22 The heart and circulation 1

A Shortness of breath

Shortness of breath, or **breathlessness**, is dyspnoea. At first this is caused by **exertion** – physical activity such as climbing stairs – but in severe cases it may be present even **at rest**. A patient who is breathless when lying flat (orthopnoea), for example in bed, will tend to sleep raised up on two or more pillows. The abbreviation SOBOE stands for **shortness of breath on exercise** (or **on exertion**, or **on effort**).

Patients say:

> I get terribly short of breath climbing stairs.

Doctors can ask:

> How many pillows do you sleep on?

B Heart rhythm

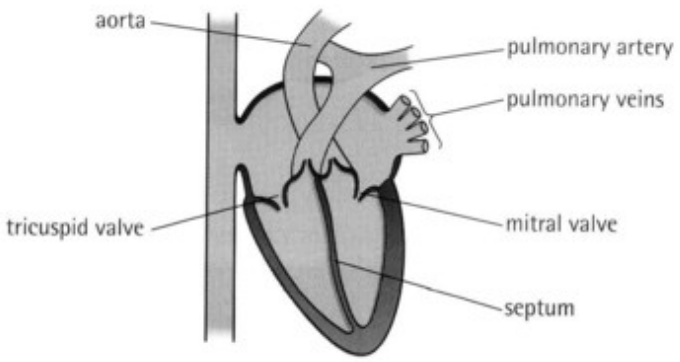
The normal **resting heart rate** is 65–75 **beats per minute**. In athletes it may be as low as 40 beats per minute. In extreme athletic activity, the heart rate can go as high as 200/min. The heart **rhythm** may be **regular** or **irregular**. In an irregular rhythm (arrhythmia), there may be early beats which interrupt the regular rhythm (**premature beats**); or the rhythm may vary with respiration; or it may be completely irregular, as in **fibrillation**. When patients are aware of irregularity, they describe the symptom as **palpitations**.

Case 4

A 22-year-old student was admitted to hospital with a long history of heart problems. She had been increasingly tired, with shortness of breath on exertion, orthopnoea, and palpitations. A **mitral valve replacement** had been carried out 3 years previously and this had stabilized the symptoms of heart failure but was followed by **episodes** (attacks) of **atrial fibrillation**, which had been particularly severe for the 6 months before admission.

C Heart failure

Heart failure occurs when the heart is unable to maintain sufficient **cardiac output** – the amount of blood pumped by the heart each minute – for the body's needs. It may involve the left side of the heart, the right side, or both. In **left heart failure** the main symptom is breathlessness. The symptoms of **right heart failure** include **peripheral oedema** (**swelling**), beginning in the feet and ankles. This is known as **pitting oedema** if, when a finger is pushed into the swelling, it causes a small depression or pit.



22.1 Complete the conversation based on the case history in B opposite.

Doctor: What seems to be the problem?
Patient: I've been getting (1) ..... .
Doctor: How long have you had them?
Patient: For about six months. But I've had heart problems for years, with tiredness and (2) ..... of (3) ..... . In the end I couldn't walk more than a hundred metres without having to stop. I had to sleep on three (4) ..... . I had a (5) .... replacement three years ago, and that improved things for a while.

22.2 Make word combinations using a word from each box. Two words can be used twice. Look at B and C opposite to help you.

at	output
atrial	failure
cardiac	oedema
heart	fibrillation
on	beats
pitting	effort
premature	rest

22.3 Write the words a patient would use to describe the symptoms below. Look at A, B and C opposite to help you.

1 dyspnoea
2 arrhythmia
3 orthopnoea
4 oedema

22.4 Complete the case report. Look at A, B and C opposite to help you.

Case 13

A 60-year-old woman attended her GP's surgery complaining of breathlessness on (1) ..... . This had been increasing over the previous eight months until it was producing problems at around 500 metres walking on the level. There was no history of chest pain. She had had several (2) ..... of fast (3) ..... which lasted 20–30 minutes and were associated with some (4) ..... of breath. She had noticed some (5) ..... of her ankles by the end of the day. This disappeared overnight.

Over to you

How would you manage the treatment of the woman in 22.4 above?

23 The heart and circulation 2

A Physical examination

Medical examination is normally carried out in four stages: **inspection** (looking), **palpation** (feeling with the hands), **percussion** (tapping with a finger) and **auscultation** (listening with a stethoscope).

Note: The verb is **palpate**; the noun is **palpation** (not **palpitation** – see Unit 22).

B Examining the heart and circulation

Here is an extract from a textbook description of how to examine the cardiovascular system.

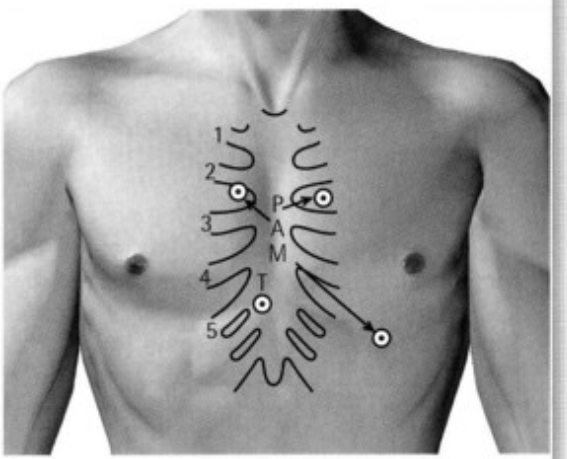
Look at the lips, tongue and nails for the blue discoloration of **cyanosis**. Cyanosis may be **central** or **peripheral**. **Inspect** the hands for **clubbing**. Feel the **radial pulse** at the wrist and note the **rate** (for example 70/min) and **rhythm** (**regular** or **irregular**). The pulse may be **irregular in force** as well as **time**. Check that the other **peripheral pulses** are **present**. Measure the blood pressure, and assess the **jugular venous pressure (JVP)**. **Palpate** the chest for the **apex beat** – the normal position is the fifth left **intercostal space**, one centimetre medial to the **midclavicular line**. Feel for any **thrills**. Heart size may be measured by percussion. Listen for **murmurs** and other abnormal sounds, for example **friction rubs**, beginning at the **mitral area**. Murmurs may be **soft** or **loud**. A **harsh** murmur is loud and rough.

Note the time of any murmur in relation to the cardiac cycle. The most common murmurs are:

- mid-systolic (in the middle of systole)
- pan-systolic (lasting for the whole of systole)
- early diastolic
- mid-diastolic
- late diastolic (pre-systolic)

Continue by listening at the tricuspid, aortic and pulmonary areas.

Finger clubbing



Areas of auscultation. The letters indicate the approximate position of the **heart valves**: P **Pulmonary valve**; A **Aortic valve**; M **Mitral valve**; T **Triscupid valve**. The circles indicate the position for auscultation for cardiac murmurs indicating **valvular heart disease**. The ribs are numbered.

23.1 Complete the table with words from A opposite. Put a stress mark in front of the stressed syllable in each word. The first one has been done for you.

Verb	Noun
'auscultate	
examine	
inspect	
palpate	
percuss	

23.2 Put the steps for examining the heart and circulation in order, according to the four-stage system. Look at A opposite to help you.

a Measure the heart size.
b Are there any murmurs?
c Feel the radial pulse.
d Look for clubbing.
e Locate the apex beat.
f Note any thrills.

23.3 A doctor is presenting the case of a 43-year-old woman at a meeting in the Cardiology Department. Complete the text of her presentation. Look at B opposite to help you.

On examination she was pyrexial with a temperature of 38.5. She was short of breath. Her pulse was variable between 100 and 180 and was irregular in time and (1) ..... .
Her blood pressure was 130/80 and her JVP was up 5 centimetres showing normal movement with respiration. Her peripheral (2) ..... were all present and there was no (3) ..... or (4) ..... cyanosis. Her apex (5) ..... was displaced to the anterior axillary line but still in the fifth intercostal (6) ..... .
Her heart sounds were very interesting. When she was initially examined it was noted that she had pan-systolic and mid-diastolic (7) ..... , heard best at the apex. When she was examined some hours later, there was a harsh pericardial friction (8) ..... all over the precordium. Our diagnosis at that time was of mitral stenosis and incompetence with a recent onset of pericarditis and atrial fibrillation.

Over to you

How many signs of heart disease can you find in B opposite? Can you add any signs of heart disease to the list?

24 Infections

A Fever

A medical student has made some language notes on a case report.

Case 45

A 24-year-old man presented with a **fever** which he had had for three days. On the third day he had had a severe attack of fever with sweating and **rigors**. The only past history of relevance was hepatitis four years earlier and **glandular fever** (infection with Epstein–Barr virus) at the age of 18 years. He had returned from Africa three weeks previously.

fever = **pyrexia** (*also remember* **PUO – pyrexia of unknown origin**)
fever also known as **temperature** – *'I've got a temperature'.*
adjectives = **feverish/febrile** *and* **pyrexial**
opposites = **afebrile/apyrexial**

Some symptoms of fever
sweating
rigors (*severe shivering and sensation of coldness, also known as* **chills**)

B Microorganisms

Infections differ from other diseases in a number of aspects:

- Most importantly, they are caused by living **microorganisms** – such as viruses or bacteria – that can usually be identified, thus establishing the aetiology early in the illness. Many of these organisms, including all bacteria, are sensitive to antibiotics and most infections are potentially **curable**, unlike many **non-infectious** degenerative and chronic diseases.
- **Communicability** is another factor which differentiates infections from non-infectious diseases. **Transmission** of pathogenic organisms to other people, directly or indirectly, may lead to an **outbreak** or epidemic.
- Finally, many infections are preventable by hygienic measures, by vaccines, (especially live attenuated vaccines such as rubella vaccine) or by **drug prophylaxis** (for example, chloroquine to prevent malaria).

Microorganisms include bacteria, viruses, fungi, protozoa (such as the **parasite** that causes malaria). Another general word for these pathogens is **microbes**. Patients often refer to microbes as **germs** or **bugs**.

Notice the common expressions for acquiring an **infectious disease**:

Could he have	**caught** **picked up**	some disease from the dog?

I think I've caught the flu bug that's going round.

C Source and spread of infection

Here is an extract from a medical textbook.

Infection may originate from the patient (**endogenous**), usually from skin, nasopharynx or bowel, or from outside sources (**exogenous**), often another person who may be either suffering from an infection or **carrying** a pathogenic microorganism. **Carriers** are usually healthy and may harbour the organism in the throat (for example, diphtheria), bowel (salmonella), or blood (hepatitis B or HIV). Non-human sources of infection include water (e.g. cholera), milk (e.g. tuberculosis), food (e.g. botulism), animals (e.g. rabies), birds (e.g. psittacosis) and also the soil (e.g. legionella – **Legionnaires' disease**).

The **incubation period** is the period between the invasion of the tissues by pathogens and the appearance of clinical features of infection. The **period of infectivity** is the time that the patient is infectious to others.

24.1 Match the two parts of the sentences. Look at A, B and C opposite to help you.

1 1988 saw the UK launch of live attenuated
2 Chickenpox (varicella) is a common infectious
3 Rabies has an incubation
4 The patient remained febrile
5 He was admitted with a four-day history of influenza-type symptoms of fever with
6 Quite a proportion of patients who recover from hepatitis B
7 The central part of Africa is in the midst of an epidemic
8 Measles (rubeola) is most
9 Lyme disease is caused by transmission
10 PUO stands for

a period ranging from four days to many months.
b rigors, myalgia and general malaise.
c become carriers of the virus.
d infectious during the catarrhal stage.
e disease of childhood.
f of AIDS.
g of B. burgdorferi from animal to man by ixodid ticks.
h with peaks of temperature of 39.5°C.
i pyrexia of unknown origin.
j measles, mumps, and rubella (MMR) vaccine.

24.2 Complete the case report on the patient in A opposite. Look at A, B and C opposite to help you.

Case 45

On examination, he looked unwell. His pulse rate was 100/minute. He had a palpable spleen. The combination of (1) ..... and (2) ..... in a patient who has recently returned from Africa strongly suggests a diagnosis of malaria. The (3) ..... period is usually 10–14 days. In this case, the patient admitted he had not been taking (4) ..... regularly. The diagnosis was confirmed by the presence of (5) ..... in his blood film.

24.3 Complete the sentences. Look at A, B and C opposite to help you.

1 An infection which can be treated successfully with antibiotics is ..... .
2 Another word for an epidemic is an ..... .
3 Bacteria and viruses are examples of ..... .
4 Someone whose temperature is normal is ..... .
5 The common infection with Epstein–Barr virus is known as ....

Over to you

Cases of HIV infection reach record high in the UK

The Times, 25 November 2005

Describe the situation with regard to HIV in your country. What measures are being taken to control it?

25 Mental illness

A Psychiatric disorders

Psychiatric disorders can be divided into **organic** and **functional**. **Dementia** is a mental disorder due to organic brain disease. The commonest form of dementia is that associated with old age: **senile dementia**. Disorders in which there is no obvious pathology or anatomical change in an organ are termed **functional**. These are described below.

B Substance abuse

Abuse of a substance means using it in a way that is harmful. The commonest forms of substance abuse are **alcoholism** and **drug abuse**.

C Affective disorders

Here is an extract from a medical textbook.

> **Affect** and **mood** are similar in meaning and refer to the emotions (for example, happiness or sadness). Affect tends to be used for temporary emotions, and is expressed through manner of speaking, facial expression, or behaviour. Mood is used to refer to a more permanent emotional state. The most common form of affective disorder is **depression**, the symptoms of which are:
>
> - poor appetite or significant weight loss
> - **sleep disturbance** (for example, insomnia – inability to sleep)
> - **fatigue** (loss of energy)
> - **psychomotor agitation** (excessive movement and thought) or **psychomotor retardation** (slowing of movement and thought)
> - **loss of interest** in stimulating activities
> - decreased ability to think and concentrate
> - feeling that one is of no value to others, or that one has done something wrong
> - recurrent thoughts of death or **suicide**.
>
> Five, or possibly four, of the above symptoms, occurring nearly every day for at least two weeks, constitute a **major depression**.

D Neurotic and stress-related disorders

An example of neurotic disorder is **obsessive compulsive disorder**. An **obsession** is an idea that is so persistent that it interferes with the patient's life. A **compulsion** is an obsessive idea that forces the patient to act even though they recognize that it is unnecessary. A common form of this is compulsive washing of the hands. **Stress** is a feeling of being unable to cope. It can lead to **anxiety** or fear of problems. A sudden attack of anxiety is called a **panic attack**.

E Other types of functional disorder

These include:

- **behavioural syndromes** associated with physiological disturbance (such as **eating disorders**)
- disorders of adult personality and **behaviour** (for example, **personality disorder**)
- **mental retardation** – delayed mental development
- schizophrenia and other disorders in which there are **delusions** (false beliefs).

25.1 Complete the table with words from A, C, D and E opposite.

Noun	Adjective
	affective
	anxious
	behavioural
	demented
	disturbed
	suicidal

25.2 Make word combinations using a word from each box. Two words can be used twice. Look at B, C and E opposite to

behavioural	abuse
eating	disturbance
major	retardation
mental	disorder
personality	depression
psychomotor	syndrome
sleep	
substance	

25.3 Complete the sentences. Look at A, C, D and E opposite to help you.

1 The way a person behaves is his or her ..... .
2 A persistent emotional state is a ..... .
3 A sudden attack of anxiety is a ....
4 The form of dementia associated with ageing is called ....
5 A disorder which is not associated with pathological changes is ..... .
6 An idea which forces a patient to repeat unnecessary actions is a ..... .

25.4 Which symptoms of depression was this patient suffering from? Look at C opposite to help you.

Case 41

A 56-year-old woman presented to her GP complaining of increasing tiredness over the past few months. She had lost interest in most things. She was sleeping poorly and tended to wake up early, but denied any suicidal tendencies. She was thirsty and was passing urine more often. She was eating normally and her weight was steady.

Over to you

Do you think the woman in 25.4 above was suffering from major depressive illness? Give your reasons.

26 The nervous system 1

A Sensory loss

The central nervous system controls the **sensory** and **motor functions** of the body. Diseases of this system therefore lead to loss of some of these functions.

Function	Loss	Other symptoms
hearing	**deafness**	**buzzing** or **ringing** in the ear (tinnitus)
sight	**blindness**	**double vision** (diplopia) **blurring** (loss of **visual acuity** – clarity of vision)
sensation (feeling)	**numbness** (anaesthesia)	**tingling** or **pins and needles** (paraesthesiae)
balance	**unsteadiness** (ataxia)	**dizziness** (vertigo)

Note: There are no common words for loss of, or conditions relating to, taste and smell.

B Motor loss

Motor loss symptoms and signs include:

- **weakness** – loss of power
- **paralysis** – complete loss of power
- **tremor** – involuntary rhythmic movement, especially of the hands
- **abnormal gait** – unusual manner of walking.

Speech may also be affected, for example with **hoarseness** – a rough, deep voice as in vocal cord paralysis. **Slurred speech** means poor articulation, as in cerebellar disease.

C Loss of consciousness

Patients may describe sudden loss of consciousness in a number of ways:

I **passed out.** / had a **blackout.** / **fainted.**

I had a fit. / seizure. / convulsion.

Fit, seizure and **convulsion** are all used to refer to violent **involuntary movements**, as in epilepsy.

Doctors may say:

> When did you lose consciousness?

Here is a passage from a textbook on the causes of loss of consciousness.

> The principal differential diagnosis is between an **epileptic fit** and a **syncopal attack**, or **fainting**. **Syncope** is a sudden loss of consciousness due to temporary failure of the cerebral circulation. Syncope is distinguished from a seizure principally by the circumstances in which the event occurs. For example, syncope usually occurs whilst standing, under situations of severe **stress**, or in association with an arrhythmia. Sometimes a convulsion and **urinary incontinence** – **loss of control** of the bladder – occur even in a syncopal attack. Thus, neither of these is specific for an epileptic attack. The key is to establish the presence or absence of **prodromal symptoms**, or symptoms that occur immediately before the attack. Syncopal episodes are usually preceded by symptoms of **dizziness** and **light-headedness**. In epilepsy, people may **get a warning**, known as an **aura**, that an attack is going to happen.

Note: The noun **convulsion** is often used in plural form – *He had **convulsions** as a child.*

26.1 Complete the table with words from A, B and C opposite.

Adjective	Noun
blind	
conscious	
deaf	
dizzy	
numb	
light-headed	
unsteady	

26.2 Make word combinations using a word from each box. Look at A, B and C opposite to help you.

double	acuity
epileptic	attack
prodromal	incontinence
syncopal	symptom
urinary	vision
visual	fit

26.3 A doctor is trying to determine the cause of loss of consciousness in a 52-year-old man. Complete the doctor's questions. Look at C opposite and at the table in 26.1 above to help you.

Did you lose (1) ..... suddenly or gradually?

Did you get a (2) ..... of the attack?

What were you doing before you (3) ..... out?

Were you worried or under any (4) ..... at the time?

Did you feel (5) ..... or (6) ..... before the attack?

Did you lose (7) ..... of your bladder?

Did your wife notice any (8) ..... movements while you were unconscious?

Over to you

Smells can diagnose Alzheimer's

The Times, 14 December 2004

According to a newspaper article, research has shown that inability to identify ten particular smells is an early sign of Alzheimer's disease. What do you think the ten smells are?

27 The nervous system 2

A The motor system

Examination of the motor system should include assessment of the following:

- **muscle bulk** (amount of muscle tissue). Look for signs of **wasting** (muscle atrophy)
- **muscle tone** (amount of tension in a muscle when it is relaxed). Tone can be increased (**spasticity**), or decreased (**flaccidity**)
- **muscle power** (strength)
- **coordination** (the ability to use several muscles at the same time to perform complex actions)
- **gait** (the manner of walking)
- **reflexes** (see B below)
- **involuntary** movements, for example a **tic** or a **tremor**.

Here is an extract from a case report about a patient with a tremor.

Case 80

On examination, her face showed little or no **expression**. There was a tremor **affecting** mainly her right hand. She had **generally increased** muscle tone. Power, reflexes, coordination and sensation were **within normal limits**. Examination of her gait showed that she was slow to start walking and had difficulty stopping and turning.

B Tendon reflexes

Examination of the nervous system normally includes testing the **tendon reflexes**, for example the **knee jerks**, with a **tendon hammer** (also known as a **reflex hammer**). The reflexes may be **absent** (0), **diminished** (–), **normal** (+) or **brisk** (+++). The **plantar reflexes** are also checked. The normal plantar response is a **downgoing** (↓) movement (plantar flexion) of the big toe. An **upgoing** (↑) toe (extensor or **Babinski** response) is abnormal.

Testing the knee jerk with a tendon hammer

C Coma

Coma is unconsciousness with a reduced response to external stimuli.

Doctors say:

The patient is **in a coma.**

The patient is **comatose.**

The **Glasgow Coma Scale** (**GCS**) score is calculated as follows:

Eye opening		Verbal response		Motor response	
Spontaneous	4	Oriented	5	Obeys	6
To speech	3	Confused	4	Localizes	5
To pain	2	Inappropriate	3	Withdraws	4
None	1	Incomprehensible	2	Flexion	3
		None	1	Extension	2
				None	1

27.1 Complete the table with words from A and B opposite.

Noun	Adjective
absence	
diminution	
	flaccid
	spastic
	wasted

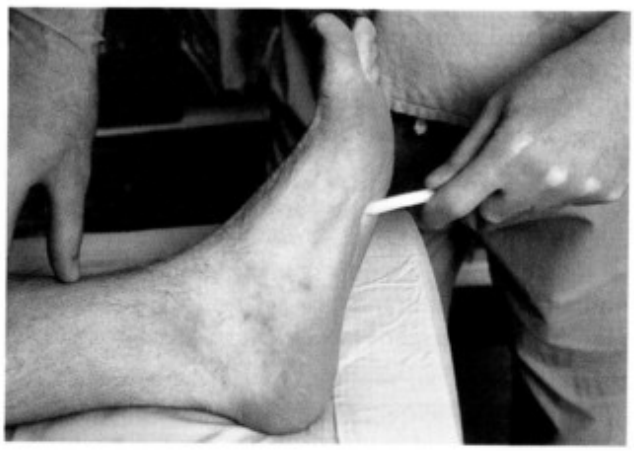
27.2 A doctor is giving instructions to a patient during examination of the motor system. Identify what the doctor is assessing in each case. Look at A opposite to help you.

1 I'd like you to relax. I'm just going to move your arm up and down.
2 Can I see your hands?
3 Now, I'm going to straighten your arm out. Try to stop me.
4 Can you touch my finger with yours and then touch your nose? Good. Now do it again with your eyes closed.

27.3 Complete the sentences. Look at A, B and C opposite and at the table in 27.1 above to help you.

1 A ..... hand droops limply to form a right angle with the wrist.
2 ..... reflexes are reflexes that are stronger than normal.
3 Muscle ..... means the muscle is reduced in bulk.
4 A tic is a form of ..... movement.
5 A key is often used to test the ..... response.
6 His ..... was poor: he could not perform rapid alternating movements.
7 A .... is used to test reflexes.
8 When something is ..... , it is less than normal.

27.4 A patient is brought to A&E in coma. When her name is spoken, she opens her eyes but she does not answer questions, or obey instructions. What is her GCS score?



The plantar reflex

Over to you

Can you name six tendon reflexes?
What is your diagnosis for the patient in A opposite?

28 Oncology

A Neoplasms

A **neoplasm** is an abnormal new growth of tissue. **Malignant** neoplasms – cancers – are likely to spread and cause serious illness or death. **Benign** neoplasms do not spread and are less harmful.

When speaking to patients, doctors generally say **growth** or **tumour**.

You have a small	growth tumour	in the bowel.

A **lump** or **swelling** is a collection of tissue or fluid which is visible or **palpable** – can be palpated or felt with the fingers. A lump may be due to a neoplasm, but there are other causes such as inflammation or fluid accumulation.

Patients say:

I have a lump in my left breast.

Doctors say:

There was a firm, palpable **mass** in the liver.

Malignant tumours are characterized by rapid growth and **invasiveness**. The tumour may **invade** local tissues or may **spread to** distant parts of the body (**metastasis**). Neoplasms which are the result of metastasis are called **secondaries**, as opposed to the original tumour which is the **primary**.

We have the results of the scan back now and I'm afraid they show that you have a small growth in the prostate. Fortunately, it appears to be **at an early stage** and there is **no sign of spread**. So if we **remove** it, there is every chance of a complete **cure**.

Note: To **invade** (verb) is to enter and spread throughout a part of the body, and this process is **invasion** (noun). If a tumour is described as **invasive**, it has the ability to spread.

B Symptoms and signs of malignancy

The symptoms of malignant disease may be related to the size and location of the tumour. For example, a **space-occupying lesion** in the brain causes raised intracranial pressure and symptoms such as headache, vomiting, or visual disturbance. Tumours of the colon may **obstruct** (**block**) the lumen and cause change in bowel habit. Other possible symptoms of malignancy include bleeding, pain, and weight loss.

Case 55

A 33-year-old man presented to his GP complaining of a **painless lump** on the right side of his neck, which had been **present** for about two months and was **enlarging**. He had been feeling generally unwell and had lost about 5 kg in weight. He was also complaining of night sweats. He had no significant past medical history.

C Treatment of tumours

A tumour can sometimes be completely removed or **excised** by surgery. If this is not possible, for example if it has already metastasized to other parts of the body, it may be possible to destroy it by radiotherapy or by chemotherapy (see Unit 42). When a cure is not possible, **palliative treatment** is given, which is only intended to relieve symptoms.

28.1 Complete the table with words from A, B and C opposite and related forms.

Verb	Noun(s)	Adjective(s)
cure		curative
	excision	
grow		growing
		invasive
	obstruction	obstructive
palliate	palliation	
		palpable
	spread	spreading
swell		swelling, swollen

28.2 The notes below are about the patient described in B opposite. Use them to put the sentences (1–9) in the correct order, to make the next paragraph of the case report. Use Appendix II on page XX if you need help with the abbreviations.

OE T 37.8°C
smooth, firm 3 x 4 cm mass in R supraclavicular fossa.
nodes 1–2 cm in diameter, palpable in both axillae and inguinal areas
Oropharynx NAD
P 100/min regular BP 112/66
CVS NAD RS NAD
Abd mass palpable 3 cm below L costal margin
CNS NAD

1 Examination of the central nervous system was normal.
2 His mouth and throat were normal.
3 There was a smooth, firm 3 x 4 cm mass in the right supraclavicular fossa.
4 His cardiovascular and respiratory systems were normal.
5 On abdominal examination, there was a mass palpable 3 cm below the left costal margin.
6 On examination, his temperature was 37.8°C.
7 There were enlarged lymph nodes in both axillae and inguinal areas.
8 His pulse rate was 100/min regular and blood pressure 112/66.

28.3 Complete the sentences. Look at A, B and C opposite to help you.

1 Distant ..... of tumour cells is known as metastasis.
2 Many symptoms of cancer, such as difficulty swallowing, are due to ..... .
3 The opposite of painful is ..... .
4 A ..... neoplasm is called a cancer.
5 Tumours which do not invade or metastasize are ..... .
6 ..... tumours are those which result from the spread of a primary.
7 If a cure is not possible, ... treatment should be given.
8 A ..... liver suggests metastasis.

Over to you

The most likely clinical diagnosis in the patient (described in B opposite and 28.2 above) is lymphoma. How would you explain his condition to him?

29 Pregnancy and childbirth

A Childbirth

The **expected date of delivery** (EDD) is the date on which a woman is expected to give birth to the child she is **carrying** (pregnant with). It is calculated by adding 280 days or 40 weeks to the first day of the last menstrual period (LMP). **Childbirth** is also referred to by doctors as parturition. **Delivery** is the process of helping the child to be born. A **spontaneous vaginal delivery** (SVD) is a normal delivery. If there are complications, the baby may be **delivered** by **caesarean section** (surgically removed).

A **full-term pregnancy** is 40 weeks, divided into three **trimesters**. A baby who is born before this is **premature**, and one born after 40 weeks is **postmature**. A baby who is born dead, for example because the **umbilical cord** is around its neck, is **stillborn**. A pregnancy may end before term spontaneously, with a **miscarriage** (**spontaneous abortion**), or be deliberately **terminated** with an **induced abortion** (**termination of pregnancy**).

Note: the verb **induce** means to cause something to happen.

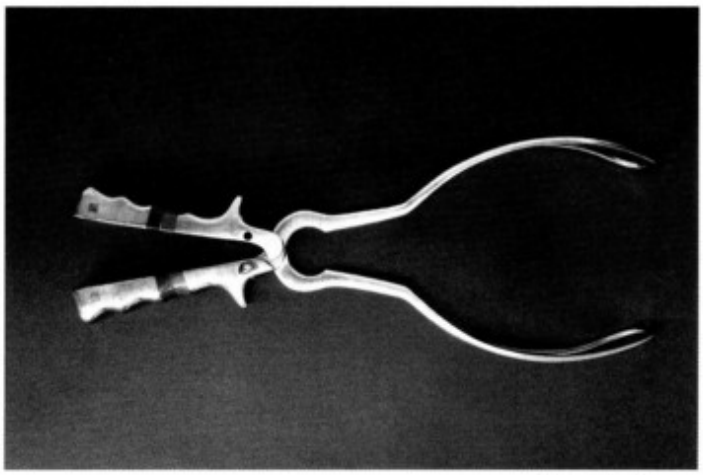
B Labour

The process by which the fetus and placenta are pushed out of the uterus is called **labour**. It is divided into four stages. Some words which are combined with labour are:

premature **prolonged** **spontaneous** **induced** **false**	labour

C Presentation and lie

Fetal lie is the position of the fetus in the uterus. The normal lie is **longitudinal**, and the abnormal lie is **transverse**. **Fetal presentation** refers to 'the part of the fetus which occupies the centre of the pelvic canal and which the examining finger feels on vaginal examination' (Butterworth). The normal presentation is with the head (**vertex presentation**). **Breech presentation** means the buttocks are presenting (*breech* is an old word for buttocks). Abnormal presentations may require delivery with **forceps**.



Obstetric forceps

29.1 Complete the sentences. Look at A, B and C opposite to help you.

1 A baby that is born a week before the EDD is ..... .
2 A ..... of pregnancy may be necessary for medical reasons.
3 The first three months of pregnancy are known as the first ..... .
4 Fetal distress in the first stage of ..... is an indication for caesarean ..... .
5 It was a breech ..... and delivery was by forceps.
6 A ..... is another term for a spontaneous abortion.
7 The ..... was wound tightly around the baby's neck and it was unfortunately ..... .

29.2 Complete the table with words from A opposite.

Verb	Noun
abort	
deliver	
	induction
miscarry	
present	
	termination

29.3 Dr Bennett, an SHO, is presenting a patient at a weekly meeting in the obstetric unit of a hospital. Complete the presentation with the correct forms of verbs from 29.2 above.

This is Clara Davis. She came to the antenatal clinic at nine weeks. In her past obstetric history, she had a pregnancy when she was 18, which was (1) ..... and another one a year later, which spontaneously (2) ..... . Since then she has had three pregnancies. In the first, the baby was (3) ..... normally at 40 weeks. In the second, she had an (4) ..... of labour at 39 weeks because of fetal distress. The third baby (5) ..... as a breech and was (6) ..... by caesarean section.

Over to you

Romanian woman gives birth at 66

A 66-year-old woman is believed to have become the world's oldest mother yesterday, after giving birth to a girl.

The Guardian, 17 January 2005

What is the oldest and youngest age for giving birth that you have known? In your opinion, should assisted conception be available for anyone who wants it? If not, what do you think the limits should be?

30 The respiratory system

A Cough

Cough is a common symptom of **upper respiratory tract infection** (**URTI**) and lung disease. A cough may be **productive**, where the patient coughs up **sputum**, or **non-productive**, where there is no sputum. A productive cough is often described as **loose** and a non-productive cough as **dry**. Sputum (or **phlegm**) may be clear or white (**mucoid**), yellow due to the presence of pus (**purulent**), or **blood-stained** (as in haemoptysis).

A doctor is examining a patient who is complaining of a cough.

Doctor: How long have you had the cough?
Mr Hamilton: Oh, for years.
Doctor: Do you smoke?
Mr Hamilton: I used to **smoke heavily**, but I **gave up** a year ago.
Doctor: Do you **cough up** any **phlegm**?
Mr Hamilton: Yes.
Doctor: What colour is it?
Mr Hamilton: Usually yellow.
Doctor: Have you ever **noticed any blood** in it?
Mr Hamilton: No.
Doctor: Any **problems with your breathing**?
Mr Hamilton: Yes, I get very short of breath. I have to stop halfway up the stairs to **get my breath back**.

The doctor writes in the patient's case notes:

c/o dyspnoea & cough c. purulent sputum for years. No haemoptysis.

Note: The noun **phlegm** is pronounced /flem/.

B Auscultation

The doctor is examining Mr Hamilton's chest.

Take deep breaths in and out through your mouth. Good. Now **say 'ninety-nine'**.

Listening to the chest with a stethoscope may reveal the presence of sounds, apart from the normal **breath sounds**. There are two main kinds of **added sounds**:

- **crackles**, which sound like hairs being rubbed together and suggest the presence of fluid in the lungs
- **wheezes**, which are more musical sounds, like whistling, and indicate narrowing of the airways. The sound of an asthma patient's breathing is also called wheeze.

The sound heard when the pleural surfaces are inflamed, as in pleurisy, is called a **pleural rub**.

The doctor asks Mr Hamilton to say 'ninety-nine' to check **vocal resonance**, which may be increased (as in pneumonia), or decreased (as in pneumothorax).

After examining Mr Hamilton, the doctor adds to his notes:

OE Chest: early inspiratory crackles both lung bases + expiratory wheeze

30.1 Make word combinations using a word from each box. Look at A and B opposite to help you.

blood-	cough
breath	rub
pleural	stained
productive	resonance
vocal	sounds

30.2 Rewrite the questions, using words that are better known to patients. Look at A opposite to help you.

1 Is your cough productive?
2 What colour is the sputum?
3 Is it ever purulent?
4 Have you ever had haemoptysis?
5 Do you suffer from dyspnoea?

30.3 Are the following statements true or false? Give reasons for your answers, using your medical knowledge and A and B opposite to help you.

1 A patient who has a loose cough produces phlegm.
2 Crackles are heard when the airways are narrowed.
3 A patient who has a non-productive cough produces sputum.
4 Wheezes are typical of pleurisy.
5 A pleural rub is a sign of asthma.

Over to you

Use the notes below to write a case report, and add your provisional diagnosis of the case. Use Appendix II on page 131 if you need help with the abbreviations.

Begin: 'A 36-year-old man complained of sudden right-sided chest pain ...'

36 yr old ♂
c/o sudden R chest pain with s.o.b. while watching TV.
pain ↑ by deep breaths and coughing
s.o.b. persisted over the 4 hours from its onset to his arrival in A&E
sl. non-productive cough
PH & FH nil relevant
3/52 holiday in Australia 3/52 previously
OE T 37.4°C RR 24/min JVP ↑ 3 cm BP 110/64 P 128/min
RS chest expansion ↓ because of pain
pleural rub R lower zone posteriorly no other added sounds
Otherwise NAD

What is your diagnosis?

31 The skin 1

A Some types of skin lesion

Medical term	Common word	Features
macule	**spot**	not raised above the surface of the skin
papule	**spot**	raised above the surface of the skin
nodule	**lump**	a large papule
vesicle	**small blister**	filled with fluid
bulla	**blister**	a large vesicle
pustule	–	filled with pus
crust	**scab**	dried blood etc. on the surface of the skin
scales	**scales**	a thin layer of epidermis separated from the skin
cicatrix (plural: cicatrices)	**scar**	a mark on the skin after healing
naevus	**birthmark**	a coloured skin lesion present at birth
fleshy naevus	**mole**	a raised brown naevus
verruca	**wart**	a nodule produced by HPV
furuncle	**boil**	a large pustule, or skin abscess

Note: The liquid (often yellow) formed as a result of infection is **pus**. If a lesion is **pustular**, it is filled with pus.

B Rashes

A **single** skin **lesion** can be **regular** or **irregular** in shape. When there are many (**multiple**) **lesions**, especially macules or papules, the result is a **rash**, (or **spots** in common language); for example the rash of an infectious disease such as rubella. A rash is said to **erupt**, or **break out**.

My little boy has **broken out**	in spots in a rash	all over his body.

The following features of a skin lesion are usually noted:

- location
- size
- shape
- colour
- type.

For a rash, note also:

- **distribution** (**widespread** – on many parts of the body, or **localized** – on one part only)
- **grouping** (**scattered** – more or less evenly spread out, or in **clusters** – small groups).

31.1 Complete the description of *herpes zoster* (shingles) by replacing the medical words in brackets with ordinary English words. Look at A and B opposite to help you.

(1) ..... (herpes zoster) usually starts with pain and soreness. Then red (2) ..... (macules) appear that develop into groups of (3) .... (vesicles) over a particular area on one side of the body. In most patients, new (4) ..... (lesions) continue to appear for 3 to 5 days. The (5) .... (vesicles) become (6) .... (pustular) and then form (7) ..... (crusts). In severe cases, there may be (8) ..... (cicatrices) afterwards.

(*BMJ* 2005; 331: 148 Amended with permission from the BMJ Publishing Group)

31.2 Read the description of the rash of rubella and complete the notes. Look at A and B opposite to help you.

The spots are scattered pink macules which appear first behind the ears and on the forehead. The rash spreads rapidly, first to the trunk and then to the limbs.

location and distribution:

grouping:

type of lesion:

colour:

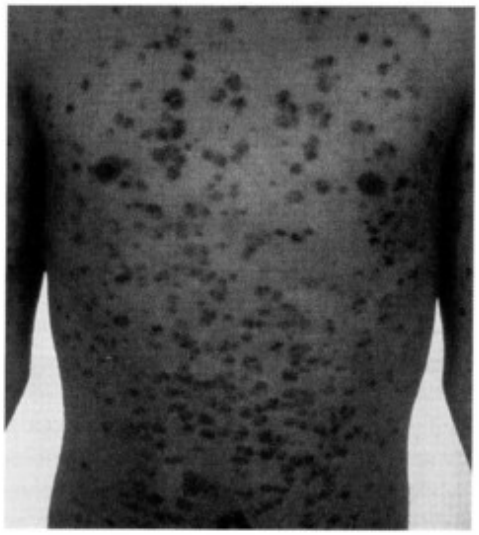
31.3 Complete the notes for the rash in the photograph, and suggest a diagnosis. Look at A and B opposite to help you.

location and distribution:

grouping:

type of lesion:

colour:



31.4 Complete the notes for the lesion in the photograph, and suggest a diagnosis. Look at A and B opposite to help you.

location and distribution:

grouping:

type of lesion:

colour:

Over to you

What types of rashes are common in your country? Is there any reason why they are common?

32 The skin 2

A Injuries to the skin

Here is an extract from a medical website.

Mechanical injuries to the skin are divided into those caused by a **blunt force**, such as a punch from a fist, and those caused by a **sharp force**, such as a knife.

Injuries from blunt forces

- An **abrasion** (also called a **graze** or a **scratch**) is a **superficial** (surface) injury involving only the epidermis, which has been removed by friction. A scratch is linear, as in fingernail scratches, whereas a graze involves a wider area, as in abrasions caused by dragging part of the body over a rough surface.
- A **contusion** (also called a **bruise**) is an injury that occurs when blood vessels in the skin are damaged.
- A **laceration** (also called a **tear**) is a wound involving both the dermis and epidermis. It is usually distinguished from penetrating or incised wounds by its irregular edges and relative lack of bleeding.

Injuries from sharp forces

- An **incised wound** (also called a **cut**) is a break in the skin where the length of the wound on the surface is greater than the depth of the wound – for example, a wound caused by a razor blade.
- The depth of a **penetrating wound** is greater than the superficial length of the wound – for example, a **stab wound** caused by a knife.

(Amended with permission from the BMJ Publishing Group)

B Case report

Read the case report and compare it with the illustration.

Case 2

A 9-year-old boy presented to the Accident and Emergency department after he stumbled and fell while running in a wood. He had received a **blow** to the head from a rock and had been **scratched** by bushes. On examination, a vertical laceration 1 cm long was noted on the bridge of his nose just right of the midline. There were a number of superficial scratches on the right side of his forehead. His right upper lid was mildly **contused**.

(BMJ 1998; 316: 1364
Amended with permission from the BMJ Publishing Group)

C Sores

The word **sore** is a popular term for many different types of skin lesion, especially infected lesions. A **pressure sore** is a skin ulcer caused by pressure, for example the pressure of lying in bed for long periods (also known as a **bedsore**, or decubitus ulcer). A **cold sore** is a lesion caused by *herpes simplex*.

Note: The adjective **sore** means painful, for example a **sore throat**.

32.1 Write the corresponding medical terms for the ordinary English words and say what kind of force is involved. Look at A opposite to help you.

Common word	Medical term	Type of force
bruise		
cut		
graze		
scratch		
stab wound		
tear		

32.2 Choose the correct words to complete the description of the injuries shown in the illustration. Look at A and B opposite to help you.

There are (1) ..... (scratches/grazes) above the left eyebrow and on the left side of the neck, a (2) ..... (contusion/laceration) to the left side of the lower lip and (3) ..... (cuts/tears) to the left cheek.

32.3 Write a description of the injuries shown in the illustration. Look at A and B opposite and at 32.2 above to help you.

.....

.....

.....

.....

.....

.....

32.4 Complete the sentences. Look at A, B and C opposite to help you.

1 Frequent changes of position are necessary in the immobile patient to prevent the development of a pressure ..... .
2 He had several ..... wounds in the abdomen from the knife.
3 He was knocked unconscious by a heavy ..... to the head.
4 The wounds were only ..... and required no treatment.

Over to you

The police have asked you to examine a man who has been involved in a fight in a restaurant. What type of injuries would you expect to find, and how might they have been caused?