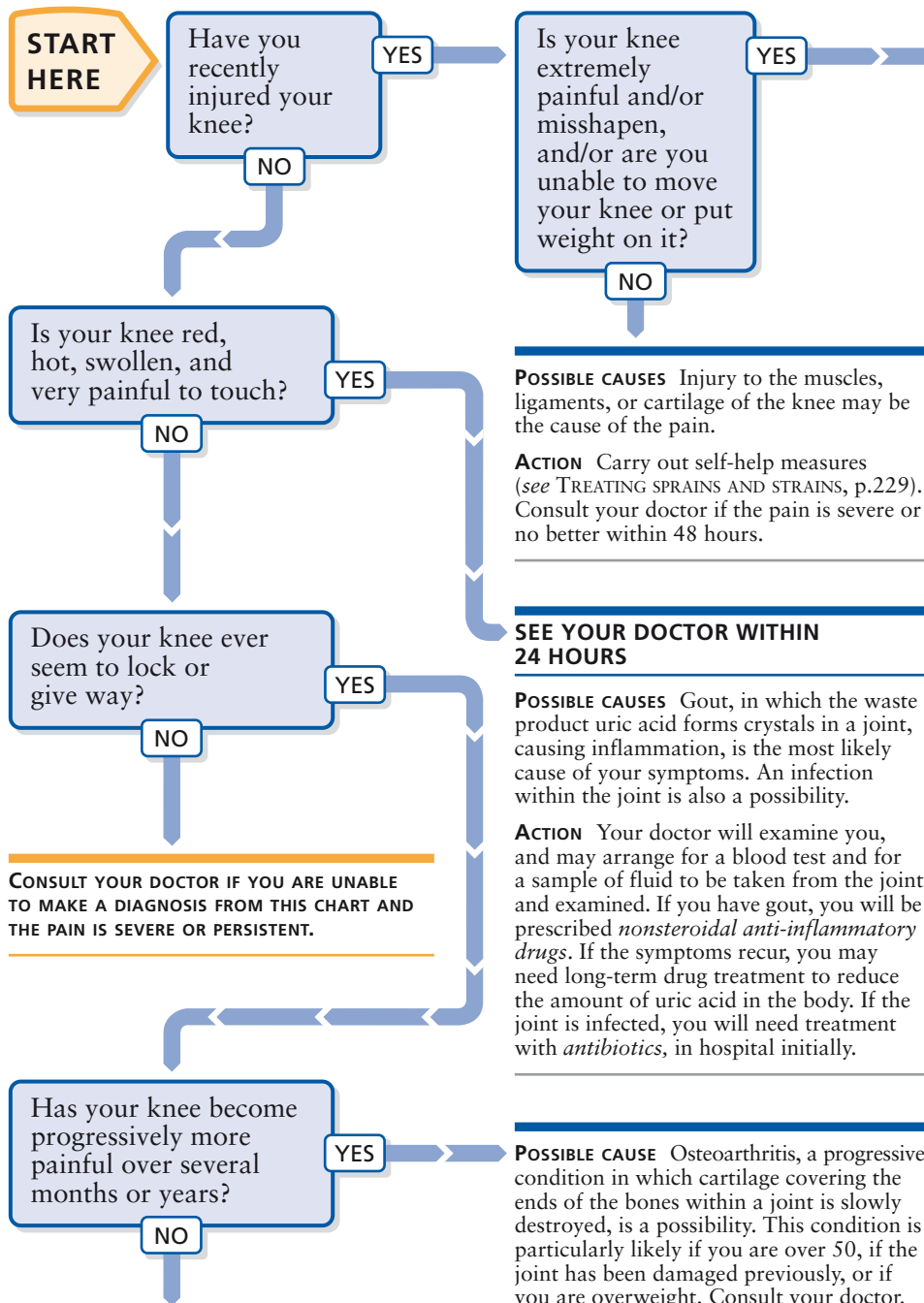
### Injection therapy

A chemical is injected into the vein, causing the walls to stick together. The leg is then bandaged for 2 weeks to compress the vein.

# 114 Painful knee

The knee is one of the principal weight-bearing joints in the body and is subject to much wear and tear. Its stability largely depends on the muscles and ligaments around it.

Doing work that involves a lot of bending or kneeling, or playing certain sports, increases the risk of damaging your knees. Consult this chart if one or both knees are painful.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSES** A fracture or dislocation causing bleeding into the knee joint, or a serious injury to the muscles, ligaments, or cartilage of the knee is possible.

**ACTION** You will probably need to have an X-ray (p.39) to discover the type and extent of the damage. Sometimes an operation is needed to reposition bones. Depending on the nature of the injury, you may need to wear a plaster cast or a firm bandage.

**POSSIBLE CAUSES** Injury to the muscles, ligaments, or cartilage of the knee may be the cause of the pain.

**ACTION** Carry out self-help measures (see TREATING SPRAINS AND STRAINS, p.229). Consult your doctor if the pain is severe or no better within 48 hours.

## SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSES** Gout, in which the waste product uric acid forms crystals in a joint, causing inflammation, is the most likely cause of your symptoms. An infection within the joint is also a possibility.

**ACTION** Your doctor will examine you, and may arrange for a blood test and for a sample of fluid to be taken from the joint and examined. If you have gout, you will be prescribed *nonsteroidal anti-inflammatory drugs*. If the symptoms recur, you may need long-term drug treatment to reduce the amount of uric acid in the body. If the joint is infected, you will need treatment with *antibiotics*, in hospital initially.

**POSSIBLE CAUSE** Osteoarthritis, a progressive condition in which cartilage covering the ends of the bones within a joint is slowly destroyed, is a possibility. This condition is particularly likely if you are over 50, if the joint has been damaged previously, or if you are overweight. Consult your doctor.

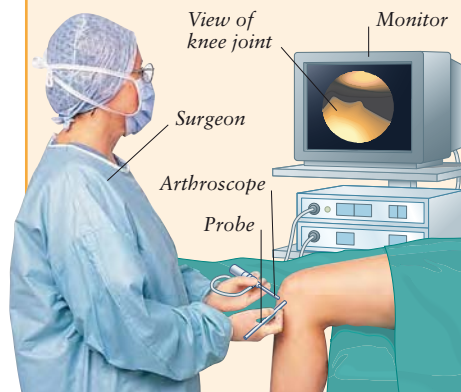
**ACTION** Your doctor will examine you and may arrange for you to have blood tests and an X-ray (p.39) to confirm the diagnosis. Over-the-counter *painkillers* should help to relieve your symptoms. If you are also overweight, it will help to lose weight. In some cases, your doctor may refer you for physiotherapy to strengthen the muscles around the joint. In severe cases, a joint replacement (p.229) may be needed.

**POSSIBLE CAUSES** A torn cartilage or damage to a ligament within the knee joint may be the cause. Such injuries are commonly caused by twisting the joint while it is supporting your weight. Consult your doctor.

**ACTION** Your doctor may refer you to hospital for tests such as arthroscopy (right). Any damage may be repaired during the arthroscopy, or you may require surgery at a later date.

## Arthroscopy

In arthroscopy, the inside of a joint, such as the knee, is inspected using a viewing instrument called an arthroscope. The procedure is usually performed under a general anaesthetic. The arthroscope is inserted into the joint through a small incision in the skin, and the view from the arthroscope is displayed on a screen. Very small instruments can then be passed down through the arthroscope or inserted into the joint through other small incisions. Guided by the view on the monitor, the surgeon is able to carry out procedures such as repairing torn ligaments or removing damaged cartilage. Fluid passed down a tube is then used to wash away the debris from within the operating area.



### During the procedure

An arthroscope and a probe are inserted into the joint, allowing the surgeon to inspect the joint. The probe can be used to manipulate the cartilage and improve the view.

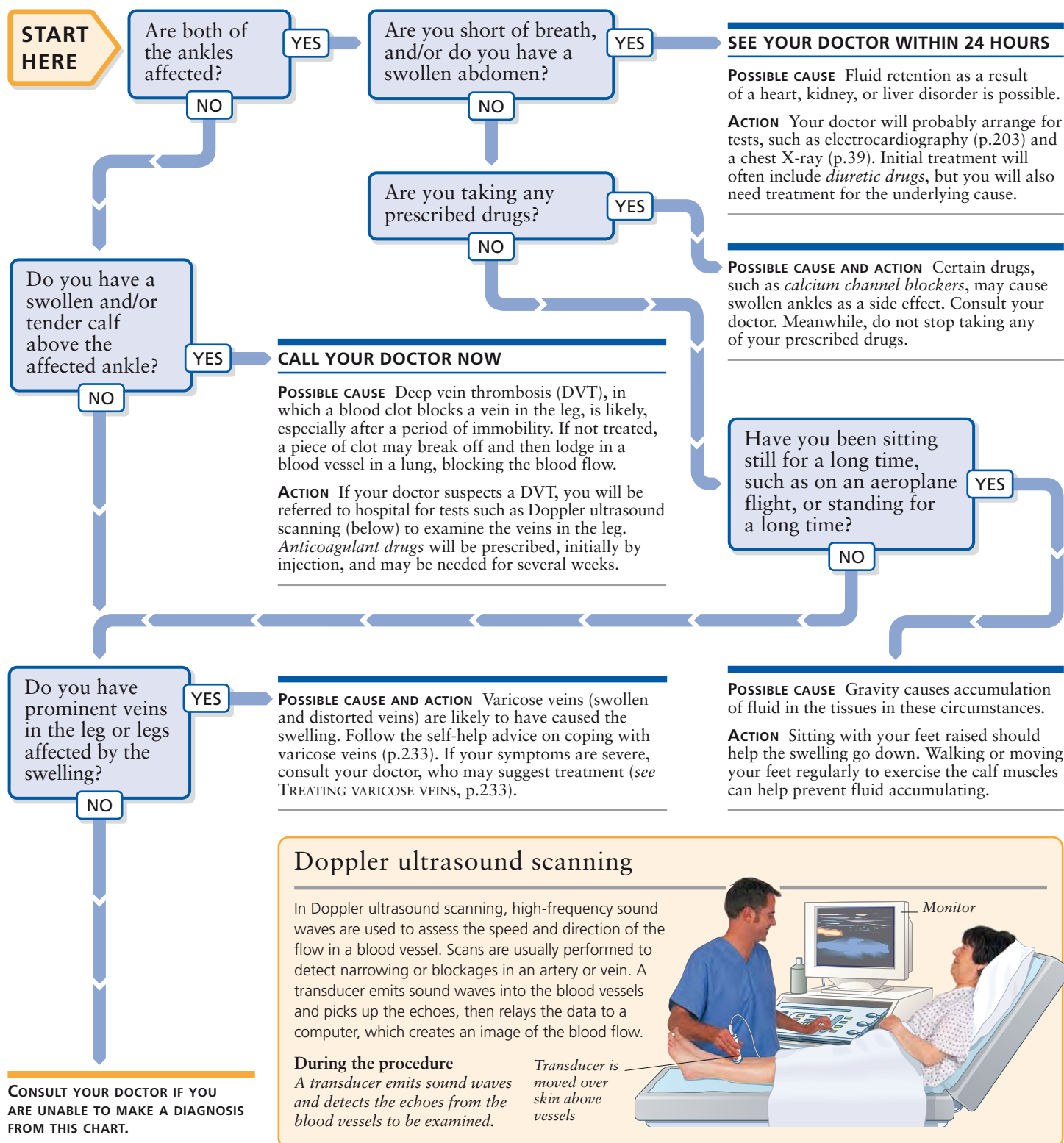
# 115 Swollen ankles

If you are pregnant, see chart 146, SWOLLEN ANKLES IN PREGNANCY (p.283). For painful swelling of one or both ankles, see chart 110, PAINFUL JOINTS (p.228).

Painless swelling of the ankles is most often caused by fluid accumulating in the tissues after long periods of sitting or

standing still. It is also common in pregnancy due to increased pressure on blood vessels in the abdomen.

However, occasionally, swelling of the ankles may be due to a potentially serious heart, liver, or kidney disorder. If you frequently have swollen ankles, consult your doctor.



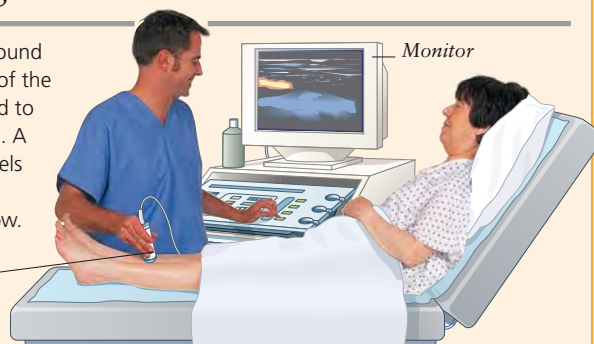
## Doppler ultrasound scanning

In Doppler ultrasound scanning, high-frequency sound waves are used to assess the speed and direction of the flow in a blood vessel. Scans are usually performed to detect narrowing or blockages in an artery or vein. A transducer emits sound waves into the blood vessels and picks up the echoes, then relays the data to a computer, which creates an image of the blood flow.

### During the procedure

A transducer emits sound waves and detects the echoes from the blood vessels to be examined.

Transducer is moved over skin above vessels

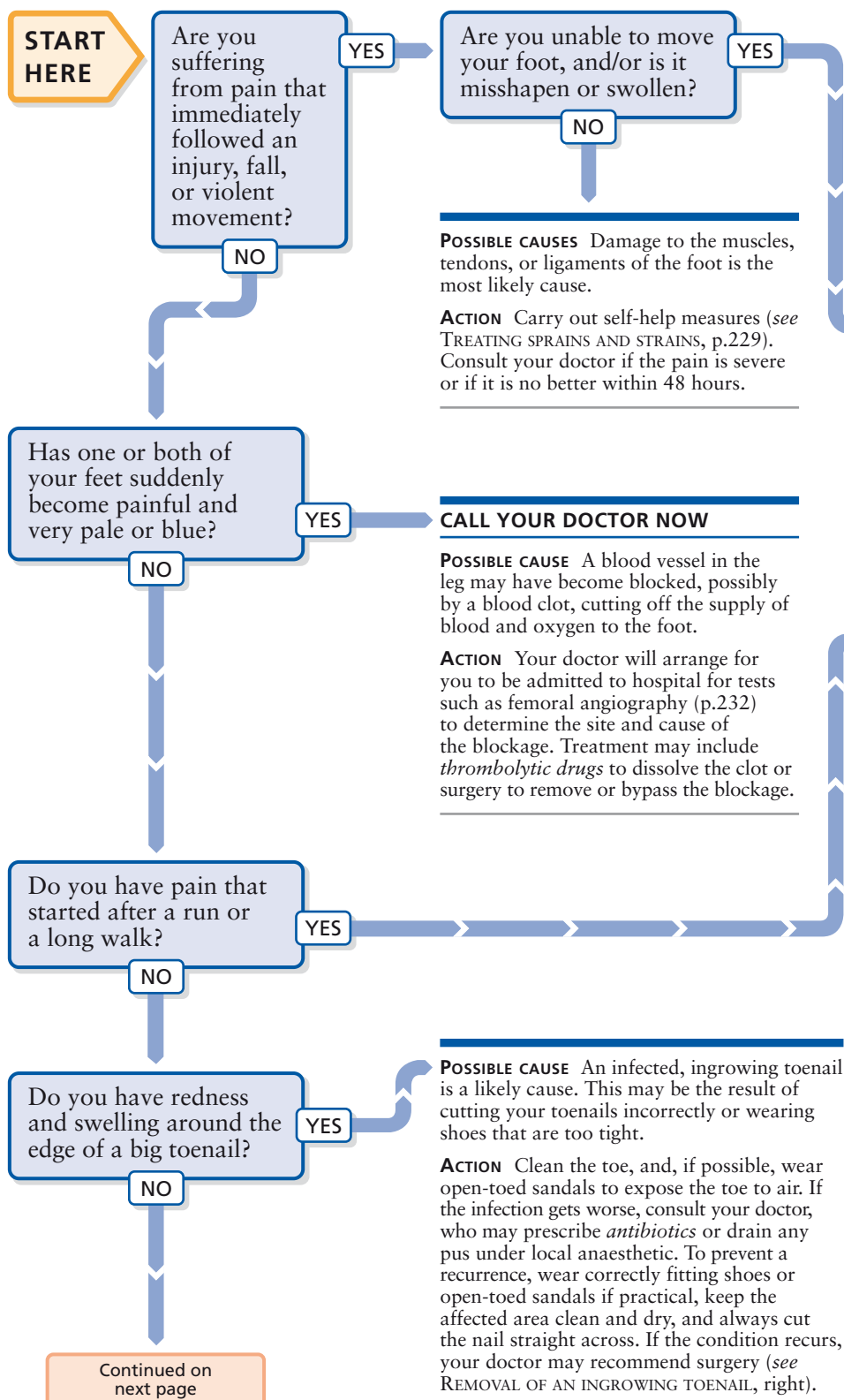


# 116 Foot problems

For ankles that are swollen but not painful, see chart 115, SWOLLEN ANKLES (p.235).

Most foot problems are the result of an injury or infections of the skin or nails and are usually minor, except in people

whose feet are affected by poor circulation, including those who have diabetes mellitus. Consult this chart if you have any pain, irritation, or itching in your feet or if your feet become misshapen in any way.



## WARNING

**DIABETES AND FOOT CARE** Diabetes mellitus (p.149) increases the risk of skin infections and ulcers on the feet. If you have diabetes, clean, dry, and inspect your feet every day. Never attempt self-treatment for corns or calluses. See your doctor promptly if you develop an ulcer or sore on your foot.



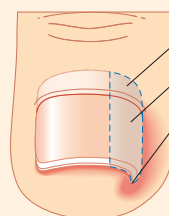
## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSES** A fractured bone or serious damage to the muscles, tendons, or ligaments of the foot is possible.

**ACTION** You will probably need an X-ray (p.39) to discover the extent of the damage. Sometimes, an operation is needed to reposition bones. Depending on the injury, you may need to wear a plaster cast or a firm bandage.

## Removal of an ingrowing toenail

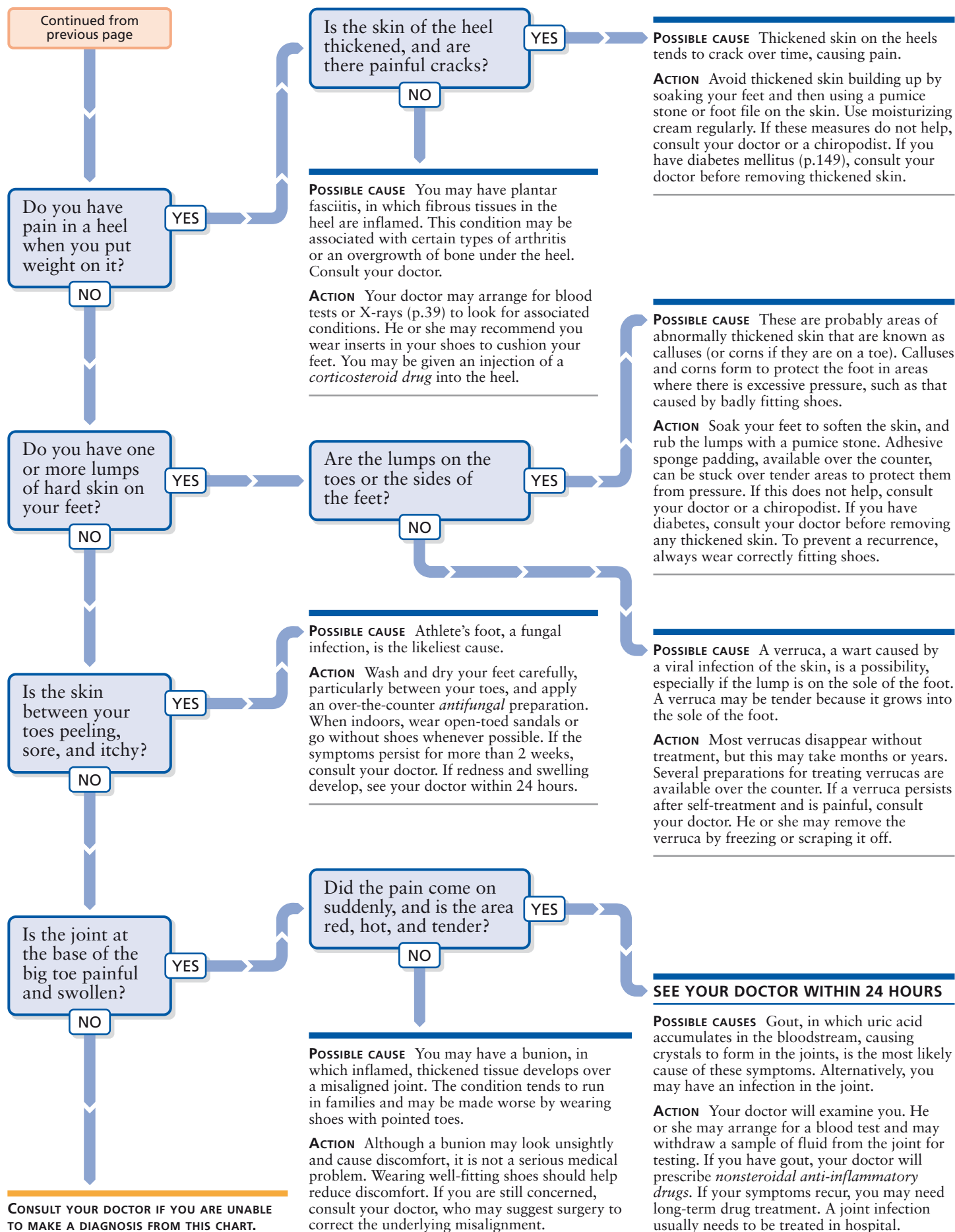
If you have repeated problems with an ingrowing toenail, you may need minor surgery, during which part or all of the nail is removed under local anaesthetic. A substance is applied to the nail bed (the area from which the nail grows) to prevent the nail regrowing. The toe will take about 2 weeks to heal, but you will be able to walk within 1–2 days.



Nail bed under skin  
Area to be removed  
Ingrown edge

**The operation**  
The ingrown part of the toenail is removed and the nail bed treated.

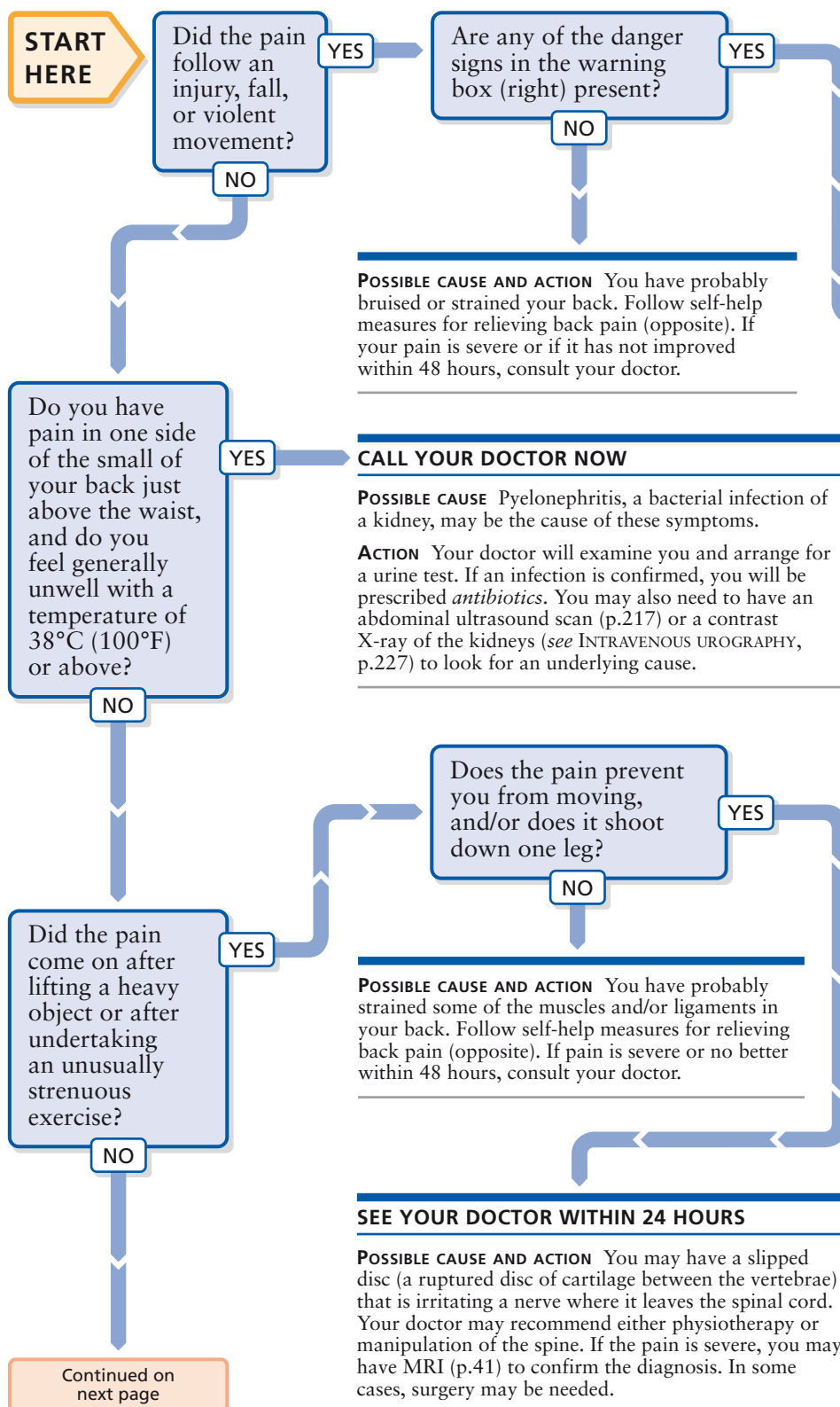




# 117 Back pain

Most people have at least one episode of back pain during their lives, and they usually recover without needing medical help. Back pain is often due to poor posture. However, it may be a sign of damage to the joints, ligaments, or discs of

cartilage in the spine, in many cases as a result of tasks such as lifting excessively heavy weights. Severe back pain may be due to pressure on a nerve or, rarely, it may be due to a problem with an internal organ such as a kidney.



## WARNING

**DANGER SIGNS** Call an ambulance if you have back pain or have recently injured your back and you develop problems with either bladder or bowel control. Rarely, damage to the spinal cord may be the cause.



## EMERGENCY! CALL AN AMBULANCE

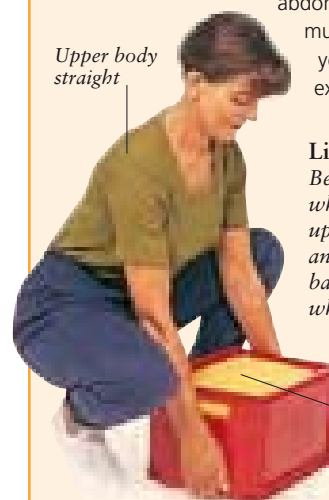
**POSSIBLE CAUSE** You may have damaged your spinal cord. Try to keep completely still while waiting for an ambulance.

**ACTION** In hospital, you will be examined and will probably have tests such as CT scanning (p.40) to look for the site and extent of any damage. In some cases, surgery to stabilize the spine may be required.

## SELF-HELP Taking care of your back

Improving your posture and taking care to lift heavy objects safely can help you avoid back problems. Stand up straight, and avoid wearing high-heeled shoes. Be aware of your posture when sitting at a desk (see SAFETY AT WORK, p.34), in a car, or at home. You should have a supportive mattress on your bed.

Regular gentle exercise may strengthen your abdominal and back muscles and help you lose any excess weight.



**Lifting safely**  
Bend your knees when you pick up an object, and keep your back straight while lifting it.

Continued from  
previous page

Has your back gradually become stiff as well as painful over a period of months or years?

YES

NO

Did the pain come on suddenly after an extended stay in bed or confinement to a wheelchair, or are you over 60?

YES

NO

Are you female and pregnant?

YES

NO

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART AND YOUR BACK PAIN IS SEVERE OR IF THE NATURE OF LONG-STANDING BACK PAIN SUDDENLY CHANGES.**

Are you over 50?

NO

YES

**POSSIBLE CAUSE** You may have ankylosing spondylitis (inflammation of the joints between the vertebrae, resulting in the spinal column gradually becoming hard and inflexible). This is especially likely if you are between 20 and 40. Consult your doctor.

**ACTION** Your doctor will examine you and arrange for you to have a blood test and X-rays (p.39) of your back and pelvic areas. If you are found to have ankylosing spondylitis, you will probably be given *nonsteroidal anti-inflammatory drugs*. You will also be referred to a physiotherapist, who will teach you exercises to help keep your back mobile. These mobility exercises are an essential part of the treatment for this disorder and can be supplemented by other physical activities, such as swimming.

### SEE YOUR DOCTOR WITHIN 24 HOURS

**POSSIBLE CAUSE** You may have a crush fracture of a vertebra as a result of osteoporosis, in which bones throughout the body become thin and weak. Osteoporosis is symptomless unless a fracture occurs. The disorder is most common in women who have passed the menopause. However, a prolonged period of immobility will also lead to the development of osteoporosis.

**ACTION** Initial treatment for the pain is with *painkillers*. Your doctor may also request bone densitometry (below). Specific treatment for osteoporosis depends on the underlying cause. However, in all cases, it is important that you try to remain active and take weight-bearing exercise, such as walking.

## SELF-HELP Relieving back pain

Most back pain is the result of minor sprains or strains and can usually be helped by simple measures. Try the following:

- If possible, keep moving and carry out your normal daily activities.
- Rest in bed if the pain is severe, but do not stay in bed for more than 2 days.
- Take over-the-counter *nonsteroidal anti-inflammatory drugs*.
- Place a heating pad or wrapped hot-water bottle against the painful area.
- If heat does not provide relief, try using an ice pack (or a wrapped pack of frozen peas); place it over the painful area for 15 minutes every 2–3 hours.

If your backache is severe or is no better within 2 days, consult your doctor.

Once your back pain has cleared up, you should take steps to prevent a recurrence by following the self-help advice for taking care of your back (opposite).

**POSSIBLE CAUSE** Osteoarthritis of the spine is probably the cause of your symptoms. In this condition, joints between the vertebrae in the spine are progressively damaged. This is particularly likely if you are over 50 and you are overweight. Consult your doctor.

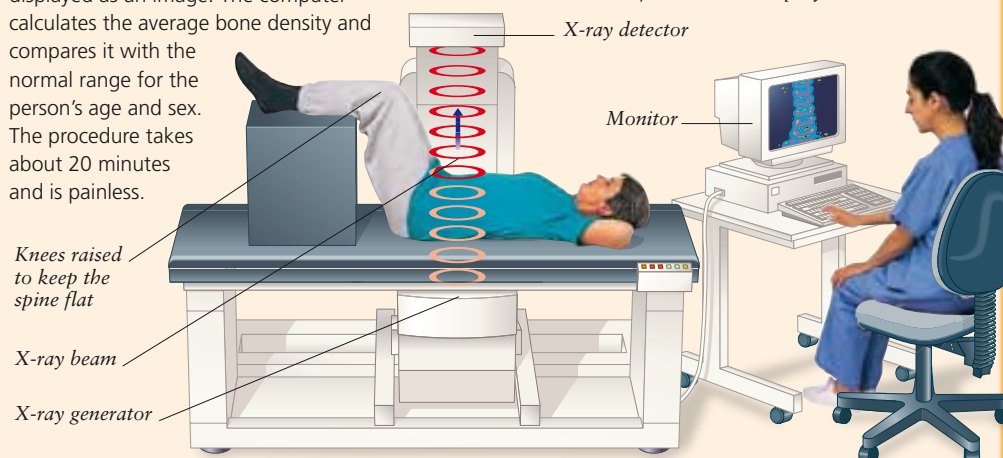
**ACTION** Your doctor may arrange for blood tests and an X-ray (p.39) to confirm the diagnosis. Over-the-counter *painkillers* should help to relieve your symptoms. If you are overweight, it will help to lose weight (see *HOW TO LOSE WEIGHT SAFELY*, p.151). Your doctor may refer you for physiotherapy to help you strengthen the muscles that support the spine.

## Bone densitometry

This technique uses low-intensity X-rays (p.39) to measure the density of bone. X-rays are passed through the body, and their absorption is interpreted by a computer and displayed as an image. The computer calculates the average bone density and compares it with the normal range for the person's age and sex. The procedure takes about 20 minutes and is painless.

### During the procedure

The X-ray generator and detector move along the length of the spine, and information is displayed on a monitor.

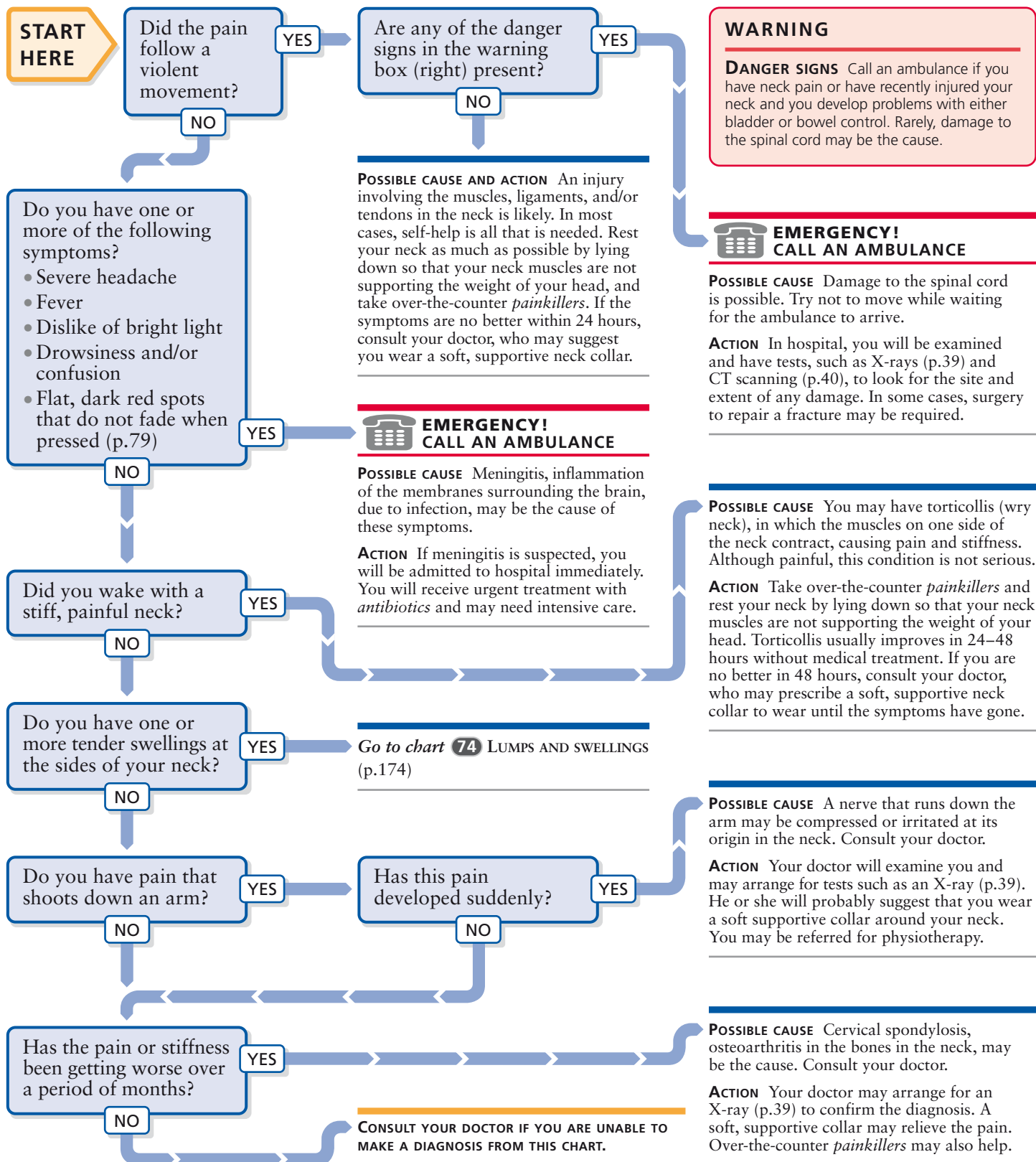


Go to chart **147** BACK PAIN IN PREGNANCY (p.284)

# 118 Painful or stiff neck

A painful or stiff neck is most often the result of a muscle spasm brought on by sitting or sleeping in an uncomfortable position or by doing unaccustomed exercise or activity.

Although the symptoms are uncomfortable, they usually improve within 48 hours without medical attention. If the pain and/or stiffness persist or become severe, consult your doctor.





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# CHARTS FOR

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# MEN

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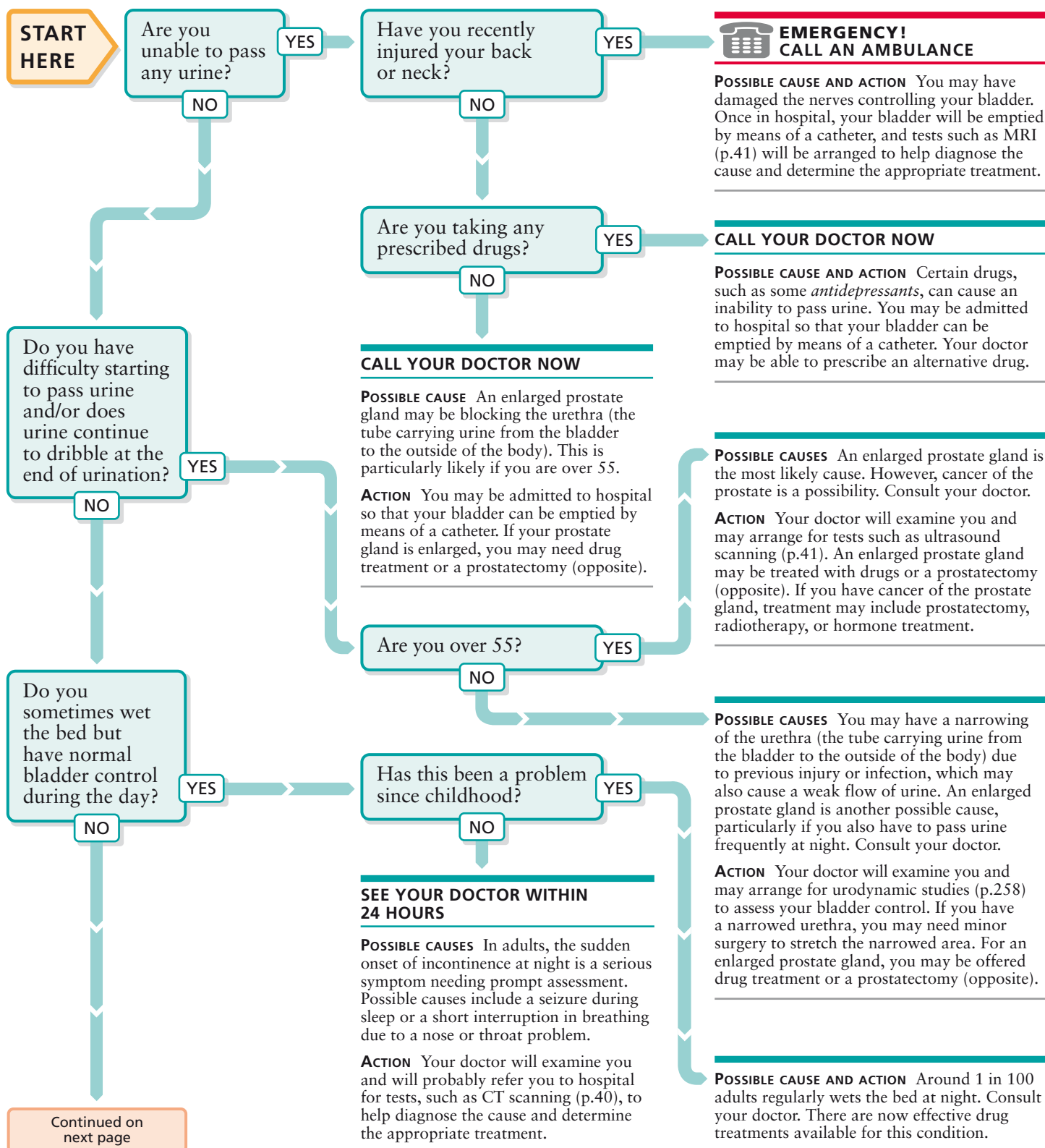
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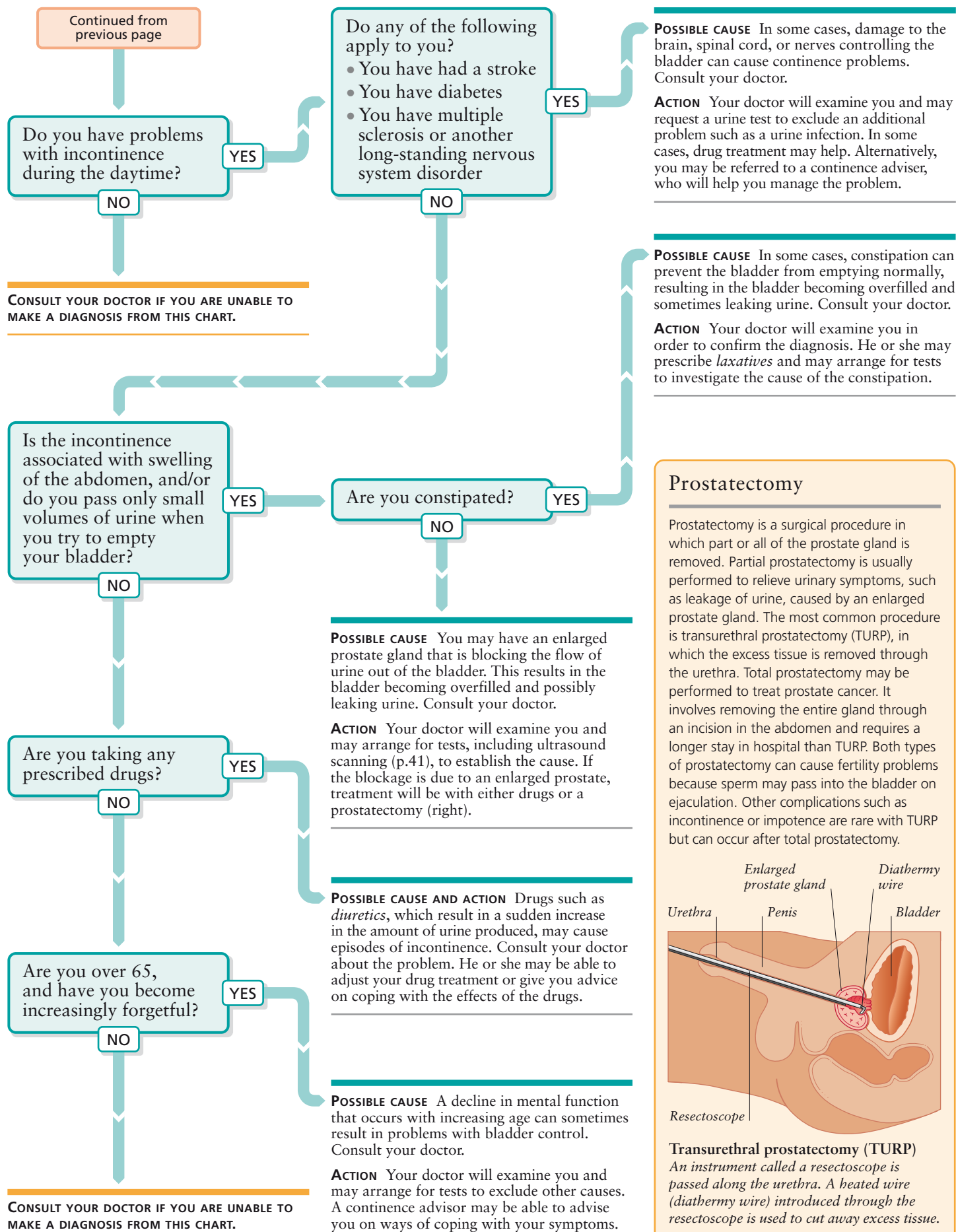
# 119 Bladder control problems in men

For other urinary problems, see chart 108, GENERAL URINARY PROBLEMS (p.224).

Problems with bladder control may range from a complete inability to pass urine to incontinence, in which urine is

passed involuntarily. These problems can be due to various underlying conditions, including an enlarged prostate gland, which can block the outflow of urine from the bladder, and disorders affecting the nerves that supply the bladder.

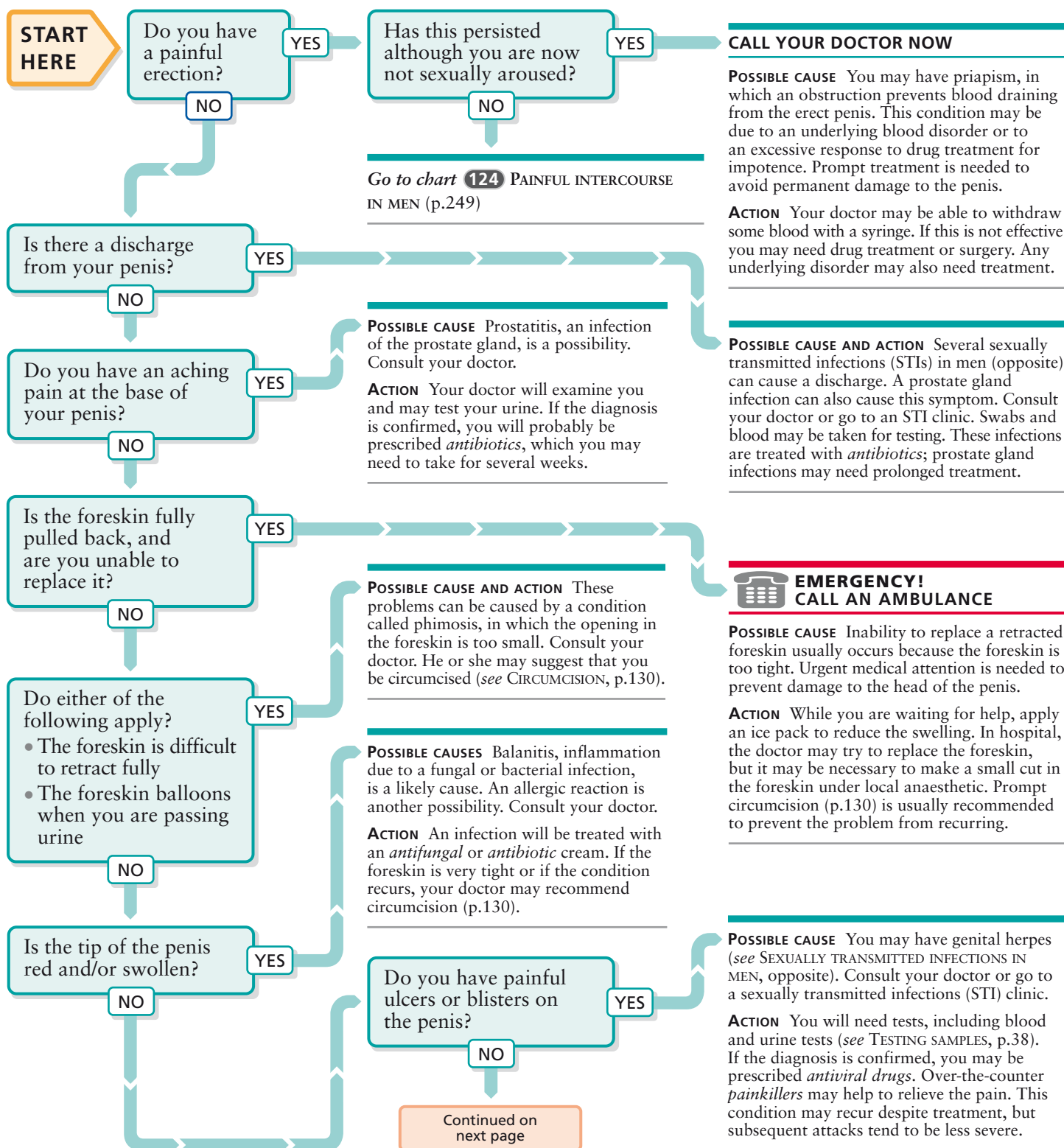




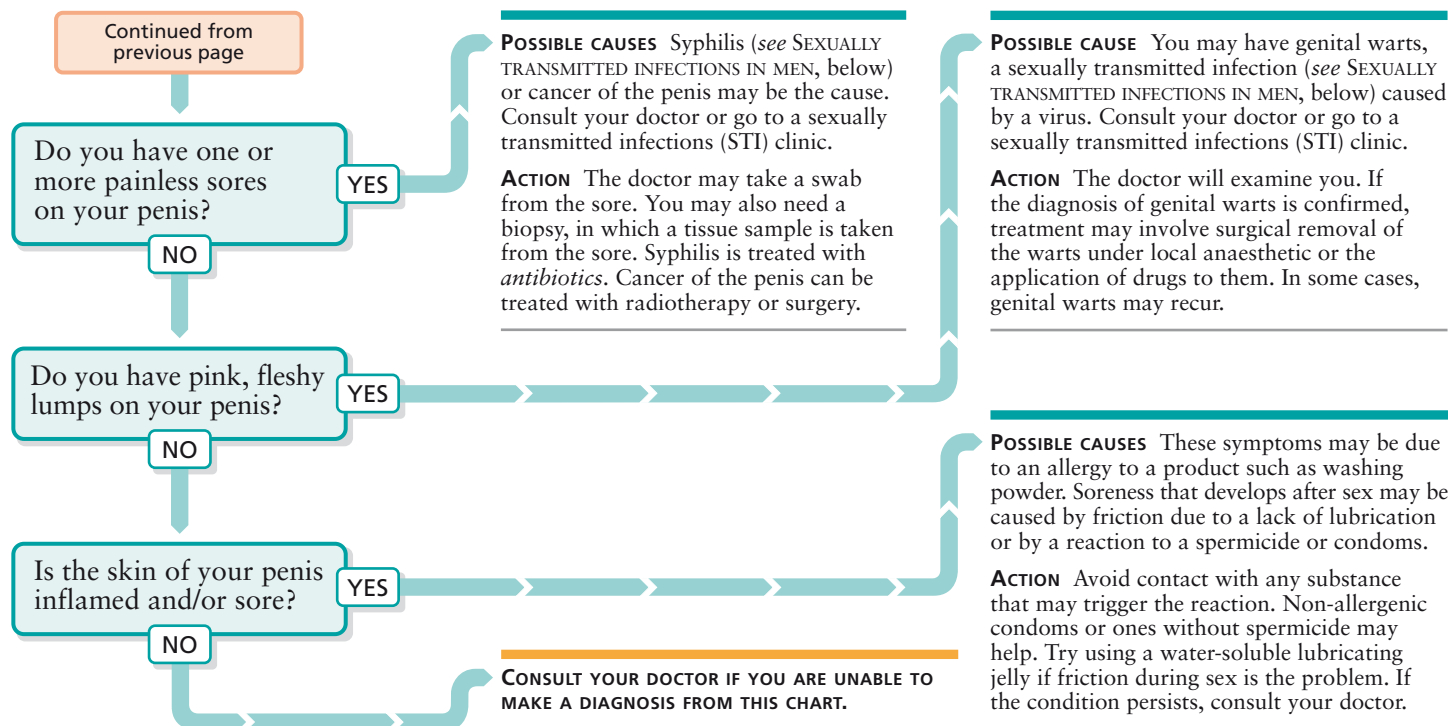
# 120 Problems with the penis

For *ejaculation problems or blood in the semen*, see chart 122, EJACULATION PROBLEMS (p.247). For *pain when passing urine*, see chart 109, PAINFUL URINATION (p.226). Pain in the penis or soreness of the skin can signal a variety of disorders affecting the penis itself or the urinary tract.

Many painful conditions are the result of minor injuries, such as bruising or abrasion (perhaps sustained in activities such as playing sport), or are caused by infections, some of which can be sexually transmitted. Good genital hygiene is essential to avoid problems, particularly in uncircumcised men.







## Sexually transmitted infections in men

Infections passed from one person to another during sexual intercourse (vaginal, anal, or oral) are known as sexually transmitted infections (STIs). Although these infections affect both men and women, the symptoms are often different (see SEXUALLY TRANSMITTED INFECTIONS IN WOMEN, p.245). The symptoms may also vary depending on the type of sexual contact you have had; for example, in homosexual men, rectal symptoms are often more common. Even if there are few symptoms, some infections can be serious

and may cause permanent damage if left untreated. If you think that you or your partner has an STI, you should consult your doctor or go to a sexually transmitted infections clinic at a local hospital, where you will be treated in confidence. It is common to have more than one STI at a time, and tests will be arranged to look for several diseases. You should avoid sex until your doctor confirms that the infection has completely cleared up. The risk of contracting an STI can be reduced by practising safe sex (p.32).

Infection	Incubation period*	Symptoms in men	Diagnosis and treatment
Genital herpes	4–7 days	Initial symptoms include soreness or itching on the shaft of the penis or, in some cases, on the thighs. A crop of small, painful blisters then appears. These burst to produce shallow, painful ulcers, which heal after 10–21 days. Some people may also have a fever during the attack. The condition tends to be recurrent.	The diagnosis is usually made according to the appearance of the skin. Oral antiviral drugs taken early shorten the episodes but do not eradicate the virus. Genital herpes is most infectious while the ulcers are present, but in some cases can remain infectious after the ulcers have healed.
Genital warts	1–20 months	Pink, fleshy lumps on the penis and, in some cases, around the anus. A rectal infection may cause pain on passing faeces.	Treatment may be by surgical removal under local anaesthetic or by applying topical drugs to the warts. In some cases, the warts may recur after treatment.
Gonorrhoea	2–10 days	There may be pain on passing urine and, in some cases, a discharge from the penis.	The doctor will take a swab from the rectum or the urethra (the tube that carries urine out of the body) to identify the infectious organism. Treatment is with <i>antibiotics</i> .
HIV infection	6–8 weeks	There may be no initial symptoms, but some people may have a brief flu-like illness, sometimes with a rash and swollen lymph nodes. After years without symptoms, AIDS may develop (see HIV INFECTION AND AIDS, p.148). HIV can be passed on whether or not you have symptoms.	Diagnosis is made by a blood test taken 3 or more months after the initial infection. People with HIV infection are usually referred to special centres for treatment. Combinations of <i>antiviral drugs</i> are given that may be effective in delaying the progression of HIV to AIDS.
Non-gonococcal urethritis	1–6 weeks	Pain on passing urine, especially first thing in the morning. There may also be a discharge from the penis.	The doctor will take a swab from the urethra (the tube that carries urine out of the body) to find the cause – often a chlamydial infection. Treatment is usually with antibiotics.
Pubic lice	0–17 days	Usually there is intense itching in the pubic region, particularly at night. Lice are 1–2 mm long and may be visible.	Treatment is with a lotion that kills the lice and their eggs. Such lotions can be bought over the counter.
Syphilis	1–12 weeks	A highly infectious, painless sore develops in the genital area, usually on the penis or in the rectum. If untreated, the condition can progress to involve internal organs, and rash, fever, and swollen lymph nodes will develop.	The disease is diagnosed by blood tests and tests on swabs taken from any sores. The usual treatment is a course of <i>antibiotic</i> injections, followed by blood tests to check for a recurrence of the condition.

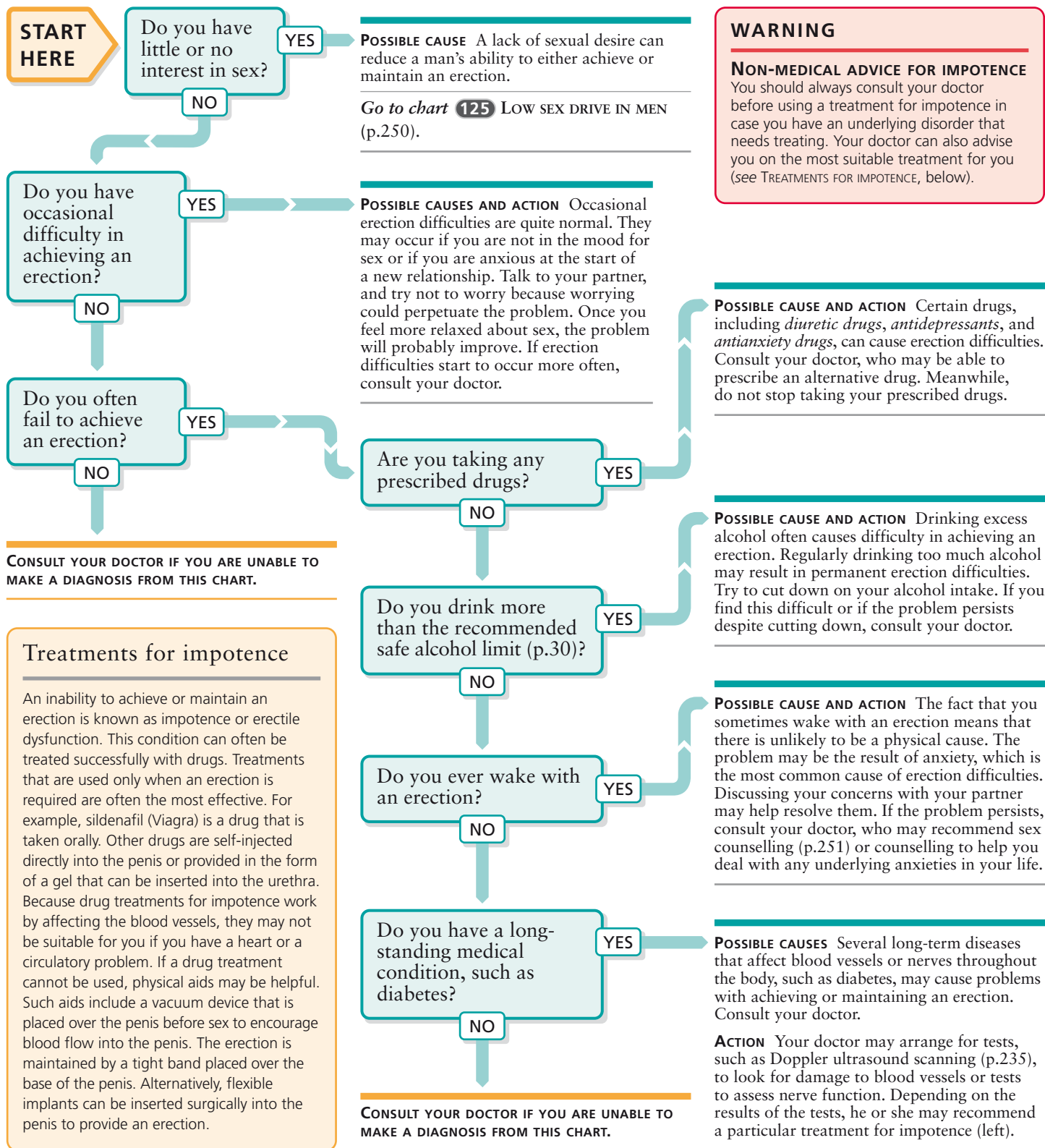
\*Time between contact with the disease and the appearance of symptoms

# 121 Erection difficulties

If you have a painful erection, see chart 120, PROBLEMS WITH THE PENIS (p.244).

From time to time, most men have problems with achieving or maintaining an erection. Although distressing, occasional

erection difficulties are normal and are usually caused by stress, tiredness, anxiety, or alcohol. If you frequently have difficulty in achieving an erection, consult your doctor. Safe and effective treatments for impotence are available.

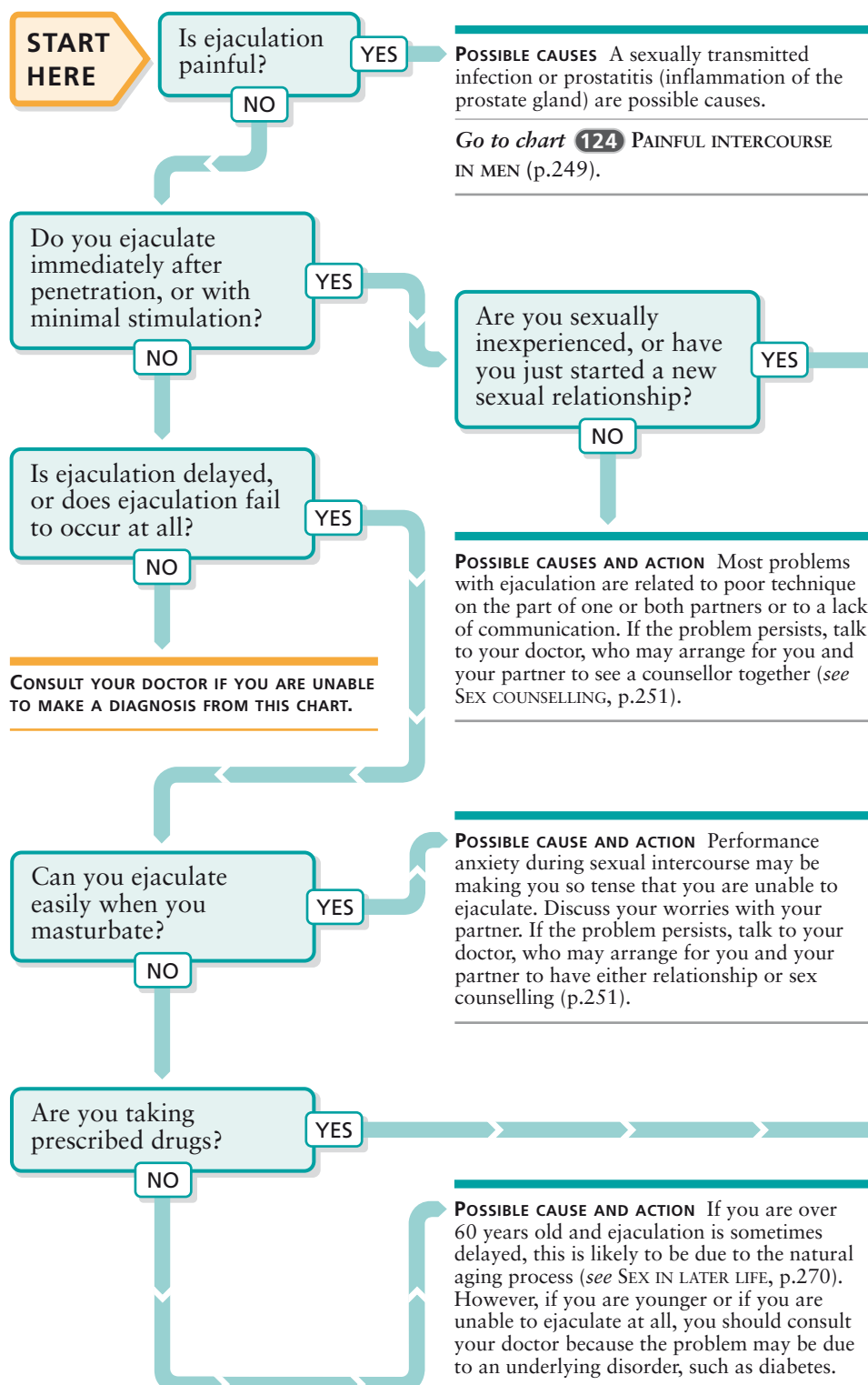


# 122 Ejaculation problems

If you are unable to achieve an erection, see chart 121, ERECTION DIFFICULTIES (p.246).

Consult this chart if ejaculation (the moment at which semen is released at orgasm) occurs sooner than you and your partner would like, or, if despite having a normal erection, ejaculation is delayed or does not occur. Ejaculation problems

are common and can be made worse by the resulting anxiety. Discussing your sexual needs with your partner can help relieve many of these problems. Premature ejaculation rarely has a physical cause. Absent or delayed ejaculation may result from a physical cause or an emotional problem. Orgasm without ejaculation is usually the result of previous prostate surgery.



## WARNING

**BLOOD IN THE SEMEN** Blood-streaked semen is usually due to leakage from small blood vessels in a testis or epididymis (where sperm from the testis is stored). A single episode is no cause for concern, but consult your doctor if it recurs because it may be due to a prostate gland infection.

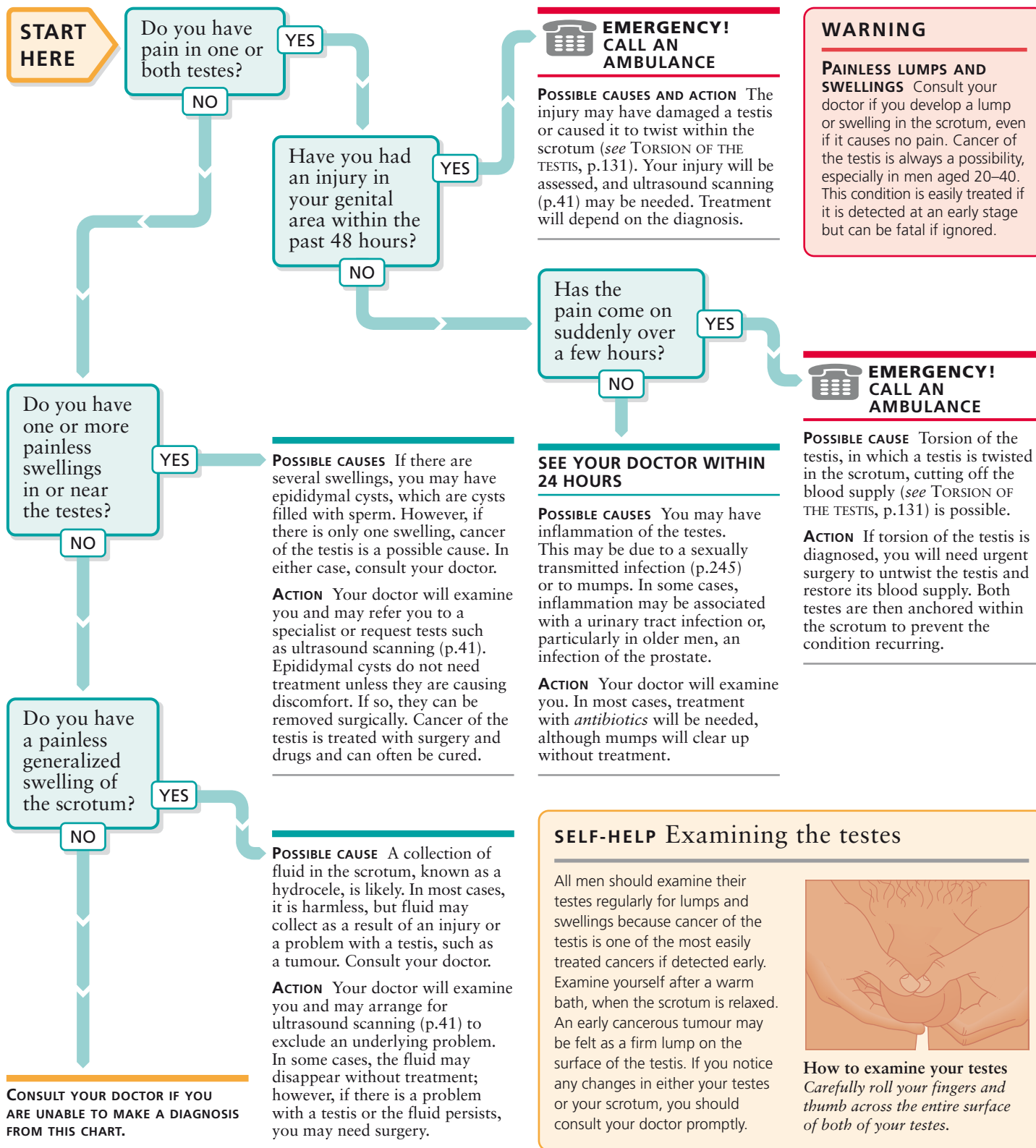
## SELF-HELP The squeeze technique

This technique, used to prevent premature ejaculation, can be done by the man himself or by his partner. Just before ejaculation, the shaft of the penis, just below the head, is squeezed firmly between the thumb and forefinger. This causes the erection to be partially lost, temporarily preventing ejaculation. By practising this technique regularly, a man can gain greater control over ejaculation. Eventually, using the squeeze technique will become unnecessary.

# 123 Testes and scrotum problems

All men should examine their testes regularly (see EXAMINING THE TESTES, below) as there is a small possibility that a change could indicate cancer of the testis. Cancer treatment is most likely to be successful if the diagnosis is made early. If you

have pain or notice a lump or swelling in or around the testes or elsewhere in the scrotum, consult this chart to determine how quickly you should seek medical advice. In some cases, prompt treatment is essential to preserve fertility.

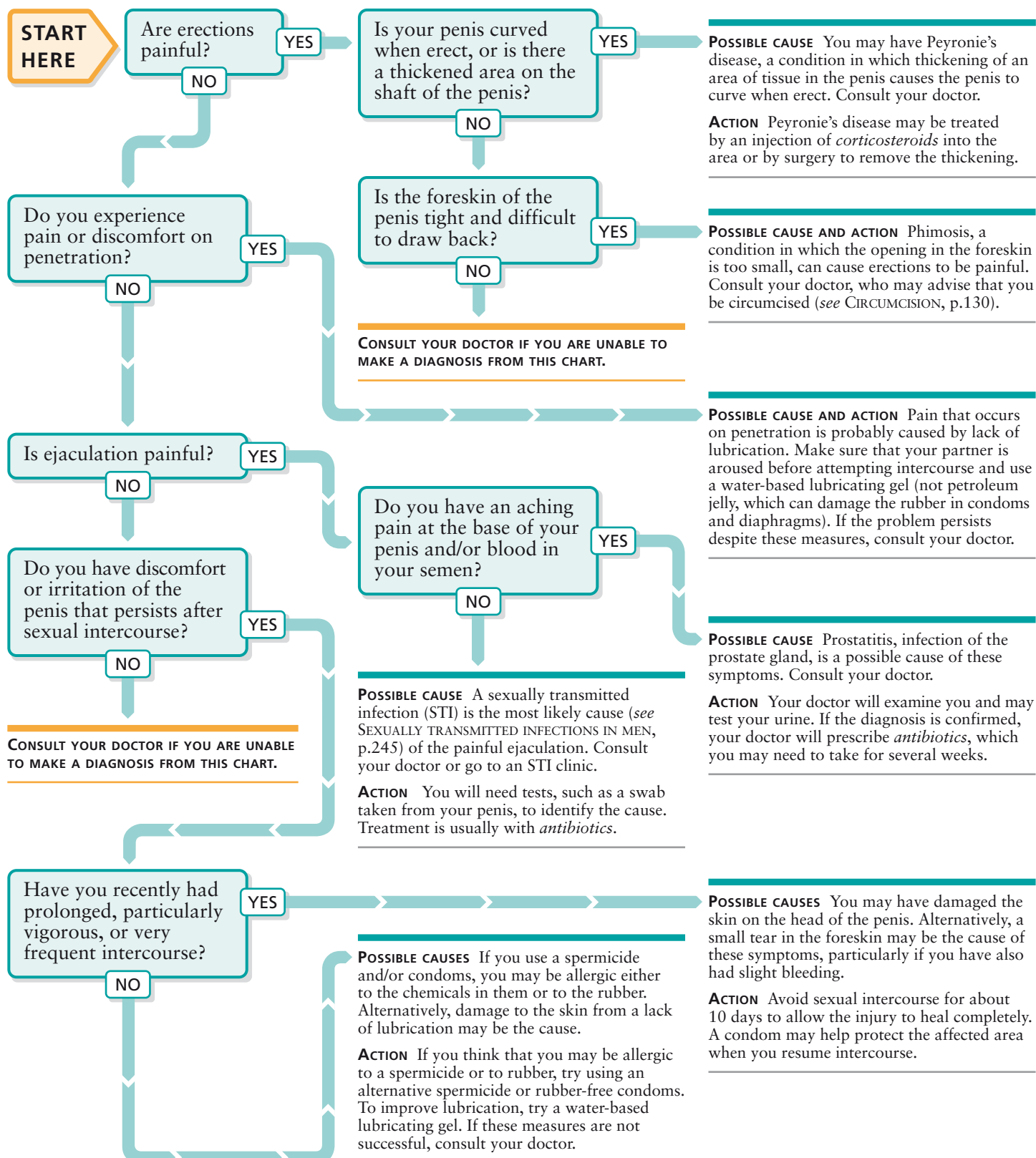




# 124 Painful intercourse in men

Consult this chart if sexual intercourse is painful. If the cause of the pain is not treated, erection difficulties and ejaculation problems may develop. There are several

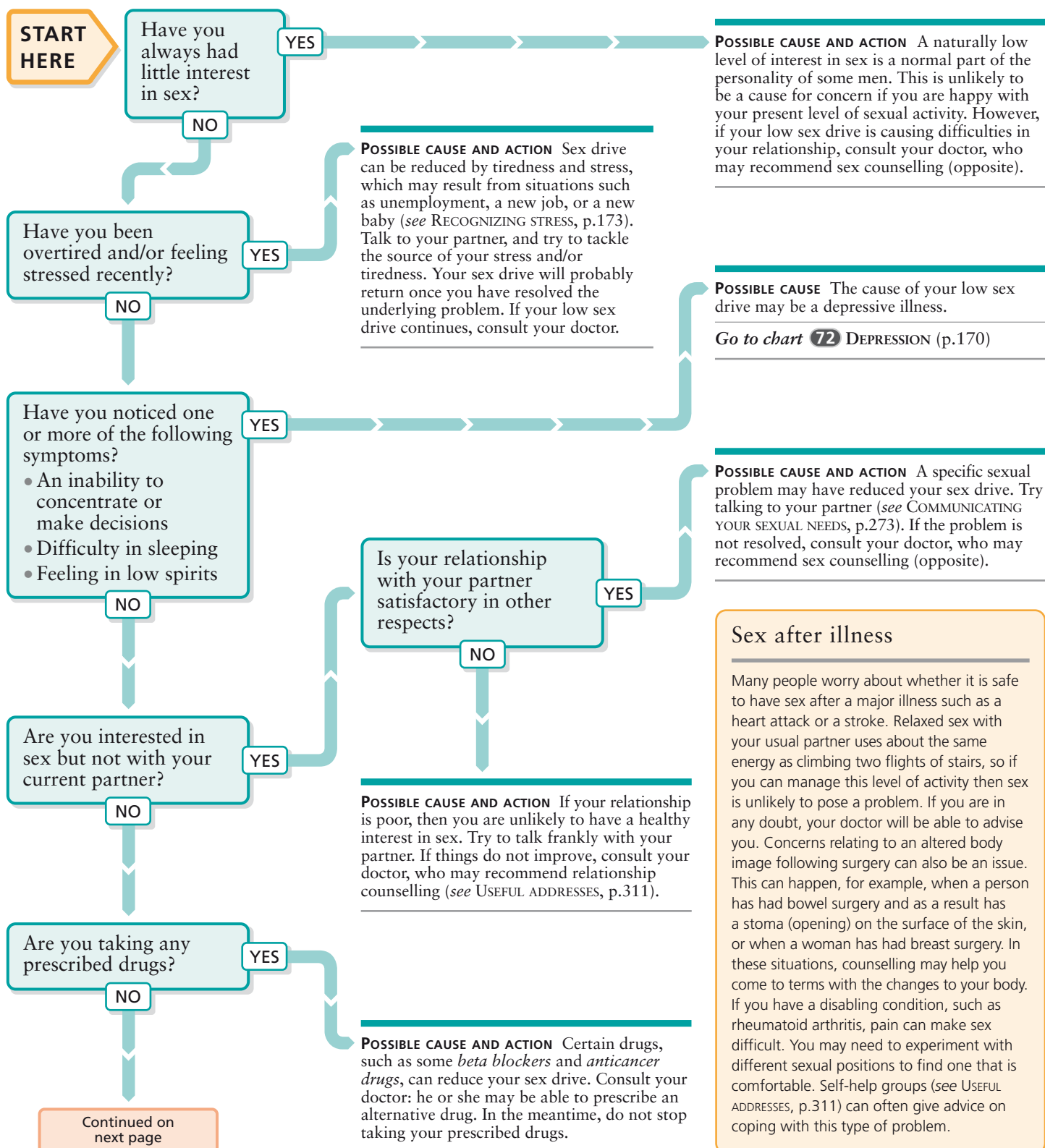
different possible causes of painful intercourse in men, including a disorder affecting the surface of the penis, a tight foreskin, an infection, or lack of lubrication.



# 125 Low sex drive in men

Normal levels of interest in sex vary from person to person. If you have always had little interest in a sexual relationship or rarely masturbate or feel sexually aroused, you may simply have a naturally low sex drive. Consult this chart if you are

concerned about your low sex drive or if your sex drive has decreased recently. A decrease in sex drive often has a psychological cause but can also be the result of a disorder affecting levels of the sex hormone testosterone.



## Sex after illness

Many people worry about whether it is safe to have sex after a major illness such as a heart attack or a stroke. Relaxed sex with your usual partner uses about the same energy as climbing two flights of stairs, so if you can manage this level of activity then sex is unlikely to pose a problem. If you are in any doubt, your doctor will be able to advise you. Concerns relating to an altered body image following surgery can also be an issue. This can happen, for example, when a person has had bowel surgery and as a result has a stoma (opening) on the surface of the skin, or when a woman has had breast surgery. In these situations, counselling may help you come to terms with the changes to your body. If you have a disabling condition, such as rheumatoid arthritis, pain can make sex difficult. You may need to experiment with different sexual positions to find one that is comfortable. Self-help groups (see **USEFUL ADDRESSES**, p.311) can often give advice on coping with this type of problem.

Continued from  
previous pageHave you recently  
recovered from a major  
illness or operation?

NO

YES

Have you noticed any  
of the following?

- Loss of body hair
- Reduced testes size
- Development of breasts

NO

YES

Do you often drink  
more than the  
recommended safe  
alcohol limit (p.30)?

NO

YES

Are you generally  
anxious, and/or do you  
have specific anxieties  
about sex?

NO

YES

Are you over 50?

NO

YES

## Sex counselling

Counselling with a sex therapist or counsellor is often helpful when there is a psychological basis for a sexual problem. The sessions usually last about 1 hour and a course of treatment may last for several weeks or months. Both partners need to attend the therapy sessions so that the therapist can help them to understand their sexual needs and communicate them honestly. A therapist may also suggest exercises to do at home. One such exercise is a technique called sensate focus. In this exercise, a couple touch and stimulate each other's bodies but agree not to have full sexual intercourse for several weeks. Sensate focus can be helpful for problems that stem from anxiety about sexual performance.



### Talking therapy

*A sex therapist may be able to help you and your partner develop better communication and work through sexual problems in a safe, supportive environment.*

Are you concerned that  
sexual intercourse may  
cause your condition to  
recur or worsen?

YES

NO

**POSSIBLE CAUSES AND ACTION** These symptoms may be caused by low levels of the male sex hormone testosterone as a result of a disorder that affects the testes or an organ such as the liver, which processes hormones. Consult your doctor, who may arrange for blood tests to check your hormone levels and to detect any underlying cause. Treatment may be of the underlying cause or may include hormone treatment.

**POSSIBLE CAUSE AND ACTION** People who have been ill or had major surgery are often concerned that sex will make their condition worse (see **SEX AFTER ILLNESS**, opposite). These concerns may lower sex drive. In most cases, after a recovery period of about 6 weeks, sex rarely causes problems; however, you should consult your doctor for advice and reassurance.

**POSSIBLE CAUSE AND ACTION** Serious illness or surgery can sometimes alter your perception of your body and of yourself in general (see **SEX AFTER ILLNESS**, opposite), resulting in a reduced sex drive. Consult your doctor, who may advise counselling (see **USEFUL ADDRESSES**, p.311).

**POSSIBLE CAUSE AND ACTION** Alcohol can reduce your sex drive and can cause erection difficulties as well as more serious health problems. Try to drink less alcohol. You should also consult your doctor so that any other causes can be excluded.

**POSSIBLE CAUSES AND ACTION** General anxiety can reduce your sex drive. Specific concerns about sex, such as worry about contracting a sexually transmitted infection (see **SEXUALLY TRANSMITTED INFECTIONS IN MEN**, p.245) or making your partner pregnant, can also suppress sex drive. Concern about sexual orientation (right) is another possible cause. Talk to your partner, and, if you are still concerned, consult your doctor.

**POSSIBLE CAUSE** Sex drive may decline slightly as you get older (see **SEX IN LATER LIFE**, p.270). This need not be a problem if your needs and your partner's are compatible. If your loss of sex drive has occurred suddenly or if you are concerned, consult your doctor.

**ACTION** Your doctor may arrange for blood tests to check your hormone levels. Any cause will be treated, if possible, whatever your age.

## Sexual orientation

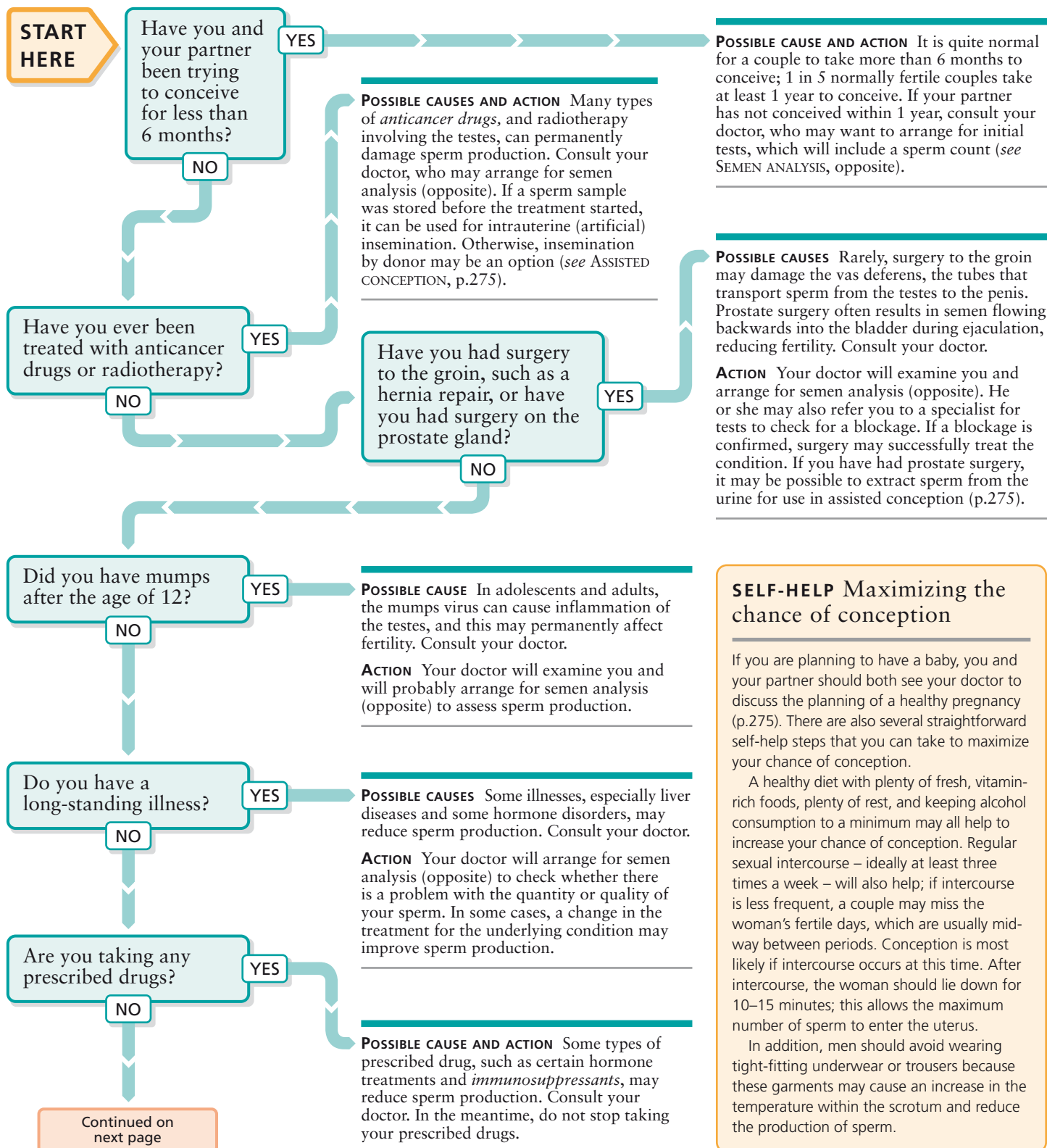
Although heterosexuality is considered the norm by some people, it is common for adolescents to go through a phase of having homosexual feelings before they become attracted to people of the opposite sex. Some people, however, remain homosexual or bisexual throughout their lives. While homosexuality and bisexuality are becoming more openly accepted, some people still have feelings of guilt associated with their sexuality or are victims of prejudice. Whatever your sexual orientation, if you have multiple partners, you are at an increased risk of sexually transmitted infections, including HIV infection and AIDS (p.148), and need to practise safe sex (see **SEX AND HEALTH**, p.32).

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

# 126 Fertility problems in men

See also chart 139, FERTILITY PROBLEMS IN WOMEN (p.274). Fertility problems affect 1 in 10 couples who want children, and, in many cases, a cause is not found. Failure to conceive may be the result of a problem affecting either one or both

partners; this chart deals only with possible problems in men. The two main causes of infertility in men are insufficient sperm production and a blockage of the vas deferens, the tubes that transport the sperm to the penis during ejaculation.



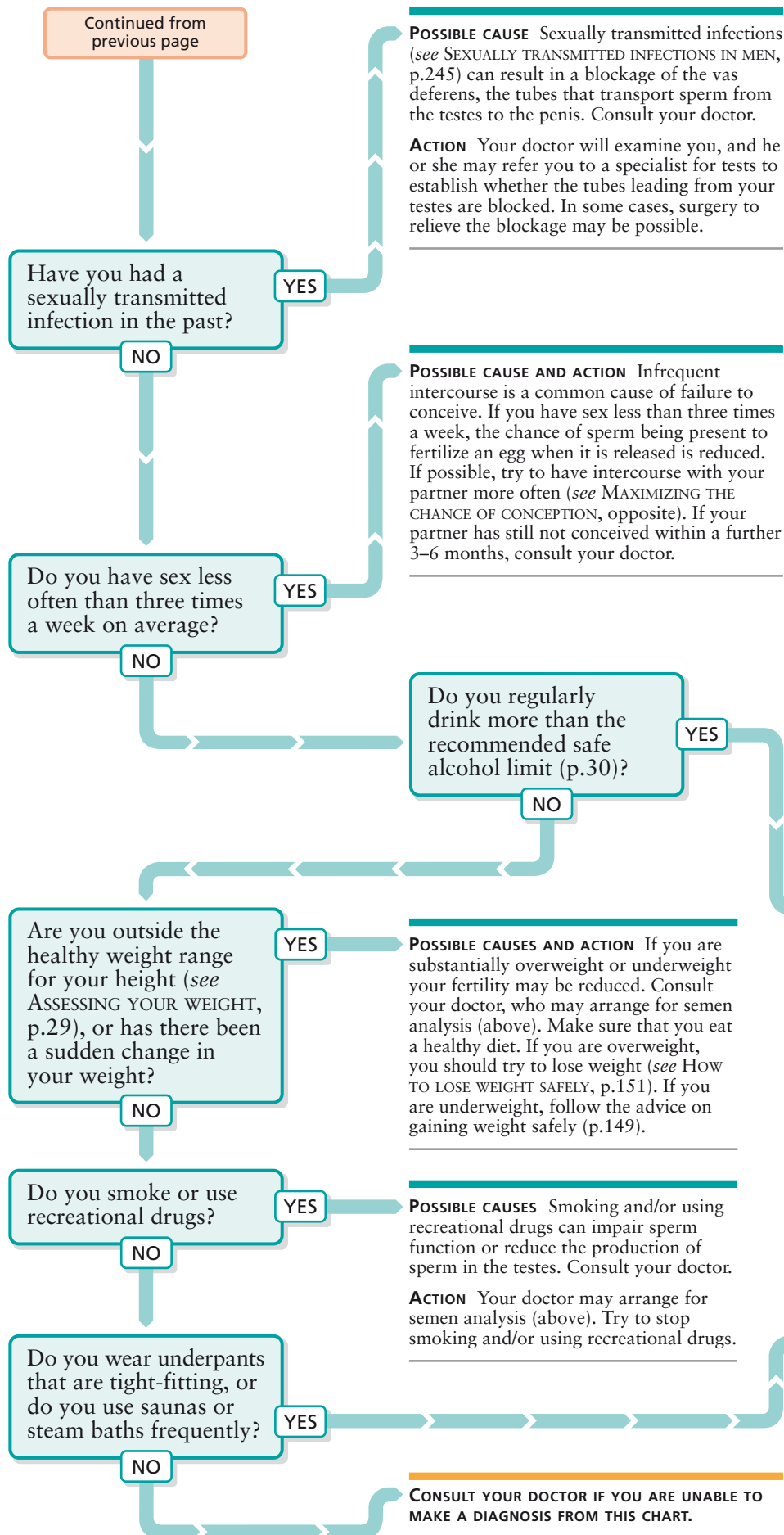
## SELF-HELP Maximizing the chance of conception

If you are planning to have a baby, you and your partner should both see your doctor to discuss the planning of a healthy pregnancy (p.275). There are also several straightforward self-help steps that you can take to maximize your chance of conception.

A healthy diet with plenty of fresh, vitamin-rich foods, plenty of rest, and keeping alcohol consumption to a minimum may all help to increase your chance of conception. Regular sexual intercourse – ideally at least three times a week – will also help; if intercourse is less frequent, a couple may miss the woman's fertile days, which are usually mid-way between periods. Conception is most likely if intercourse occurs at this time. After intercourse, the woman should lie down for 10–15 minutes; this allows the maximum number of sperm to enter the uterus.

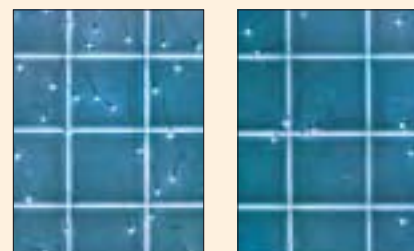
In addition, men should avoid wearing tight-fitting underwear or trousers because these garments may cause an increase in the temperature within the scrotum and reduce the production of sperm.





## Semen analysis

If a couple has fertility problems, semen analysis is usually one of the first tests that is carried out. The man is asked to ejaculate into a clean container (semen collected from a condom is not suitable). The sample must then be kept at body temperature and analysed within 2 hours. The volume of semen is measured, and a sample is then viewed under a microscope to assess the shape and activity levels of the sperm and to count the number of sperm. Each millilitre of semen normally contains at least 50 million sperm, the majority of which are healthy. A low sperm count is defined as fewer than 20 million sperm per millilitre. If the test shows any abnormality, it will be repeated.



NORMAL SPERM COUNT

LOW SPERM COUNT

### Sperm count

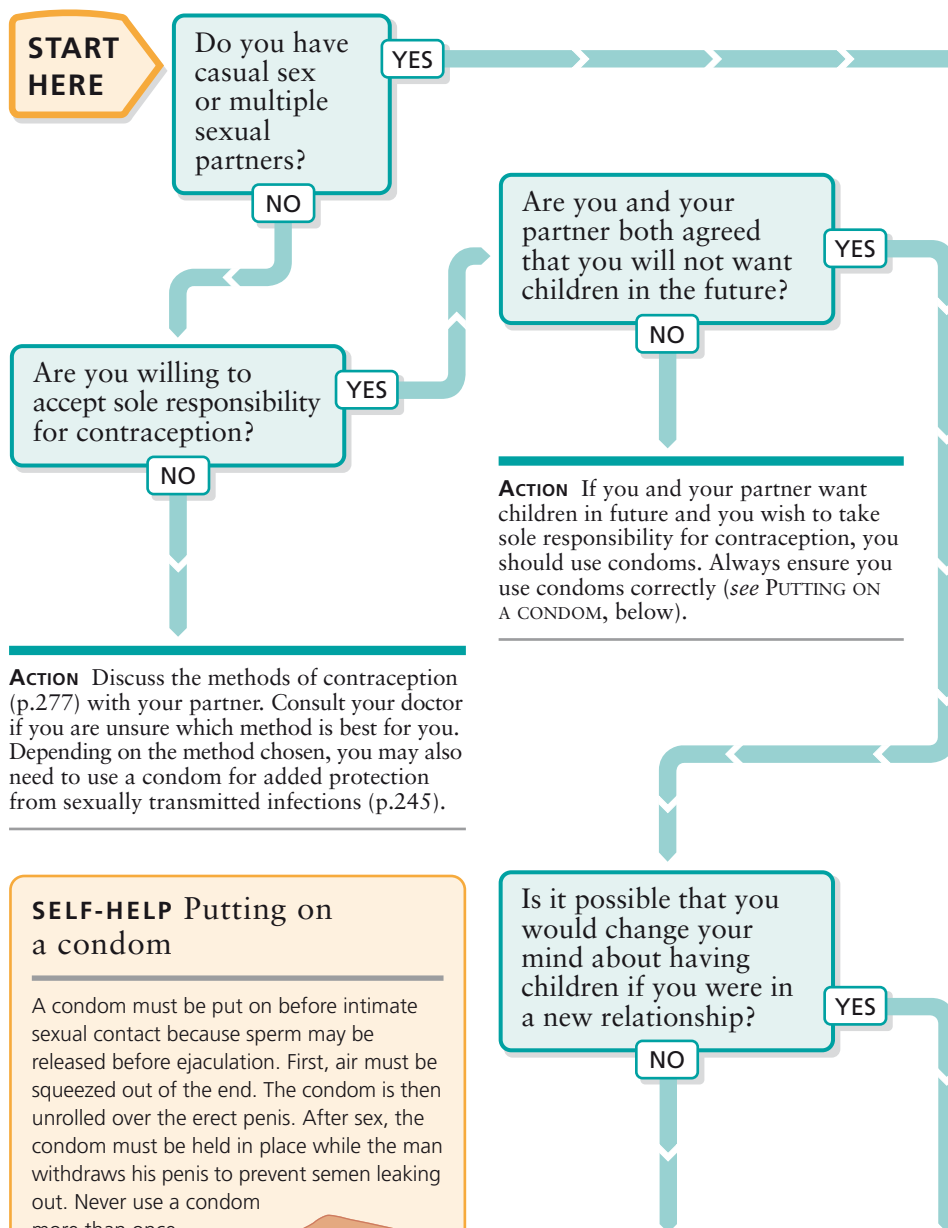
Sperm are viewed under a microscope with a grid to help count the number of sperm and the proportion of abnormal sperm.

# 127 Contraception choices for men

*For women's contraception choices, see chart 140, CONTRACEPTION CHOICES FOR WOMEN (p.276).*

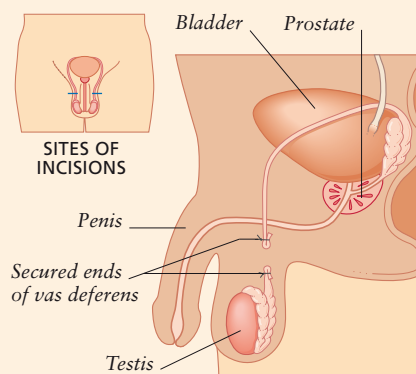
The two main methods of contraception currently available for men are condoms (sheaths) and vasectomy. There is no hormonal method of contraception for men. Your choice of contraceptive method will depend on various factors, including your sexual lifestyle and age. If you have a regular

partner, the decision is best shared. Condoms have the advantages of being 95 per cent effective and of helping to provide protection against sexually transmitted infections for both the user and his sexual partner. Many men choose to have a vasectomy (male sterilization) when they are certain they will not want children in the future. Vasectomy is a simple procedure, but it must be considered irreversible.



## Vasectomy

A vasectomy prevents sperm produced by the testes being ejaculated by removing a small section of the tube that leads from each testis to the penis (the vas deferens). The operation is performed under local anaesthetic, through small incisions in the scrotum, and takes about 40 minutes. For 12–16 weeks after surgery, semen will still contain sperm, and alternative contraception is needed until semen analysis (p.253) confirms that no sperm remain. Vasectomy should be considered irreversible: although it may be possible to rejoin the vas deferens, fertility is often not restored.



### The operation

During a vasectomy, a small section of the vas deferens that leads from each testis is removed and the cut ends are secured.

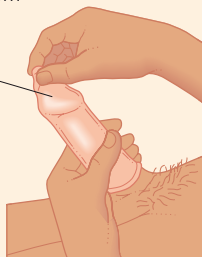
## SELF-HELP Putting on a condom

A condom must be put on before intimate sexual contact because sperm may be released before ejaculation. First, air must be squeezed out of the end. The condom is then unrolled over the erect penis. After sex, the condom must be held in place while the man withdraws his penis to prevent semen leaking out. Never use a condom more than once.

Erect penis

### Unrolling a condom onto the penis

Squeeze the air from the end, and then unroll the condom onto the erect penis.



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# CHARTS FOR

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# WOMEN

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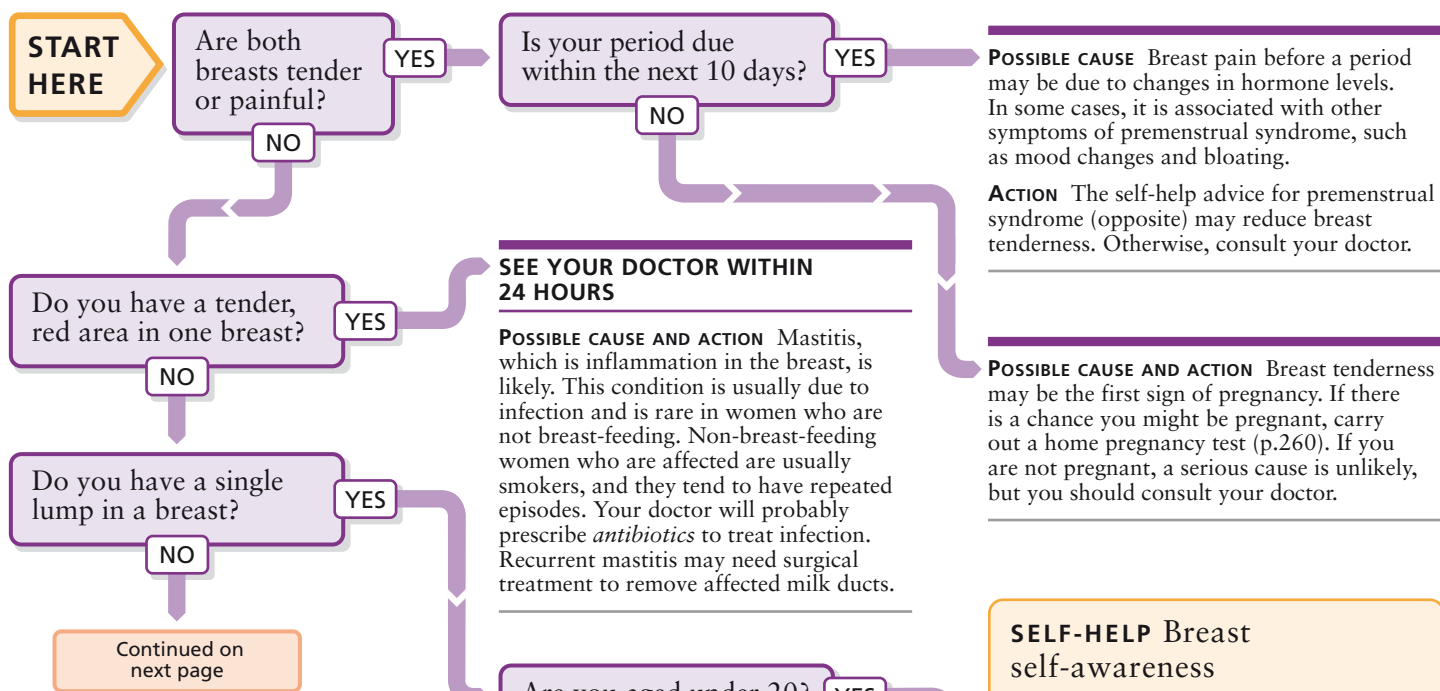
<b>128</b> Breast problems.....	256	<b>140</b> Contraception choices for women.....	276
<b>129</b> Bladder control problems in women.....	258	<b>141</b> Nausea and vomiting in pregnancy.....	278
<b>130</b> Absent periods.....	260	<b>142</b> Weight problems and pregnancy.....	279
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<b>133</b> Irregular vaginal bleeding.....	264	<b>145</b> Skin changes in pregnancy.....	282
<b>134</b> Abnormal vaginal discharge.....	266	<b>146</b> Swollen ankles in pregnancy....	283
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# 128 Breast problems

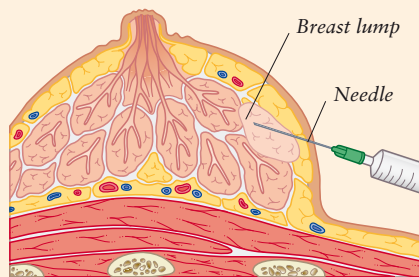
For breast problems during pregnancy or after giving birth, see chart 149, BREAST PROBLEMS AND PREGNANCY (p.286). Although the majority of breast problems are not serious, breast cancer is one of the most common cancers in women. Rarely, it also occurs in men. If diagnosed early enough,

breast cancer can often be successfully treated. It is therefore important to familiarize yourself with the look and feel of your breasts (see BREAST SELF-AWARENESS, below) so that you will be able to detect any changes. If you do find a change in your breast, you should seek medical advice immediately.



## Aspiration of a breast lump

Aspiration involves removing cells or liquid from a breast lump using a needle and syringe. If the lump is solid, cells will be collected in the needle. These cells are then sent to a laboratory to be examined under a microscope. This technique can identify whether or not the lump is cancerous. If fluid is withdrawn into the needle instead of cells, the lump can be diagnosed as a breast cyst. The procedure is painful, but it usually takes less than a minute to carry out.



### During the procedure

A fine needle is attached to a syringe and inserted into the breast lump. Cells or fluid are then carefully withdrawn.

## SELF-HELP Breast self-awareness

If you examine your breasts regularly, you will become familiar with their normal appearance and feel and find it easier to notice changes. Look at your breasts in a mirror, checking for changes in the size or shape of your breasts, changes to your nipples, or dimpled skin. Then, while lying or standing, put one arm behind your head, and feel the breast on that side with firm, small circular movements. Feel around the whole breast, including the nipple and armpit. Repeat the process with the other breast. If you discover a lump or any changes in the breast, consult your doctor.

### Examining your breasts

Keeping your fingers flat, feel around the whole breast and armpit area in small circles.

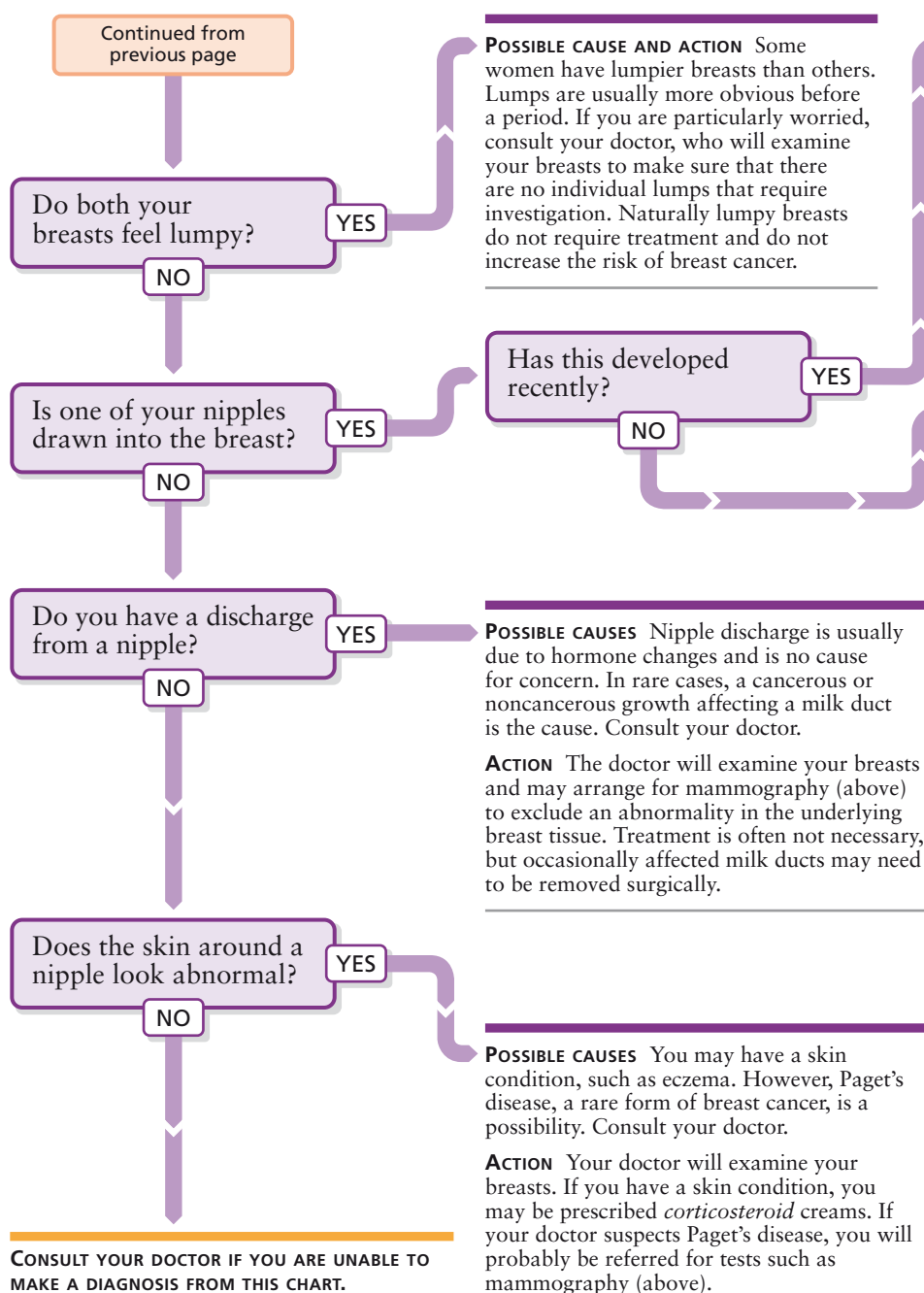
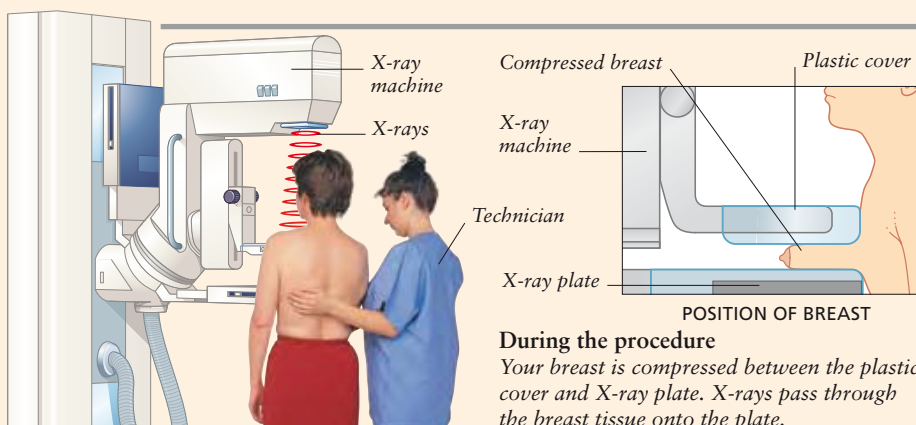
Press gently with the pads of your fingers





## Mammography

Mammography uses X-rays (p. 39) to detect abnormal areas of breast tissue. It is used as a screening test to detect signs of breast cancer and is also carried out to investigate breast lumps. Mammography is offered every 3 years from age 50 to 65. The breast is positioned in the X-ray machine and compressed so that the breast tissue can be easily seen on the X-ray. Two X-rays are usually taken of each breast. The procedure is uncomfortable but lasts only a few seconds. If an abnormality is detected, you will need further tests such as aspiration (see *ASPIRATION OF A BREAST LUMP*, opposite) to determine the cause of the abnormality.



## SELF-HELP Premenstrual syndrome

Premenstrual syndrome is a group of symptoms, often including bloating, mood swings, and breast tenderness, that some women experience in the days leading up to a period. The following measures may help to prevent or relieve your symptoms:

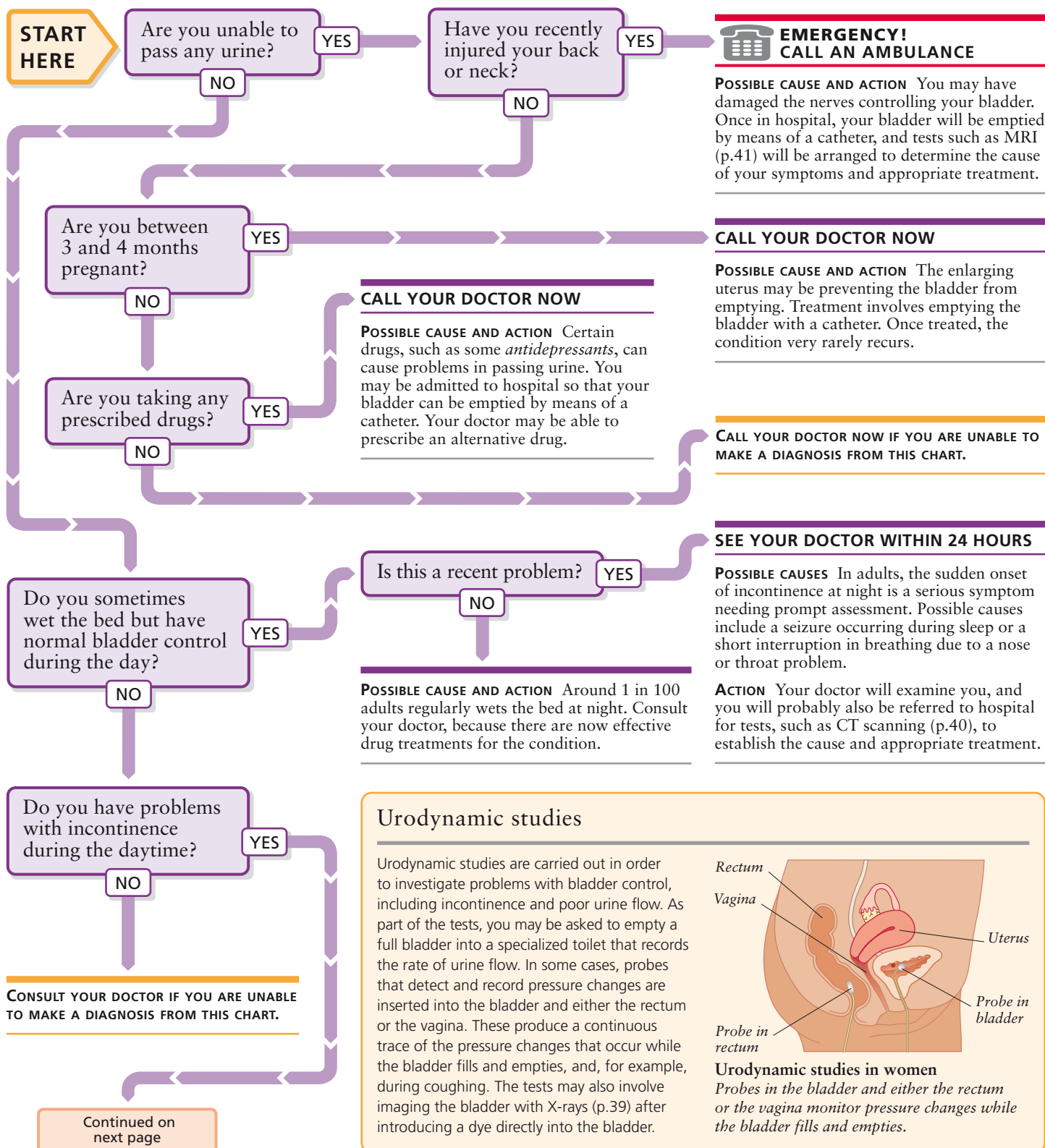
- If possible, keep stress to a minimum.
- Try relaxation exercises (p.32) or take up an exercise such as yoga.
- Eat little and often, including plenty of carbohydrates and fibre.
- Reduce your salt intake.
- Do not eat fried foods or excessive amounts of chocolate.
- Avoid drinks containing large amounts of caffeine, such as coffee, tea, and cola.
- Try taking the recommended daily allowance of a vitamin B<sub>6</sub> supplement.
- Try taking evening primrose oil, particularly in the days before your period.

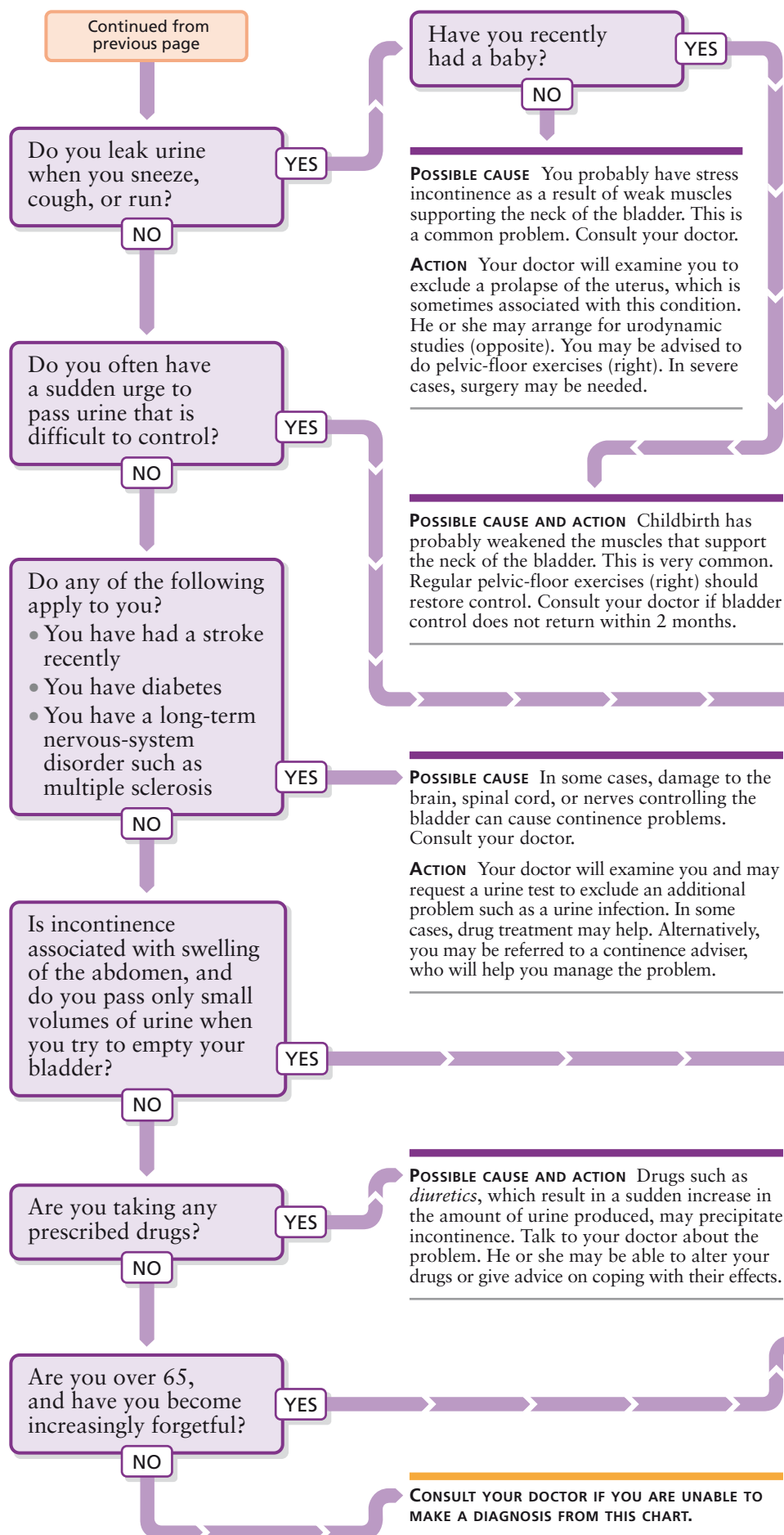
# 129 Bladder control problems in women

For other urinary problems, see chart 108, GENERAL URINARY PROBLEMS (p.224).

Bladder control problems affect 1 in 10 women. Incontinence, in which urine is passed involuntarily, is the most common

problem. This is often related to childbirth, but it may have other causes. Many effective treatments for incontinence are now available. Inability to pass any urine is a less common problem but always needs immediate medical attention.





## SELF-HELP Pelvic-floor strengthening exercises

Exercises can help strengthen the pelvic-floor muscles, which support the bladder, uterus, and rectum. If done regularly, they can help prevent and treat urinary incontinence.

You can perform pelvic-floor exercises lying down, sitting, or standing. In order to identify the pelvic-floor muscles, imagine that you are passing urine and have to stop suddenly midstream. The muscles that you feel tighten around the vagina, urethra, and rectum are the pelvic-floor muscles.

To strengthen the pelvic-floor muscles, contract them and hold them contracted for 10 seconds. Then relax the muscles slowly. Repeat this contraction and relaxation cycle 10 times. Practice your pelvic-floor exercises at least every hour during the day.

If you have been doing the exercises to treat bladder control problems, you should see an improvement within 2 weeks, but you will need to continue doing the exercises regularly to maintain the improvement.

**POSSIBLE CAUSE** You may have an irritable bladder, in which there is a strong urge to pass urine even when the bladder contains little urine. Consult your doctor.

**ACTION** Your doctor will examine you and test your urine to rule out an infection, which can cause similar symptoms. He or she may also arrange for bladder function tests (see URODYNAMIC STUDIES, opposite). In most cases, drug treatment to reduce the sensitivity of the bladder combined with exercises to increase the amount of urine that the bladder can hold without triggering the urge to pass urine will help to improve the symptoms.

**POSSIBLE CAUSE AND ACTION** You may have an obstruction to the outflow of the bladder, which is preventing the bladder from emptying normally. This causes the bladder to become overfull and results in urine leaking from the bladder. Constipation is a possible cause of the obstruction. Consult your doctor, who will probably arrange for tests to determine the underlying cause. He or she may refer you to hospital so that your bladder can be drained and for treatment of the blockage.

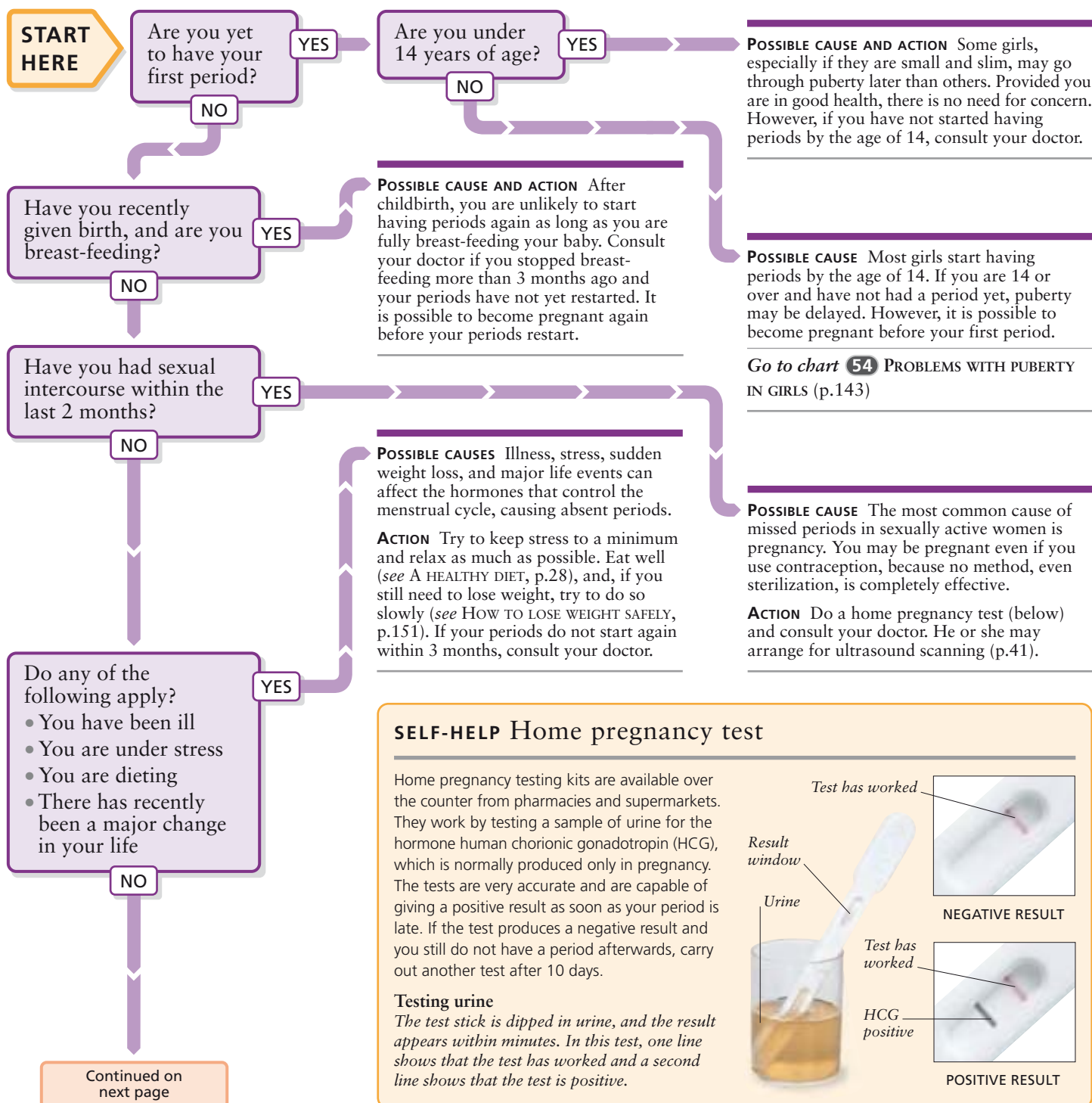
**POSSIBLE CAUSE** A decline in mental function with increasing age is associated with bladder control problems in certain circumstances. Consult your doctor.

**ACTION** Your doctor will examine you and may arrange for tests to exclude other causes. He or she may refer you to a trained continence adviser, who can advise you on ways of coping with the problem.

# 130 Absent periods

Menstruation normally starts between the ages of 11 and 14, although in girls who are below average height and/or weight it may not start until some time later. Once periods start, they may be irregular for the first few years and may not settle down to a regular monthly cycle until the late teens. Once the menstrual cycle is established, it varies in length among individual women from as little as 24 days between periods to about 35 days. Absence of periods

(amenorrhoea) may occur in healthy women for several reasons, the most common of which is pregnancy. Other factors that may affect your monthly cycle include illness, stress, and strenuous physical activity. It is normal for periods to cease permanently as you approach middle age. Only rarely is absence of periods a sign of an underlying disorder. Consult this chart if you have never had a period, or if your period is more than 2 weeks late.

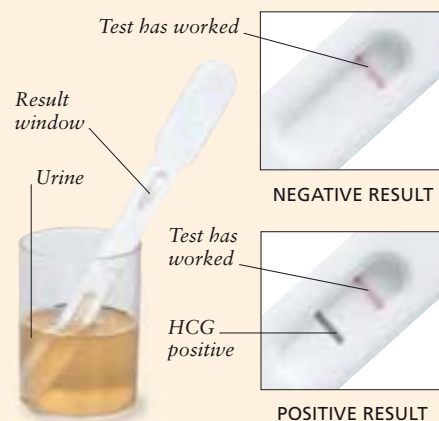


## SELF-HELP Home pregnancy test

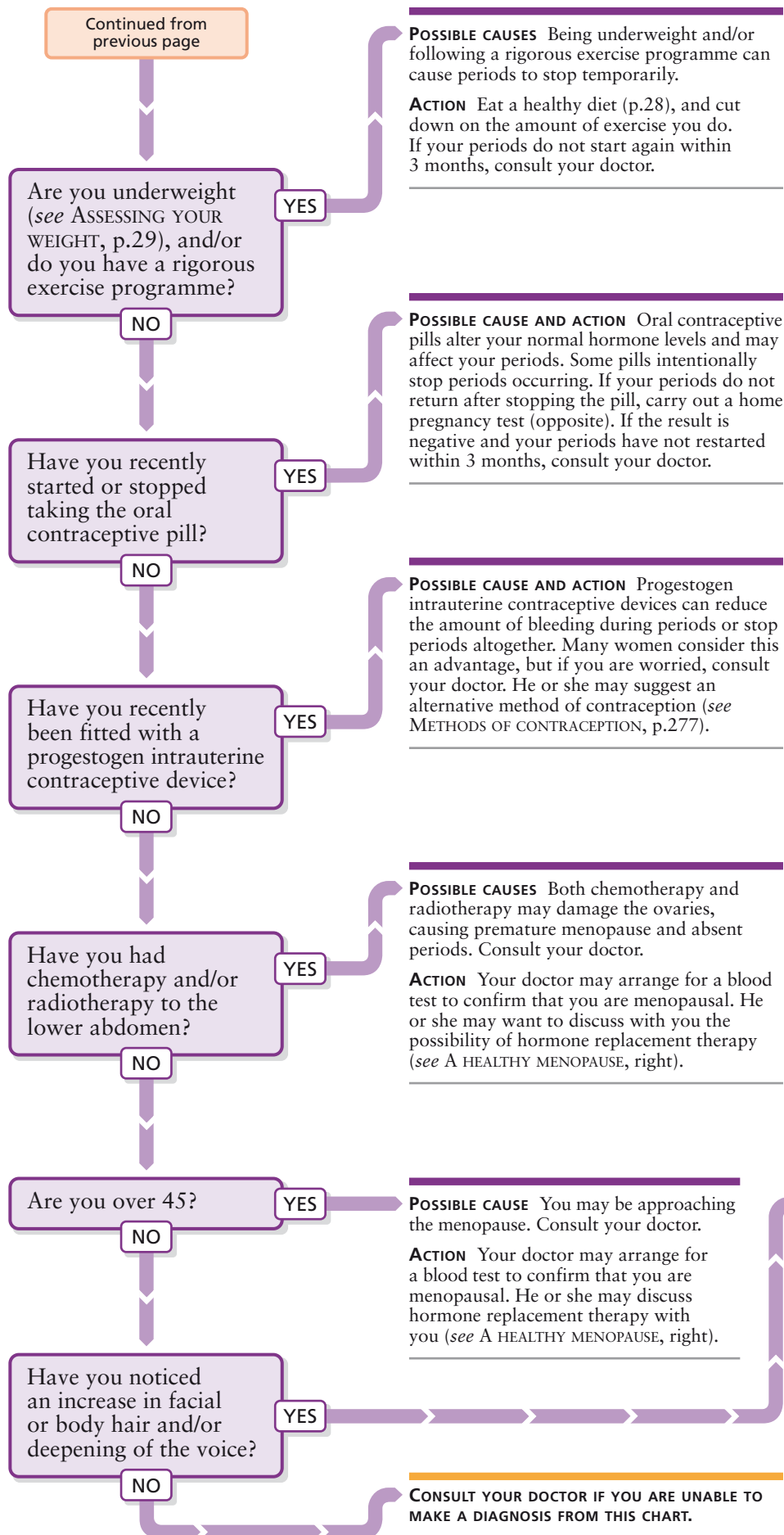
Home pregnancy testing kits are available over the counter from pharmacies and supermarkets. They work by testing a sample of urine for the hormone human chorionic gonadotropin (HCG), which is normally produced only in pregnancy. The tests are very accurate and are capable of giving a positive result as soon as your period is late. If the test produces a negative result and you still do not have a period afterwards, carry out another test after 10 days.

### Testing urine

The test stick is dipped in urine, and the result appears within minutes. In this test, one line shows that the test has worked and a second line shows that the test is positive.







## A healthy menopause

The menopause is the stage in a woman's life when periods stop, the ovaries no longer produce eggs, and the amount of the sex hormone oestrogen declines. It normally occurs between the ages of 45 and 55. Around 8 in 10 women have mild symptoms at menopause, but some may develop more severe problems, including hot flushes, mood swings, and night sweats. The decline in oestrogen levels also increases the risk of osteoporosis and heart disease in later life.

### Lifestyle changes

An adequate intake of calcium and regular weight-bearing exercise will help to reduce the risk of osteoporosis. Exercise also helps to protect against heart disease, as does stopping smoking and eating a healthy diet (p.28). It may be worth adding soya products to your diet – these have a natural oestrogen-boosting effect. If you suffer from mood swings, talk to your partner or to friends going through menopause. You may also find relaxation techniques helpful.

### Drug treatment

Talk to your doctor about hormone replacement therapy (HRT), which replaces diminishing oestrogen and helps to prevent heart disease and osteoporosis but slightly increases the risk of breast cancer. It is suitable for many, but not all, women.

### Keeping active

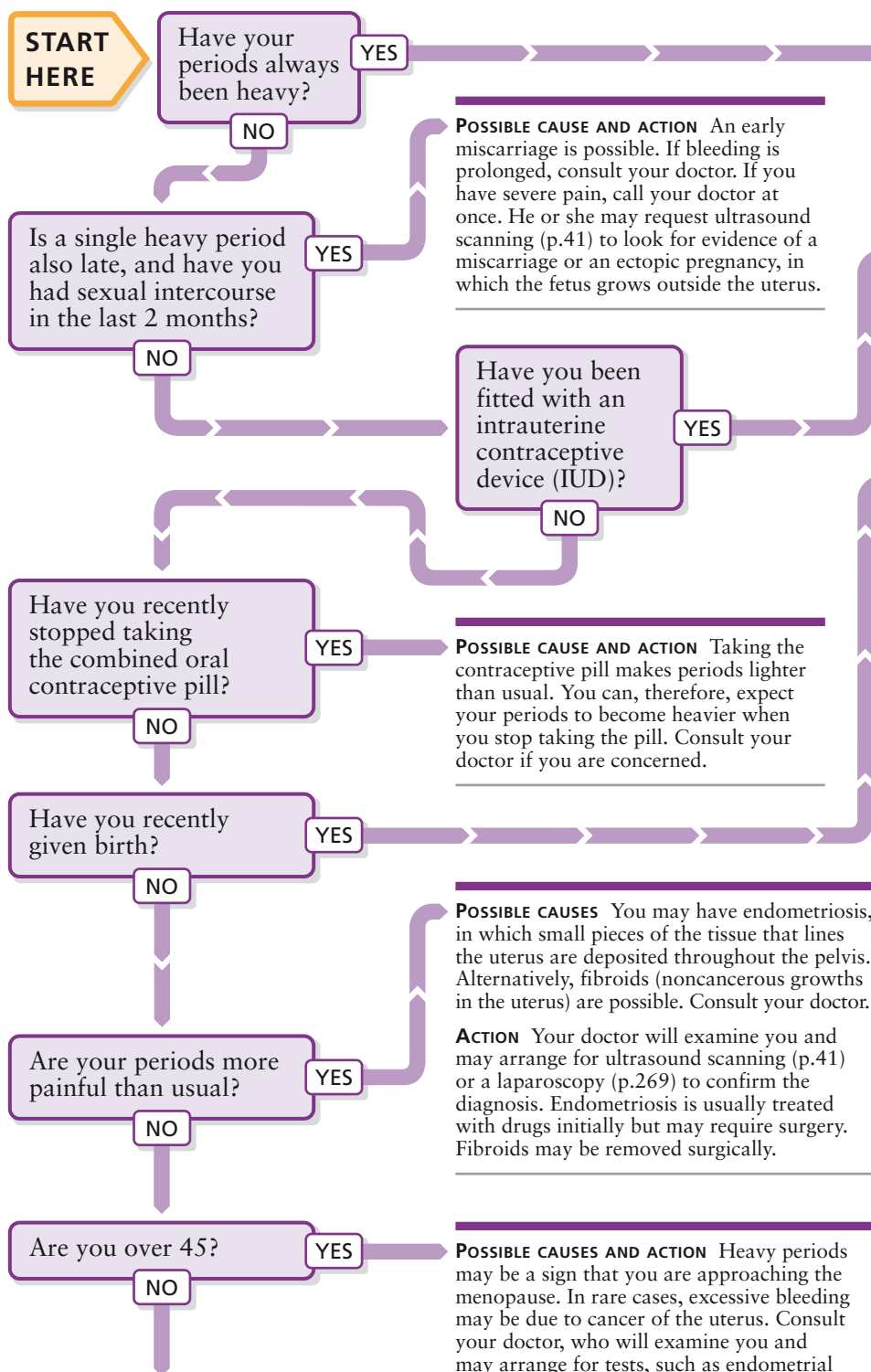
*Weight-bearing exercise, such as jogging, can help to prevent osteoporosis after menopause. Exercise is also good for the heart and has a positive effect on mood.*



# 131 Heavy periods

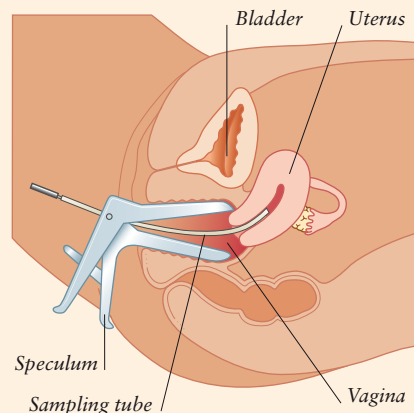
Heavy periods, also known as menorrhagia, are periods in which an excessive amount of blood is lost due to heavy or prolonged bleeding. For most women, bleeding lasts about 5 days. Consult this chart if your periods last longer than

this, if normal sanitary protection is insufficient, if you pass clots, or if your periods suddenly become heavier than usual. In most cases, the cause is not serious, but heavy periods can cause iron deficiency and lead to anaemia.



## Endometrial sampling

Endometrial sampling is carried out to find the cause of heavy or irregular vaginal bleeding. A speculum is used to hold the vagina open while a thin, flexible tube is passed into the uterus. Tissue samples from the endometrium (the lining of the uterus) are drawn into the tube and later examined under a microscope. The procedure may be uncomfortable but takes only a few minutes.



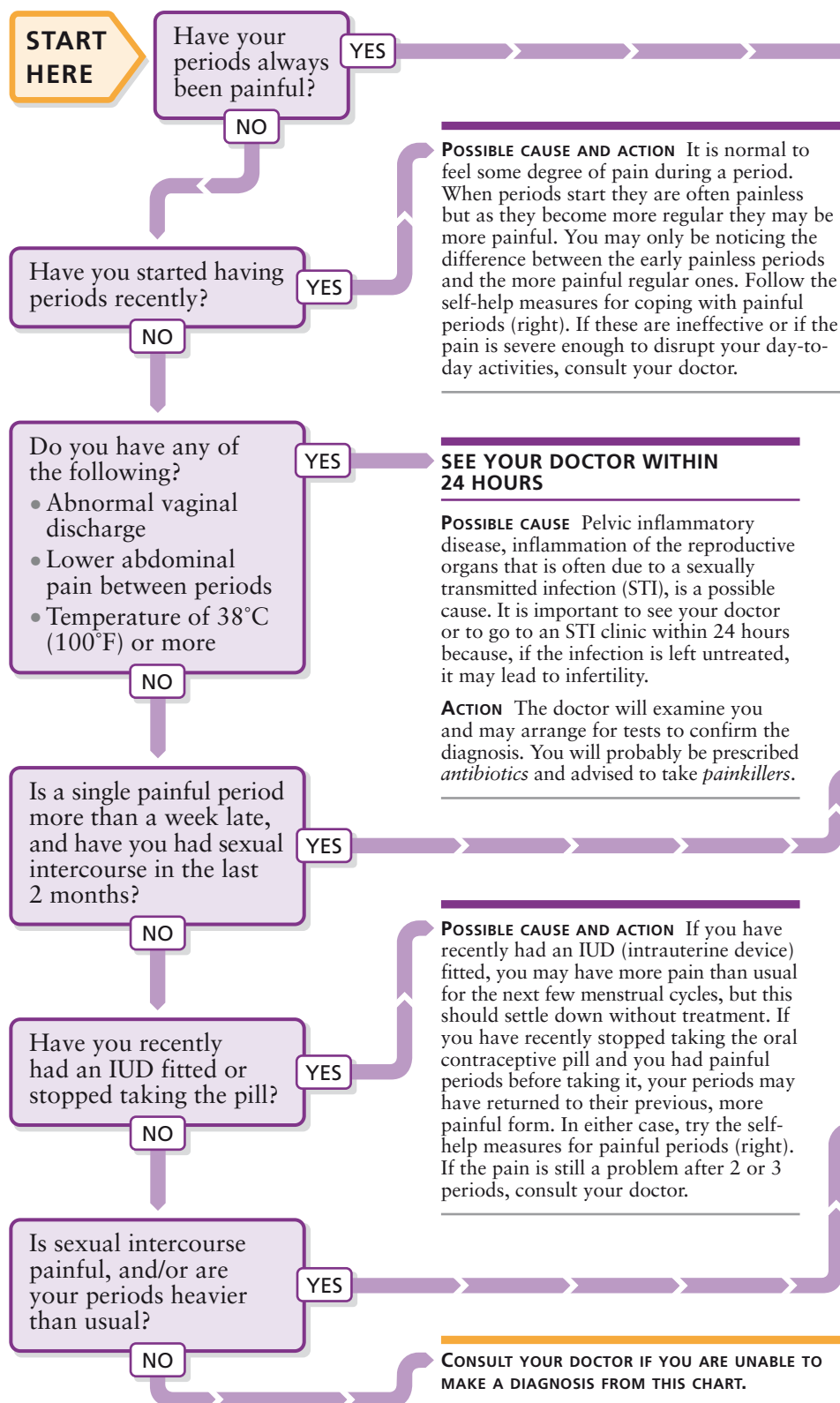
### During the procedure

A speculum is inserted into the vagina to hold it open. A sample of the tissue lining the uterus is then drawn into the sampling tube.

# 132 Painful periods

Many women experience some degree of pain or discomfort during menstrual periods. The pain – sometimes known as dysmenorrhoea – is usually cramping and is felt in the lower abdomen or back. In most cases, painful periods

are not due to an underlying disorder and do not disrupt everyday activities. However, if you suffer from severe pain or if your periods suddenly become much more painful than usual, you should consult your doctor.



**POSSIBLE CAUSE** Some women have naturally painful periods. This type of period pain tends to lessen after the age of 25 and often becomes less severe after childbirth.

**ACTION** Try self-help measures for coping with painful periods (below). If these are ineffective or if the pain is severe enough to disrupt your day-to-day activities, consult your doctor.

## SELF-HELP Coping with painful periods

Period pain is common; 3 out of 4 women experience it at some time. If you have painful periods, the following self-help measures may be helpful:

- Take over-the-counter *painkillers*. *Nonsteroidal anti-inflammatory drugs*, such as ibuprofen, are usually more effective than paracetamol.
- Hold a covered hot-water bottle against your abdomen or lower back.
- Try relaxing in a hot bath.
- Take some exercise, which will often help to relieve the pain.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** You may be having an early miscarriage. However, if the pain is severe, it could be due to an ectopic pregnancy, in which the fetus begins to develop outside the uterus.

**ACTION** Your doctor will probably send you to hospital for tests, including ultrasound scanning (p.41). There is little that can be done to prevent a miscarriage, but you may be given *painkillers*. If you have an ectopic pregnancy, you may need drug treatment or an operation to remove the pregnancy under general anaesthetic.

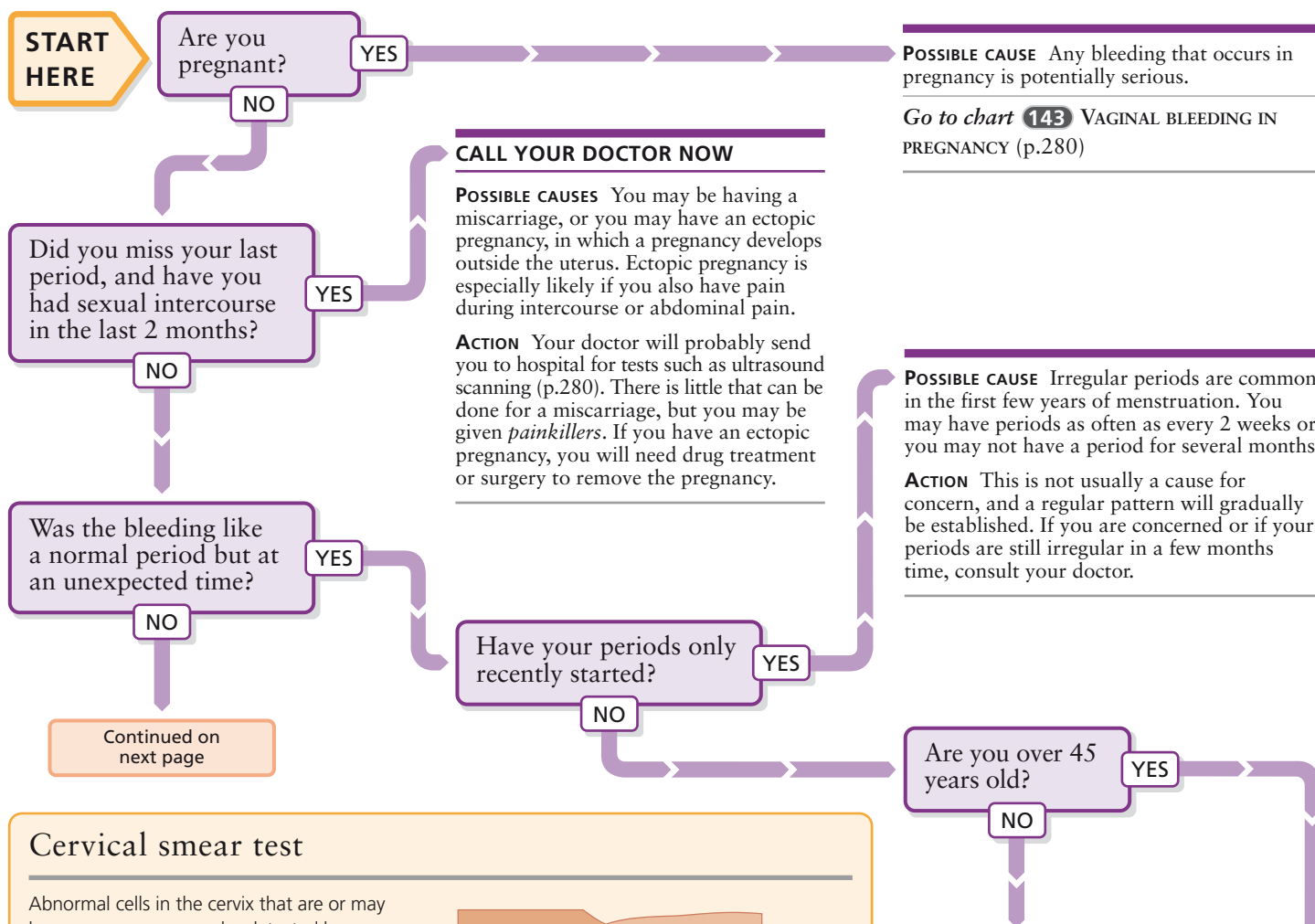
**POSSIBLE CAUSES** Endometriosis may be the cause. In this condition, small pieces of the tissue that normally lines the uterus are deposited throughout the pelvis. Alternatively, fibroids, noncancerous growths in the uterus, are a possibility. Consult your doctor.

**ACTION** Your doctor will examine you and may refer you for ultrasound scanning (p.41) or a laparoscopy (p.269) to confirm the diagnosis. Endometriosis is usually treated with drugs initially but may require surgery. Fibroids may be removed surgically.

# 133 Irregular vaginal bleeding

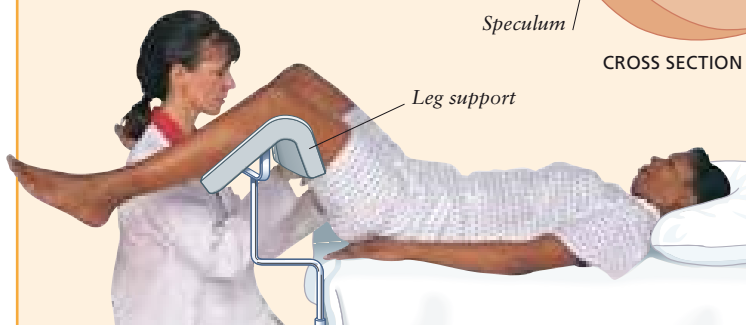
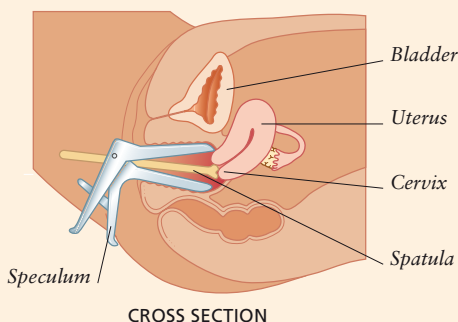
Irregular vaginal bleeding includes any bleeding outside the normal menstrual cycle or after the menopause. The bleeding may consist of occasional light “spotting”, or it may be heavier. Although there is often a simple explanation, you

should always consult your doctor if you have any abnormal vaginal bleeding. Bleeding between periods or after sexual intercourse may be a sign of a serious underlying disorder and should be investigated by your doctor.



## Cervical smear test

Abnormal cells in the cervix that are or may become cancerous can be detected by a cervical smear test, which may be performed for screening (see COMMON SCREENING TESTS, p.36). The procedure is painless and quick. Cells are collected from the cervix using a spatula and placed on a slide for examination under a microscope. If abnormal cells are detected, a colposcopy (opposite) may be needed.



**During the procedure**  
An instrument called a speculum is used to hold the vagina open while cells are collected from the cervix with a spatula.



Continued from  
previous pageDoes the unexpected  
bleeding occur only in  
the first few hours after  
sexual intercourse?

YES

NO

Are you over 45, and is  
it more than 6 months  
since your last period?

YES

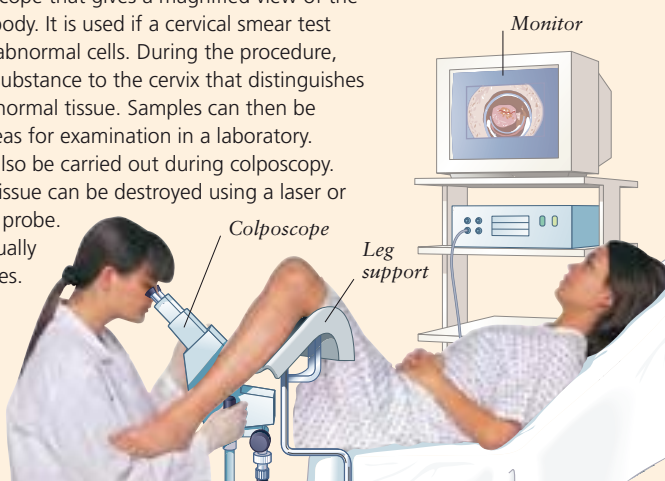
NO

## Colposcopy

A colposcope is a microscope that gives a magnified view of the cervix from outside the body. It is used if a cervical smear test (opposite) has detected abnormal cells. During the procedure, the doctor may apply a substance to the cervix that distinguishes between normal and abnormal tissue. Samples can then be taken from abnormal areas for examination in a laboratory. Various treatments can also be carried out during colposcopy. For example, abnormal tissue can be destroyed using a laser or by freezing tissue with a probe. The whole procedure usually takes less than 40 minutes.

### During the procedure

The vagina is held open by a speculum, and the doctor inspects the cervix through the colposcope. A monitor may display the image.

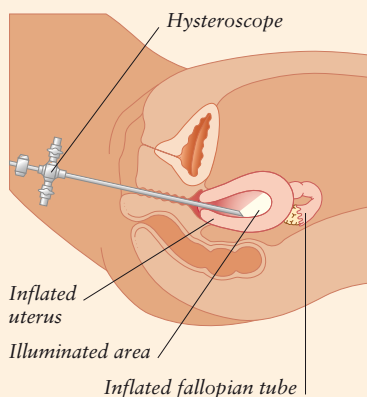


**POSSIBLE CAUSES** You may have cervical ectropion (also known as cervical erosion). In this condition, the delicate cells on the inner lining of the cervix extend on to its surface. Rarely, the bleeding may result from abnormal cells that are associated with cancer of the cervix. Consult your doctor.

**ACTION** Your doctor will examine you and may carry out a cervical smear test (opposite). Cervical ectropion may need no treatment or may be treated by freezing the cells using a probe. If abnormal cells are present, treatment will depend on the results of colposcopy (above), but may include laser surgery.

## Hysteroscopy

In hysteroscopy, a viewing instrument called a hysteroscope is used to examine the inside of the uterus and detect disorders such as uterine polyps. The hysteroscope is introduced through the vagina and cervix under local or general anaesthesia. The lining of the uterus can be inspected, and treatments such as removal of a polyp may be carried out during the procedure; it usually takes less than 15 minutes to perform.



### During the procedure

Gas is passed through the hysteroscope to inflate the uterus and the fallopian tubes. A light illuminates the area.

**POSSIBLE CAUSES** Bleeding that occurs more than 6 months after the last period is known as postmenopausal bleeding. Most commonly, the bleeding is from the walls of the vagina, which become fragile in the absence of oestrogen. Less commonly, polyps inside the uterus or cancer of the uterus or cervix may be the cause. Consult your doctor.

**ACTION** Your doctor will examine you and carry out a cervical smear test (opposite). He or she may also refer you for tests such as hysteroscopy (left) or endometrial sampling (p.262). For bleeding from the vagina, your doctor may suggest hormone replacement therapy or local oestrogen creams. Polyps can often be removed during hysteroscopy. If cancer of the uterus or cervix is diagnosed, you will probably need a hysterectomy.

Are you taking the  
oral contraceptive pill,  
or have you had a  
progestogen intrauterine  
contraceptive device  
(IUS) fitted recently?

YES

NO

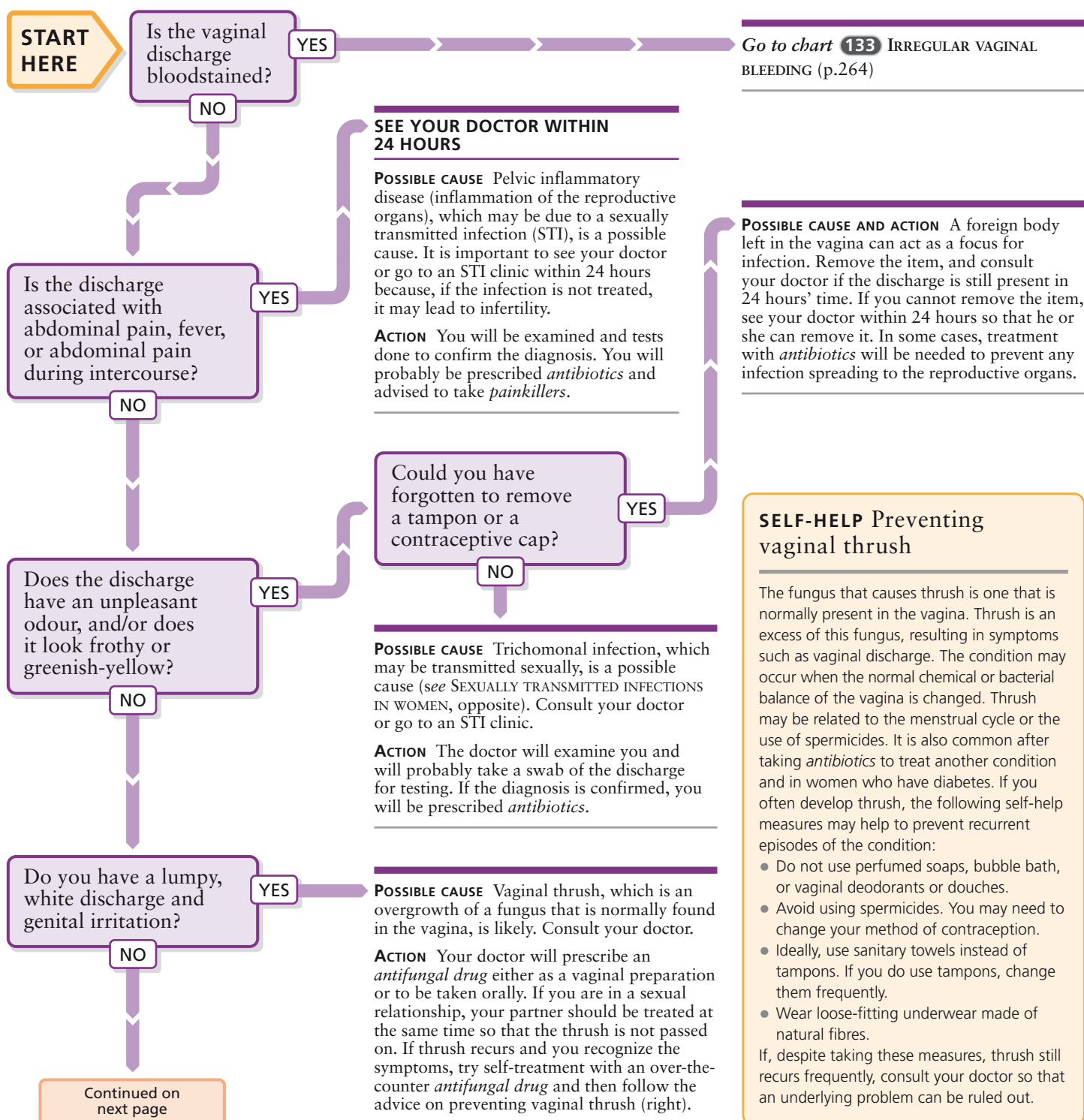
**POSSIBLE CAUSES AND ACTION** Some irregular bleeding may occur in the first few months after starting the oral contraceptive pill or having a progestogen intrauterine contraceptive device (IUS) fitted. Despite the bleeding, you are still protected against pregnancy. If abnormal bleeding persists for more than a few months or develops when there have previously been no problems, consult your doctor, who may suggest an alternative contraceptive method (see METHODS OF CONTRACEPTION, p.277).

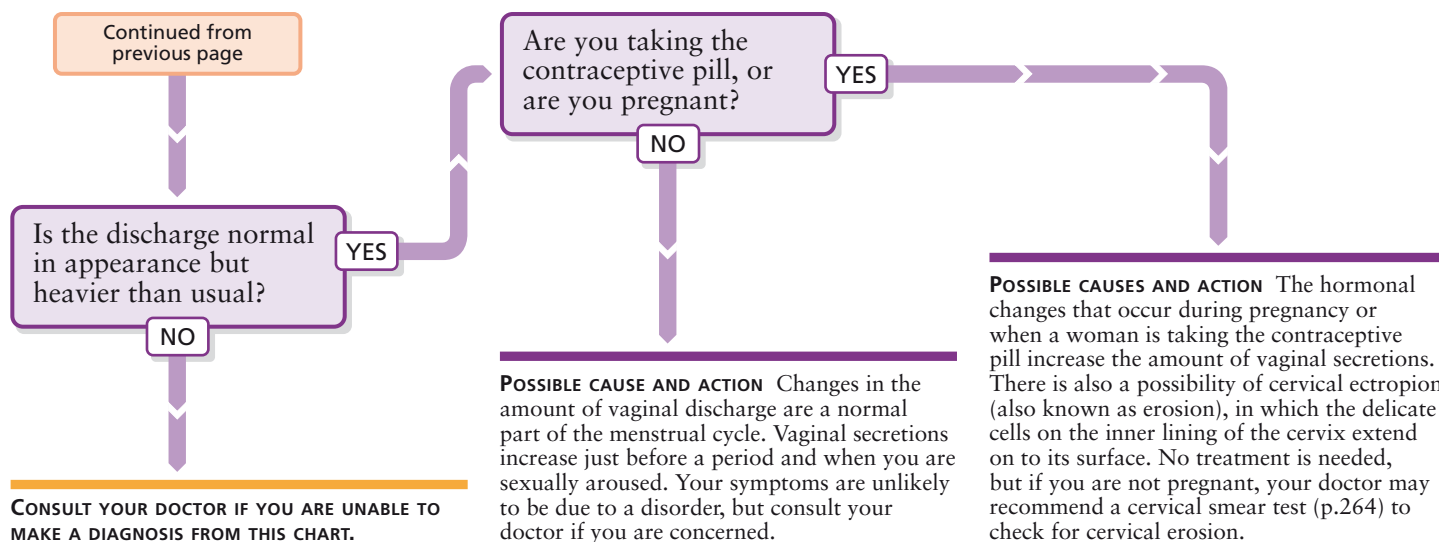
**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO  
MAKE A DIAGNOSIS FROM THIS CHART.**

# 134 Abnormal vaginal discharge

Consult this chart if you notice an increase in your vaginal discharge or a change in its colour, consistency, or smell. Secretions from the walls of the vagina and the cervix keep the vagina moist and clean. The secretions usually produce a thin yellowish-white discharge that varies in quantity and consistency during the menstrual cycle. The volume of secretions increases at times of sexual arousal and during

pregnancy. This is completely normal and is no cause for concern. However, a sudden increase in the amount of vaginal discharge for no obvious reason or vaginal discharge that looks abnormal or smells unpleasant may be a sign of an infection. If the abnormal discharge is accompanied by abdominal pain and/or fever, the infection may involve the reproductive organs and needs urgent treatment.





## Sexually transmitted infections in women

Infections passed from one person to another during sexual intercourse (vaginal, anal, or oral) are known as sexually transmitted infections (STIs). Although these infections affect both men and women, the symptoms are often different (see SEXUALLY TRANSMITTED INFECTIONS IN MEN, p.245). The symptoms may also affect different areas of the body depending on which type of sexual contact you have had. Even when there are few symptoms, infection can spread from the vagina to all of the reproductive organs and

may cause permanent damage if left untreated. An STI contracted during pregnancy may affect the fetus before birth, or the baby may acquire the infection during delivery. If you think you or your partner has an STI, you should consult your doctor or go to a sexually transmitted infections clinic at a local hospital, where you will be treated in confidence. You should avoid sex until your doctor confirms that the infection has cleared up. The risk of contracting an STI can be reduced by practising safe sex (p.32).

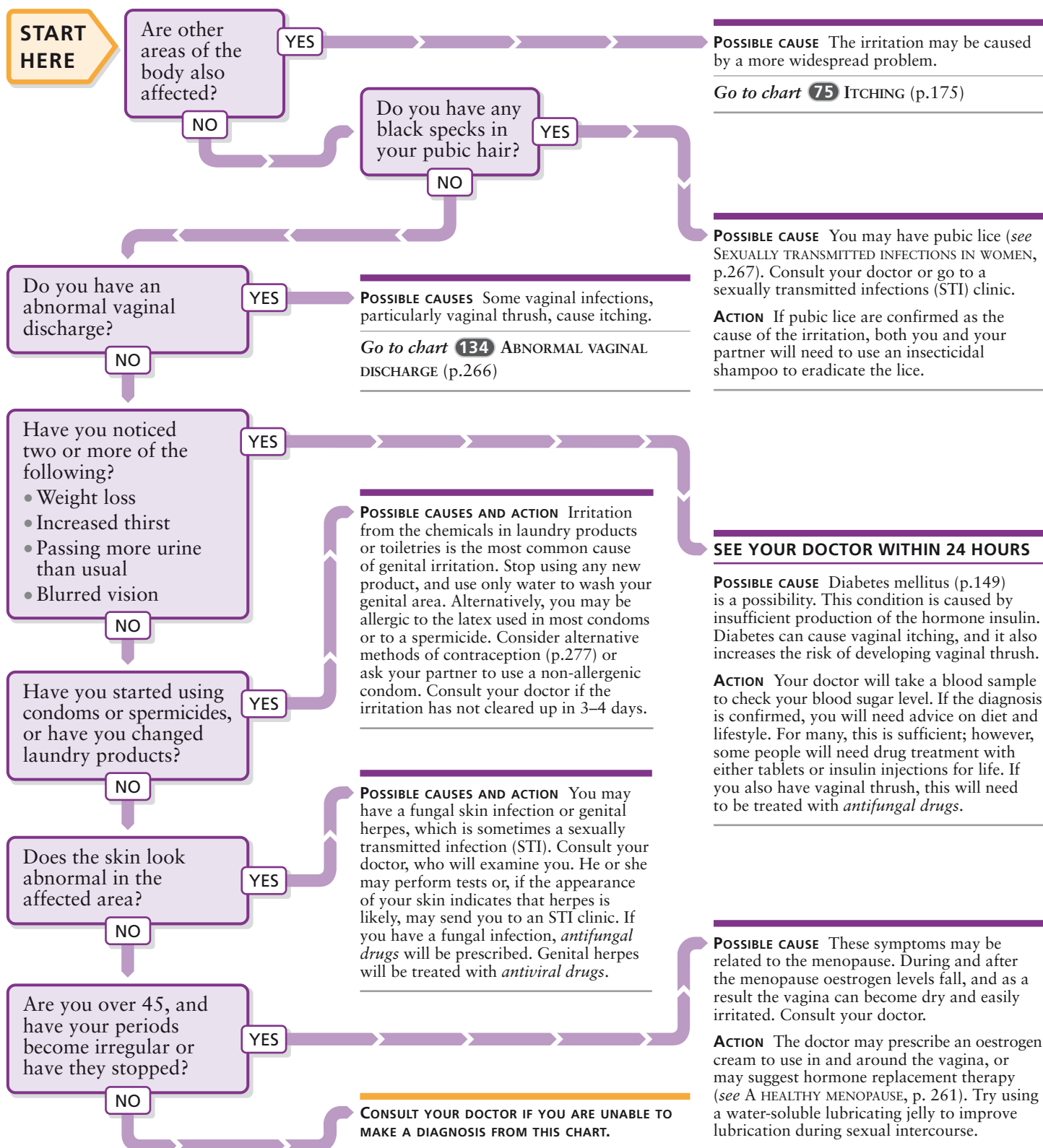
Infection	Incubation period*	Symptoms in women	Diagnosis and treatment
Chlamydial infection	14–21 days	Often causes few or no symptoms. There may be an abnormal vaginal discharge or pain on passing urine. If the infection affects the fallopian tubes, there may be fever, abdominal pain, or pain on intercourse.	The doctor will take a swab from the cervix to identify the infectious organism. Treatment is usually with <i>antibiotics</i> .
Genital herpes	4–7 days	There is usually soreness or itching in the genital area or on the thighs, followed by the appearance of a crop of small, painful blisters. The blisters burst to produce shallow ulcers, which are painful when urinating. The ulcers heal after 10–21 days. The condition may recur.	The diagnosis is usually made according to the appearance of the skin. Oral <i>antiviral drugs</i> taken early shorten episodes but do not eradicate the virus. Genital herpes is most infectious while the ulcers are present, but in some cases can remain infectious after the ulcers heal.
Genital warts	1–20 months	Pink, fleshy lumps on the vulva, and in some cases, inside the vagina, on the cervix, and around the anus. Warts may go unnoticed if they occur internally.	Warts may be removed by surgery or by applying drugs to them. In some cases, they recur after treatment. Regular cervical smear tests (p.264) are needed because some types of genital wart may be associated with cervical cancer.
Gonorrhoea	7–21 days	May be symptomless in women. It may cause abnormal vaginal discharge, lower abdominal pain, and fever. If there is rectal infection, there may be pain when passing faeces.	The doctor will take a swab from the vagina or the rectum to identify the infectious organism. Treatment is with <i>antibiotics</i> .
HIV infection	6–8 weeks	May be no initial symptoms, but some people may have a brief flu-like illness, sometimes with a rash and swollen lymph nodes. After years without symptoms, AIDS may develop (see HIV INFECTION AND AIDS, p.148). HIV can be passed on whether or not you have symptoms.	Diagnosis is made by a blood test taken 3 or more months after the initial infection. People with HIV infection are usually referred to special centres for treatment. Combinations of <i>antiviral drugs</i> are often effective in delaying the progression of HIV to AIDS.
Pubic lice	0–17 days	Usually there is intense itching in the pubic region, particularly at night. The lice are 1–2 mm long and may be visible.	Treatment is with a lotion that kills the lice and their eggs. Such lotions can be bought over the counter.
Syphilis	1–12 weeks	In the first stage, a highly infectious, painless sore called a chancre develops in the genital area or inside the vagina. In some cases, the sores go unnoticed. If the condition is left untreated, it can progress to involve internal organs, causing a rash, fever, and swollen lymph nodes.	The disease is diagnosed by blood tests and tests on swabs taken from any sores. The usual treatment is a course of <i>antibiotic injections</i> . You will need to have regular blood tests for 2 years after the treatment to check that the disease has not recurred.
Trichomonal infection	Variable	An unpleasant-smelling, greenish-yellow vaginal discharge, associated with irritation and soreness around the vagina. Pain on intercourse.	The diagnosis is confirmed by examination of a sample of discharge taken from the vagina. The usual treatment is with oral <i>antibiotics</i> .

\*Time between contact with the disease and the appearance of symptoms

# 135 Genital irritation

Consult this chart if you are suffering from itching and/or discomfort in the vagina or around the vulva (the external genital area). Such irritation may also cause stinging when you pass urine and may make sexual intercourse uncomfortable.

In many cases, these symptoms are the result of an infection, but an allergic reaction is another common cause. Scented soaps, vaginal deodorants, and douches can often cause irritation, and you should avoid using them.



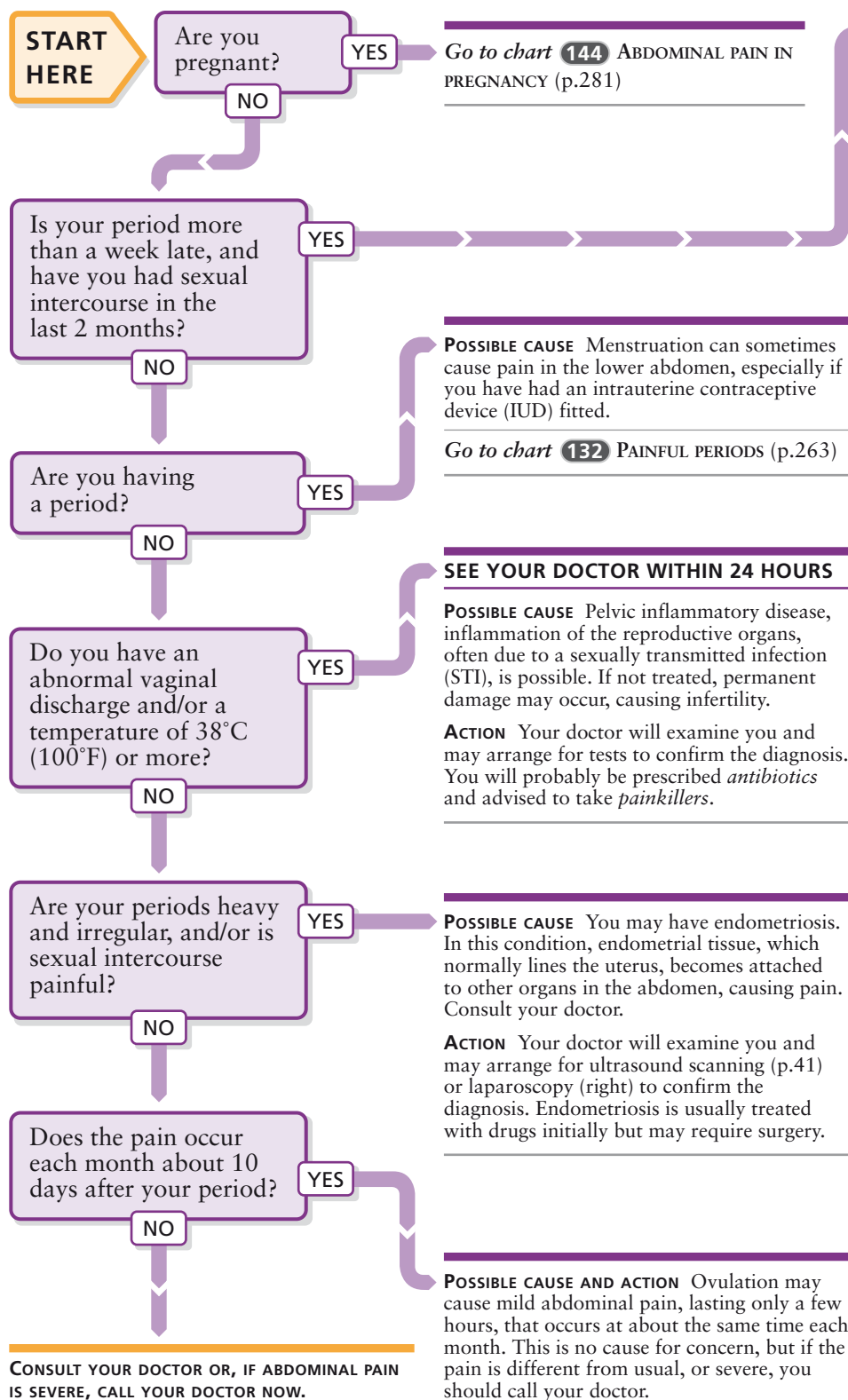


# 136 Lower abdominal pain in women

Consult this chart only after reading chart 100, ABDOMINAL PAIN (p.214).

Disorders affecting the urinary tract or the intestine may cause abdominal pain in both men and women but there are

also several disorders causing lower abdominal pain that are specific to women. These disorders affect the female reproductive organs, such as the ovaries, uterus, and the fallopian tubes. Some of them may need medical attention.



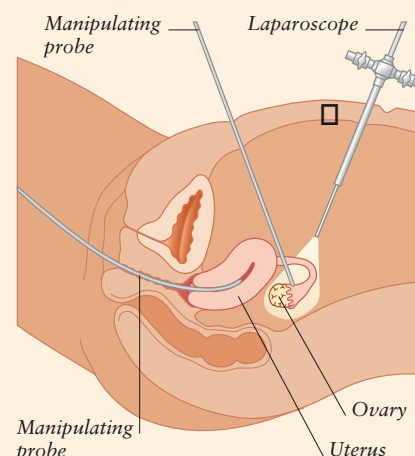
## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSES** You may be pregnant and having a miscarriage, or you may have an ectopic pregnancy, in which a pregnancy develops outside the uterus.

**ACTION** Your doctor will probably send you to hospital for ultrasound scanning (p.41). There is little that can be done to prevent a miscarriage, but you may be given *painkillers*. If you have an ectopic pregnancy, you may need drug treatment or an operation under general anaesthetic.

## Laparoscopy

Laparoscopy is a procedure in which a rigid, tube-like viewing instrument is introduced into the abdomen through a small incision. It may be performed to look for disorders of the female reproductive organs, such as endometriosis, or to investigate other abdominal disorders, such as appendicitis, it is also used to take tissue samples or carry out surgery. Before the laparoscope is inserted, gas is pumped through the incision to make viewing easier. Tools for performing procedures may be introduced through another small incision in the abdomen or through the vagina. The procedure is done under general anaesthetic.



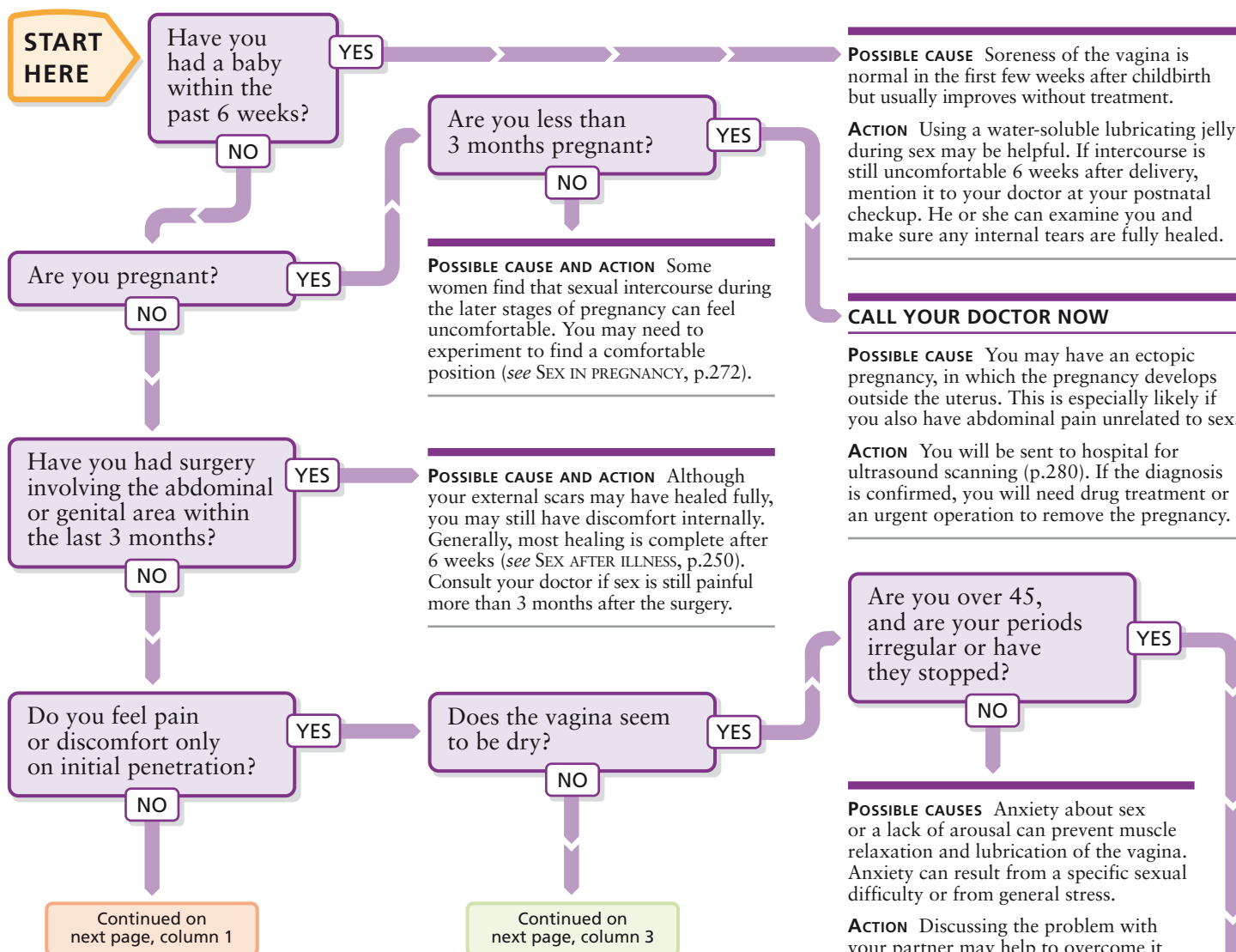
### Laparoscopy to view the ovaries

The laparoscope is inserted through a small incision to give an illuminated view of the ovaries. Probes are used to move organs or manipulate the ovaries for better viewing.

# 137 Painful intercourse in women

Consult this chart if sexual intercourse is painful. Feeling pain or discomfort in or around the vagina at the time of penetration or during or following intercourse is a relatively common problem in women. It may occur for a variety of

physical or emotional reasons. Whatever the reason, you should seek medical advice, because persistent pain during intercourse will affect your desire for sex and may damage your relationship with your partner.



## Sex in later life

Both partners should be able to continue enjoying the full range of physical and emotional sexual feelings despite increasing age.

After the menopause, some women find that sexual intercourse is uncomfortable as a result of reduced vaginal lubrication due to a fall in levels of oestrogen. In the short term, using a water-soluble lubricant jelly and adapting sexual techniques are often the best solutions. In the long term, vaginal dryness can sometimes be helped by hormone replacement therapy (*see A HEALTHY MENOPAUSE, p.261*).

As a man ages, it may take longer to get an erection, which may not be as stiff as in the past. Ejaculation may also be slightly delayed. However, these issues are often compensated for by increased experience and confidence.

If either partner has a disabling disease, experimenting with different positions and forms of sexual contact may help. Some people who have had sexual problems in the past use age as an excuse to avoid sex, but it is never too late to seek counselling for a problem and age is not a bar to receiving treatment.

Continued from  
previous page, column 1Do you have a  
fever and/or an  
abnormal vaginal  
discharge?

YES

**SEE YOUR DOCTOR WITHIN  
24 HOURS****POSSIBLE CAUSE** You may have pelvic inflammatory disease, inflammation of the reproductive organs due to an infection.**ACTION** Your doctor will examine you and may arrange for tests to confirm the diagnosis. You will probably be prescribed *antibiotics* and advised to take *painkillers*.

NO

Are your periods  
irregular, heavy,  
and/or painful?

YES

**POSSIBLE CAUSE** You may have endometriosis, in which small pieces of the tissue normally lining the uterus become attached to organs in the pelvic cavity. Consult your doctor.**ACTION** Your doctor will examine you and may arrange for a laparoscopy (p.269) to confirm the diagnosis. Treatment is usually with drugs and/or surgery.

NO

Do you feel  
pain only  
when having  
intercourse in  
certain positions?

YES

**POSSIBLE CAUSES** The pain may be caused by pressure on an ovary during intercourse. However, an ovarian cyst is also a possibility. Consult your doctor.**ACTION** Your doctor will examine you and may arrange for you to have ultrasound scanning (p.41) or a laparoscopy (p.269), which will determine what treatment, if any, you will need.

NO

**CONSULT YOUR DOCTOR IF YOU  
ARE UNABLE TO MAKE A DIAGNOSIS  
FROM THIS CHART.**Continued from  
previous page, column 2Do you have  
vaginal irritation  
with or without  
a discharge?

YES

**POSSIBLE CAUSES** You may have a vaginal infection, such as thrush or a sexually transmitted infection (p.267). Consult your doctor.**ACTION** Your doctor will examine you. If you have thrush, you will be prescribed an *antifungal drug* and advised on measures for preventing vaginal thrush (p.266). If a sexually transmitted infection (STI) is possible, your doctor may refer you to an STI clinic for tests and appropriate treatment.

NO

Have you just  
had sexual  
intercourse for  
the first time?

YES

**POSSIBLE CAUSE** It is relatively common for women to feel some pain when they first have sexual intercourse. This is especially likely if the hymen, the membrane that partially covers the opening to the vagina, is still intact.**ACTION** Try using a water-soluble lubricating jelly before intercourse. Sex should become less painful on subsequent occasions.

NO

Have you had  
prolonged,  
particularly  
vigorous, or  
very frequent  
intercourse?

YES

**POSSIBLE CAUSE AND ACTION** Soreness of the genital area may occur after very frequent sex and is sometimes associated with urinary symptoms. This is usually no cause for concern. If soreness is severe, abstaining from sex for a few days should help.

NO

Is penetration  
too painful  
for sexual  
intercourse  
to occur at all?

YES

**POSSIBLE CAUSE** You may have vaginismus, a condition in which the muscles around the vagina go into spasm, making intercourse painful or impossible. It is usually caused by anxieties relating to sexual issues or, occasionally, by a physical disorder, in which the vagina is abnormally narrowed. Consult your doctor.**ACTION** Your doctor will look for any physical problems that could be making sexual intercourse painful. If no physical problems can be found, your doctor will probably refer you to a specialist for treatment (see TREATMENTS FOR VAGINISMUS, left).

NO

**CONSULT YOUR DOCTOR IF YOU  
ARE UNABLE TO MAKE A DIAGNOSIS  
FROM THIS CHART.**

## Treatments for vaginismus

Vaginismus is a condition in which the muscles around the vagina go into spasm, preventing penetration. In one method of treatment, the woman inserts dilators of gradually increasing diameter into her vagina. This can help to allay fears about the ability of the vagina to stretch sufficiently to allow penetration. Vaginismus and some other sexual

problems that affect women often have a psychological basis. Sexual counselling can often help to resolve fears or unreconciled past sexual traumas and so treat the condition.

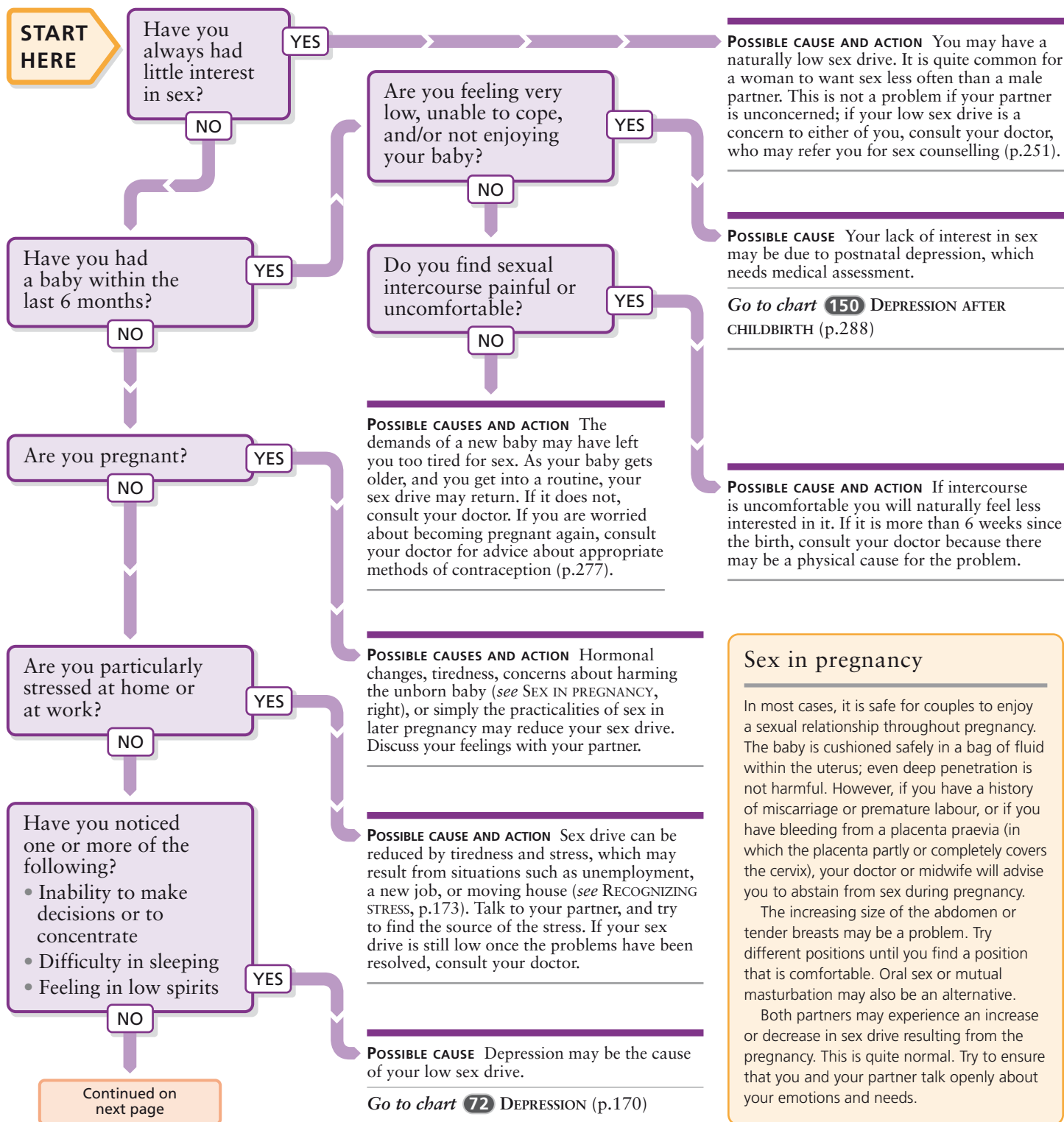
**Counselling**  
Talking about  
your problem to a  
counsellor may be  
an important part  
of your treatment.



# 138 Low sex drive in women

Some women feel the need for sex once or twice a week or less, others every day. All points in this range are normal. However, a sudden decrease in your normal level of sexual desire may be a sign of a problem. There may be a physical cause – for example, an infection that makes intercourse uncomfortable can reduce your sex drive. In many cases,

low sex drive has a psychological cause, such as stress, depression, or anxiety about a specific sexual difficulty. Consult this chart if you are concerned that your interest in sex is abnormally low or you notice that you are not as easily aroused as you used to be. A delay in seeking help could damage the relationship with your partner.



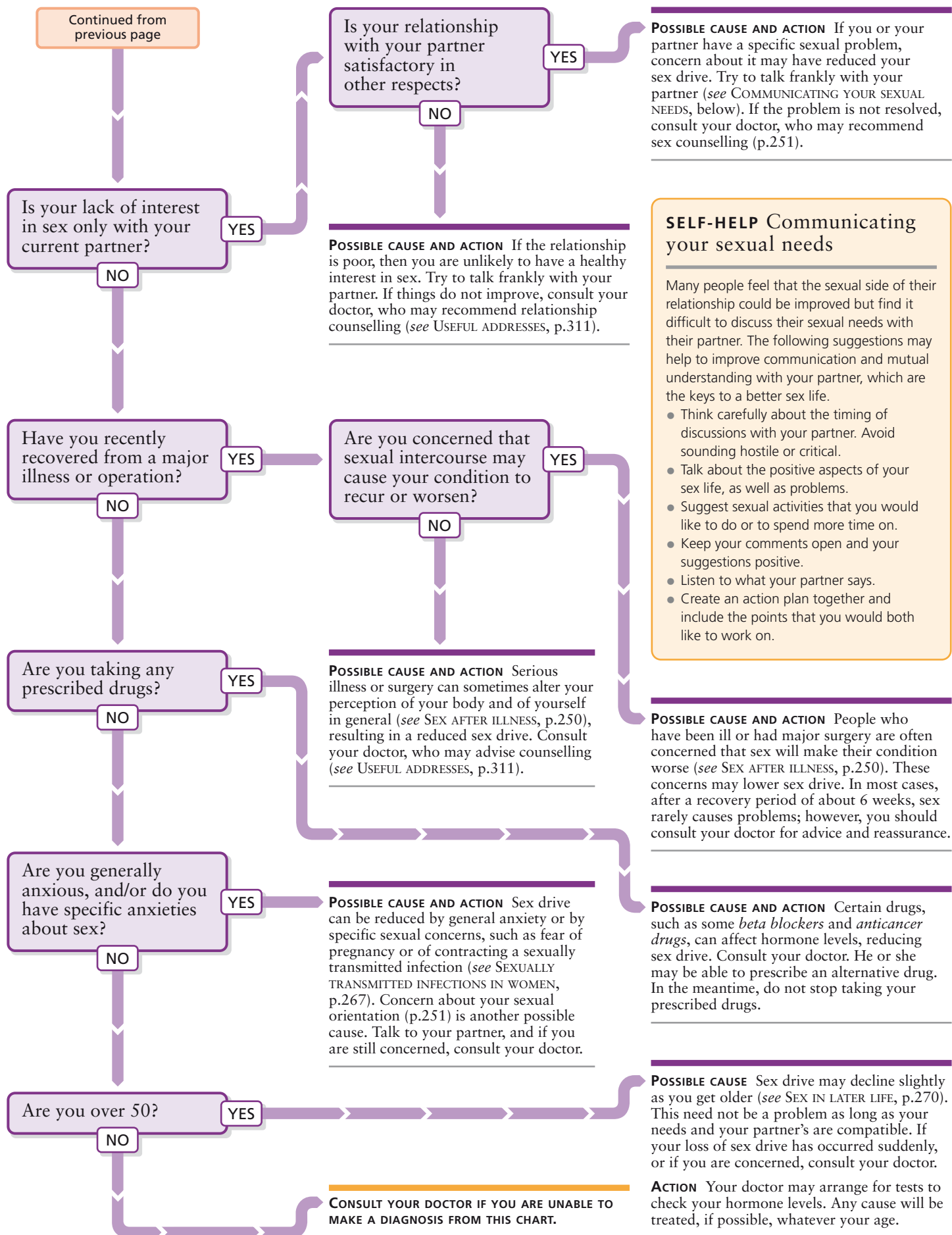
## Sex in pregnancy

In most cases, it is safe for couples to enjoy a sexual relationship throughout pregnancy. The baby is cushioned safely in a bag of fluid within the uterus; even deep penetration is not harmful. However, if you have a history of miscarriage or premature labour, or if you have bleeding from a placenta praevia (in which the placenta partly or completely covers the cervix), your doctor or midwife will advise you to abstain from sex during pregnancy.

The increasing size of the abdomen or tender breasts may be a problem. Try different positions until you find a position that is comfortable. Oral sex or mutual masturbation may also be an alternative.

Both partners may experience an increase or decrease in sex drive resulting from the pregnancy. This is quite normal. Try to ensure that you and your partner talk openly about your emotions and needs.



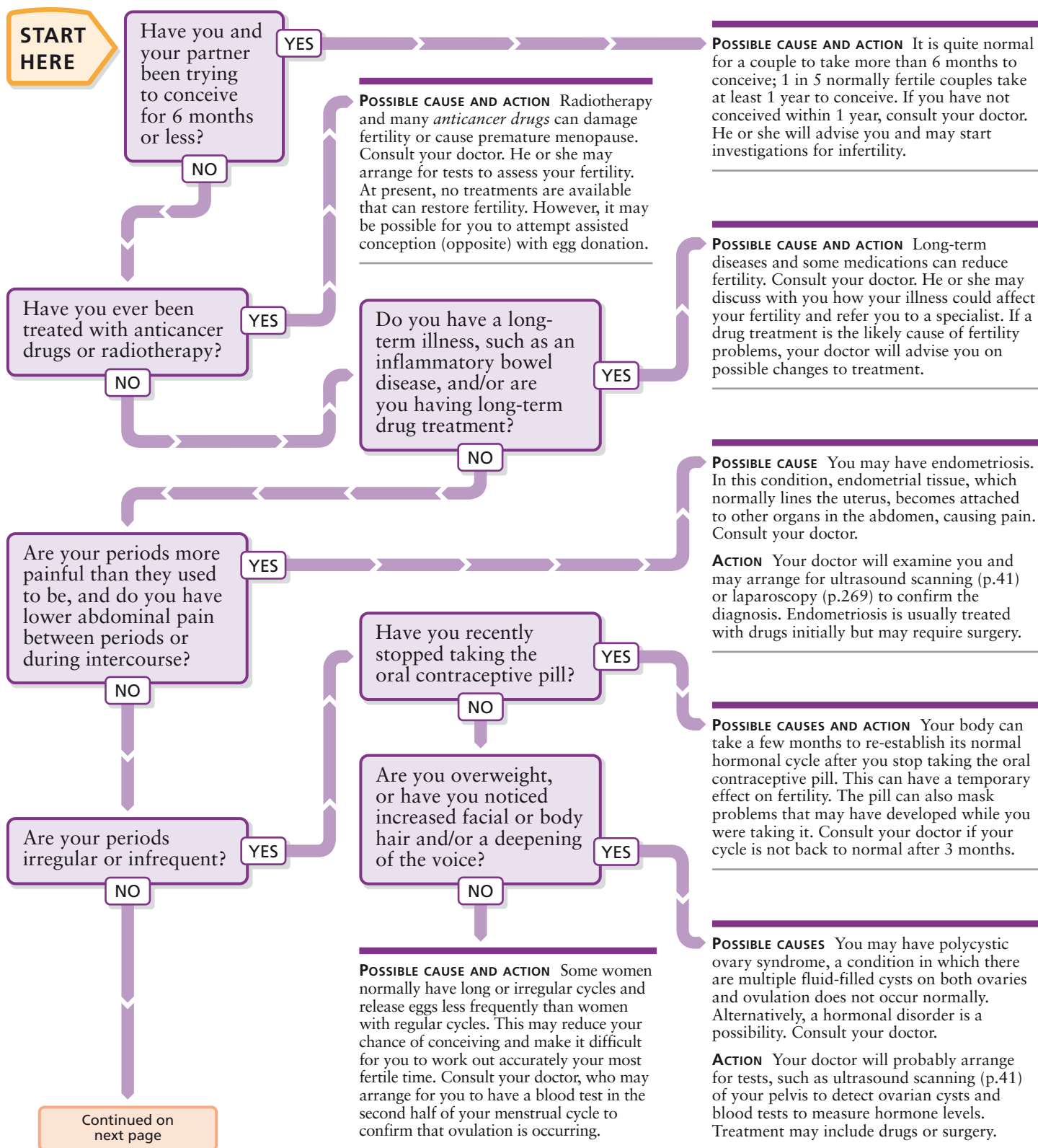


# 139 Fertility problems in women

See also chart 126, FERTILITY PROBLEMS IN MEN (p.252).

Fertility problems affect about 1 in 10 couples, and in about one-third of cases, a cause is not found. Failure to conceive may be the result of a problem affecting either one or both

partners. This chart deals only with possible problems in women that may be responsible for a failure to conceive. How soon you should consult your doctor depends to some extent on your age as fertility begins to fall after age 35.



Continued from  
previous page

Have you ever had an infection of the reproductive tract or a pregnancy outside the uterus (ectopic pregnancy)?

YES

**POSSIBLE CAUSES** Infection of the reproductive tract or a previous ectopic pregnancy may have damaged or blocked the fallopian tubes. Consult your doctor.

**ACTION** Your doctor will probably arrange for you to have a laparoscopy (p.269) to inspect the ovaries and establish whether the fallopian tubes are healthy. Surgery may be done to open damaged fallopian tubes. If surgery is not successful, you may be referred for IVF (see ASSISTED CONCEPTION, below).

NO

Do you have sexual intercourse less often than three times a week on average?

YES

**POSSIBLE CAUSE AND ACTION** Infrequent intercourse is a common cause of failure to conceive. If you have sex less than three times a week, the chance of sperm being present to fertilize an egg when it is released are reduced. If possible, try to have sexual intercourse with your partner more often. If, despite this, you have still not conceived within a further 3–6 months, consult your doctor.

NO

Do you exercise frequently and/or train in a sport to a competitive level?

YES

**POSSIBLE CAUSE AND ACTION** Vigorous training may alter your hormone levels, affecting ovulation. Reducing the amount of exercise you take may improve your fertility. If you have not conceived 3–6 months after lowering your activity level, consult your doctor.

NO

## Planning for a healthy pregnancy

Whether or not you are having problems conceiving, it is worth taking steps to ensure that if or when you do conceive, you have the best chance of a healthy pregnancy. Ideally, you and your partner should see your doctor at least 3 months before you start trying to conceive so that any problems can be dealt with in advance. Your doctor will probably do the following:

- Ensure that any pre-existing disease, such as diabetes, is well controlled.
- Review prescription drugs to avoid potential harm to the fetus.
- Ask about inherited conditions in your and your partner's families so that genetic counselling can be arranged if needed.
- Check that you are immune to rubella (German measles), which if contracted in early pregnancy can cause birth defects.
- Advise you to take a daily supplement of 400 micrograms of folic acid, starting at least 3 months before trying to conceive, to reduce the risk of neural tube defects such as spina bifida.
- Give you and your partner general health advice about factors that could affect fertility such as diet, smoking, and alcohol consumption (see MAXIMIZING THE CHANCE OF CONCEPTION, p.252).

Are you underweight (see ASSESSING YOUR WEIGHT, p.29), or have you recently lost a lot of weight?

YES

NO

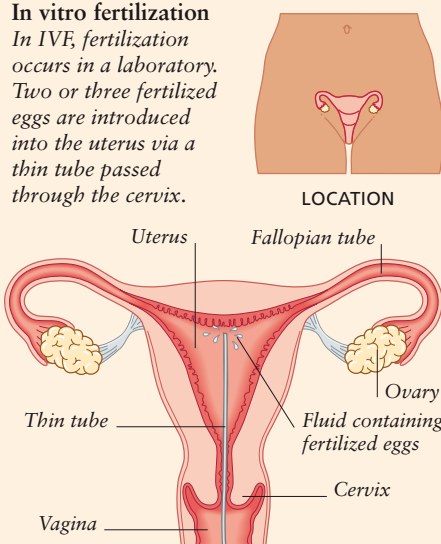
**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

**POSSIBLE CAUSES AND ACTION** Being below a healthy weight for your height or losing weight rapidly can affect the menstrual cycle and reduce fertility. Try to eat sensibly; if you are trying to lose weight, aim to lose no more than 0.5 kg (1 lb) per week. If you are worried about your weight, consult your doctor.

## Assisted conception

The most common techniques that are used to aid conception are intrauterine (artificial) insemination (IUI) and in vitro fertilization (IVF). IUI is the simplest technique. In this procedure, timed to coincide with ovulation, semen from the partner or a donor is introduced into the uterus through a flexible tube passed through the vagina and cervix. IVF involves combining eggs and sperm outside the body and can be done using donated eggs and/or sperm if necessary. Drugs are given to stimulate the ovary to produce several eggs, which are then collected during laparoscopy (p.269). In the laboratory, sperm are combined with the eggs to allow fertilization to take place. Two or three fertilized eggs are introduced into the uterus in order to ensure the best chance of successful implantation into the uterus. The success rate of assisted conception is variable; on average, one in five attempts results in a pregnancy.

**In vitro fertilization**  
*In IVF, fertilization occurs in a laboratory. Two or three fertilized eggs are introduced into the uterus via a thin tube passed through the cervix.*

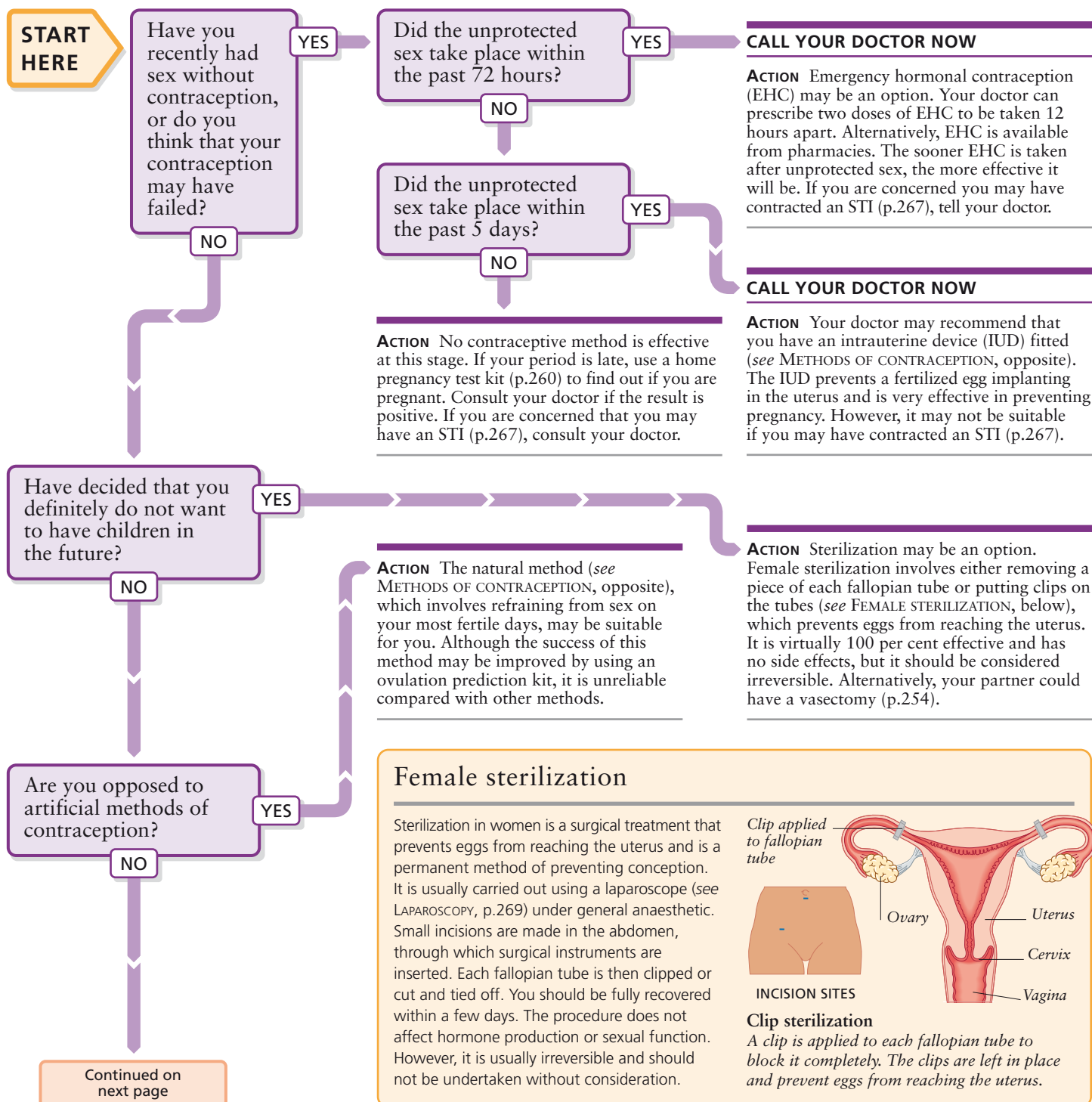


# 140 Contraception choices for women

For contraception choices for men, see chart 127, CONTRACEPTION CHOICES FOR MEN (p.254).

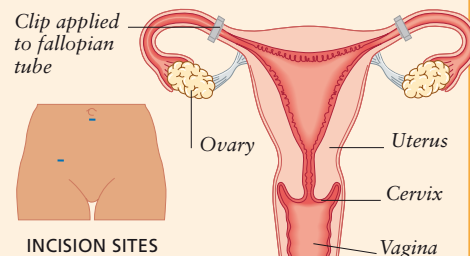
Deciding which method of contraception to use is partly a matter of personal choice; your age, lifestyle, state of health, and personal beliefs will all affect your choice. If you have a regular partner, the decision is best shared. This chart is intended as a guide to help you work out which methods might be most suitable for you, so that you will be able to

discuss them with your usual doctor or a family-planning clinic doctor (see also USEFUL ADDRESSES, p.311). If you have had unprotected sex within the last 5 days, this chart will advise you on the actions you can take to reduce the risk of becoming pregnant. Most methods of contraception do not provide you with protection from sexually transmitted infections (STIs); however, male and female condoms are thought to be 95 per cent effective.



## Female sterilization

Sterilization in women is a surgical treatment that prevents eggs from reaching the uterus and is a permanent method of preventing conception. It is usually carried out using a laparoscope (see LAPAROSCOPY, p.269) under general anaesthetic. Small incisions are made in the abdomen, through which surgical instruments are inserted. Each fallopian tube is then clipped or cut and tied off. You should be fully recovered within a few days. The procedure does not affect hormone production or sexual function. However, it is usually irreversible and should not be undertaken without consideration.



### Clip sterilization

A clip is applied to each fallopian tube to block it completely. The clips are left in place and prevent eggs from reaching the uterus.



## Methods of contraception

A wide choice of contraceptive methods is available, although the majority are for use by the woman. Pregnancy can be prevented in different ways, including using a barrier to sperm or altering the woman's hormone balance. Choose a method that is safe and effective for you and also suits your lifestyle and preferences. If you have decided you definitely do not want children in the future, male sterilization (see VASECTOMY, p.254) or female sterilization (opposite) may be suitable.

### Barrier methods

These methods prevent sperm entering the uterus. They include the cervical cap, the diaphragm (right), and male and female condoms. Barrier methods are more effective when used with a spermicide, already present in many condoms.

### Hormonal methods

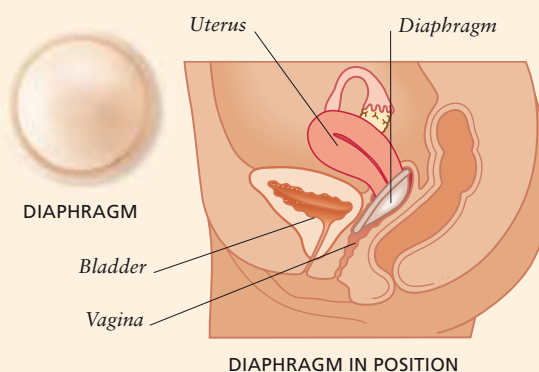
The combined oral contraceptive pill (COCP) contains the hormones oestrogen and progestogen and prevents the release of eggs. COCPs are effective and safe in women who do not have risk factors such as smoking, obesity, or a history of blood clots. The progestogen-only pill (POP) works mainly by thickening the mucus at the entrance to the cervix, preventing penetration by sperm, and is suitable for most women. However, to be effective, POPs must be taken at exactly the same time each day. Progestogens can also be given as 3-monthly injections or as an implant lasting 3 years.

### Mechanical methods

The intrauterine device, or IUD, (right) is placed in the uterus by a doctor to prevent fertilized eggs implanting. The intrauterine system (IUS), a progestogen-releasing IUD, also reduces blood loss during periods and helps prevent pelvic infection.

### Natural method

The most commonly used natural method involves monitoring body temperature and mucus from the cervix in order to predict ovulation. Sex is then avoided around this time.

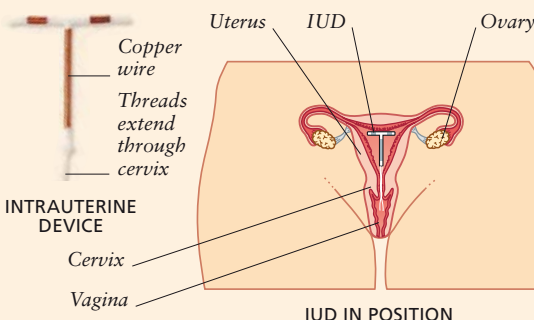


### The diaphragm

Before sex, the diaphragm is coated with spermicidal gel or cream and then inserted into the vagina so that it covers the cervix. During sex, it should not be felt by either partner. It must be left in place for at least 6 hours after sex and then removed and washed.

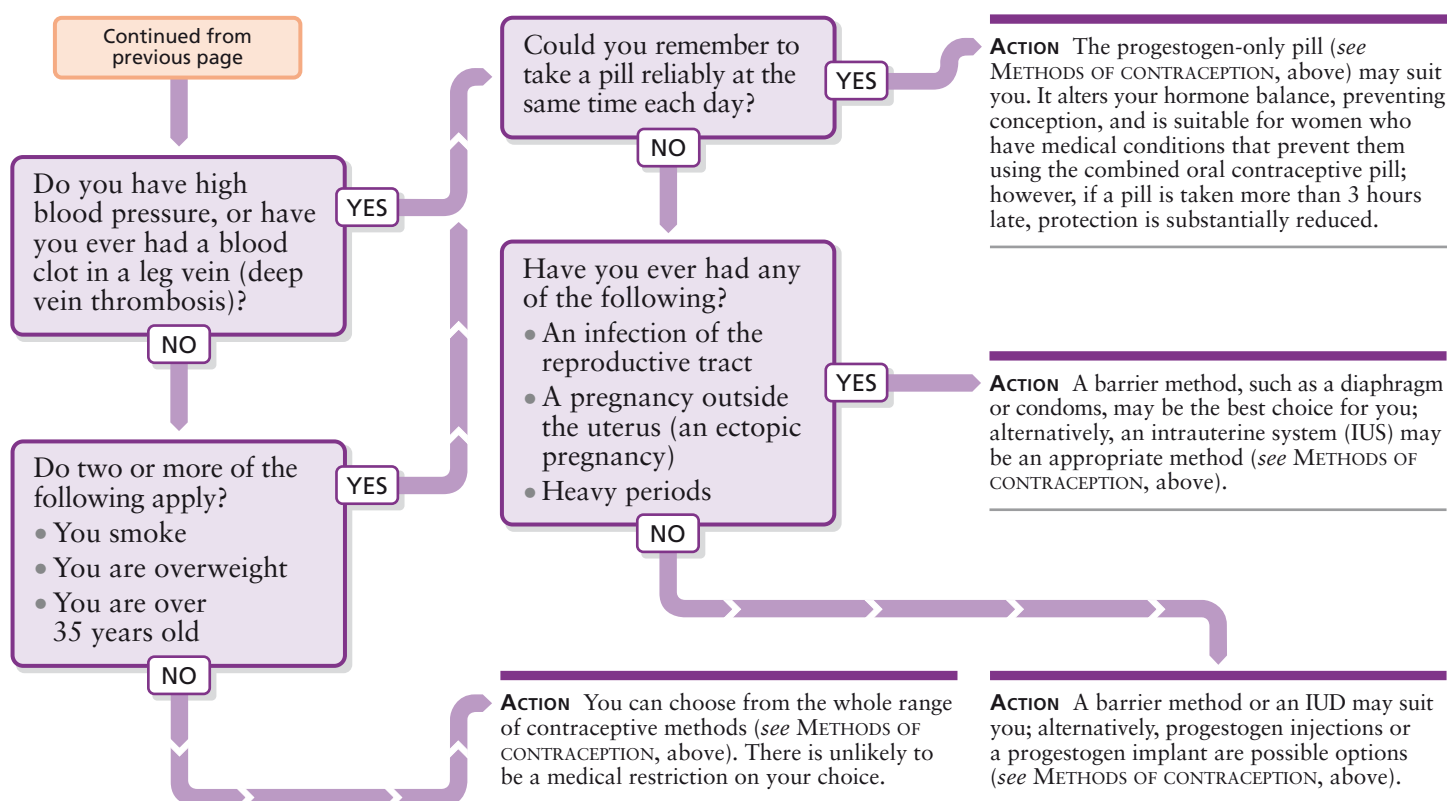
### Combined oral contraceptive pills

These pills contain the hormones oestrogen and progestogen. They are usually taken, one a day, for 21 days, followed by 7 pill-free days, during which you will have your period. On the 29th day, you begin another pack.



### The intrauterine device (IUD)

Once fitted, many IUDs can be left in place for up to 5 years. Some IUDs contain copper, which kills sperm, but the main effect of all IUDs is to prevent fertilized eggs from implanting in the uterus.

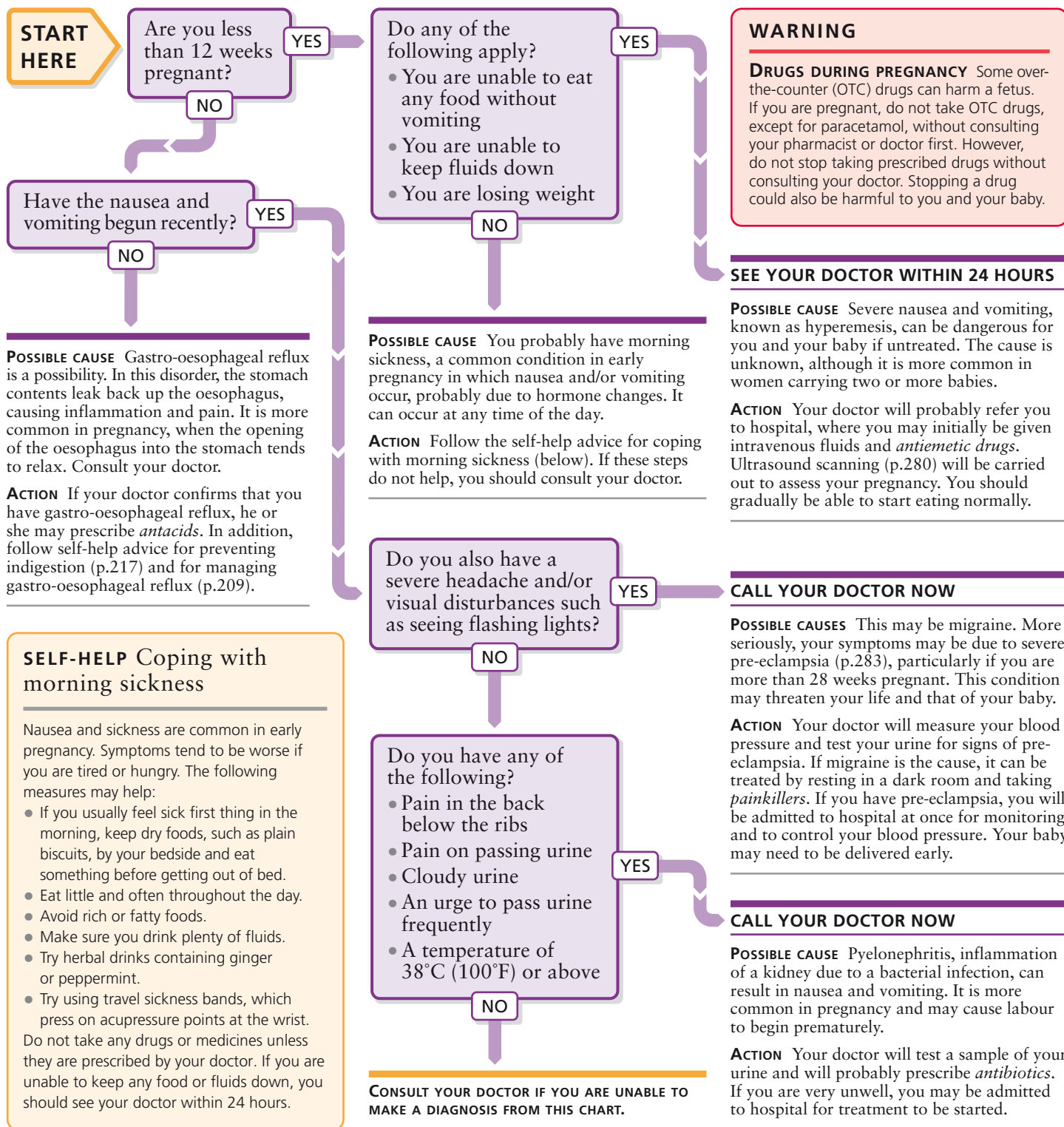


# 141 Nausea and vomiting in pregnancy

**Consult this chart only after reading chart 98, VOMITING (p.210).**

Most women experience some nausea and vomiting during the first 3 months of pregnancy. These symptoms are known as morning sickness, although they can occur at any time of day, especially when a woman is tired or hungry. Morning

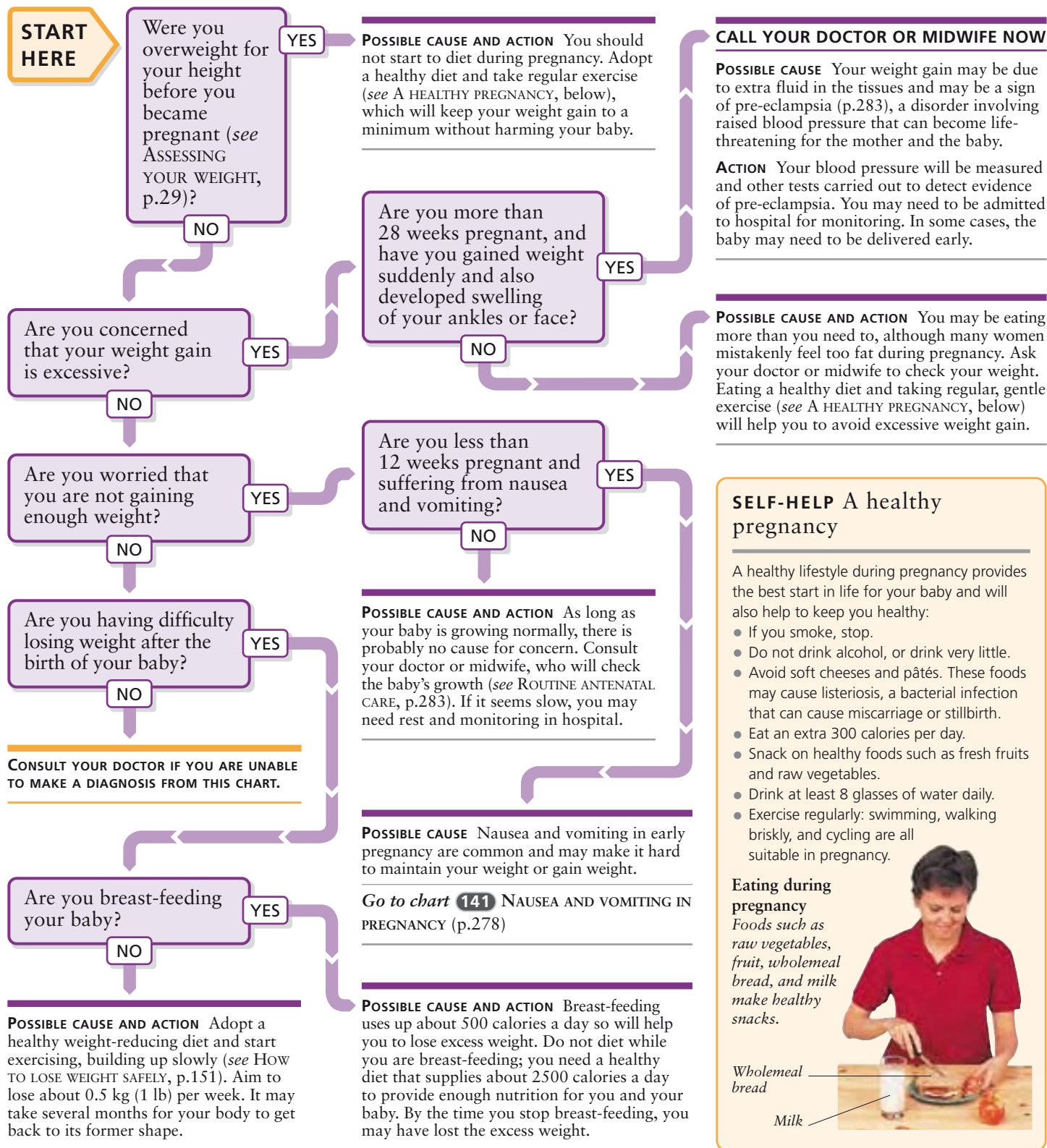
sickness is probably caused by the dramatic hormone changes of early pregnancy. Symptoms may be relieved by self-help measures, and usually improve around the 12th week of pregnancy. Vomiting that begins later in pregnancy may be due to a urinary tract infection or to a problem unrelated to the pregnancy, such as food poisoning.



# 142 Weight problems and pregnancy

It is normal to put on weight during pregnancy. This weight gain comes from the growing fetus, its surrounding amniotic fluid, extra fat stores, the growth of the breasts and uterus, and an increase in blood volume. Most women have gained

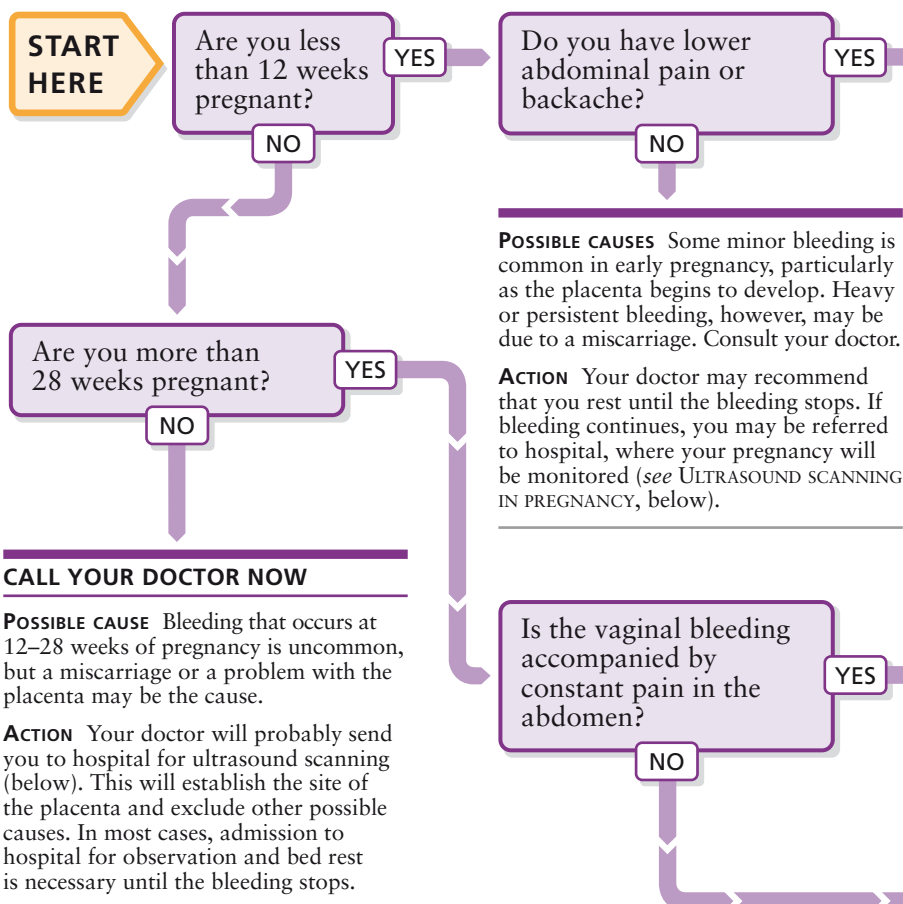
11–16 kg (24–35 lb) by the time their baby is born, most of it during the last 4 months. However, gaining more or less is not usually a cause for concern. Consult this chart if you are concerned about your weight during or after pregnancy.



# 143 Vaginal bleeding in pregnancy

If you have any vaginal bleeding during pregnancy, consult this chart to determine how quickly you should seek medical advice. While in most cases there is no danger to you or the fetus, this is a potentially serious symptom and should always

receive medical attention whether you have only slight spotting or more profuse blood loss. If the bleeding is from the placenta, emergency treatment will be necessary. In other cases, rest and regular monitoring may be all that is needed.



## WARNING

**HEAVY BLEEDING IN PREGNANCY** Call an ambulance if you have heavy vaginal bleeding during pregnancy. There may be a problem affecting the placenta that may be life-threatening for you and your baby.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** A serious complication, such as a miscarriage or an ectopic pregnancy, in which the pregnancy develops outside the uterus, is a possibility.

**ACTION** Your doctor will probably send you to hospital for tests including ultrasound scanning (p.41). There is little that can be done to prevent a miscarriage, but you may be given *painkillers*. If you have an ectopic pregnancy, you may need drug treatment or an operation to remove the pregnancy under general anaesthetic.



## EMERGENCY! CALL AN AMBULANCE

**POSSIBLE CAUSE** You may have a placental abruption, in which the placenta partially separates from the wall of the uterus. This condition may be life-threatening for both you and your baby.

**ACTION** In hospital, you will have ultrasound scanning (see ULTRASOUND SCANNING IN PREGNANCY, left) to confirm the diagnosis. Treatment depends on the severity of the condition. If bleeding is heavy, your baby may need to be delivered urgently by a caesarean section. In other cases, rest and observation in hospital may be sufficient.

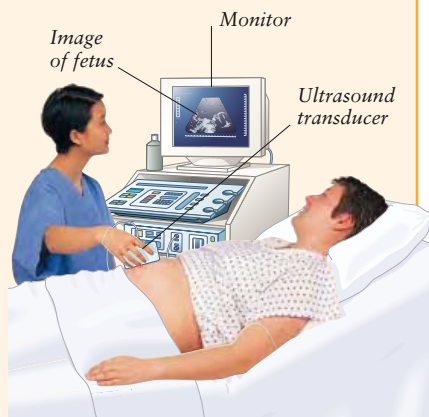
## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Bleeding from a placenta praevia, in which the placenta partly or completely covers the opening of the cervix, may be the cause.

**ACTION** Your doctor will arrange for you to be admitted to hospital immediately. Once in hospital, you will have ultrasound scanning (see ULTRASOUND SCANNING IN PREGNANCY, left) to determine the position of the placenta. If the bleeding is light, you may be closely observed in hospital. If it is heavy, you may need an emergency caesarean section.

## Ultrasound scanning in pregnancy

Ultrasound scanning is a safe and painless procedure. A device called a transducer is moved over the skin, sending out ultrasound waves (high-frequency, inaudible sound waves). The sound waves are reflected off internal tissues and organs and are then picked up and passed to a computer, which creates an image on a monitor. During pregnancy, ultrasound scanning is used to produce detailed images of the fetus. Most women have at least one scan during pregnancy. A routine scan will detect multiple pregnancies, the site of the placenta, and the amount of amniotic fluid, which is the fluid that surrounds the baby in the uterus. Detailed scans after 20 weeks may detect abnormalities such as heart defects or a cleft palate. Ultrasound scanning is also used to investigate problems such as bleeding during pregnancy. The procedure takes between 5 and 20 minutes.



### Having a scan

An ultrasound transducer is moved gently over the abdomen. An image of the fetus is displayed on a monitor.

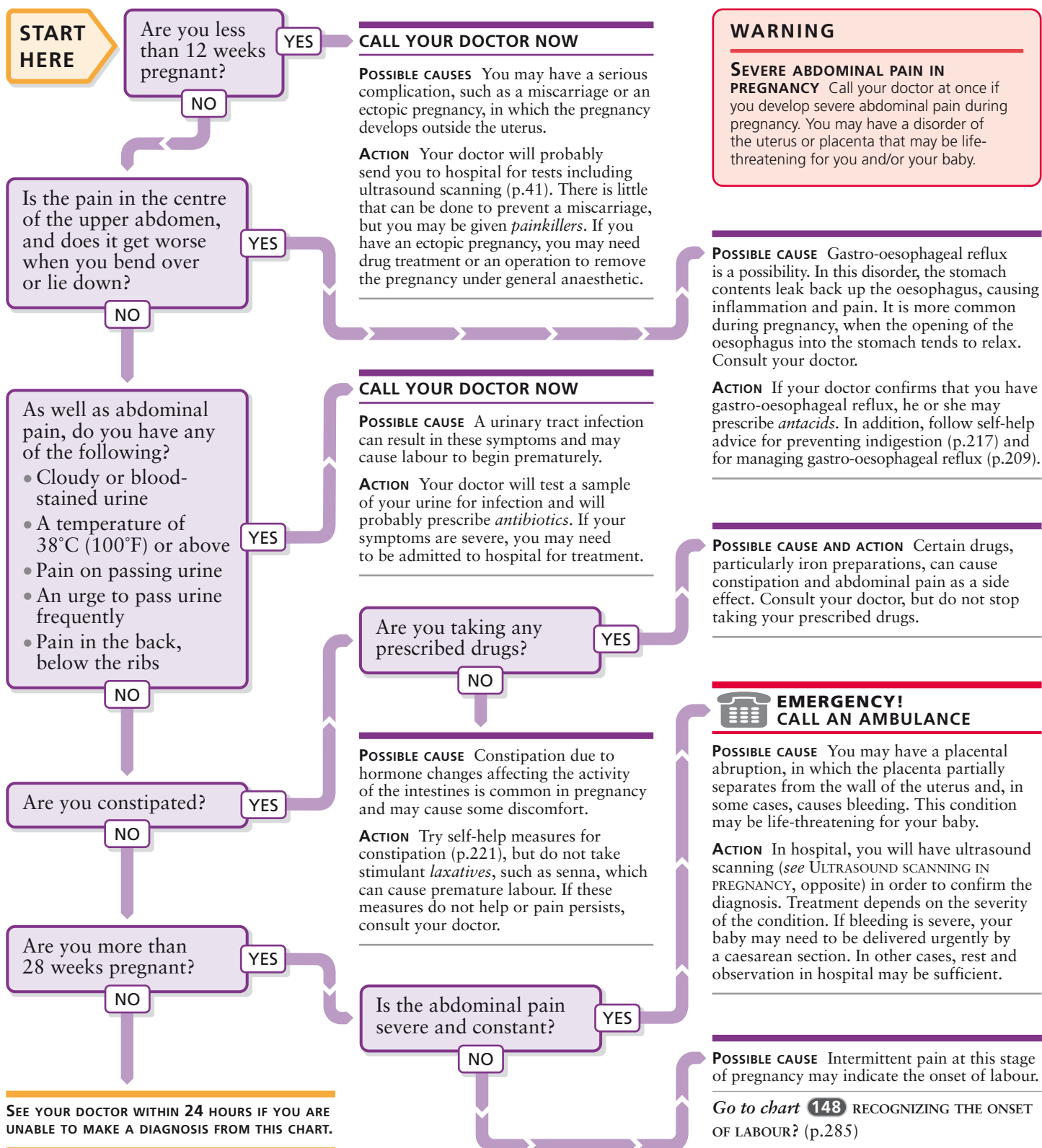


# 144 Abdominal pain in pregnancy

Consult this chart only after reading chart 100, ABDOMINAL PAIN (p.214).

Conditions that cause abdominal pain in non-pregnant women, such as appendicitis, can also occur during pregnancy.

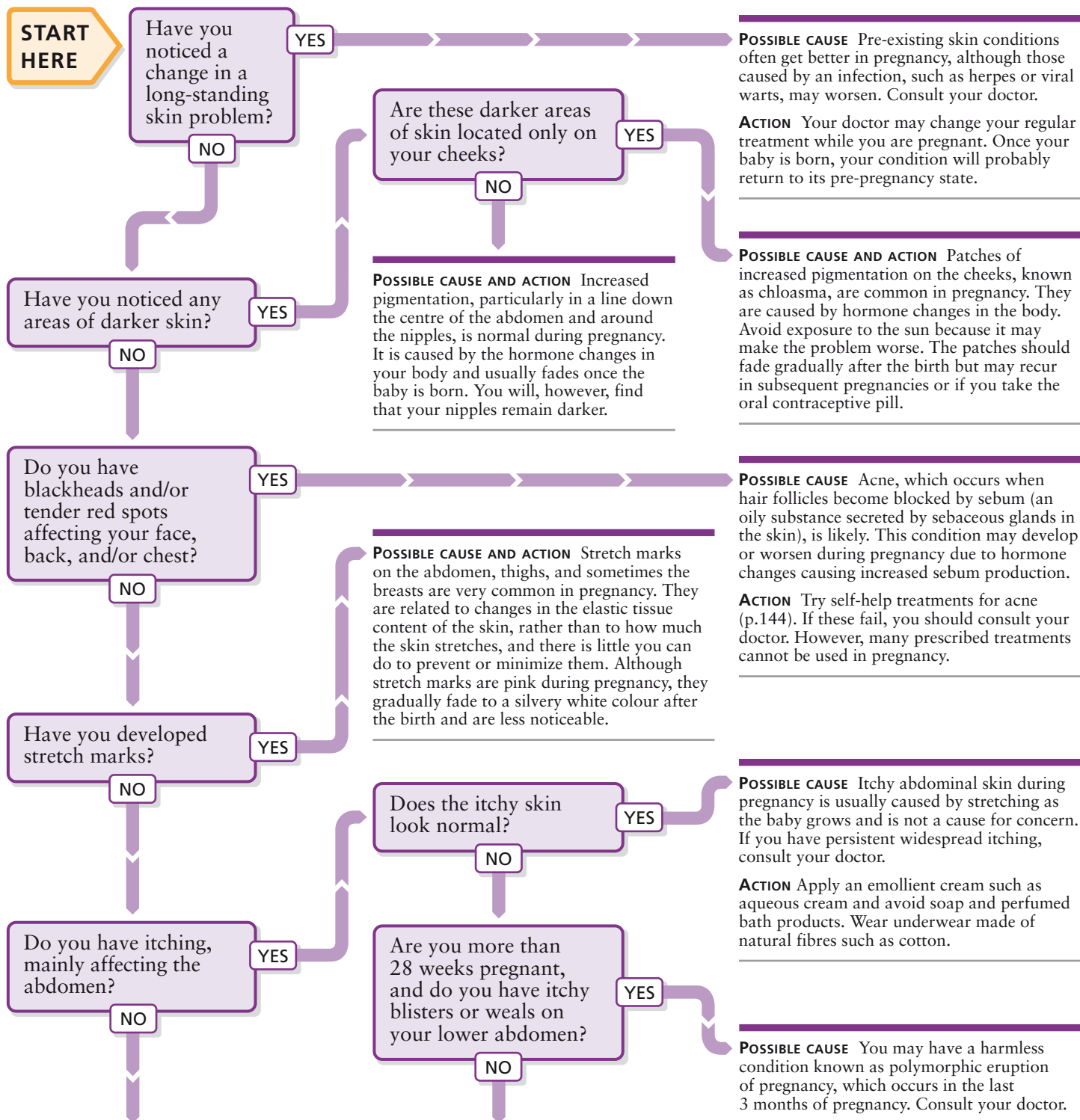
However, conditions specific to pregnancy can also cause abdominal pain. These may be the result of compression of the internal organs by the growing baby, hormone changes, or problems with the placenta or the uterus.



# 145 Skin changes in pregnancy

Hormone changes during pregnancy may affect the skin in a variety of ways. Most women find that their skin becomes more oily, but others may find it becomes drier. The skin often becomes darker due to an increase in pigment. If you had a

skin condition before you became pregnant you may find that it improves during pregnancy but gets worse again after delivery. The exact effects of pregnancy on the skin depend on the woman's individual hormone balance and skin type.



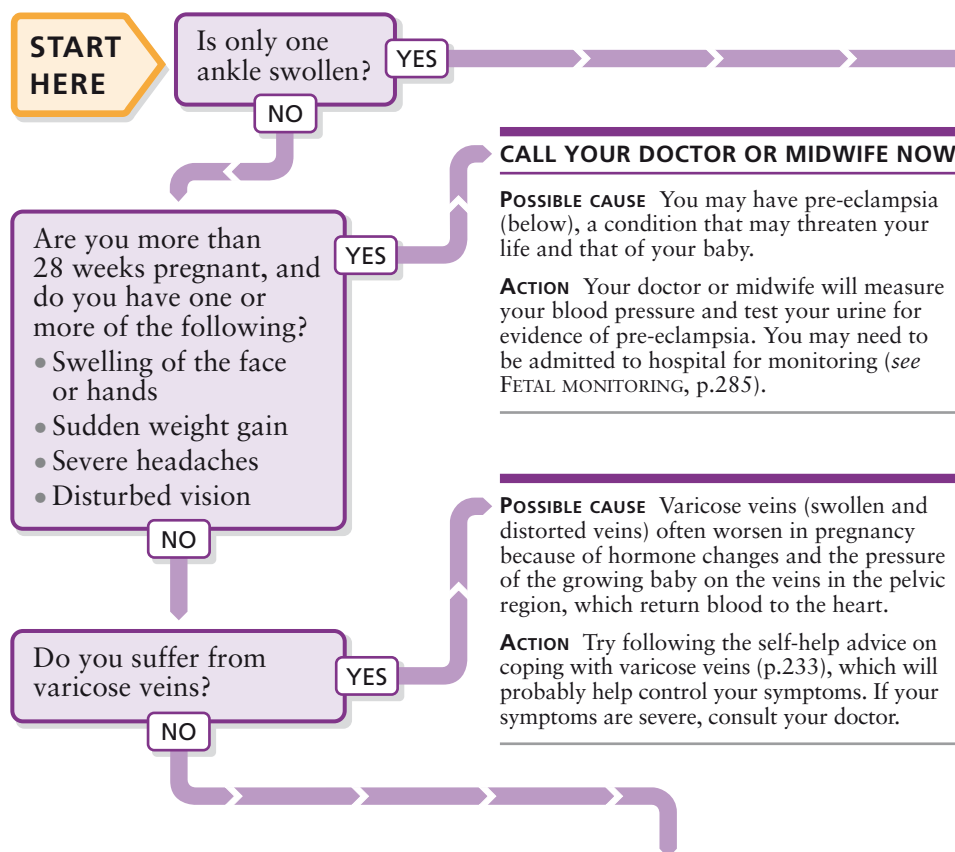
CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.

# 146 Swollen ankles in pregnancy

Swollen ankles are very common in pregnancy, particularly during hot weather or in the later stages of pregnancy, when excess fluid tends to accumulate. Mild swelling of the ankles is usually not a cause for concern. Elevating your ankles, preferably to the same level as your hips, whenever possible

and wearing support tights may ease the swelling. Your ankles may be checked, along with your blood pressure and urine, at each antenatal visit (see ROUTINE ANTENATAL CARE, below). However, swelling confined to only one ankle should always be brought to your doctor's attention immediately.



## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** Deep vein thrombosis (DVT), in which a blood clot blocks a vein in the leg, is a possibility. If it is not treated, a piece of clot may break off and then lodge in a blood vessel in the lungs, blocking the blood flow.

**ACTION** If your doctor suspects a DVT, you will be referred to hospital for tests, such as Doppler ultrasound scanning (p.235), to examine the veins in your leg. Treatment depends on the stage of your pregnancy, but *anticoagulant drugs* may be prescribed.

## CALL YOUR DOCTOR OR MIDWIFE NOW

**POSSIBLE CAUSE** You may have pre-eclampsia (below), a condition that may threaten your life and that of your baby.

**ACTION** Your doctor or midwife will measure your blood pressure and test your urine for evidence of pre-eclampsia. You may need to be admitted to hospital for monitoring (see FETAL MONITORING, p.285).

**POSSIBLE CAUSE** Varicose veins (swollen and distorted veins) often worsen in pregnancy because of hormone changes and the pressure of the growing baby on the veins in the pelvic region, which return blood to the heart.

**ACTION** Try following the self-help advice on coping with varicose veins (p.233), which will probably help control your symptoms. If your symptoms are severe, consult your doctor.

## Routine antenatal care

Routine antenatal care is essential to make sure that you and your baby progress well and to detect any problems that might occur as soon as possible. Check-ups usually start at about 11 weeks and become more frequent as the pregnancy progresses.

On your first visit, your doctor will ask about illnesses such as diabetes that may affect your pregnancy. Blood and urine tests will be arranged, including tests to check your blood group and for anaemia. In follow-up visits, you will be examined to assess your baby's growth and wellbeing. Your blood pressure will be measured, and a urine sample will be tested for protein and glucose to detect early pre-eclampsia (left) or diabetes. One or more ultrasound scans (p.280) will be carried out during the pregnancy to check the site of the placenta, detect multiple pregnancies, and exclude fetal abnormalities.

## Checking the fetal heart

*Ultrasound picks up the fetal heartbeat and relays it to a speaker.*



## Pre-eclampsia

Pre-eclampsia is a disorder of pregnancy in which there is raised blood pressure, leakage of protein into the urine, and excessive fluid retention. Mild pre-eclampsia develops in the last 3 months of approximately 1 in 20 first pregnancies and is less common with subsequent births. Pre-eclampsia results in a decrease in blood flow to the baby and, if it is severe, can be life threatening to both the mother and the baby.

Checking for early signs of pre-eclampsia is a vital part of antenatal care (right). If pre-eclampsia is diagnosed, the initial treatment is usually rest. If this is not effective, hospital admission is needed to monitor the mother and the baby. In some cases, *antihypertensive drugs* are prescribed to lower the mother's blood pressure. If pre-eclampsia is difficult to control, labour may need to be induced early. Blood pressure usually returns to normal within a week of delivery.

Have you been standing still for a prolonged period of time or sitting with your legs down?

**NO**

**POSSIBLE CAUSE AND ACTION** Swollen ankles are common in pregnancy. Your doctor or midwife will probably check your ankles at your next antenatal visit and examine you to make sure that there is no cause for concern (see ROUTINE ANTENATAL CARE, right).

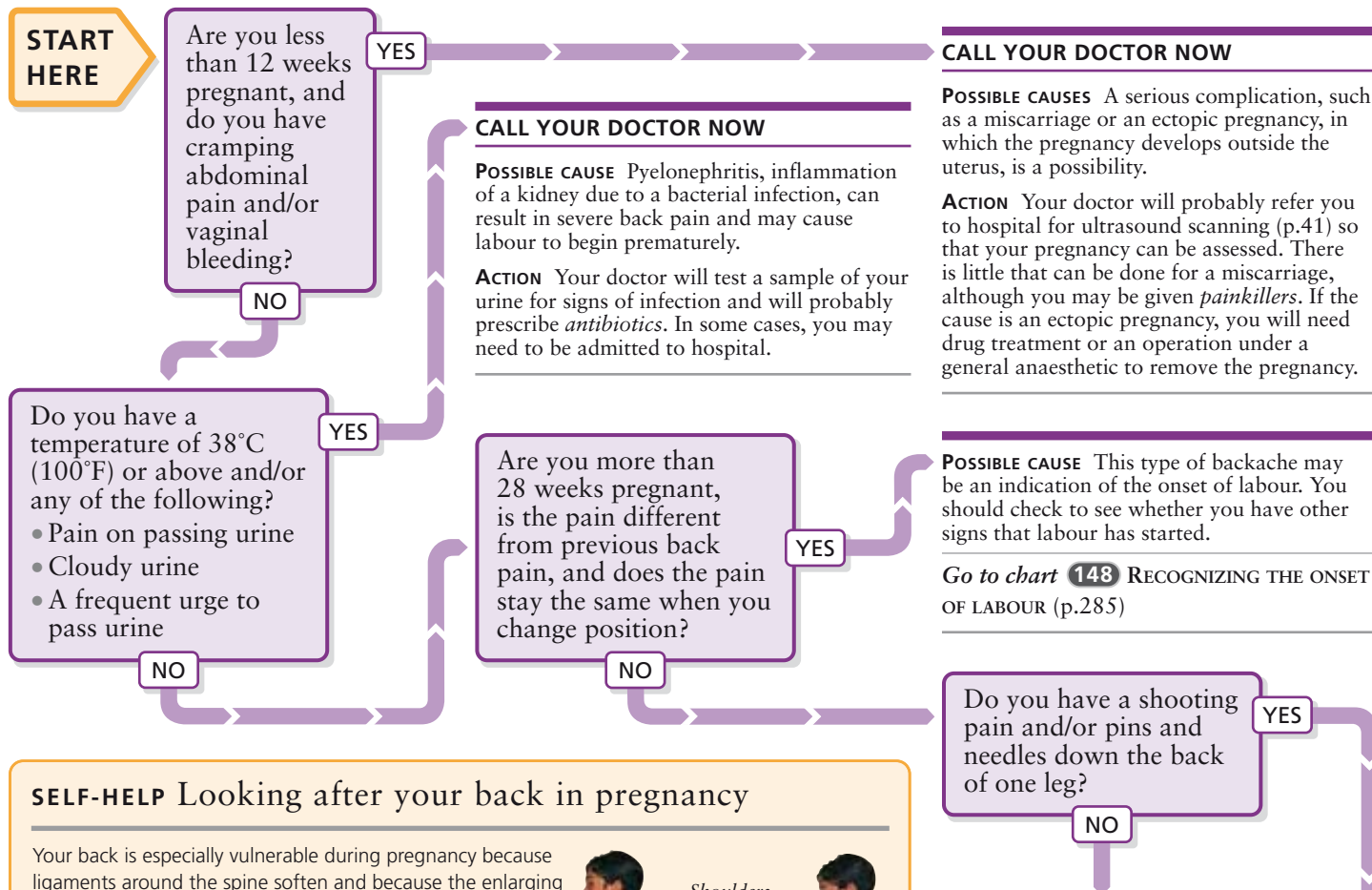
**POSSIBLE CAUSE AND ACTION** It is normal for the ankles to swell after standing or sitting with your legs down. Try to avoid standing still for long, and put your feet up whenever possible. Always try to keep your feet at the same level as your hips when sitting.

# 147 Back pain in pregnancy

Consult this chart only after first consulting chart 117, BACK PAIN (p.238).

Pain and aching in the middle and lower back are common during pregnancy. They are usually caused by the effects of hormones that soften the ligaments supporting the spine and by difficulty in maintaining good posture as a result of the

weight of the growing fetus. Backache tends to get worse as pregnancy progresses and may make it difficult to get up from a sitting or lying position. Although backache in pregnancy is not usually a cause for concern, if it develops suddenly you should contact your doctor, as it may indicate a miscarriage in early pregnancy or the onset of labour in late pregnancy.



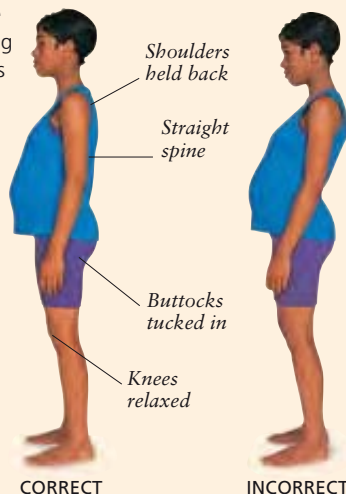
## SELF-HELP Looking after your back in pregnancy

Your back is especially vulnerable during pregnancy because ligaments around the spine soften and because the enlarging abdomen may lead to poor posture. The following measures will protect your back and help to prevent back pain:

- Adopt a good posture when you are standing: your back should be kept straight and your buttocks tucked in.
- Wear flat shoes rather than high heels.
- Use a chair with good back support.
- Sleep on a firm mattress.
- Try gentle stretching exercises for the lower back.
- Make sure you lift small children and heavy objects safely.

### Lifting safely

To lift a small child, bend your knees and lift with your back straight. Keep the child as close to your body as possible.



### Standing correctly

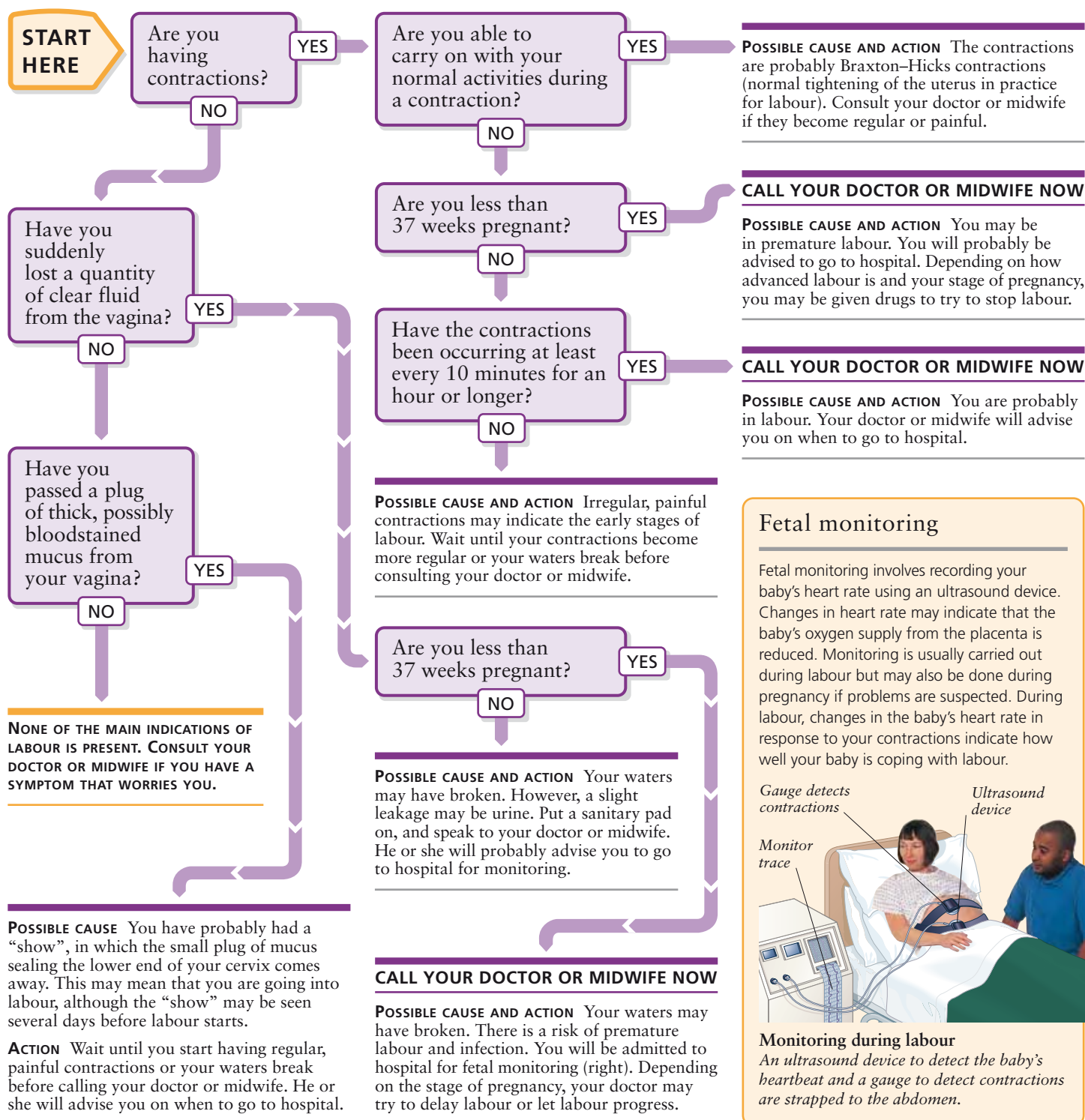
Stand with your back straight and your shoulders back. Tuck in your buttocks, and relax your knees.



# 148 Recognizing the onset of labour

On average, pregnancy lasts for 40 weeks. However, it is quite normal for a baby to be born as early as 37 weeks or as late as 42 weeks. During labour – the series of events leading to the delivery of your baby – you experience regular contractions that dilate your cervix. Whether or not your cervix is dilating can be determined only by an internal examination. The onset of labour may be heralded by a

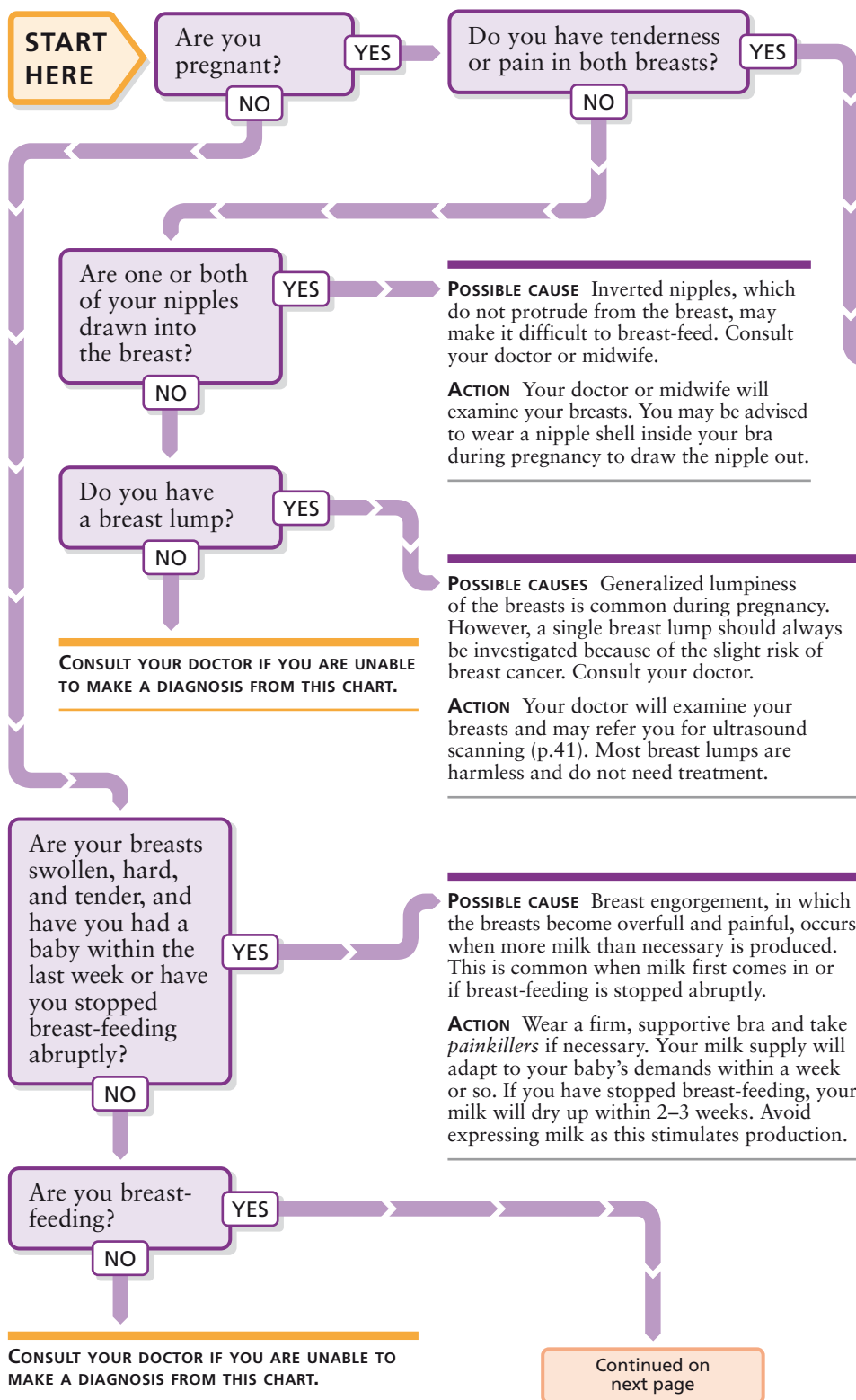
number of different signs, including the passage of a plug of thick, perhaps bloodstained mucus (a “show”), abdominal or lower back pains, and the waters breaking (rupture of the membranes). These signs of labour vary from woman to woman. This chart is designed to help you determine whether labour may have started and how urgently you should contact your doctor or midwife for further advice.



# 149 Breast problems and pregnancy

Breast problems are common during and immediately after pregnancy but are usually easy to treat. During pregnancy, hormones cause changes in the breasts: the milk-producing glands become larger and increase in number, and the breasts may become tender. After the baby is born, the breasts can

produce about 1 litre (2 pints) of milk per day. Problems soon after childbirth are often associated with establishing breast-feeding. However, these problems are usually short-lived. In most cases, breast-feeding is still possible and is the best option for the baby (*see* FEEDING YOUR BABY, below).



## WARNING

**DRUGS IN BREAST MILK** Many drugs taken by the mother are secreted into breast milk in quantities that could affect the baby. In most cases, this is not a problem, but some drugs should be avoided while breast-feeding. If they are essential, you may need to bottle-feed. Always tell your doctor and pharmacist that you are breast-feeding.

**POSSIBLE CAUSE** Tender or painful breasts are very common in pregnancy. This is due to hormones causing changes in your breasts in preparation for breast-feeding.

**ACTION** Make sure you wear a correctly fitted, supportive bra. Wearing a soft bra in bed at night is also often helpful.

## Feeding your baby

Breast-feeding has a number of advantages over bottle-feeding. However, as long as formula milk is prepared according to the instructions, it is a satisfactory alternative to breast milk for your baby. Whichever method you choose, feeding is a good time to enjoy being with your baby and to establish a strong and loving bond with him or her.

### Breast-feeding

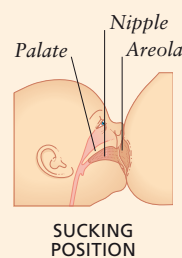
Breast milk contains all the nutrients that a baby needs and is easily digested. It requires no preparation, is at the correct temperature, and is sterile. In addition, antibodies present in breast milk help protect the baby against infection, making gastroenteritis less likely and reducing the risk of allergies developing. Breast-feeding may help you return to your pre-pregnancy weight more quickly because it uses up calories. It may also reduce your long-term risk of breast cancer.

### Bottle-feeding

Formula milks are the nutritional equivalent of breast milk and are equally digestible, but they lack the protective antibodies of breast milk. However, if you are ill or you are taking prescribed drugs that may affect your baby, bottle-feeding may be suggested. Bottle-feeding can be shared with your partner or other carers, allowing you to take a break.

Continued from  
previous page**SELF-HELP** Avoiding cracked nipples

Cracked nipples are common at the start of breast-feeding. They are usually caused by damage to the nipple as a result of the baby not latching on properly. Make sure that your baby takes the entire nipple and most of the areola (the darker area around the nipple) into his or her mouth. Dry your nipples thoroughly after each feed, and use absorbent breast pads and change them frequently. Your midwife may be able to advise you on over-the-counter nipple creams and sprays, which may help to prevent or soothe cracked nipples. If you do develop cracked nipples, they should heal by the time your breast-feeding routine is fully established.

**Positioning a baby at the breast**

*The entire nipple and most of the surrounding dark area (areola) should be in the baby's mouth to avoid cracked nipples developing.*

Are one or both  
nipples painful?

YES

NO

Do you have pain  
only when your  
baby latches on  
to the breast?

YES

NO

**POSSIBLE CAUSE AND ACTION** Latching on is often painful at first, but your nipples will become less sensitive with time. Make sure your baby takes the nipple properly in order to prevent cracks developing (see AVOIDING CRACKED NIPPLES, above).

Do you have a  
red inflamed  
area on one or  
both breasts  
with or without  
tenderness?

YES

NO

Do you also  
have flu-like  
symptoms?

YES

NO

**POSSIBLE CAUSE** If the nipples continue to be painful between feeds, you may have cracked nipples, which often develop if the baby does not take the whole nipple into the mouth when feeding. Consult your doctor or midwife.

**ACTION** Your doctor or midwife will examine you to make sure your nipples are not infected. If there is no infection, simple measures such as keeping your nipples clean and dry and following self-help measures (see AVOIDING CRACKED NIPPLES, above) should be sufficient to allow the nipples to heal.

**SEE YOUR DOCTOR WITHIN 24 HOURS**

**POSSIBLE CAUSE** You probably have mastitis, inflammation of breast tissue due to infection. In some cases, mastitis results in a breast abscess, in which pus forms within the breast.

**ACTION** Your doctor will examine you and will probably prescribe *antibiotics*. You should continue breast-feeding from both breasts. If an abscess has developed, you may be referred to hospital so that the pus can be removed under a local anaesthetic, using a needle and syringe. This procedure may need to be repeated until the condition improves.

Do you have  
a painless lump  
in one breast?

YES

NO

Does the lump  
get smaller after  
breast-feeding?

YES

NO

**POSSIBLE CAUSE AND ACTION** One of the milk ducts in your breast may be blocked. Try expressing a little milk and change your baby's feeding position to try to empty the duct. If these measures do not help, consult your doctor.

**POSSIBLE CAUSE** You may have a galactoele, a milk-filled cyst that has formed in the breast tissue behind a blocked duct. Consult your doctor.

**ACTION** Your doctor will examine you, and he or she may arrange for ultrasound scanning (p.41) to confirm the diagnosis. In most cases, galactoceles do not need treatment and will disappear when you have finished breast-feeding.

**POSSIBLE CAUSE** An area of breast tissue that is not emptying properly may be causing the lump.

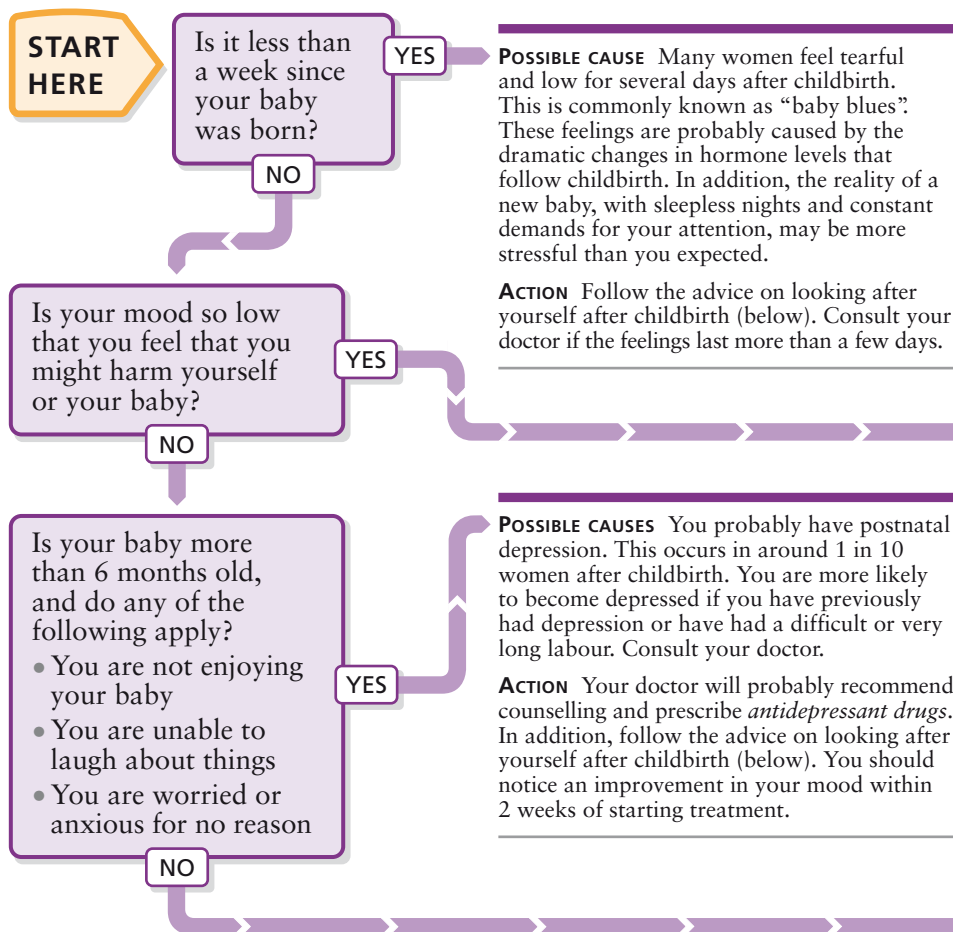
**ACTION** Offer the affected breast first at each feed, and let the baby empty the breast. Try varying the feeding position. If these measures do not help, consult your doctor.

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

# 150 Depression after childbirth

Childbirth is followed by a dramatic alteration in the body's hormones as you begin to adjust to no longer being pregnant. Your emotions are also likely to be in turmoil – a new baby brings huge changes to your lifestyle, and you may not find it easy to come to terms with the reality of motherhood and the demands that your baby makes on you.

Friends and family may be willing to help but will tend to direct all their attention towards the new baby rather than you, a huge switch from the time when you were pregnant. Around 8 out of every 10 women suffer from “baby blues” soon after giving birth. Some 1 in 10 women develop a much more severe, longer-term postnatal depression.



## WARNING

**POSTNATAL PSYCHOSIS** If someone you know has recently had a baby and is now behaving erratically, seeing or hearing things that are not there, or having strange or bizarre ideas, you should call her doctor at once. This may be a serious psychiatric condition known as postnatal psychosis, which requires immediate treatment.

## CALL YOUR DOCTOR NOW

**POSSIBLE CAUSE** You probably have severe postnatal depression and need to have urgent medical treatment.

**ACTION** After talking to you about how you feel, your doctor may prescribe *antidepressant drugs*. If your depression is particularly severe, the doctor may recommend that you are admitted to hospital for treatment, preferably a hospital with a mother-and-baby unit, which allows your baby to stay with you. You may be given antidepressant drugs and offered psychological therapy (p.171).

Are you tired all the time, disorganized, and unable to think about anything but your baby?

**YES**

**NO**

**CONSULT YOUR DOCTOR IF YOU ARE UNABLE TO MAKE A DIAGNOSIS FROM THIS CHART.**

## SELF-HELP Looking after yourself after childbirth

Many women feel tired and unable to cope after having a new baby. These ideas may help:

- Talk to your partner, and ask for as much help and support from your family and friends as you can. If possible, ask someone else to do your housework and chores.
- Prioritize, and stop doing all non-essential tasks, such as ironing.
- Try to take a nap whenever your baby sleeps, rather than doing chores.
- Take your baby out at least once a day, even if you only go for a walk.
- Try to do the exercises you learned in your antenatal classes, including relaxation (p.32).
- Join a parent-and-baby group, or meet up with mothers from your antenatal classes.



**Postnatal exercises**  
Gentle, progressive exercise will help you to regain your figure, raise your energy levels, and boost your spirits. However, be careful not to overdo it. Do not continue with any exercise that you find painful.

**POSSIBLE CAUSE** It is perfectly normal to feel like this if you have a new baby. Sleepless nights can be exhausting, and looking after a baby means you have less time to do other things.

**ACTION** Try to look after yourself as well as your baby (see LOOKING AFTER YOURSELF AFTER CHILDBIRTH, left). Eventually things will settle down, and you will have more time for yourself, your family, and your friends.



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# FIRST AID

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In some cases, immediate action can save a life. This section contains illustrated step-by-step instructions for the most common emergency situations you are likely to come across. In addition to emergency first-aid treatments for adults, it includes techniques specifically for babies and children. As well as familiarizing yourself with the articles here, you should ideally obtain practical training from a recognized first-aid organization so that you will be prepared for any emergency.



# FIRST AID

First aid is the immediate care given to a sick or injured person before health-care professionals arrive. Its aims are to preserve life, prevent a condition from worsening, and promote as fast a recovery as possible. Your top priority in emergency situations, before starting first aid, is to call 999 for medical assistance. If possible, ask a bystander to make the call. The next priority is to check the scene for possible dangers to you, the victim, or bystanders, such as fire or dangerous fumes. You will not be able to help the person if you become a victim yourself, so you should always put your own safety first. If you cannot approach the victim safely, phone for help immediately. If it is safe to approach, you should then aim to assess the victim's condition and give first aid.

The instructions in this section are designed to help you handle common emergency situations. There is no substitute for professional training, however, and the best form of training is a practical course in first aid. The British Red Cross, St John Ambulance, and St Andrew's Ambulance Association all run courses. On successful completion of a first-aid course, you receive a certificate that is valid for 3 years. Training in some skills, such as artificial respiration, is valid for only 1 year.



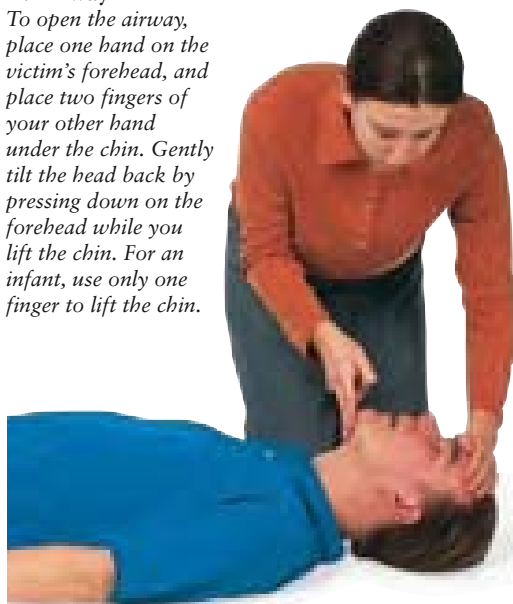
## ABC of resuscitation

Oxygen is vital for life. Normally, it is taken in by breathing and circulates around the body in the bloodstream. If either breathing or circulation fail, a procedure called resuscitation must be performed to supply the body with oxygen. The procedure is based on three checks known as the ABC of resuscitation: "ABC" stands for Airway, Breathing, and Circulation. If a person is unconscious, always follow the

ABC sequence before giving any other treatment. You need to open the airway; establish if the victim is breathing; and assess whether the blood is circulating by checking for a pulse and other signs, such as normal skin colour. If the victim is not breathing, you must give artificial respiration to breathe oxygen into the body. If there is no pulse or other signs of circulation, you must start cardiopulmonary resuscitation (CPR).

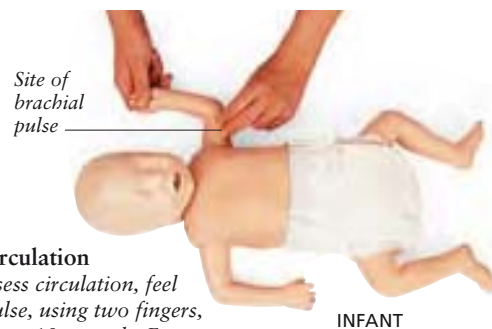
### A: Airway

To open the airway, place one hand on the victim's forehead, and place two fingers of your other hand under the chin. Gently tilt the head back by pressing down on the forehead while you lift the chin. For an infant, use only one finger to lift the chin.



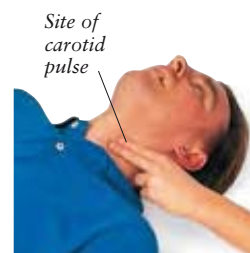
### B: Breathing

To check breathing, watch the chest for movement, listen for breath, and feel for breath on your cheek for up to 10 seconds. If there is no breathing, begin artificial respiration (p.293).



### C: Circulation

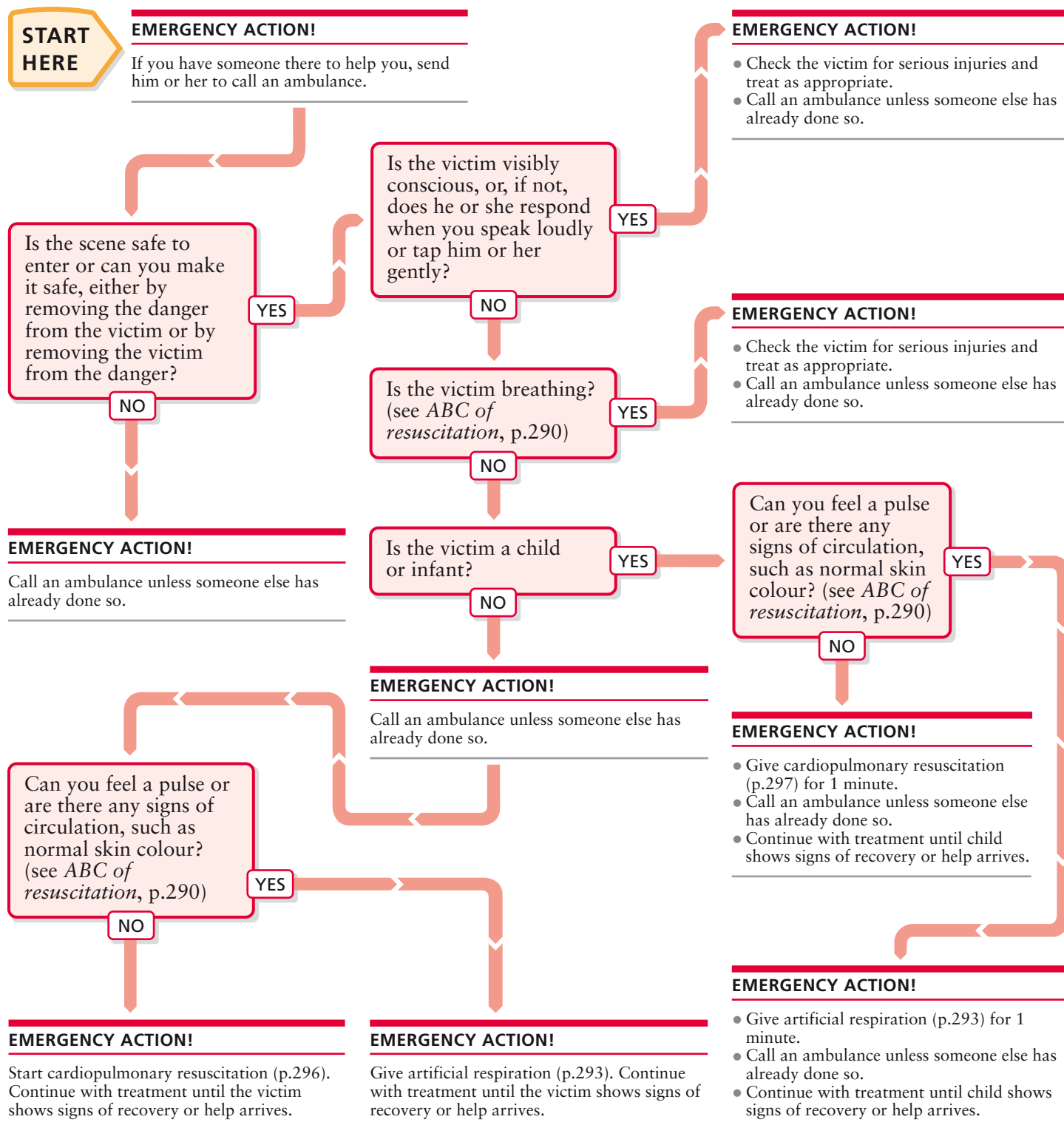
To assess circulation, feel the pulse, using two fingers, for up to 10 seconds. For an infant, feel the brachial pulse, on the inside of the arm. For an adult or child, feel the carotid pulse, in the neck, by pressing the hollow between the trachea (windpipe) and the large neck muscle. Look for other signs of circulation, such as normal skin colour. If there is no sign of circulation, start CPR (pp.296–297).



# Action in an emergency

When faced with an emergency, you should always work to a clear plan, staying calm and controlled so that you can act effectively. Take several deep, slow breaths to help you calm down, if necessary. If possible, you should send someone for an ambulance while you deal with the situation. Before trying to help the victim you must be certain that you are not putting yourself in any possible danger. Remember that

you will not be able to help anyone else if you become a victim yourself. Very simple measures, such as turning off an electrical switch, may be enough to eliminate danger. After you have made sure that the scene is safe, the next step is to check the victim's condition and carry out the appropriate first-aid treatment. Treat multiple injuired in order of priority, dealing with life-threatening conditions first.



# Recovery position

The recovery position is a secure position in which to place a person who is unconscious but breathing. If an unconscious victim is left lying on his or her back, the tongue may block the throat and prevent air from reaching the airways to the lungs. This situation is life-threatening because the breathing

and heartbeat may stop. The recovery position keeps the head, neck, and back aligned, keeps the airway open, and allows fluid to drain out of the mouth if the victim vomits. You may not need to follow all of the steps shown below if the person is found lying on his or her front or side.

## Adults and children



**1** Kneel alongside the victim. Open the airway by lifting the chin with two fingers and tilting the head back (see ABC of resuscitation, p.290). Straighten the legs and the arm farthest from you. Take hold of the arm nearest to you and place it at a right angle to the body, with the elbow bent at 90° and the palm of the hand facing upwards.



**2** With one hand, bring the arm farthest from you across the victim's chest, and place the back of the victim's hand under the near cheek. With the other hand, pull the far leg into a bent position; keep the foot on the floor at first, then pull the knee towards you.

**3** Continue to pull the upper leg so that the victim rolls on to his or her side. If necessary, support the body with your knees so that the victim does not roll too far. Leave the victim's hand supporting his or her head, and tilt the head so that the airway stays open.



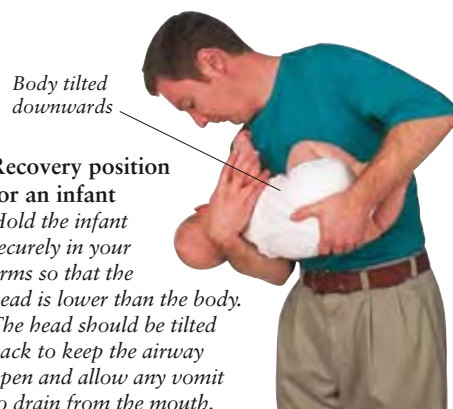
**4** You may need to adjust the hand under the victim's head and, if possible, bend the hip and knee of the upper leg at right angles so that the leg supports the body.

**5** Call an ambulance. Regularly monitor and record the victim's breathing and pulse (see ABC of resuscitation, p.290).

### WARNING

If you suspect a spinal injury (p.301), do not move the victim unless the breathing is impeded or the person is in danger.

## Infants



### Recovery position for an infant

Hold the infant securely in your arms so that the head is lower than the body. The head should be tilted back to keep the airway open and allow any vomit to drain from the mouth.

### WARNING

If you suspect a spinal injury (p.301), do not move the infant unless the breathing is impeded or the victim is in danger.



# Artificial respiration

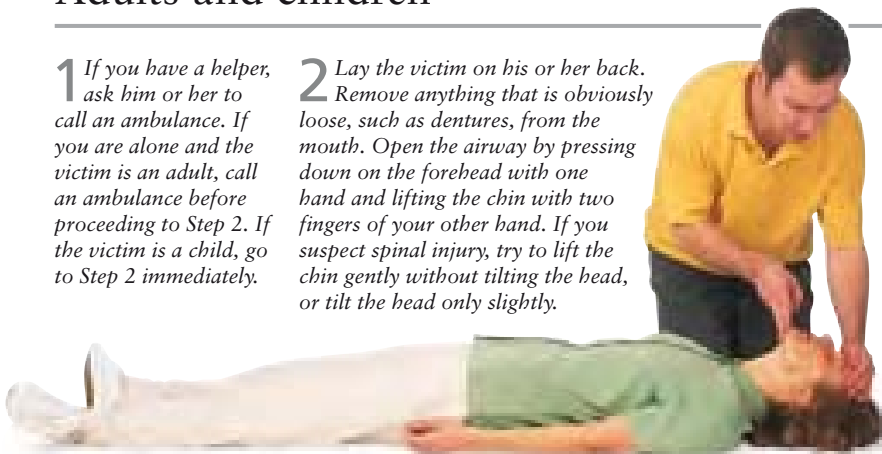
Artificial respiration is a way to force your exhaled air into the lungs of a person who is not breathing. If breathing has stopped, the victim will be unconscious, the chest will not rise or fall, and you will not be able to feel or hear breath. The face may be greyish blue. In this situation, you must give artificial respiration immediately – your exhaled air still contains enough oxygen to sustain the victim's vital organs

until help arrives. If the pulse is absent, indicating that the heart has stopped, you need to carry out cardiopulmonary resuscitation (pp.296–297) – artificial respiration combined with chest compressions. When giving artificial respiration to an infant, be careful not to blow too hard or air will go into the stomach. Use a face shield or mask, if available. However, even if you do not have one, do not hesitate to help a victim.

## Adults and children

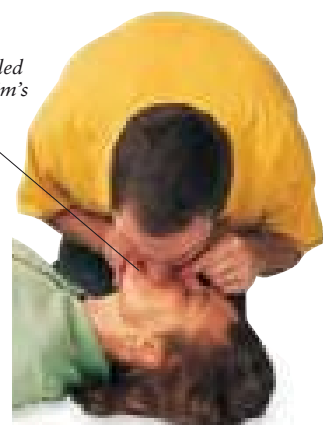
**1** If you have a helper, ask him or her to call an ambulance. If you are alone and the victim is an adult, call an ambulance before proceeding to Step 2. If the victim is a child, go to Step 2 immediately.

**2** Lay the victim on his or her back. Remove anything that is obviously loose, such as dentures, from the mouth. Open the airway by pressing down on the forehead with one hand and lifting the chin with two fingers of your other hand. If you suspect spinal injury, try to lift the chin gently without tilting the head, or tilt the head only slightly.



**3** Pinch the victim's nose closed with your thumb and index finger. Take a deep breath, then place your open mouth tightly around the victim's mouth to make a good seal. Blow air into the victim's mouth for about 1½ seconds.

Lips are sealed around victim's mouth



**4** Lift your mouth away, keeping your hands in place to maintain the victim's head position. Glance at the victim's chest; you should see the chest fall as air leaves the lungs. Take a breath yourself, then give another 1½-second breath.

Fingers keep chin lifted

Nose is pinched closed



**5** Look at the victim's chest again. If there is no rise and fall, check the head position and give another breath, ensuring that you make a good seal around the mouth. If the chest still does not move, assume that the airway is blocked and treat as for choking (pp.294–295). If the chest does rise and fall, go to Step 6.

Rescuer watches victim's chest



**6** Check the pulse (see ABC of resuscitation, p.290). If it is absent, start CPR (pp.296–297). If there is a pulse or other signs of circulation, continue artificial respiration; give 1 breath every 6 seconds. Call an ambulance after 1 minute if this has not already been done. Check for a pulse after every minute. If the victim starts breathing, place him or her in the recovery position (p.292).

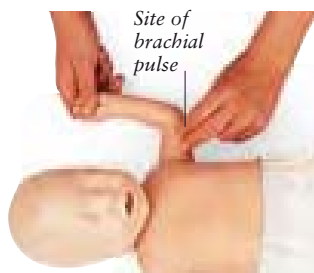
## Infants



**1** Send a helper, if you have one, to call an ambulance. Place the infant on his or her back on a firm surface. Put one hand on the infant's head and tilt the head back while you lift the chin slightly with one finger of your other hand.



**2** Carefully remove any obvious obstructions from the mouth. Seal your lips around the mouth and nose. Give 2 slow breaths of about 1½ seconds each. If the chest does not move, treat as for choking (p.295); otherwise, go to Step 3.



Site of brachial pulse

**3** Check circulation by feeling for the brachial pulse (see ABC of resuscitation, p.290) and look for signs of recovery, such as coughing, swallowing, and return of normal skin colour. Call an ambulance unless one has been called.



**4** If you cannot feel a pulse, start CPR (pp.296–297). If there is a pulse or other signs of circulation, keep giving breaths at a rate of 1 breath every 3 seconds. Check for a pulse and signs of recovery after each minute, continuing until help arrives.

# Choking

Choking is due to obstruction of the airway. In adults, a common cause of choking is food stuck in the throat. Infants and children often put small objects in their mouths and can easily choke. An adult or older child who is choking may cough and gasp and point to or grasp at the throat. A young child who is choking will have difficulty in speaking and breathing and the face and neck will become flushed. A choking infant may squeak, turn blue, and seem to cry silently. If coughing does not clear the blockage, you need to give first aid to avoid suffocation. The techniques on these pages show how to treat conscious victims who are choking as well as those who have lost consciousness while being treated for choking or were found unconscious and known to have choked. You must reopen a blocked airway before giving any other first-aid treatment.

## Conscious adults



**1** Encourage the victim to cough. If this does not dislodge the object, bend the person forwards and give the back 5 sharp slaps between the shoulder blades.

**2** If the victim continues to cough without clearing the object, you will need to give abdominal thrusts. Stand behind the victim and reach around the body. Make a fist with one hand. Position the thumb side of your fist in the middle of the abdomen, just below the breastbone.



**3** Place your other hand over your fist, and pull sharply inwards and upwards. Give 5 of these thrusts. If the object is not dislodged, repeat this cycle of 5 slaps and 5 thrusts. If the victim continues to choke or loses consciousness (see Unconscious adults, below), call an ambulance.

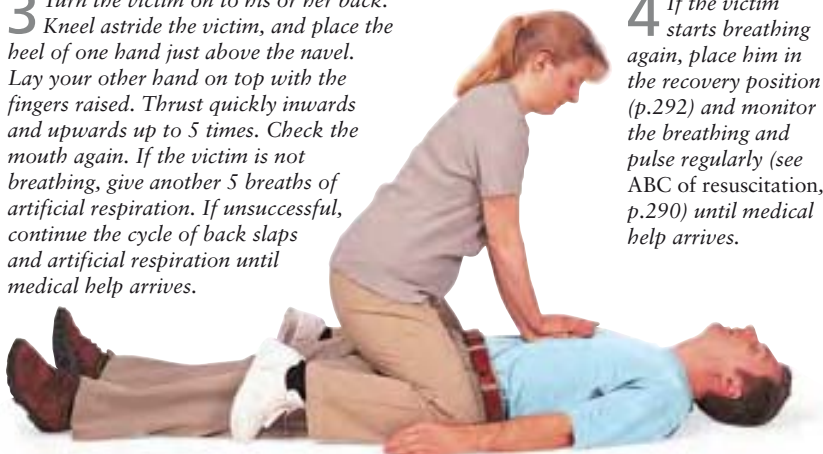
## Unconscious adults



**1** If you have a helper, send him or her to call an ambulance. Lay the victim down on a firm surface and open the airway by pressing the forehead down with one hand and lifting the chin with two fingers of the other. Remove any obvious obstruction from the mouth.

**2** If the victim is not breathing, attempt up to 5 slow breaths of artificial respiration (p.293). If the chest does not move (a sign that air is not reaching the lungs), turn the victim on to his or her side and give up to 5 sharp back slaps between the shoulder blades. Check the mouth again. If unsuccessful, proceed to step 3.

**3** Turn the victim on to his or her back. Kneel astride the victim, and place the heel of one hand just above the navel. Lay your other hand on top with the fingers raised. Thrust quickly inwards and upwards up to 5 times. Check the mouth again. If the victim is not breathing, give another 5 breaths of artificial respiration. If unsuccessful, continue the cycle of back slaps and artificial respiration until medical help arrives.



**4** If the victim starts breathing again, place him in the recovery position (p.292) and monitor the breathing and pulse regularly (see ABC of resuscitation, p.290) until medical help arrives.

## Conscious children

**1** If the child is still able to breathe, encourage him or her to cough if possible because this may help to dislodge the obstruction.

**2** If the child stops coughing or cannot breathe, bend him or her forwards and give up to 5 sharp back slaps between the shoulder blades. Check the mouth, and remove the obstruction if you can see it clearly.



**3** If back slaps do not help, kneel behind the child. Place a fist on the lower breastbone and put your other hand over the fist. Pull sharply inwards and upwards, up to 5 times. Check the mouth.



Hands positioned against central upper abdomen

**4** If chest thrusts do not dislodge the object, give up to 5 abdominal thrusts, with your fist against the child's upper abdomen. If the child is still choking, call an ambulance and repeat Steps 2–4 until help arrives.

## Unconscious children

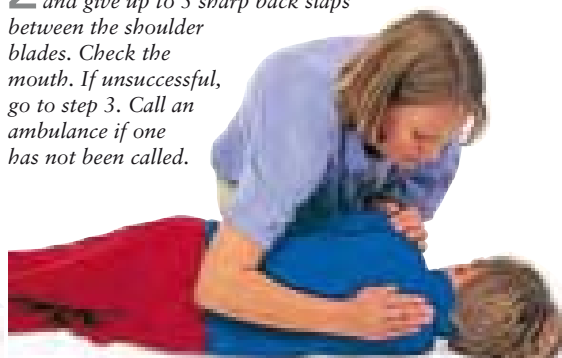
### WARNING

Only try to remove an object from a victim's throat if the object is clearly visible; do not feel blindly in the throat.

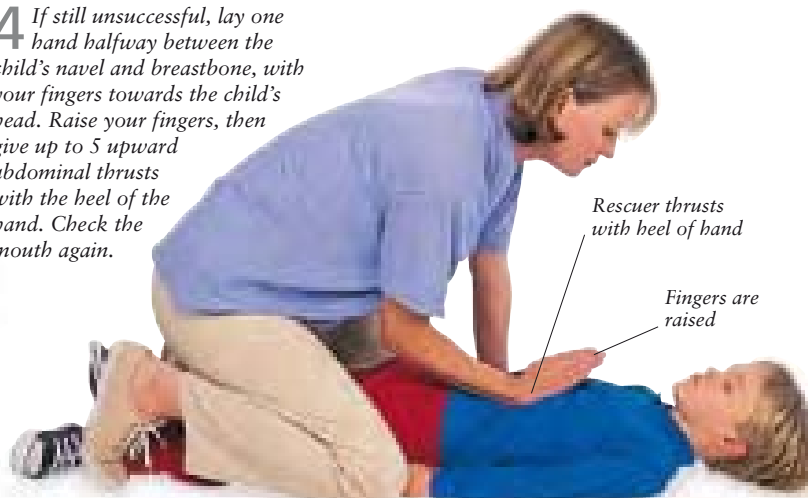
**1** If you have a helper, ask him or her to call an ambulance. Open the child's airway and check if he or she is breathing (see ABC of resuscitation, p.290). Remove any obvious obstruction from the child's mouth. If breathing has stopped, give up to 5 slow breaths of artificial respiration (p.293). If the child is still not breathing, go to step 2.



**2** Turn the child on to his or her side and give up to 5 sharp back slaps between the shoulder blades. Check the mouth. If unsuccessful, go to step 3. Call an ambulance if one has not been called.



**4** If still unsuccessful, lay one hand halfway between the child's navel and breastbone, with your fingers towards the child's head. Raise your fingers, then give up to 5 upward abdominal thrusts with the heel of the hand. Check the mouth again.



**3** Turn the child on to his or her back. Lay the heel of one hand on the child's lower breastbone and give up to 5 sharp inward thrusts. Check the mouth again to see if the obstruction has been dislodged.

**5** Attempt another 5 breaths of artificial respiration. If the child does not start to breathe, repeat the cycle of back slaps abdominal thrusts, and breathe until an ambulance arrives. If the child begins to breathe again at any time, place him or her in the recovery position (p.292).

## Infants

### WARNING

- Never shake a choking infant.
- Do not use your fingers to feel blindly down an infant's throat. Only try to remove the obstruction if you can see it clearly.

**1** If the infant has a strong cough, let him or her continue. If the object is not dislodged or the child becomes too weak or tired to cough or stops breathing, go to Step 2. If you have a helper, ask him or her to call an ambulance.

**2** Lay the infant face downwards on your forearm or lap, with the head lower than the trunk. Support the chin and shoulders with your hand. Give up to 5 back slaps between the infant's shoulders, then check the mouth.

Give up to 5 back slaps



**3** If back slaps are not effective, lay the infant face upwards along your forearm or on your lap, keeping the head lower than the trunk. Place 2 fingers on the breastbone a finger's width below the nipples and give 5 sharp chest thrusts, one every 3 seconds.

**4** Call an ambulance if a helper has not already done so. Continue with cycles of 5 back slaps followed by 5 chest thrusts.

**5** If at any time the infant loses consciousness, open his or her mouth, and place your finger on the tongue to allow you a clear view of the back of the mouth. Remove any obvious obstruction.

**6** Tilt the head back to open the airway and give 2 breaths of artificial respiration (p.293). If the air does not reach the lungs, reposition the head and try again.

**7** If the breaths still do not reach the lungs, repeat Steps 2–6 until medical help arrives or the infant starts breathing unaided again. If the infant does start breathing, hold him or her in the recovery position (p.292) and monitor the breathing and pulse (see ABC of resuscitation, p.290) until medical help arrives.



# Cardiopulmonary resuscitation (CPR)

CPR is a life-saving technique in which artificial respiration (p.293) is combined with chest compressions. It is performed on an unconscious victim who is not breathing and has no pulse, to keep the blood circulating and ensure that oxygen is supplied to the tissues. Chest compressions force blood out of the heart and around the body, ensuring that the oxygen supplied by artificial respiration reaches the brain and other vital organs. Do not stop giving CPR until the victim's heart

starts beating or medical help arrives. If you are too tired to continue, try to find another trained person to take over from you until medical help arrives. When giving chest compressions to children slightly less pressure is used in order to avoid injury and they are also given at a slightly different rate. Breaths of artificial respiration are also given at a different rate in children and it is important not to blow too hard, especially when treating an infant.

## Adults

**1** Call an ambulance. Lay the victim face upwards on a hard surface. Open the airway by placing one hand on the forehead to tilt the head back and lifting the chin with two fingers of the other. Look at the chest for signs of breathing and feel for breath on your cheek.

Two fingers used to lift victim's chin



**2** If the victim is not breathing, pinch the nostrils shut with one hand, and keep the chin tilted with the other. Seal your mouth over the victim's mouth, and give 2 breaths of artificial respiration (p.293). Pause to take a breath yourself between giving breaths.

**3** Check the pulse at the neck for up to 10 seconds and look for other signs of recovery, such as return of skin colour or breathing. If there is a pulse, continue artificial respiration. If you cannot find a pulse and there are no signs of recovery, begin CPR (see Step 4).



Middle finger on end of the breastbone

**4** Kneel to one side of the victim. Using the hand farthest from the victim's head, slide your fingers along the lowest rib to where it meets the breastbone. Place your middle finger on this point and your index finger just above it.

**5** Place the heel of your other hand on the breastbone, just above your index finger. This is the area of the chest where you must apply the compressions.

**6** Lift the fingers of the first hand away and lay the hand on top of your other hand. Interlock the fingers, so that the fingers of the bottom hand are lifted off the chest.

**7** Kneel upright with your shoulders directly above the victim and your elbows locked straight. Press downwards, depressing the breastbone 4–5 cm (1½–2 in), then release the pressure without moving your hands.

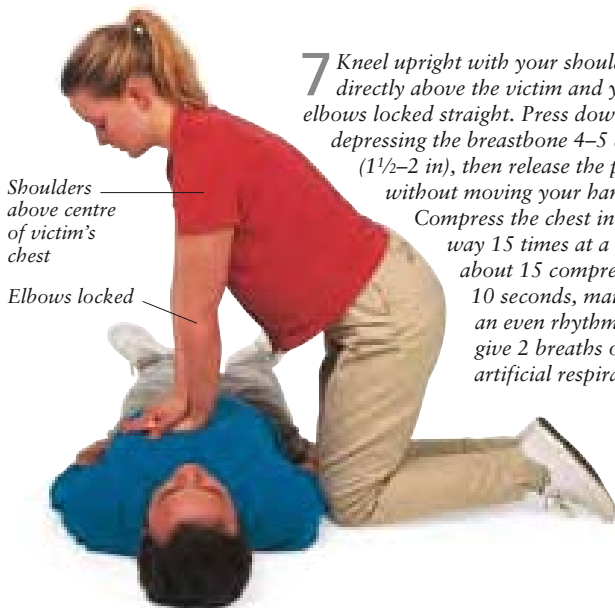
Compress the chest in this way 15 times at a rate of about 15 compressions in 10 seconds, maintaining an even rhythm. Then give 2 breaths of artificial respiration.

Shoulders above centre of victim's chest

Elbows locked

**8** Continue giving cycles of 15 chest compressions with 2 breaths of artificial respiration. After 4 cycles of compressions and breaths check the pulse and breathing, and check them again every few minutes thereafter. If they are absent, continue CPR. If the pulse and breathing return, stop CPR but continue to monitor the pulse and breathing until help arrives.

Feel neck to monitor pulse





## Children

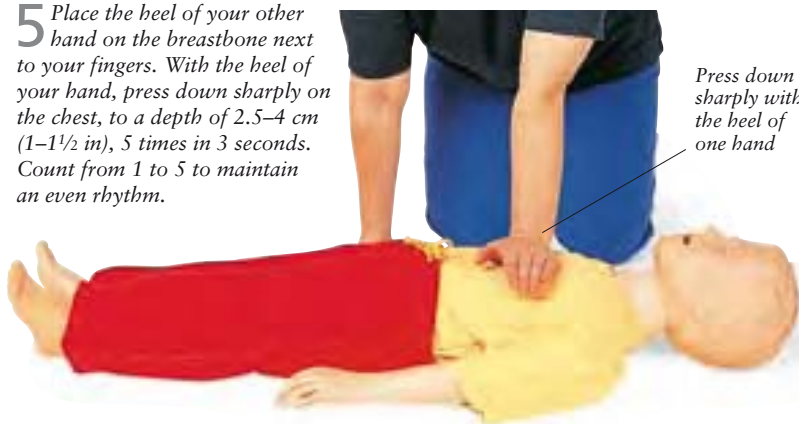


**1** Ask a helper to call an ambulance. Lay the child face up on a firm surface. Open the airway by tilting the head back slightly. Do this by pressing down gently on the forehead with one hand and lifting the chin with 2 fingers of the other hand.



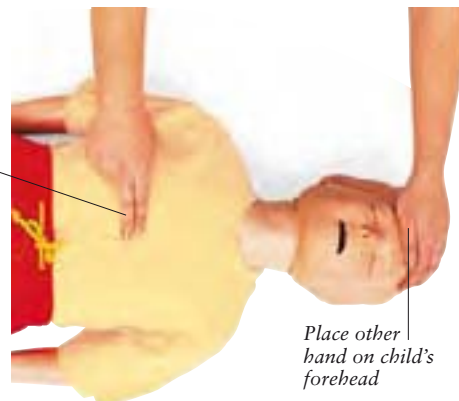
**2** If there are no signs of breathing, such as chest movement or the feel of breath on your cheek, pinch the child's nose shut and seal your lips over the mouth. Give 5 breaths of artificial respiration (p.293), pausing to take a breath yourself between each one.

**5** Place the heel of your other hand on the breastbone next to your fingers. With the heel of your hand, press down sharply on the chest, to a depth of 2.5–4 cm (1–1½ in), 5 times in 3 seconds. Count from 1 to 5 to maintain an even rhythm.



Press down sharply with the heel of one hand

Middle finger on end of the breastbone



Place other hand on child's forehead

**3** Feel for a pulse in the child's neck for up to 10 seconds and look for signs of recovery, such as the return of skin colour or breathing. If there is a pulse, continue with artificial respiration. If there is no pulse, and the child shows no signs of recovery, commence CPR (see Step 4).

**4** Kneel beside the victim and place one hand on the child's forehead. Locate one of the lowermost ribs with the fingers of the other hand. Slide your fingers along the rib to where it meets the breastbone. Position your middle finger at this point with the index finger just above it.

**6** Give 1 breath of artificial respiration. Then repeat the chest compressions and breaths for 1 minute. Call an ambulance if one has not been called. Repeat the cycle until the child recovers or help arrives. Recheck the pulse and breathing every few minutes.



## Infants

**1** Call an ambulance or ask a helper to do so. Place the infant face up on a hard surface. Tilt the head back slightly with one hand and lift the chin with one finger of the other hand. Look, listen, and feel for evidence of breathing. If the baby is not breathing, seal your lips over the mouth and nose. Give 5 slow, gentle breaths of artificial respiration (p.293), pausing to breathe yourself between the breaths.



Check for a pulse on inner upper arm

**2** Feel for a pulse on the inside of the upper arm for 5–10 seconds and look for signs of recovery, such as restored skin colour or breathing. If there is a pulse but no breathing, continue giving artificial respiration. If there is no breathing or pulse, start CPR (see Step 4).



Place one hand on baby's head

Press down sharply on breastbone with 2 fingers of other hand

**3** With one hand placed on the top of the baby's head, position the tips of 2 fingers of your other hand on the breastbone, a finger's width below the nipples. Press down sharply on the breastbone, to a depth of 1–2.5 cm (½–1 in), 5 times in 3 seconds.

**4** Seal your lips over the infant's mouth and nose and give 1 breath. Check for breathing. Repeat the cycle of 5 chest compressions to 1 breath for 1 minute. If a helper has not already done so, call an ambulance. If the infant recovers at any time, stop CPR but monitor the breathing and pulse until medical help arrives.

# Shock

Shock can occur as a result of any severe injury or illness that dramatically reduces the flow of blood around the body, such as a heart attack or severe bleeding. It can also be due to loss of body fluids from burns or severe diarrhoea and vomiting. If shock is not treated rapidly, vital organs such as the brain and heart may fail. Signs of shock may include a rapid pulse; grey-blue skin, especially on the lips; sweating; and cold, clammy skin. Later, excessive thirst and nausea and vomiting may occur. The victim may feel weak or dizzy and develop rapid, shallow breathing and a faint pulse. He or she may be restless, gasp for air, and eventually lose consciousness. It is essential to call for medical help at the first signs of shock, and to keep the victim warm and comfortable.

## WARNING

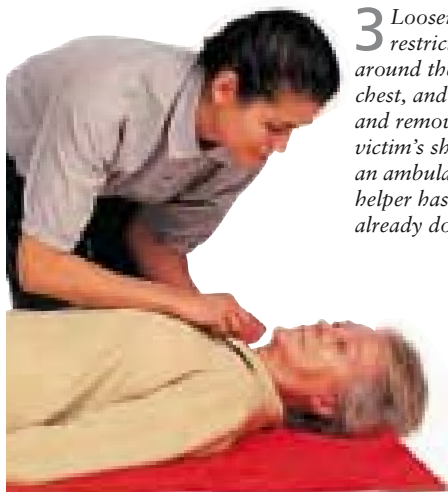
- Do not leave the victim alone, except to call an ambulance. If possible, ask a helper to summon medical help.
- Do not let the victim eat or drink unless he or she has diabetes and is hypoglycaemic.

**1** If you have a helper, send him or her to call an ambulance. Treat any obvious cause of shock, such as severe bleeding (opposite page).

**2** If the person is breathing normally, lay him or her down. If you suspect a fracture (p.301), keep the person flat. Otherwise, raise the legs above the level of the heart. If the person is having difficulty in breathing, help him or her to sit in a comfortable position.



**3** Loosen any restrictions around the neck, chest, and waist, and remove the victim's shoes. Call an ambulance if a helper has not already done so.



**4** Stop the victim becoming cold by covering him or her with a blanket. Check the victim's level of consciousness by asking simple, direct questions. Monitor breathing and pulse and be prepared to resuscitate if necessary (see ABC of resuscitation, p.290).



# Anaphylactic shock

Anaphylactic shock is a life-threatening allergic reaction to a specific food, drug, or insect sting. It can develop within seconds or a few minutes. The victim may be anxious and may have puffy eyes, a swollen face, lips, and tongue, and an itchy, red skin rash. He or she may develop wheezing and severe breathing difficulties and may lose consciousness. An injection of epinephrine (adrenaline) and oxygen must be given as quickly as possible. If the person is aware of having an allergy and carries a supply of epinephrine, you can help him or her to use this supply. Otherwise, first aid is limited to keeping the person comfortable and, if necessary, helping him or her to breathe until medical help arrives.

## WARNING

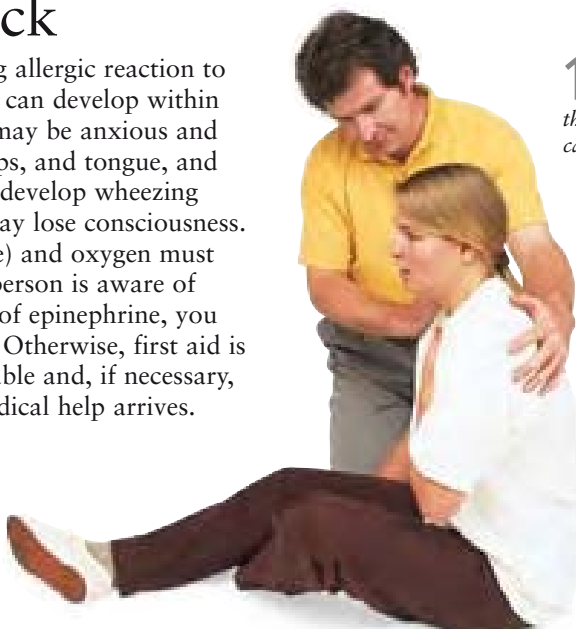
Do not leave the victim alone, except to call an ambulance. If possible, ask a helper to summon medical help.

**1** Call an ambulance or send a helper to do so immediately. If possible, provide the emergency services with details of the cause of the allergic reaction.

**2** If the victim is conscious, help him or her to sit up in the position that makes breathing easiest.

**3** Check if the victim is carrying a syringe of epinephrine (adrenaline). Help him or her to use it, or administer it yourself if you have been trained.

**4** If the person loses consciousness, open the airway, check breathing and pulse, and be prepared to carry out resuscitation if necessary (see ABC of resuscitation, p.290). Monitor the person's pulse and breathing until medical help arrives.



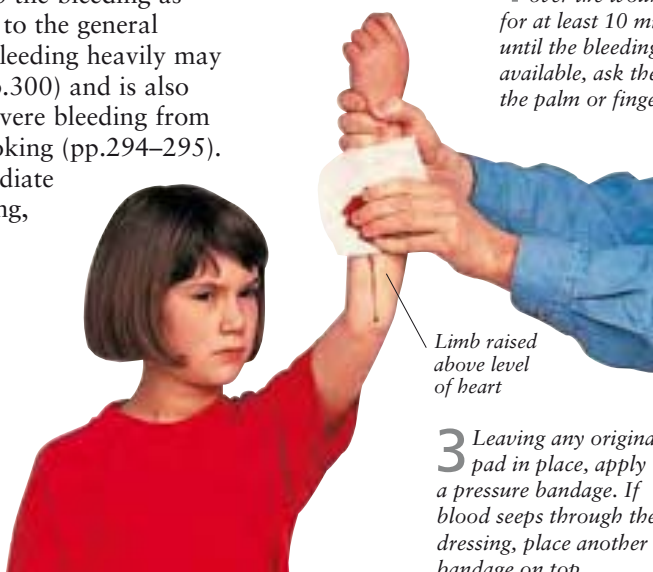


## Severe bleeding

Severe bleeding is dramatic and distressing and can be life-threatening. Although you must try to stop the bleeding as quickly as possible, you must also be alert to the general condition of the victim. A person who is bleeding heavily may lose consciousness (see *Unconsciousness*, p.300) and is also likely to develop shock (opposite page). Severe bleeding from an injury to the face or neck can cause choking (pp.294–295). Any of these conditions may require immediate treatment. Before and after treating bleeding, wash your hands well. Wear disposable gloves if they are available and follow the procedure below to stop the bleeding.

### WARNING

- Do not apply a tourniquet. This can make the bleeding worse and may result in tissue damage.
- Do not try to remove a foreign body that has become embedded in a wound.



Limb raised above level of heart

**1** Place a sterile dressing, pad, or clean cloth over the wound and press firmly in place for at least 10 minutes, or longer if necessary, until the bleeding stops. If no clean dressing is available, ask the victim to apply pressure with the palm or fingers of his or her own hand.

**2** If the bleeding does not stop, raise the injured part above the level of the heart, if possible, and continue to apply pressure. However, if you suspect a fracture (p.301), do not move the injured part.

**3** Leaving any original pad in place, apply a pressure bandage. If blood seeps through the dressing, place another bandage on top.

**4** Call an ambulance. Watch for signs of shock (opposite page), and treat if necessary. Continue to check the dressing for seepage of blood.

## Severe burns

A severe burn may involve all layers of the skin. If it is very severe, it may also destroy the tissues underlying the skin. The affected area may appear red and may have blisters that weep clear fluid. In some cases, the area may be brown or charred. If the burn extends to very deep tissues, the skin may be white. If the nerve endings are damaged, there may be loss of feeling in the injured area. The immediate response for a serious burn is to cool the area rapidly, which minimizes

damage and may help to prevent loss of body fluids and the onset of shock (p.298). It is also essential to protect the wound from infection. The larger and deeper the burn, the greater the risk of shock or infection. A victim who has been burned in a fire will probably have suffered damage to the airway as a result of inhaling smoke or hot air. You should monitor his or her breathing regularly. If consciousness is lost, be prepared to resuscitate (see *ABC of resuscitation*, p.290).

### WARNING

- Do not touch the burn.
- Do not apply anything to the burn other than cool liquid, preferably cool water or otherwise a cold drink.
- Do not apply ice or ice water directly to the burned area.
- Do not burst blisters.

**1** If possible, remove the victim from the source of the burn and put out any flames on the person's clothing. If you have a helper, send him or her to call an ambulance.

**2** If the site of the burn allows you to do so, lay the victim down, protecting the burn from contact with the ground. If possible, raise the burned area above the level of the heart. Do not touch the burn or attempt to remove anything that is sticking to the burn. Call an ambulance unless a helper has called one already.



**3** Douse the burn with plenty of cool water, immerse it in water, or cover it with cold, wet towels for at least 10 minutes or until the burn has cooled down. If no tap water is available, use any other suitable source, including a garden hose, shower, or a cold, canned drink.

**4** Once the burn has cooled, gently remove or cut away clothing (unless sticking to the burn), shoes, belts, or jewellery before the area starts to swell or blister. Do not touch blisters. If pain persists, cool the area again. Cover the burn with a sterile dressing or any clean, non-fluffy material. Do not apply adhesive dressings to the affected skin.

**5** Record details of the injuries and the circumstances in which they occurred. Reassure the victim while you wait for medical help to arrive. Monitor breathing and pulse (see *ABC of resuscitation*, p. 290), watch for signs of shock (p.298), such as rapid pulse and cool, moist skin, and be prepared to treat appropriately.

Wound covered with non-fluffy material



# Unconsciousness

Unconsciousness results from an interruption to the normal activity of the brain. It is a potentially life-threatening condition that needs immediate medical help. A victim is likely to be unconscious if he or she does not respond to loud noises or gentle tapping or shaking. The person will make no sound or movement and his or her eyes will remain closed. If an unconscious victim is lying on his or her back, the tongue may fall back and block the airway.

First-aid priorities are to maintain an open airway and to check for and treat obvious injuries.

## WARNING

- Do not move the victim unnecessarily in case there is spinal injury.
- Do not leave the victim alone except to call an ambulance. If possible, ask a helper to summon medical help.
- Do not try to give an unconscious victim anything to eat or drink.



**1** If you have a helper, send him or her to call an ambulance. If you need to leave the victim alone to call for help, place the person in the recovery position (p.292). However, if you suspect spinal injury, do not move the person unless the airway is blocked.

**2** Check the victim's breathing by looking for chest movement, listening for breaths, or feeling for breath on your face. Check the pulse, and be prepared to resuscitate if necessary (see ABC of resuscitation, p.290).

**3** Control any external bleeding (see Severe bleeding, p.299) and check for and support suspected fractures (opposite page). Look for clues to the cause of the victim's condition, such as needle marks, warning bracelets, or cards. Ask bystanders for any information to give to the medical services.

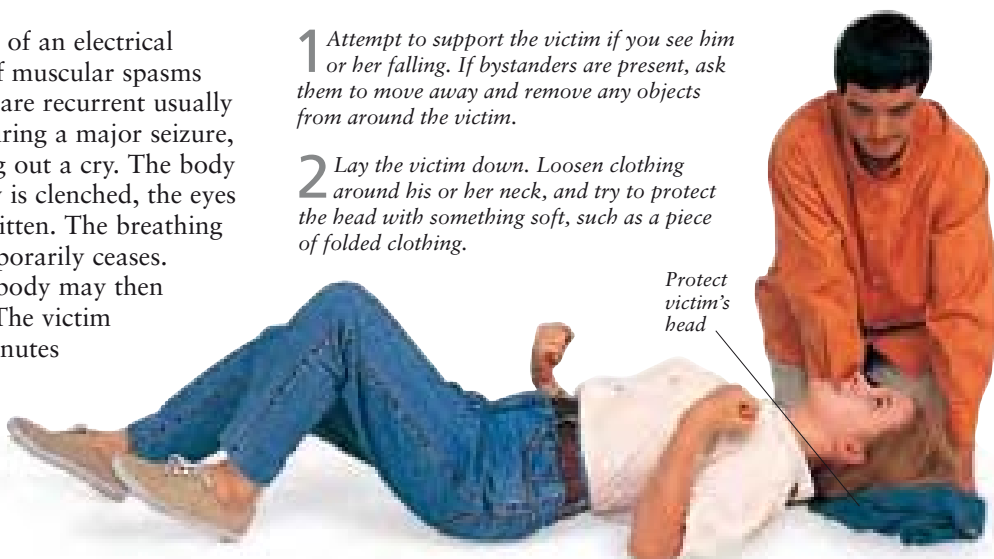
**4** Stay with the victim until medical help arrives. Monitor the victim's breathing and pulse at regular intervals. In addition, you should periodically check whether the victim is regaining consciousness by asking simple, direct questions or tapping or shaking the person gently.

# Major seizures

A major seizure (convulsion) is a result of an electrical disturbance in the brain and consists of muscular spasms and loss of body control. Seizures that are recurrent usually indicate the brain disorder epilepsy. During a major seizure, a person falls unconscious, often letting out a cry. The body becomes rigid, the back arches, the jaw is clenched, the eyes roll upwards, and the tongue may be bitten. The breathing becomes noisy and, in some cases, temporarily ceases. Convulsive shaking movements of the body may then follow, and may last for 1–3 minutes. The victim recovers consciousness within a few minutes but is left dazed and sleepy. Anyone who is giving first aid should protect the victim from injuring him- or herself during a major seizure and should remain present until recovery is complete.

**1** Attempt to support the victim if you see him or her falling. If bystanders are present, ask them to move away and remove any objects from around the victim.

**2** Lay the victim down. Loosen clothing around his or her neck, and try to protect the head with something soft, such as a piece of folded clothing.



Protect victim's head



One leg kept straight

Hand under head for support

**3** When the seizures have finished, place the victim in the recovery position (p.292). Check the victim's breathing and pulse at regular intervals, and be prepared to resuscitate if necessary (see ABC of resuscitation, p.290).

Other leg bent to prop up body

**4** If the victim has a severe seizure, in which he or she remains unconscious for more than 10 minutes or convulses for more than 5 minutes, or if the person has repeated seizures, call an ambulance. Stay with the victim and monitor breathing and pulse until the ambulance arrives.

## WARNING

- Do not use force in an attempt to restrain the victim.
- Do not put anything in the victim's mouth.

**5** If the victim has not had a severe seizure or repeated seizures and you know that he or she has epilepsy, stay with the person until he or she has recovered. If you are not certain that the person has epilepsy, call an ambulance and stay with the victim until the ambulance arrives.



## Spinal injury

The main risk when dealing with someone who has spinal injury is that any movement may damage the spinal cord. The most dangerous injuries are those to the neck, but any spinal injury is potentially serious. When calling the emergency services, try to tell them how the injury to the spine occurred. If you suspect an injury to the spinal cord, it is vital to keep the victim still until a doctor arrives. Signs of possible damage to the spinal cord include a burning sensation or tingling in a limb or loss of feeling in a limb. The victim may also have breathing difficulties.

**1** Call an ambulance. Reassure the victim and keep him or her as still as possible. If the victim was found face down and must be moved, place your hands over his or her ears to hold the head aligned while helpers straighten the victim's limbs and roll him or her gently over. If the victim was found on his or her back, go to Step 2.

Rescuer's hands hold head aligned with spine



**2** The safest position for a victim with a suspected spinal injury is the neutral position in which the head, neck, and spine are aligned. To check alignment, make sure that the victim's nose is in line with his or her navel.

**3** If you need to realign the victim, kneel by the victim's head, place your hands firmly over his or her ears, and move the head slowly into position. Stay supporting the head in this position until the ambulance arrives.

### WARNING

Do not move the victim from the position in which he or she was found unless he or she is in danger or loses consciousness and needs to be resuscitated.



**4** If you have a helper, extra stability can be provided by getting him or her to place rolled-up clothes, towels, or blankets on either side of the victim's head and shoulders to minimize movement.

## Fractures

You should suspect a fracture if the person cannot move the injured part or it is misshapen or very painful. There is likely to be swelling and bruising and possibly bleeding and a visible wound. A person with an upper limb fracture is usually able to walk and can be taken to hospital, keeping the injured part as still as possible. Fracture of a lower limb bone is a serious injury, requiring immediate hospital treatment. Fractures of the thighbone often involve severe internal bleeding and there is a danger of shock (p.298). No weight must be placed on an injured leg.

### WARNING

- Do not give anything to eat or drink, in case the victim needs general anaesthesia.
- Do not move a victim with a lower limb injury unless he or she is in danger.

### Upper limb fractures



Injured arm supported across chest



Broad-fold bandage

**1** Sit the victim down. If necessary, treat any bleeding (see Severe bleeding, p.299).

**2** Ask the victim to hold the injured arm across his or her chest in the position that is most comfortable. Tell the victim to support the arm or wrist, if possible. Alternatively, support the part yourself.

**3** Place the arm on the injured side in a sling and insert soft padding between the arm and the chest. If the arm has to be kept still, tie a broad-fold bandage around the chest and over the sling.

**4** Take or send the victim to hospital, keeping him or her seated if possible.

### Lower limb fractures

**1** Help the victim to lie down, and treat any bleeding (see Severe bleeding, p.299).

**2** Put plenty of padding, such as rolled-up blankets or towels or folded newspaper, on both sides of the injured leg. If you have a helper, send him or her to call an ambulance.

**3** If you need to remove the victim from danger or leave to call an ambulance, immobilize the injured limb by bandaging it to the sound limb. Otherwise, immobilize the injured limb by steadying and supporting it with your hands until the ambulance arrives.

**4** Try to minimize the risk of shock (p.298) developing by keeping the person warm and comfortable. Regularly check the person's breathing and pulse and be prepared to resuscitate (see ABC of resuscitation, p.290).



## Swallowed poisons

Poisoning can be caused by swallowing toxic chemicals or poisonous plants or by overdosage of recreational or medicinal drugs. Common symptoms include pain in the abdomen or chest, nausea, vomiting, diarrhoea, and breathing difficulties. There may be signs of burning around the mouth and lips. The victim may appear sluggish and confused and may lose consciousness. Rarely, certain poisons can result in anaphylactic shock (p.298), a life-threatening allergic reaction. Signs of this condition include swelling of the face, lips, and tongue, breathing difficulties, and a rash. If you suspect poisoning, seek medical help at once, giving as much information as possible.

### WARNING

Do not try to induce the victim to vomit unless you are advised to do so by a medical professional.



**1** If the victim is conscious, ask questions to obtain as much information as possible about the poisoning. If the victim is unconscious, go to step 3.

**2** Call your doctor or local poison centre for further instructions and give them as much information as possible. Stay with the victim and monitor his or her condition. If he or she develops signs of shock or breathing difficulties, call an ambulance.

**3** If the victim is unconscious or loses consciousness, check his or her breathing and pulse and be prepared to resuscitate if necessary (see ABC of resuscitation, p.290).

**4** Place the victim in the recovery position (p.292) unless you suspect that he or she has a spinal injury. Call an ambulance and then return to the victim. If alcohol poisoning is a possibility, keep the victim warm with a blanket.

## Bites and stings

In many parts of the world, certain animals, such as scorpions and snakes, have a venomous bite or sting. One poisonous snake, the adder, is native to the UK, but more exotic snakes are kept as pets. A venomous bite or sting can cause severe pain, swelling, and discoloration at the site of the wound. Scorpion stings and snake bites can also cause vomiting, breathing problems, and an irregular heartbeat. With prompt hospital treatment, most victims recover rapidly. If possible, you should note the appearance of a snake responsible for a bite in order that the appropriate antivenom can be given. Bee and wasp stings are not usually life-threatening. However, in a few cases, a single sting can lead to anaphylactic shock (p.298), a life-threatening allergic reaction.

### Insect stings

### WARNING

Get medical help immediately if the victim is allergic to insect stings.



**1** If there are signs of anaphylactic shock, or the sting is in the mouth or throat, call an ambulance. Give a victim stung in the mouth a piece of ice to suck or some cold water to sip. If there is no indication of shock and the sting is still in the skin, proceed to Step 2.

**3** Wash the injured area with soap and water, then pat dry. Cover the wound with a piece of clean cloth or gauze, and secure the material in place with a bandage.

**2** If the sting is still in the skin, gently remove it with a pair of tweezers. Grasp the sting below the venom sac if possible, because pressure on the sac with the tweezers or your fingers may inject more venom into the wound.

**4** Apply a cold compress on top of the cloth or gauze to reduce pain and swelling. Advise the victim to seek medical help if symptoms persist.

## Poisonous bites and stings

**1** Call an ambulance and reassure the victim. If the victim has been bitten by a snake, lay him or her down, keeping the area of the bite below the level of the heart. Tell the victim not to move.

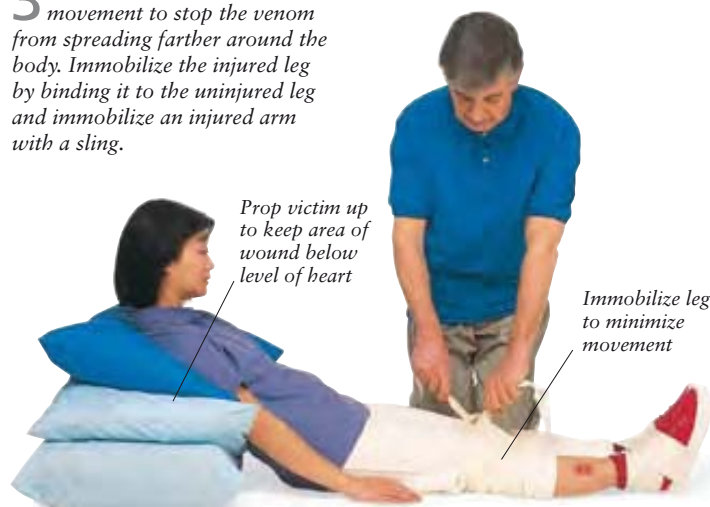
**2** Wash the wound carefully, and pat it dry with clean swabs or other nonfluffy material. Do not rub the wound. If the wound is from a spider bite or a scorpion sting, apply a cold pack and wait for medical help. If you suspect that the bite is from a venomous snake, proceed to Step 3.

**3** Minimize the victim's movement to stop the venom from spreading farther around the body. Immobilize the injured leg by binding it to the uninjured leg and immobilize an injured arm with a sling.

### WARNING

- Do not attempt to identify a venomous snake or spider by handling it.
- Do not apply a tourniquet to the affected limb or attempt to suck the venom from the bite.

**4** Keep the victim calm while waiting for the ambulance. Regularly monitor the victim's breathing and pulse and be ready to resuscitate if necessary (see ABC of resuscitation, p.290).



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# DRUGS GUIDE & USEFUL ADDRESSES

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The Drugs Guide will help you understand prescribed and over-the-counter drugs and how to use them safely. It explains the general principles of drug treatment and contains information on specific drug groups. Useful Addresses provides sources for additional health information and tells you how to contact self-help and support groups.





# DRUGS GUIDE

A vast range of drugs is available for treating disorders. Drugs are used not only to cure many conditions but, in some cases, to control symptoms in disorders such as epilepsy and rheumatoid arthritis, as well as to relieve common, minor symptoms such as wheezing or itching. Some drugs can be bought over the counter (OTC) at pharmacies. Other types can be obtained only with a prescription from your doctor. Drugs may be given in a variety of different forms, depending on considerations such as the part of the body needing treatment and the age of the user. Most drug treatments act systemically; they are introduced into the body and circulate in the bloodstream, which carries the drugs to the tissues where they are needed. Drugs may also be given as topical preparations, which are applied to a particular area of the body and act only on that area.



## How drugs affect you

A drug may have several effects on your body in addition to the intended action. These include side effects, tolerance, and dependence. Side-effects are unwanted effects resulting from a normal dose. Tolerance occurs as the body adapts to a drug's actions. As a result of tolerance, side effects may disappear, but the effectiveness of a drug may be reduced and you may need larger doses to get the same benefit. Dependence is a psychological or physical need for a drug. A drug's effects can vary from one individual to another, depending on a number of factors such as age and body size.

### Side effects

Almost all systemic drugs – drugs that can affect the whole body – can cause side effects. These effects occur because drugs act on cells throughout the body and not just on the area to be treated. Certain side effects are predictable; for example, the action of painkillers (p.309) on the body can also result in constipation. Most side effects are not serious and may disappear as your body becomes more tolerant. However, some may be serious or even potentially fatal. For example, high doses of certain anticancer drugs (p.305) can lead to heart failure. Drugs can also produce unpredictable side effects. One such effect is an allergic reaction, which may be caused by any type of drug; the symptoms can vary from a mild rash to severe breathing problems (anaphylaxis).

### People at special risk

Some people are at higher risk than others of having an adverse reaction to a drug. This variation occurs because people's bodies absorb and excrete drugs at different rates, so that the same dose of a drug may reach different concentrations in the blood. How the body processes a drug may be partly genetically determined and also depends on factors such as body size and kidney function. Groups at higher risk of adverse effects include fetuses (drugs taken by the mother can cross the placenta), babies and children (especially breast-fed babies whose mothers are taking drugs that pass into breast milk), people who have liver or kidney disease (drugs may not be broken down and eliminated from the body), and elderly people (kidney and liver function may have declined with age).

## Using drugs safely

Before taking medication, read the instructions carefully and raise any queries with your doctor or pharmacist. Find out if the drug may affect everyday tasks such as driving, whether or not you should take it on an empty stomach, and what to do if you miss a dose. Inform the doctor or pharmacist about any drugs that you have taken recently or that have affected you adversely; in addition, say if you are pregnant or planning a pregnancy, because some drugs can be harmful to a fetus.

### Taking drugs correctly

When taking tablets or capsules, swallow them with plenty of water so that they do not become stuck in your oesophagus. If you are taking liquid medicine, shake the bottle well before use to mix the ingredients thoroughly, and measure the doses carefully. Devise a routine to help you remember when to take your drugs, especially if you are taking more than one medication. Make sure that you complete the full course of any treatment, even if your symptoms seem to have disappeared. Never take someone else's prescribed drug or give yours to anyone else. Do not use OTC remedies for more than a few days unless you know the cause of your symptoms and are sure that the condition is improving.



**Giving medicine with a syringe**  
*Drugs for small children often come in liquid form. Use a syringe to measure doses accurately and give the doses without spillage.*

### Storing drugs safely

To prevent drugs from deteriorating, follow the directions given for storage. Keep the drugs in their original containers. Some drugs need to be stored in a cool, dry place and others in the refrigerator or away from light. Always keep drugs out of reach of children; if possible, put them in a locked cabinet. Medicines that have passed their expiry dates may become ineffective or even harmful, so dispose of them carefully; it is best to return old medicines to a pharmacist.



# A–Z of drugs

This section is an alphabetical guide to the major drug groups. Each entry gives the uses and possible side-effects of the drugs. They also tell you when the drugs are available over the counter and when a doctor's prescription is needed. Where appropriate, warning boxes draw your attention to important information about the effects of certain drugs.

Drug group names appearing in *italic typeface* cross-refer to other drug groups within the A–Z of drugs.

## ACE inhibitors

A group of drugs that, because of their ability to widen blood vessels, are used to treat hypertension (high blood pressure) and heart failure (a reduction in the pumping efficiency of the heart). ACE (angiotensin-converting enzyme) inhibitors may also be used to treat diabetic kidney disease, in which the small blood vessels in the filtering units of the kidneys are damaged. ACE inhibitors are often prescribed with other drugs, such as *diuretics* or *calcium channel blockers*. ACE inhibitors may harm a fetus and should not be used during pregnancy. You should always tell your doctor if you are planning a pregnancy or are pregnant.

### POSSIBLE SIDE EFFECTS

These include nausea, loss of taste, headache, dizziness, and a dry cough. The first dose may reduce the blood pressure dramatically, causing lightheadedness. For this reason people are often advised to take the first dose at bedtime. Kidney damage is a rare but serious side effect.

### WARNING

If you are taking an ACE inhibitor drug, do not take a *nonsteroidal anti-inflammatory drug* without first consulting your doctor because the combination may increase the risk of kidney damage.

## Antacids

Drugs that are taken to relieve indigestion, heartburn, gastritis (inflammation of the stomach lining), and gastro-oesophageal reflux (the regurgitation of stomach acid into the oesophagus). Antacid drugs also help to relieve ulcers that have developed in the wall of the stomach or duodenum.

Antacid drugs neutralize stomach acids, an action that helps to prevent or relieve inflammation and pain in the upper digestive tract. Antacids also give the stomach or duodenal lining time to heal when it has been damaged by an ulcer and is therefore sensitive to normal amounts of stomach acid. Antacids can be bought over the counter.

### POSSIBLE SIDE EFFECTS

Most antacids have few serious side effects. However, some may cause fluid retention or belching and/or constipation.

## Antianginal drugs

Drugs used to treat angina (chest pain due to impaired blood supply to heart muscle). Antianginal drugs include *beta blockers*, *nitrates*, *calcium channel blockers*, and potassium channel openers.

For people who have only occasional attacks of angina, a fast-acting antianginal drug is needed at the first sign of an attack. A nitrate drug such as glyceryl trinitrate is usually prescribed for this purpose. If the attacks become more frequent or severe, preventive treatment may be necessary. Taken regularly, beta blockers, calcium channel blockers, potassium channel openers, or long-acting nitrate patches can control the angina for many years, but none of these drugs can cure the underlying disorder.

### POSSIBLE SIDE EFFECTS

Antianginal drugs can produce a variety of minor side effects, including dizziness and, sometimes, fainting due to lowered blood pressure. Other effects include throbbing headaches at the start of treatment and flushing.

## Antianxiety drugs

Drugs that are used to relieve the symptoms of severe anxiety. Benzodiazepines and *beta blockers* are the two main types of anti-anxiety drug. *Antidepressants* may also be used to treat anxiety.

Antianxiety drugs are used to provide temporary relief from anxiety when it limits a person's ability to cope with everyday life. In most cases, the underlying disorder is best treated by counselling, psychotherapy, or other forms of therapy.

Antianxiety drugs are sometimes used to calm a person before surgical treatment or before a public performance.

Benzodiazepines reduce feelings of restlessness and agitation, slow mental activity, and often produce drowsiness. You should not drink alcohol while taking benzodiazepines because it increases their sedative effect. Beta blockers reduce the physical symptoms of anxiety, such as shaking and palpitations.

### POSSIBLE SIDE EFFECTS

Benzodiazepines often cause drowsiness and can also cause confusion, dizziness, poor coordination, and lethargy. There is also a risk of dependence if they are taken for longer than 1–2 weeks. If you are taking beta blockers, your sleep may be disturbed and your hands and feet may feel cold.

### WARNING

Benzodiazepines often cause drowsiness and may affect your ability to drive vehicles or operate machinery.

## Antiarrhythmic drugs

Drugs used to treat abnormal heart rates and rhythms (arrhythmias). Commonly used antiarrhythmics include *beta blockers*, the *calcium channel blocker* verapamil, and the digitalis drug digoxin. Once an antiarrhythmic drug is required, you may have to take it indefinitely. If you are taking digoxin, your doctor will probably arrange for you to have regular blood tests to check levels of the drug.

### POSSIBLE SIDE EFFECTS

Many types of antiarrhythmic drug reduce blood pressure, and this may cause lightheadedness when you stand up. You may also experience nausea and blurred vision. Other side effects are specific to particular drugs.

## Antibiotics

A group of drugs used to treat infections caused by bacteria. They are also used to prevent infection if a person's immune system is impaired or if there is a risk of endocarditis (inflammation of the lining of the heart).

Many antibiotics belong to one of four main types: aminoglycoside, cephalosporin, penicillin, and tetracycline drugs.

Some antibiotic drugs are effective against only certain types of bacterium. Others, known as broad-spectrum antibiotics, are effective against a wide range of bacteria. The choice of antibiotic drug depends on the type of bacterium and on the site of the infection. This choice is most effectively made by growing a culture of the bacterium and checking its sensitivity to various types of antibiotic. More than one antibiotic drug may be prescribed to increase the efficiency of treatment and to reduce the risk of antibiotic resistance.

### POSSIBLE SIDE EFFECTS

Most antibiotics can cause nausea, diarrhoea, or a rash, as well as adverse effects typical of particular types. Antibiotics may disturb the normal balance between certain types of bacterium and fungus in the body, leading to proliferation of the fungus that causes thrush. Some people occasionally experience a severe allergic reaction to antibiotics.

## Anticancer drugs

Drugs used to treat cancer. Most anticancer drugs are cytotoxic (kill or damage rapidly dividing cells). Others alter the body's hormone balance and play an important part in controlling the spread (metastasis) of cancers.

Several different anticancer drugs may be prescribed together to maximize their effects. The choice of drugs depends on the type of cancer, its stage of development, and the general health of the patient. Anticancer drugs may be given with the aim of curing the cancer, prolonging life, or relieving symptoms. In some cases, drugs are given in combination with surgery and/or radiotherapy.

Anticancer drugs are particularly useful in the treatment of lymphomas, leukaemias, and cancer of the ovary or testis. They are

also used to treat cancers of the breast, prostate, and endometrium. Many anticancer drugs are potentially harmful to a developing fetus. Therefore, you should always consult your doctor about your contraception needs before starting treatment.

#### POSSIBLE SIDE EFFECTS

In the early stages of treatment, nausea, vomiting, and diarrhoea may occur, which in some cases may be sufficiently serious to make hospitalization necessary. Anticancer drugs may also cause hair loss, anaemia, increased susceptibility to infection, and/or abnormal bleeding. To minimize adverse effects, anticancer drugs are usually given in short courses, with time between each course.

## Anticoagulant and antiplatelet drugs

Drugs used to prevent unwanted blood clots from forming in the blood vessels. They are also used to stabilize clots that have already formed, preventing an embolism, in which a piece of existing clot breaks off, is carried away, and blocks a blood vessel supplying a vital organ. Anticoagulant drugs cannot dissolve blood clots, however, and *thrombolytic* drugs are used for this purpose.

In general, antiplatelet drugs are used to prevent unwanted clots from forming in arteries; anticoagulants are prescribed to prevent clots from developing or enlarging in veins. The drugs are usually taken orally, but anticoagulants may be given by injection or infusion if clotting must be controlled quickly, for example during or after surgery.

Warfarin, the most frequently used oral anticoagulant, is used long term to prevent deep vein thrombosis, in which an unwanted clot forms in a vein, or pulmonary embolism, in which a clot lodges in the lungs. The drug is also prescribed to people at risk of a stroke. Because oral anticoagulants interact with many other drugs, patients are given a warning card that lists prohibited drugs.

If you have angina or you have had a heart attack or a stroke you may be advised to take an antiplatelet drug for life. Aspirin is the most commonly used antiplatelet drug. It should not be taken with any other anticoagulant except on the direction of a doctor.

Oral anticoagulants can be harmful to a fetus. You should tell your doctor if you are planning to become pregnant or are pregnant.

#### POSSIBLE SIDE EFFECTS

Easy bruising is a side effect of warfarin and, more rarely, rashes, hair loss, and diarrhoea may occur. People taking oral anticoagulants are given regular blood tests because too high a dose can cause abnormal bleeding.

#### WARNING

Contact your doctor immediately if you are taking an oral anticoagulant and you have nosebleeds or notice blood in your urine.

## Anticonvulsants

Drugs used in the treatment of epilepsy and other types of seizure. Anticonvulsant drugs are taken regularly to reduce the frequency and severity of seizures and as an emergency treatment to stop a prolonged seizure.

Anticonvulsant drugs are also administered to prevent seizures following a serious head injury or some types of brain surgery; they may be given to a child with a high fever who has a history of febrile convulsions (seizures brought on by a high temperature).

The choice of drug is largely determined by the type of seizure to be treated. Long-term treatment may require the use of more than one type of anticonvulsant drug. You should always consult your doctor before planning a pregnancy because some anticonvulsants affect the development of the fetus.

#### POSSIBLE SIDE EFFECTS

Anticonvulsant drugs can produce various adverse effects, including reduced concentration, impaired memory, poor coordination, and fatigue. Your doctor will try to establish a dose that prevents seizures while minimizing adverse effects. Regular monitoring of blood levels of the drug may be necessary in order to achieve this.

## Antidepressants

Drugs that help to relieve many of the symptoms of depression, such as loss of interest in everyday activities, poor appetite, lethargy, insomnia, despair, and thoughts of suicide.

There are three main types of antidepressant: selective serotonin re-uptake inhibitors (SSRIs), tricyclics, and monoamine oxidase inhibitors (MAOIs). The antidepressant effect of these drugs begins after 10–14 days, but the full effect may not be felt for up to 8 weeks. People with moderate to severe depression are most commonly prescribed SSRIs or tricyclics because there are fewer side effects than with MAOIs. MAOIs react adversely with certain foods, such as cheese, and with many other drugs. Therefore, they are usually prescribed only when other types of antidepressant have not been effective. People taking MAOIs are given a card that lists foods and drugs they must avoid.

#### POSSIBLE SIDE EFFECTS

SSRIs can cause headaches, diarrhoea, nausea, and reduced sex drive. Restlessness and anxiety may also occur. A dry mouth, difficulty in passing urine, constipation, and blurred vision are common with tricyclics, but these effects tend to diminish as treatment continues. Side effects of MAOIs include a dry mouth, drowsiness, lightheadedness, and digestive disturbances.

## Antidiarrhoeal drugs

Drugs used to relieve diarrhoea, either as a short-term measure to control an acute attack of diarrhoea, or in the long term for intestinal disorders such as irritable bowel syndrome.

In most cases, diarrhoea clears up in about 48 hours and drug treatment is not required. Drinking plenty of fluids is usually all that is needed. In some cases, *oral rehydration solutions* may be needed. Do not give anti-diarrhoeal drugs to children.

The main types of antidiarrhoeal drug are opioids, bulk-forming agents, and adsorbents. Some are available over the counter. Opioids are the most effective antidiarrhoeal. They are used when the diarrhoea is severe and debilitating. Opioids also help to relieve abdominal pain associated with diarrhoea. Bulk-forming agents and adsorbents have a milder effect and are often used to regulate bowel action over a prolonged period, for example in people with irritable bowel syndrome. Do not take a bulk-forming agent when taking opioids; the combination could cause faeces to compact and block the intestine.

#### POSSIBLE SIDE EFFECTS

All types of antidiarrhoeal can cause constipation and therefore need to be taken with plenty of water. There is a risk of dependence with prolonged use of opioids.

## Antiemetics

A group of drugs used to treat nausea and vomiting caused by motion sickness, vertigo, inner ear disorders such as Ménière's disease, certain drugs (especially *anticancer drugs*), and, occasionally, severe vomiting during pregnancy. Some antiemetic drugs are available over the counter. If you need to take an antiemetic for any reason other than to prevent or relieve motion sickness, you should consult your doctor so that he or she can determine the cause of the vomiting and the correct treatment. Do not take antiemetics during pregnancy except on medical advice. Antiemetics are normally taken orally, but they may be given by injection or as a suppository if vomiting is severe.

#### POSSIBLE SIDE EFFECTS

Many antiemetics can cause drowsiness. Therefore, you should not drive or operate machinery until you know how the drugs affect you. Some may result in a dry mouth, difficulty in passing urine, and dizziness.

## Antifungal drugs

A group of drugs prescribed to treat infections caused by fungi. Antifungal drugs are commonly used to treat athlete's foot and ringworm. They are also used to treat oral or vaginal thrush and rare fungal infections that affect internal organs.

Antifungal preparations are available as tablets, lozenges, liquids, creams, injections, and vaginal suppositories. Some of these can be bought over the counter.

#### POSSIBLE SIDE EFFECTS

Preparations applied to the skin, scalp, mouth, or vagina may occasionally increase irritation. Antifungal drugs given by mouth or injection can cause more serious side effects, including liver or kidney damage.

## Antihistamines

Drugs that block the effects of histamine, a natural chemical that is released during allergic reactions. Antihistamines are used in the treatment of rashes such as urticaria (hives) to relieve itching, swelling, and redness. They are also used in the treatment of hay fever to relieve sneezing and a runny nose.

Antihistamines are sometimes included in *cough remedies* and *cold and flu remedies* and are also used as *antiemetics*. Because many of these drugs have a sedative effect, they are sometimes used to induce sleep, especially when itching prevents sleep at night. Some of the most recently introduced antihistamines have very little sedative effect.

Usually, antihistamine drugs are taken orally but some types are available as nasal sprays, eye drops, or skin lotions. Some of these preparations are available over the counter. Antihistamines may be given by injection in an emergency for anaphylactic shock (severe allergic reaction).

### POSSIBLE SIDE EFFECTS

Many antihistamines cause drowsiness and dizziness, but the new generation of antihistamines have virtually no soporific effect. Other possible side effects include loss of appetite, nausea, dry mouth, blurred vision, and difficulty in passing urine.

## Antihypertensive drugs

Several groups of drugs used in the treatment of high blood pressure (hypertension) to prevent the development of complications such as stroke, heart failure (reduced pumping efficiency), heart attack (myocardial infarction), and kidney damage.

There are several types of antihypertensive drug. *Diuretics*, *beta blockers*, *calcium channel blockers*, and *ACE inhibitors* are commonly used. A combination of several antihypertensive drugs is usually used to control severe hypertension.

### POSSIBLE SIDE EFFECTS

Apart from the side effects typical of specific groups, all antihypertensive drugs may cause dizziness and fainting as a result of lowering the blood pressure too much.

## Antispasmodic drugs

A group of drugs that relax spasm of the smooth (involuntary) muscle in the wall of the intestine or bladder. Antispasmodic drugs are used mainly in the treatment of irritable bowel syndrome and diverticular disease.

There are two main types of antispasmodic drug: direct smooth muscle relaxants, which have a direct effect on the smooth muscle in the intestinal wall, and anticholinergics, which work by reducing the transmission of nerve signals to the intestinal walls.

### POSSIBLE SIDE EFFECTS

Possible adverse effects of antispasmodic drugs include dry mouth, blurred vision, and difficulty in passing urine.

## Antiviral drugs

Drugs used in the treatment of infection by viruses. Because viruses live only in body cells, it has proved difficult to develop drugs that kill them. To date, no drugs have been developed that can reliably eradicate viruses and cure the illnesses that they cause.

However, some antiviral drugs have already proved useful in tackling a few viral infections, particularly herpes. The antiviral drugs reduce the severity of these infections but may not eliminate them completely, and attacks may therefore recur.

Substantial advances have been made in the treatment of HIV infection and CMV (cytomegalovirus) infections that occur in patients with AIDS and those in other immunosuppressed states. Research into HIV infection has shown that drug treatment should be started before the immune system has been damaged irreparably. The risk of drug resistance can be reduced by using a combination of antiviral drugs.

Treatment with antiviral drugs is also recommended in some circumstances for people, such as nurses and doctors, who have been exposed to HIV infection in their occupation.

### POSSIBLE SIDE EFFECTS

Antiviral drugs used in the treatment of AIDS carry a high risk of causing anaemia due to bone marrow damage. Most other antiviral drugs rarely cause side effects. Antiviral creams, which are available over the counter, may irritate the skin. Antiviral drugs given by mouth or injection can cause nausea and dizziness, and, rarely, kidney damage if the treatment is long term.

## Beta blockers

A group of drugs widely prescribed to treat disorders of the heart and circulation, as well as some other conditions.

Beta blocker drugs, which are also called beta-adrenergic blocking agents, are used in the treatment of angina (chest pain due to insufficient oxygen reaching the heart muscle), high blood pressure, and irregular heartbeat. Beta blockers are sometimes given after a heart attack (myocardial infarction) to reduce the likelihood of further damage to the heart muscle. Beta blockers may also be given to prevent attacks of migraine and to reduce the physical symptoms of anxiety (such as palpitations, tremor, and excessive sweating). They may be given to control the symptoms of thyrotoxicosis, in which the thyroid gland is overactive. A beta blocker may be given in the form of eye drops to treat glaucoma (raised fluid pressure in the eyeball).

### POSSIBLE SIDE EFFECTS

Beta blockers can exacerbate some respiratory disorders, and they are not normally given to people who have chronic bronchitis, emphysema, or asthma. If you are taking a beta blocker, your sleeping pattern may be disrupted, and your hands and feet may feel cold because the blood circulation in the

extremities is reduced. Men sometimes experience impotence, but normal sexual function usually returns when the drug is stopped. Rarely, beta blockers cause rashes and dry eyes. All of these side effects tend to be more common and more severe in elderly people.

### WARNING

Do not suddenly stop taking a beta blocker drug without first consulting your doctor. Abrupt withdrawal of the drug can cause a rise in blood pressure, worsening of angina, or an increased risk of a heart attack (myocardial infarction).

## Bronchodilators

A group of drugs that widen the airways in the lungs and are used to ease breathing difficulties in people suffering from asthma or chronic bronchitis. Bronchodilators can be given by inhaler, in tablet form, or, in severe cases, by nebulizer (a device that delivers high doses of the drug in aerosol form through a mask or mouthpiece) or injection.

Three main groups of drugs are used as bronchodilators: sympathomimetics, anticholinergics, and xanthines. When inhaled, some sympathomimetics take effect within 10 minutes and are often used for the rapid relief of shortness of breath. Anticholinergics and xanthines are slower acting and are often used in the long-term prevention of breathing difficulties. Two or more types of bronchodilator may be used simultaneously.

### POSSIBLE SIDE EFFECTS

Sympathomimetics can cause palpitations and trembling. Anticholinergics can cause a dry mouth, blurred vision, and difficulty in passing urine. Xanthine drugs may cause headaches and palpitations.

Inhaled bronchodilator drugs are not absorbed by the body in large amounts and serious side effects are therefore uncommon.

## Calcium channel blockers

A group of drugs used in the treatment of angina (chest pain due to an inadequate blood supply to heart muscle) and high blood pressure. Some calcium channel blockers may be taken regularly to reduce the frequency of migraine attacks. One, nifedipine, is used to treat Raynaud's phenomenon, in which fingers and toes become painful and pale due to constriction of small arteries in the hands or feet. Another, verapamil, is used to treat some abnormal heart rhythms (arrhythmias).

Calcium channel blockers may be used alone or in combination with other drugs used for the treatment of high blood pressure, angina, or arrhythmias. Usually, the drugs are initially prescribed at a low dose and gradually increased to an effective level. The ideal dose for you will be one that is high enough to allow the drug to be effective without causing troublesome side effects.



### POSSIBLE SIDE EFFECTS

The most common side effects of calcium channel blockers are headaches, facial flushing, and dizziness (usually on standing up). However, these effects generally disappear with continued treatment. Nausea, fatigue, and palpitations are less common side effects.

#### WARNING

Do not suddenly stop taking a calcium channel blocker drug without consulting your doctor. Abrupt withdrawal can cause worsening of angina.

## Cold and flu remedies

Preparations for the relief of symptoms of the common cold and flu. Many different preparations are available over the counter. The main ingredient is usually a mild *pain-killer*, such as paracetamol or aspirin, which helps to relieve aches and pains. Other common ingredients include *antihistamines* and decongestants, which help to reduce nasal congestion, and caffeine, which acts as a mild stimulant. Those remedies containing antihistamines can cause drowsiness. Vitamin C is frequently included in cold relief products, but there is no evidence that it speeds recovery. Zinc tablets are claimed to shorten the duration of colds, but indigestion is one of their side effects.

## Corticosteroids

Drugs that are similar to the natural corticosteroid hormones produced by the adrenal glands. The production of corticosteroids by the adrenal glands is regulated by a pituitary hormone. Corticosteroid drugs have a wide variety of uses. They are available as topical creams, ointments, and lotions and as nasal sprays. They can also be taken orally or given by inhaler or injection. Corticosteroids are prescribed to people with Addison's disease, in which levels of the natural hormones hydrocortisone and aldosterone are inadequate due to destruction of the adrenal glands by disease. Corticosteroids are also prescribed following surgical removal of the adrenal glands or when the pituitary gland has been destroyed by disease, surgery, or irradiation.

Corticosteroids are used in the treatment of inflammatory intestinal disorders, such as ulcerative colitis and Crohn's disease. Urgent corticosteroid treatment is required to reduce inflammation in temporal arteritis, a condition in which inflammation of the artery supplying the retina can lead to blindness.

Corticosteroids are also used in the treatment of autoimmune diseases (in which the body attacks its own tissues), such as rheumatoid arthritis, and in asthma, eczema, iritis (inflammation of the iris), and hay fever. The injection of corticosteroids around an inflamed tendon or joint may relieve pain in disorders such as tennis elbow and arthritis.

Corticosteroid drugs are also used to suppress the immune system in order to prevent the rejection of a transplanted organ and in the treatment of certain types of cancer, such as those of the lymphatic system (lymphomas) and of the blood (leukaemias).

### POSSIBLE SIDE EFFECTS

Short-term use of corticosteroids rarely produces side effects. Prolonged use of strong topical corticosteroids can cause local damage to the skin. Long-term treatment with oral corticosteroids may cause easy bruising, acne, a moon-shaped face, and weight gain. It can also cause raised blood pressure, osteoporosis, slow growth in children, and increased risk of infection.

Abrupt withdrawal from long-term, high-dose corticosteroids can lead to a rapid fall in blood pressure and, in some cases, shock, which can be fatal. If your doctor prescribes corticosteroid drugs for you for more than 3 weeks, you will be given a medical alert card that gives details of your medication to inform any health professional treating you.

## Cough remedies

Preparations containing various drugs used to treat coughing. Coughing is a natural reflex action that helps to clear the lungs of sputum. The effectiveness of cough medicines is doubtful, which is why doctors rarely prescribe them for minor respiratory disorders. However, a wide variety of cough remedies is available over the counter. Most consist of a syrupy base to which various drugs and flavourings have been added.

The main groups of drugs used to treat coughs are expectorants, mucolytics, and suppressants. Expectorants are supposed to encourage productive coughs (that produce sputum). The benefit of these is not proven, however. Mucolytics make sputum less sticky and easier to cough up, but they are of little benefit to most people. Cough suppressants, which often contain drugs such as codeine or pholcodine, are usually effective in relieving a troublesome cough. Cough suppressants may have a sedative effect and can cause drowsiness.

## Diuretics

A group of drugs that help to remove excess water from the body by increasing the amount that is lost as urine. Diuretic drugs are commonly used in the treatment of high blood pressure and heart failure (a reduction in the heart's pumping efficiency). Diuretics are also used to treat other conditions in which excess fluid accumulates in the body, such as liver or kidney disorders and glaucoma. Some diuretics may be used to prevent altitude sickness and to treat the inner ear disorder Ménière's disease.

The most frequently prescribed diuretic drugs are thiazides, potassium-sparing diuretics, and loop diuretics. Thiazide drugs are the most commonly prescribed diuretic for

the treatment of high blood pressure. Loop diuretics are more powerful than thiazides and are used to treat accumulation of fluid due to heart failure and some kidney and liver disorders. They may also be given by injection for the emergency treatment of heart failure. Both thiazide and loop diuretics can cause excessive loss of potassium from the body, which can result in confusion and weakness. If your potassium levels become low you may be given a potassium-sparing diuretic, either alone or in combination with a thiazide or loop diuretic.

### POSSIBLE SIDE EFFECTS

All diuretics increase the frequency with which you need to pass urine, an effect that is most noticeable at the start of treatment.

Some diuretics may raise the level of uric acid in the blood, and thereby increase the risk of gout. They can also raise blood sugar levels, which can cause or aggravate diabetes mellitus. Potassium-sparing diuretics can cause a dry mouth, digestive disturbances, and a rash.

## Immunosuppressants

Drugs that reduce the activity of the immune system (the body's natural defences). They are prescribed following transplant surgery to prevent foreign tissues from being rejected. Immunosuppressants are also given to halt the progress of autoimmune disorders (in which the body's immune system attacks its own tissues) such as rheumatoid arthritis. Recently, immunosuppressant drugs have been given in the early stages of these disorders with the aim of preventing tissue damage. They are unable, however, to restore tissue that has already been damaged.

There are two main types of immunosuppressant: *corticosteroids* and cytotoxic immunosuppressants. The drugs cyclosporin and tacrolimus are also used. Corticosteroids are usually used initially for autoimmune disorders. If they are not effective, cytotoxic drugs may be used in addition; cyclosporin is also an option. To prevent rejection of transplants, the most commonly used drugs are cyclosporin, tacrolimus, and azathioprine.

Some immunosuppressants can harm a fetus. You should tell your doctor if you are planning a pregnancy or are pregnant.

### POSSIBLE SIDE EFFECTS

All immunosuppressants have potentially serious adverse effects. By reducing the activity of the immune system, they increase the risk of infection. These drugs also increase the risk of certain cancers and can make the body's blood clotting mechanism less effective.

#### WARNING

When taking immunosuppressant drugs, it is important that you report any signs of infection, such as a sore throat or fever, or any unusual bruising or bleeding, to your doctor immediately.



## Laxatives

Drugs that make faeces pass more easily through the intestines. Laxatives are most commonly used to treat constipation, in which the bowels are not opened as frequently as usual and the faeces are hard. They may also be given to clear the intestines before surgery or investigational procedures.

Laxatives can be bought over the counter. If you are taking them for constipation, use them only until your bowel movements have returned to normal. See your doctor if constipation continues for more than a few days.

Laxatives can be classified into different types, depending on how they work. Bulk-forming agents, osmotic laxatives, and faecal softeners all make faeces softer and easier to pass. Stimulant laxatives make the intestinal muscles move faeces more rapidly. Bulk-forming laxatives are the safest type for long-term use and are therefore the most commonly used for long-term disorders, such as irritable bowel syndrome. You need to drink plenty of water when taking this type of laxative because the bulky faeces could otherwise block the intestines.

### POSSIBLE SIDE EFFECTS

Stimulant laxatives and the osmotic laxative lactulose can cause abdominal cramps and flatulence. Bulk-forming laxatives can cause abdominal discomfort and flatulence. Some faecal softeners may interfere with the absorption of fat-soluble vitamins.

## Lipid-lowering drugs

Drugs that are used to reduce excessive levels of lipids (fatty substances), especially cholesterol and triglycerides, in the bloodstream. Lipid-lowering drugs reduce the risk of severe atherosclerosis (narrowing of the arteries) and especially coronary artery disease in people with a family history of high blood lipid levels for whom dietary measures have not worked. The drugs may also be given to people with angina (chest pain due to insufficient oxygen reaching the heart muscle) to reduce the risk of having a heart attack (myocardial infarction), and following a heart attack in order to minimize the risk of further attacks.

The main types of lipid-lowering drug include statins, fibrates, anion-exchange resins, and nicotinic acid and its derivatives. These drugs work in different ways to lower the levels of lipids in the blood. Your doctor's choice of drug treatment will depend largely on which type of lipid is causing your condition. In some instances, your doctor may prescribe a combination of several different drugs. Lipid-lowering drugs are taken orally on a daily basis, and most need to be taken long term. Because statins and fibrates can harm a fetus or baby, you should notify your doctor if you are planning a pregnancy, are pregnant, or are breast-feeding.

You may also be advised to incorporate the natural products ispaghula or fish oil into your diet. Ispaghula is non-absorbable fibre

that helps to reduce cholesterol levels. Fish oil helps to reduce triglyceride blood levels. It occurs naturally in oily fish, such as mackerel, and is available as a dietary supplement.

### POSSIBLE SIDE EFFECTS

Side effects that may occur while taking lipid-lowering drugs include nausea, diarrhoea or constipation, headaches, and muscle pain.

## Nitrates

A group of drugs that widen blood vessels used in the treatment of angina (chest pain due to impaired blood supply to the heart muscle) and severe heart failure (a reduction in the heart's pumping efficiency).

Possible adverse effects of nitrate drugs include headache, flushing, and dizziness. Tolerance (the need for greater amounts of a drug for it to have the same effect) may develop when the drug is taken regularly.

## Nonsteroidal anti-inflammatory drugs

Nonsteroidal anti-inflammatory drugs, or NSAIDs, are non-opioid *painkillers* that are used to relieve the discomfort and inflammation caused by a variety of musculoskeletal disorders. These drugs are also commonly used to treat other types of pain such as headaches and menstrual pain.

Commonly used NSAIDs include ibuprofen, diclofenac, and indomethacin. Although aspirin is technically an NSAID, it is not normally classed with other NSAIDs because it has only a limited anti-inflammatory effect at normal doses. NSAIDs are used to treat acute conditions, such as ligament damage and muscle sprains and tears, and they usually relieve symptoms within a few hours. In addition, NSAIDs are used to treat long-term musculoskeletal disorders such as osteoarthritis and rheumatoid arthritis. They can relieve pain rapidly but may take as long as 2 weeks to reduce levels of inflammation. Although NSAIDs are effective in alleviating the symptoms of musculoskeletal disorders, they do not cure the underlying condition.

NSAIDs are most commonly taken orally, although occasionally they may be applied as a gel or given by injection. For many conditions NSAIDs are used with other treatments such as physiotherapy. Ibuprofen can be bought over the counter.

### POSSIBLE SIDE EFFECTS

NSAIDs can cause a wide range of side effects, the most important of which are nausea, indigestion, and, sometimes, ulceration of, or bleeding from, the stomach. Some NSAIDs irritate the stomach more than others. People with a past history of indigestion may be advised against taking NSAIDs or recommended an NSAID such as ibuprofen, which has a low rate of gastrointestinal side effects. People with the respiratory disorder asthma are advised not to take NSAIDs because these drugs can exacerbate the condition.

## Oral rehydration solutions

Over-the-counter preparations used to treat dehydration resulting from diarrhoea and vomiting. Oral rehydration solutions are made up of water, essential minerals, such as sodium and potassium, and the sugar glucose. Usually, drinking plenty of fluids to replace the water that the body loses in diarrhoea or vomiting is the only treatment needed for adults. However, it may be necessary to give oral rehydration solutions to treat fluid loss that occurs in infants and young children. These groups are at a much greater risk of dehydration than adults because any water lost accounts for a higher proportion of the total water content in their bodies.

Rehydration solutions can be purchased as soluble tablets or as powder for reconstitution with water. When used according to the instructions, oral rehydration solutions do not cause side effects.

## Painkillers

Drugs that relieve pain. Painkillers are also known as analgesics, and the two main types are opioid (also called narcotic) and non-opioid (also called non-narcotic) painkillers. A number of commonly used painkillers are combinations of more than one drug. Opioid painkillers are mainly used to relieve severe pain. Nonopioid painkillers, most of which are *nonsteroidal anti-inflammatory drugs* (NSAIDs), may be used to ease mild or moderate pain such as headaches. Combinations of two or more painkillers and, in some cases another drug such as caffeine, may provide greater pain relief than a single painkiller.

Opioid drugs are the strongest painkillers available. They may be given for pain during a heart attack or following surgery or serious injury. They are also widely used in the relief of pain caused by cancer. Opioids may be taken orally or, if the pain is extremely severe or is accompanied by vomiting, may be given by injection. Some opioids are available over the counter in combination with nonopioids.

Nonopioid painkillers are less potent than opioids, and a number are available over the counter. They include paracetamol, aspirin, and NSAIDs such as ibuprofen. Nonopioids are used mainly for pain such as headache, toothache, or menstrual pain. They are also effective in lowering fever, and, in addition, NSAIDs reduce the inflammation that occurs in conditions such as arthritis.

### POSSIBLE SIDE EFFECTS

Side effects of opioid painkillers include nausea, vomiting, drowsiness, constipation, and difficulties with breathing. Nonopioid painkillers rarely cause side effects if they are used occasionally and are taken only at the doses recommended. Aspirin and other NSAIDs, when they are taken repeatedly, may damage the lining of the stomach or intestines, leading to bleeding or ulceration. However, taking NSAIDs with food may reduce these side effects. Paracetamol is

dangerous if it is taken in doses higher than the recommended maximum daily intake. An overdose of paracetamol can cause severe liver and, rarely, kidney damage.

### WARNING

Do not give aspirin to children under 12 years because it increases the risk of Reye's syndrome, a rare brain and liver disorder.

## Sex hormone preparations

Preparations that contain synthetic versions of the naturally occurring sex hormones. Synthetic versions of the female sex hormones oestrogen and progesterone, known respectively as oestrogens and progestogens, are most commonly used as oral contraceptives. They are also used in the treatment of some cancers and in hormone replacement therapy (HRT) to relieve menopausal symptoms and prevent osteoporosis. Higher doses of female hormones are used to treat menstrual disorders such as heavy periods. Progestogens should not be used during pregnancy.

The male hormone testosterone is used to treat delayed puberty and decreased libido.

### POSSIBLE SIDE EFFECTS

Side effects of female sex hormones include fluid retention, headaches, and depression. Premenopausal women may experience some bleeding between periods. Taking HRT for more than 5 years slightly increases the risk of breast cancer. In some women, oestrogens increase the risk of deep vein thrombosis, the formation of an unwanted clot in a vein. Side effects of testosterone are rare.

## Skin preparations

Various preparations applied to the skin that usually consist of a base such as an ointment, cream, or lotion, to which active ingredients may be added. The main types are emollients, antipruritics, topical *corticosteroids*, anti-infective preparations, and retinoids.

Emollients moisturize the skin and are used to treat dry, scaly skin in disorders such as eczema and psoriasis. Antipruritics are used to control itching. Some antipruritics are simple emollients or cooling lotions, such as calamine, and are available over the counter. Others may include drugs, usually corticosteroids, *antihistamines*, or anaesthetics. Apart from their use as antipruritics, topical corticosteroids reduce inflammation due to eczema, psoriasis, or dermatitis. Topical anti-infective preparations may contain *antibiotics* for bacterial infections, *antiviral* or *antifungal drugs* for viral or fungal infections respectively, or antiparasitic drugs for skin infestations.

Topical retinoids, used for conditions such as acne, psoriasis, and the roughness and fine wrinkles of sun-damaged skin, are chemically related to vitamin A. Retinoid drugs can harm a fetus. Discuss your contraception needs with your doctor before starting treatment.

### POSSIBLE SIDE EFFECTS

Some preparations may irritate the skin. Long-term use of strong corticosteroids may eventually cause thinning of the skin in the affected area. Topical retinoids may cause the skin to peel and become red and inflamed.

## Sleeping drugs

Drugs that are used in the treatment of insomnia. Sleeping drugs may be prescribed to re-establish sleep patterns after a period of insomnia or when insomnia is the result of a stressful event, such as a death in the family. They may also be used if your sleep pattern needs adjusting to suit your work. Sleeping drugs do not treat the cause of the insomnia, which may be anxiety or depression. Do not drink alcohol while taking sleeping drugs because the sedative effect is enhanced.

Many sleeping drugs cause dependence and are usually prescribed only for a week or two when other measures (such as a warm bath before bed or relaxation exercises) have failed.

Benzodiazepines, which are also used to treat anxiety disorders, may be used to treat insomnia. Over-the-counter remedies containing *antihistamines* are also available. Other drugs that may be prescribed are zopiclone and zolpidem. If the insomnia is caused by depression, your doctor may prescribe *antidepressants*. Sleeping drugs should not be used during pregnancy.

### POSSIBLE SIDE EFFECTS

Benzodiazepines can cause confusion, dizziness, and poor coordination, even between doses. Elderly people need to take extra care because of the increased risk of falling. Preparations containing antihistamines have few side effects, but you should not take them for longer than a few days without consulting your doctor. They sometimes cause a dry mouth and blurred vision. Side effects of zopiclone and zolpidem include nausea, vomiting, headache, dizziness, and confusion.

### WARNING

Sleeping drugs can affect your ability to drive or to operate machinery; these effects may persist the following day.

## Thrombolytic drugs

Drugs that rapidly dissolve unwanted clots in blood vessels. Thrombolytics are most commonly used as emergency treatment for heart attacks (which are due to blockage in an artery supplying the heart muscle) or for certain types of stroke, which are usually caused by a blood clot blocking the blood supply to part of the brain. Given in the early stages of a heart attack or stroke, thrombolytics can significantly increase the chance of survival. The drugs are given by injection, and treatment is carefully monitored because of the risk of abnormal bleeding. An allergic reaction, causing breathing difficulties, may also occur.

## Thyroid drugs

Drugs that are used to treat under- and over-activity of the thyroid gland (known as hypo- and hyperthyroidism respectively). Synthetic thyroid hormones are given to treat hypothyroidism, and antithyroid drugs are used for hyperthyroidism.

Synthetic thyroid hormones are usually taken orally every day. Drugs are started at a low dose, and the dose is increased gradually until an effective level is reached without causing side effects.

Antithyroid drugs are used as preparation for thyroid surgery or for long-term treatment of hyperthyroidism. The drugs are taken daily, and levels of thyroid hormone are usually reduced to normal over a period of 2–3 months. Treatment usually continues for 12–18 months. The most commonly used antithyroid drug is carbimazole.

### POSSIBLE SIDE EFFECTS

Given at the correct dose, synthetic thyroid hormones cause no side effects. Regular blood tests are carried out to ensure that the correct dose is maintained.

Side effects of antithyroid drugs are usually minor and include nausea, headache, rashes, itching, and joint pains. However, the drugs also have the potentially serious effect of reducing the body's ability to fight infection.

### WARNING

If you are taking carbimazole and have symptoms of an infection, or a severe sore throat, contact your doctor at once. Do not take any more tablets until your doctor tells you that it is safe to do so.

## Ulcer-healing drugs

Drugs prescribed to treat peptic ulcers, which occur when excess production of stomach acid, or damage to the mucous lining of the oesophagus, stomach, or duodenum, exposes and erodes the underlying tissue.

The symptoms of an ulcer can be relieved by *antacids*, but healing is slow and an ulcer-healing drug is often required. There are several types. The most commonly used is  $H_2$  blockers and proton pump inhibitors, which work by reducing the amount of stomach acid released. They may be prescribed in combination with *antibiotics* to eradicate *Helicobacter pylori*, a bacterium that is commonly present in the stomach and causes ulcers. Some  $H_2$  blockers can be bought over the counter. Other ulcer-healing drugs work by protecting the stomach lining from acid. Pain is reduced within a few hours of starting treatment, and the ulcer heals in 4–8 weeks.

### POSSIBLE SIDE EFFECTS

Proton pump inhibitors do not usually cause serious side effects but can cause headache, rash, and diarrhoea. Side effects with  $H_2$  blockers are rare but can include dizziness, tiredness, rash, headache, and diarrhoea.

# USEFUL ADDRESSES

Throughout the UK, hundreds of organizations, from government agencies such as the Department of Health to nonprofit organizations such as the Red Cross, are dedicated to helping people deal with most conditions.

This list is a limited sample of such organizations, but further information is available from local libraries, hospitals, and GP or health clinics. Most organizations provide information about resources for specific medical

or emotional conditions, and many have support groups or can provide information about groups in your area.

No responsibility for information provided by the organizations or online sites listed here can be accepted by the British Medical Association (BMA). The inclusion of an organization or online site in this list does not indicate endorsement by the BMA, and you are advised always to consult your doctor on personal health matters.

## Acne Support Group

PO Box 230  
Hayes, Middlesex UB4 0UT  
Tel: (020) 8561 6868  
Online: [www.m2w3.com/acne](http://www.m2w3.com/acne)

## Action for ME

*Campaign to improve the lives of people with myalgic encephalomyelitis*

PO Box 1302  
Wells, Somerset BA5 1YE  
Tel: (01749) 670799  
E-mail: [wells@afme.org.uk](mailto:wells@afme.org.uk)  
Online: [www.afme.org.uk](http://www.afme.org.uk)

## Action on Smoking and Health

102 Clifton Street  
London EC2A 4HW  
Tel: (020) 7739 5902  
E-mail: [action.smoking.health@dial.pipex.com](mailto:action.smoking.health@dial.pipex.com)  
Online: [www.ash.org.uk](http://www.ash.org.uk)

## Addiction Recovery Foundation

122A Wilton Road  
London SW1V 1JZ  
Tel: (020) 7233 5333  
E-mail: [acw@easynet.co.uk](mailto:acw@easynet.co.uk)  
Online: [easyweb.easynet.co.uk/acw](http://easyweb.easynet.co.uk/acw)

## Age Concern

1268 London Road  
London SW16 4ER  
Tel: (020) 8765 7200  
E-mail: [infodep@ace.org.uk](mailto:infodep@ace.org.uk)  
Online: [www.ace.org.uk](http://www.ace.org.uk)

## Alcoholics Anonymous

PO Box 1, Stonebow House  
Stonebow, York YO1 7NJ  
Helpline: 0845 769 7555  
Tel: (01904) 644026  
Online: [www.alcoholics-anonymous.org.uk](http://www.alcoholics-anonymous.org.uk)

## Alzheimer's Disease Society

10 Greencoat Place  
London SW1P 1PH  
Helpline: 0845 300 0336  
Tel: (020) 7306 0606  
E-mail: [info@alzheimers.org.uk](mailto:info@alzheimers.org.uk)  
Online: [www.alzheimers.org.uk](http://www.alzheimers.org.uk)

## Anthony Nolan Bone Marrow Trust

The Royal Free Hospital  
Hampstead  
London NW3 2QG  
Tel: (020) 7284 1234  
Online: [www.anthonynolan.org.uk](http://www.anthonynolan.org.uk)

## Arthritis Care

18 Stephenson Way  
London NW1 2HD  
Tel: (020) 7380 6500  
Online: [www.arthritiscare.org.uk](http://www.arthritiscare.org.uk)

## Arthritis Research Campaign

Copeman House, St. Mary's Court  
St. Mary's Gate, Chesterfield  
Derbyshire S41 7TD  
Tel: (01246) 558033  
E-mail: [info@arc.org.uk](mailto:info@arc.org.uk)  
Online: [www.arc.org.uk](http://www.arc.org.uk)

## BackCare

16 Elmtree Road, Teddington,  
Middlesex TW11 8ST  
Tel: (020) 8977 5474  
Online: [www.backpain.org](http://www.backpain.org)

## BBC Online Health and Fitness

Online: [www.bbc.co.uk/health](http://www.bbc.co.uk/health)

## Breast Cancer Campaign

29-33 Scrutton Street  
London EC2A 4HU  
Tel: (020) 7749 3700  
Online: [www.bcc-uk.org](http://www.bcc-uk.org)

## Breast Cancer Care

210 New Kings Road  
London SW6 4NZ  
Helpline: 0800 800 6000  
Tel: (020) 7384 2984  
E-mail: [bcc@breastcancercare.org.uk](mailto:bcc@breastcancercare.org.uk)  
Online: [www.breastcancercare.org.uk](http://www.breastcancercare.org.uk)

## Breastfeeding Network

PO Box 11126  
Paisley PA2 8YB  
Helpline: 0870 900 8787  
E-mail: [broadfoot@btinternet.com](mailto:broadfoot@btinternet.com)  
Online: [www.breastfeeding.co.uk](http://www.breastfeeding.co.uk)

## British Allergy Foundation

30 Bellegrove Road  
Welling  
Kent DA16 3PY  
Helpline: (020) 8303 8525  
E-mail: [info@allergyfoundation.com](mailto:info@allergyfoundation.com)  
Online: [www.allergyfoundation.com](http://www.allergyfoundation.com)

## British Association for Counselling

1 Regent Place  
Rugby  
Warwickshire CV21 2PJ  
Tel: (01788) 550899  
E-mail: [bac@bac.co.uk](mailto:bac@bac.co.uk)  
Online: [www.counselling.co.uk](http://www.counselling.co.uk)

## British Association for Sexual and Relationship Therapy

PO Box 13686  
London SW20 9ZH  
Tel: (020) 8543 2707  
E-mail: [info@basmt.org.uk](mailto:info@basmt.org.uk)  
Online: [www.basmt.org.uk](http://www.basmt.org.uk)

## British Brain and Spine Foundation

7 Winchester House  
Kennington Park  
Cranmer Road  
London SW9 6EJ  
Helpline: 0800 808 1000  
Tel: (020) 7793 5900  
Online: [www.bbsf.org.uk](http://www.bbsf.org.uk)

## British Chiropractic Association

Blagrove House  
17 Blagrove Street  
Reading  
Berkshire RG1 1QB  
Tel: (0118) 950 5950  
E-mail: [britchiro@aol.com](mailto:britchiro@aol.com)  
Online: [www.chiropractic-uk.co.uk](http://www.chiropractic-uk.co.uk)

## British Colostomy Association

15 Station Road  
Reading  
Berkshire RG1 1LG  
Helpline: 0800 328 4257  
E-mail: [sue@bcass.org.uk](mailto:sue@bcass.org.uk)  
Online: [www.bcass.org.uk](http://www.bcass.org.uk)

## British Dental Health Foundation

Eastlands Court  
St. Peter's Road  
Rugby  
Warwickshire CV21 3QP  
Tel: (01788) 546365  
E-mail: [feedback@dentalhealth.org.uk](mailto:feedback@dentalhealth.org.uk)  
Online: [www.dentalhealth.org.uk](http://www.dentalhealth.org.uk)

## British Dyslexia Association

98 London Road  
Reading RG1 5AU  
Helpline: (0118) 966 8271  
Tel: (0118) 966 2677  
E-mail: [admin@bda-dyslexia.demon.co.uk](mailto:admin@bda-dyslexia.demon.co.uk)  
Online: [www.bda-dyslexia.org.uk](http://www.bda-dyslexia.org.uk)

## British Epilepsy Association

New Anstey House  
Gate Way Drive  
Yeadon  
Leeds LS19 7XY  
Helpline: 0800 800 5050  
Tel: (0113) 210 8800  
E-mail: [epilepsy@bea.org.uk](mailto:epilepsy@bea.org.uk)  
Online: [www.epilepsy.org.uk](http://www.epilepsy.org.uk)

## British Heart Foundation

14 Fitzhardinge Street  
London W1H 4DH  
Helpline: 0990 200656  
Tel: (020) 7935 0185  
Online: [www.bhf.org.uk](http://www.bhf.org.uk)

## British Kidney Patient Association (BKPA)

Oakhanger Place  
Bordon  
Hampshire GU35 9JZ  
Tel: (01420) 472021/2

## British Liver Trust

Ransomes Europark  
Ipswich  
Suffolk IP3 9QG  
Helpline: 0800 800 1000  
Tel: (01473) 276326  
E-mail: [bsg@mailbox.ulcc.ac.uk](mailto:bsg@mailbox.ulcc.ac.uk)  
Online: [www.britishlivertrust.org.uk](http://www.britishlivertrust.org.uk)



**British Lung Foundation**

78 Hatton Garden  
London EC1N 8LD  
Tel: (020) 7831 5831  
E-mail: blf@britishlungfoundation.com  
Online: www.lunguk.org

**British Medical Acupuncture Society**

12 Marbury House  
Higher Whitley, Warrington  
Cheshire WA4 4QW  
Tel: (01925) 730727  
E-mail: Admin@medical-acupuncture.co.uk  
Online: www.medical-acupuncture.co.uk

**British Medical Association**

BMA House  
Tavistock Square  
London WC1H 9JP  
Tel: (0205) 7387 4499  
E-mail: info.web@bma.org.uk  
Online: www.bma.org.uk

**British Osteopathic Association**

Langham House East, Luton  
Bedfordshire LU1 2NA  
Tel: (01582) 488455  
E-mail: enquiries@osteopathy.org  
Online: www.osteopathy.org

**British Pregnancy Advisory Service**

*Service for people wishing to prevent or end an unwanted pregnancy*  
Austy Manor, Wootton Warren  
Solihull  
West Midlands B95 6BX  
Helpline: 0845 730 4030  
Tel: (01564) 793225  
E-mail: comm@bpas.org  
Online: www.bpas.demon.co.uk

**British Red Cross Society**

9 Grosvenor Crescent  
London SW1X 7EJ  
Tel: (020) 7235 5454  
Online: www.redcross.org.uk

**British Snoring and Sleep Apnoea Association**

1 Duncroft Close  
Reigate, Surrey RH2 9DE  
Tel: (01249) 701010  
E-mail: helpline@britishsnoring.co.uk  
Online: www.britishsnoring.demon.co.uk

**British Stammering Association**

15 Old Ford Road  
London E2 9PJ  
Helpline: 0845 603 2001  
Tel: (020) 8983 1003  
E-mail: mail@stammering.org  
Online: www.stammering.org

**British Tinnitus Association**

4th Floor, White Building  
Fitzalan Square  
Sheffield S1 2AZ  
Tel: 0800 018 0527  
E-mail: enquiries@tinnitus.org.uk  
Online: www.tinnitus.org.uk

**CancerBACUP**

3 Bath Place  
Rivington Street  
London EC2A 3JR  
Tel: (020) 7920 7206  
E-mail: info@cancerbacup.org  
Online: www.cancerbacup.org.uk

**Cancer and Leukaemia in Childhood (CLIC)**

Abbey Wood  
Bristol BS34 7JU  
Tel: (0117) 311 2600  
E-mail: clic@clic-charity.demon.co.uk  
Online: www.clic.uk.com

**Careline**

*Support for people caring for an elderly or disabled person*  
Helpline: (020) 8514 1177

**Carers National Association**

20–25 Glasshouse Yard  
London EC1A 4JT  
Helpline: 0808 808 7777  
Tel: (020) 7490 8824  
Online: www.carersuk.demon.co.uk

**ChildLine**

Freepost 1111, London N1 0BR  
Helpline: 0800 1111  
Online: www.childline.org.uk

**The Coeliac Society**

PO Box 220  
High Wycombe  
Bucks HP11 2HY  
Tel: (01494) 437278  
E-mail: admin@coeliac.co.uk  
Online: www.coeliac.co.uk

**Colon Cancer Concern**

9 Rickett Street, London SW6 1RU  
Helpline: (020) 7381 4711  
Tel: (020) 7381 9711  
Online: www.coloncancer.org.uk

**The Continence Foundation**

307 Hatton Square  
16 Baldwins Gardens  
London EC1N 7RJ  
Tel: (020) 7404 6875  
E-mail: continence.foundation@dial.pipex.com  
Online: www.vois.org.uk/cf

**CRUSE Bereavement Care**

CRUSE House, 126 Sheen Road  
Richmond, Surrey TW9 1UR  
Tel: (020) 8940 4818

**Cystic Fibrosis Trust**

11 London Road, Bromley  
Kent BR1 1BY  
Helpline: 0800 454482  
Tel: (020) 8464 7211  
E-mail: enquiries@cftrust.org.uk  
Online: www.cftrust.org.uk

**Dementia Web**

Online: dementia.ion.ucl.ac.uk

**Depression Alliance**

35 Westminster Bridge Road  
London SE1 7JB  
Tel: (020) 7633 0557  
Online: www.depressionalliance.org

**Diabetes UK (British Diabetic Association)**

10 Queen Anne Street  
London W1G 9LH  
Tel: (020) 7323 1531  
E-mail: info@diabetes.org.uk  
Online: www.diabetes.org.uk

**Digestive Disorders Foundation**

3 St Andrews Place  
London NW1 4LB  
Tel: (020) 7486 0341  
E-mail: ddf@digestivedisorders.org.uk  
Online: www.digestivedisorders.org.uk

**Disability Net**

E-mail: paul@disabilitynet.co.uk  
Online: www.disabilitynet.co.uk

**Dyspraxia Foundation**

8 West Alley, Hitchin  
Hertfordshire SG5 1EG  
Helpline: (01462) 454986  
Online: www.emmbrook.demon.co.uk/dysprax/homepage.htm

**Eating Disorders Association**

1st Floor, Wensum House  
103 Prince of Wales Road  
Norwich NR1 1DW  
Helpline: (01603) 621414  
Youth helpline: (01603) 765050  
E-mail: info@edauk.com  
Online: www.edauk.com

**Family Planning Association (fpa)**

2–12 Pentonville Road  
London N1 9FP  
Helpline: (020) 7837 4044  
Tel: (020) 7837 5432  
Online: www.fpa.org.uk

**Gamblers Anonymous**

PO Box 88  
London SW10 0EU  
Tel: (020) 7384 3040  
E-mail: isomain@gamblersanonymous.org  
Online: www.gamblersanonymous.org

**Healthnet**

*Heart care information*  
Online: www.healthnet.org.uk

**High Blood Pressure Foundation**

Department of Medical Sciences  
Western General Hospital  
Edinburgh EH4 2XU  
Tel: (0131) 332 9211  
E-mail: hbp@hbp.org.uk  
Online: www.hbp.org.uk

**Imperial Cancer Research Fund**

61 Lincoln's Inn Fields  
London WC2A 3PX  
Tel: (020) 7242 0200  
Online: www.icnet.uk

**Impotence, Your Questions Answered**

Online: www.impotence-help.co.uk

**International Glaucoma Association**

King's College Hospital  
Denmark Hill  
London SE5 9RS  
Tel: (020) 7737 3265  
E-mail: info@iga.org.uk  
Online: www.iga.org.uk

**Interstitial Cystitis Support Group**

76 High Street, Stony Stratford  
Buckinghamshire MK11 1AH  
Tel: (01908) 569169  
E-mail: info@interstitialcystitis.co.uk  
Online: www.interstitialcystitis.co.uk

**ISSUE, The National Fertility Association**

114 Lichfield Street, Walsall  
West Midlands WS1 1SZ  
Tel: (01922) 722888  
E-mail: info@issue.co.uk  
Online: www.issue.co.uk

**Juvenile Diabetes Foundation**

25 Gosfield Street  
London W1P 8EB  
Tel: (020) 7436 3112  
E-mail: info@jdf.org.uk  
Online: www.jdf.org.uk

**Leukaemia Research Fund**

43 Great Ormond Street  
London WC1N 3JJ  
Tel: (020) 7405 0101  
E-mail: info@lrf.org.uk  
Online: dspace.dial.pipex.com/lrf/-

**Macmillan Cancer Relief**

15–19 Britten Street  
London SW3 3TZ  
Helpline: 0845 601 6161  
Tel: (020) 7351 7811  
E-mail: information\_line@macmillan.org.uk  
Online: www.macmillan.org.uk



**Medical Advisory Service  
for Travellers Abroad**

Travellers' Health Line:  
(0906) 822 4100

Online: [www.masta.org](http://www.masta.org)

**Medic Alert Foundation**

*For people with hidden medical conditions, provides tags carrying information in case of emergencies*

1 Bridge Wharf  
156 Caledonian Road  
London N1 9UU

Tel: (020) 7833 3034

Online: [www.medicalert.co.uk](http://www.medicalert.co.uk)

**MENCAP**

123 Golden Lane  
London EC1Y 0RT

Tel: (020) 7454 0454

Online: [www.mencap.org.uk](http://www.mencap.org.uk)

**Mental Health Foundation**

UK Office, 20/21 Cornwall Terrace  
London NW1 4QL

Tel: (020) 7535 7400

E-mail: [mhf@mhf.org.uk](mailto:mhf@mhf.org.uk)

Online: [www.mentalhealth.org.uk](http://www.mentalhealth.org.uk)

**Migraine Action Association**

178a High Road, Byfleet  
Surrey KT14 7ED

Tel: (01932) 352468

E-mail: [info@migraine.org.uk](mailto:info@migraine.org.uk)

Online: [www.migraine.org.uk](http://www.migraine.org.uk)

**MIND**

*Provides support and information concerning mental health problems*

15-19 Broadway  
London E15 4BQ

Helpline: (020) 8522 1728

(Greater London only);

08457 660163 (outside London)

Online: [www.mind.org.uk](http://www.mind.org.uk)

**Miscarriage Association**

Clayton Hospital, Northgate  
Wakefield

West Yorkshire WF1 3JS

Helpline: (01924) 200799

Tel: (01924) 200795

Online: [www.the-ma.org.uk](http://www.the-ma.org.uk)

**Multiple Sclerosis Society**

The MS National Centre  
372 Edgware Road  
London NW2 6ND

Helpline: 0800 800 8000

Tel: (020) 8438 0700

Online: [www.mssociety.org.uk](http://www.mssociety.org.uk)

**National Association for  
Colitis and Crohn's Disease**

4 Beaumont House, Sutton Road  
St Albans, Herts AL1 5HH

Tel: (01727) 844296

E-mail: [nacc@nacc.org.uk](mailto:nacc@nacc.org.uk)

Online: [www.nacc.org.uk](http://www.nacc.org.uk)

**National Association for  
Premenstrual Syndrome**

7 Swift's Court, High Street  
Seal, Kent TN15 0EG

Tel: (01732) 760011

Online: [www.pms.org.uk](http://www.pms.org.uk)

**National Asthma Campaign**

Providence House  
Providence Place, London N1 0NT

Helpline: 0845 701 0203

Tel: (020) 7226 2260

Online: [www.asthma.org.uk](http://www.asthma.org.uk)

**National Childbirth Trust**

Alexandra House, Oldham Terrace  
London W3 6NH

Tel: (020) 8992 8637

Online: [www.nct-online.org](http://www.nct-online.org)

**National Drugs Helpline**

Tel: 0800 776600

**National Eczema Society**

163 Eversholt Street  
London NW1 1BU

Helpline: 0870 241 3604

Tel: (020) 7388 4097

Online: [www.eczema.org](http://www.eczema.org)

**National Endometriosis Society**

50 Westminster Palace Gardens  
Artillery Row, London SW1P 1RL

Helpline: (020) 7222 2776

Online: [www.endo.org.uk](http://www.endo.org.uk)

**National Osteoporosis  
Society**

PO Box 10, Radstock  
Bath BA3 3YB

Helpline: (01761) 472721

Tel: (01761) 471771

E-mail: [info@nos.org.uk](mailto:info@nos.org.uk)

Online: [www.nos.org.uk](http://www.nos.org.uk)

**NHS Direct**

*Helpline for health problems and provides links to other sites*

Helpline: 0845 4647

Online: [www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)

**NSPCC**

42 Curtain Road  
London EC2A 3NH

Helpline: 0800 800 5000

Textphone: 0800 056 0566

Tel: (020) 7825 2500

E-mail: [help@nspcc.org.uk](mailto:help@nspcc.org.uk)

Online: [www.nspcc.org.uk](http://www.nspcc.org.uk)

**Pain Relief Foundation**

Rice Lane, Walton  
Liverpool L9 1AE

Helpline: 0800 665544

Online: [www.liv.ac.uk/pri](http://www.liv.ac.uk/pri)

**Parentline**

*Provides support and information on parenting issues*

Helpline: (01702) 559900

**Parkinson's Disease Society**

215 Vauxhall Bridge Road  
London SW1V 1EJ

Helpline: 0800 800 0303

Tel: (020) 7931 8080

E-mail: [info@parkinsons.org.uk](mailto:info@parkinsons.org.uk)

Online: [www.parkinsons.org.uk](http://www.parkinsons.org.uk)

**Patient UK**

*Directory of websites providing information on health issues*

E-mail: [info@patient.co.uk](mailto:info@patient.co.uk)

Online: [www.patient.co.uk](http://www.patient.co.uk)

**Prostate Cancer Charity**

Du Cane Road  
London W12 0NN

Helpline: (020) 8383 1948

Tel: (020) 8383 8124

E-mail: [info@prostate-cancer.org.uk](mailto:info@prostate-cancer.org.uk)

Online: [www.prostate-cancer.org.uk](http://www.prostate-cancer.org.uk)

**Psoriasis Association**

7 Milton Street  
Northampton NN2 7JG

Tel: (01604) 711129

**Quit**

*Charity helping people stop smoking*

Victory House  
170 Tottenham Court Road  
London W1P 0HA

Helpline: 0800 002200

Tel: (020) 7388 5775

Online: [www.healthnet.org.uk/quit](http://www.healthnet.org.uk/quit)

**RELATE**

*Provides support for people who wish to improve their relationships*

Herbert Gray College  
Little Church Street  
Rugby, Warwickshire CV21 3AP

Tel: (01788) 573241

Online: [www.relate.org.uk](http://www.relate.org.uk)

**Royal National Institute for  
the Blind**

224 Great Portland Street  
London W1N 6AA

Helpline: 0845 766 9999

Tel: (020) 7388 1266

Textphone: 0800 515152

Online: [www.rnib.org.uk](http://www.rnib.org.uk)

**Royal National Institute for  
Deaf People**

19 Featherstone Street  
London EC1Y 8SL

Helpline: 0800 808 0123

Tel: (020) 7296 8000

Textphone: 0800 808 9000

E-mail: [helpline@rnid.org.uk](mailto:helpline@rnid.org.uk)

Online: [www.rnid.org.uk](http://www.rnid.org.uk)

**RSI Association**

*Provides support for people with repetitive strain injury*

380-384 Harrow Road  
London W9 2HU

Helpline: 0800 018 5012

**St. Andrew's Ambulance  
Association**

St. Andrew's House  
48 Milton Street  
Glasgow G4 0HR

Tel: (0141) 332 4031

Online: [www.firstaid.org.uk](http://www.firstaid.org.uk)

**St. John Ambulance**

1 Grosvenor Crescent  
London SW1X 7EF

Tel: (020) 7235 5231

Online: [www.sja.org.uk](http://www.sja.org.uk)

**The Samaritans**

10 The Grove  
Slough, Berkshire SL1 1QP

Helpline: 08457 909090

Tel: (01753) 216500

E-mail: [jo@samaritans.org](mailto:jo@samaritans.org)

Online: [www.samaritans.org.uk](http://www.samaritans.org.uk)

**SANDS: Stillbirth and  
Neonatal Death Society**

28 Portland Place  
London W1N 4DE

Helpline: (020) 7436 5881

Tel: (020) 7436 7940

E-mail: [support@uk-sands.org](mailto:support@uk-sands.org)

Online: [www.uk-sands.org](http://www.uk-sands.org)

**Self Help UK**

*Database of self-help organizations*

Online: [www.self-help.org.uk](http://www.self-help.org.uk)

**Stress UK**

Online: [www.stress.org.uk](http://www.stress.org.uk)

**The Stroke Association**

123 Whitecross Street  
London EC1Y 8JJ

Helpline: 0845 3033100

Tel: (020) 7566 0300

Online: [www.stroke.org.uk](http://www.stroke.org.uk)

**Terrence Higgins Trust**

*Provides support and information for people with HIV and AIDS*

52-54 Grays Inn Road  
London WC1X 8JU

Helpline: (020) 7242 1010

Tel: (020) 7831 0330

E-mail: [info@tht.org.uk](mailto:info@tht.org.uk)

Online: [www.tht.org.uk](http://www.tht.org.uk)

**UK Homoeopathic Medical  
Association**

6 Livingstone Road, Gravesend  
Kent DA12 5DZ

Tel: (01474) 560336

E-mail: [info@the-hma.org](mailto:info@the-hma.org)

Online: [www.homoeopathy.org](http://www.homoeopathy.org)

**Women's Nationwide Cancer  
Control Campaign**

128-130 Curtain Road  
London EC2A 3AQ

Tel: (020) 7729 4688

E-mail: [info@wnccc.org.uk](mailto:info@wnccc.org.uk)

Online: [www.wnccc.org.uk](http://www.wnccc.org.uk)

# INDEX

This index gives entries for the major symptoms covered in the book as well entries for many of the diseases and disorders that may be the cause of symptoms. There are also entries for drug groups, parts of human anatomy, and issues covered in the first part of the book. However, as with any index, it cannot be comprehensive. Page numbers that appear in **bold** indicate a reference to an

entire symptom chart. Page numbers that appear in *italics* indicate a reference to an illustration. For detailed advice on how to use the 150 charts, see pp.44–45. In addition to this index, the chartfinders on pp.46–48 (the system-by-system chartfinder and the symptom-by-symptom chartfinder) can also be used to help find the particular charts you need.

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