UNIT 1

THE HUMAN BODY

The human body has a complex structure. It is built up of millions of cells which form organs and systems. The human body consists of three main parts: the head, the trunk, upper and lower extremities. The head has the face in front and the neck below. The eyes, which are the organs of vision, are situated on both sides of the nose. The forehead lies above the eyes and the cheeks are below them. The mouth, which is bounded by upper and lower lips, contains the tongue and the teeth. On both sides of the head are the ears - the organs of hearing. The neck joins the head to the trunk. It is the biggest part of the body and consists of two main cavities: the thorax (or the chest) and the abdomen. The thorax lies above the diaphragm and the abdomen lies below it. The area between the shoulders and the buttocks is the back.

The upper extremities (or limbs) are connected to the trunk by the shoulder girdle. They are composed of three segments: the arm, the forearm, and the hand with four fingers and one thumb. The lower extremities also consist of three parts: the thigh, the leg, and the foot with toes. On the terminal segments of the fingers are finger nails, on the toes – the toe nails. The joints of the upper limbs are the elbow and the wrist. The joints of the lower limbs are the hip joint, the knee and the ankle.

Word List
- abdomen ['æbdəmən; æb'dəumən] – brzuch
- ankle [æŋkl] – kostka
- arm [a:m] – ramię
- cavity ['kæviti] – jama ciała
- cheek [tʃi:k] – policzek
- chest [tʃest] – klatka piersiowa
- elbow ['elbəu] – łokieć
- extremity [iks'tremiti] – kończyna
- eye [ai] – oko
- face [feis] – twarz
- foot [fut] (pl. feet) – stopa
- forearm ['fo:ra:m] – przedramię
- forehead ['forid; 'fo:hed] – czoło
- hand [hænd] – ręka
- head [hed] – głowa
- knee [ni:] – kolano
- leg [leg] – podudzie, noga
- limb [lim] – kończyna
- lip [lip] – warga
- male [meil] – męski
- mouth [mauθ] – usta
- nail [neil] – paznokieć
- neck [nek] – szyja
- nose [nəus] – nos
- rib [rib] – żebro
- shoulder girdle ['ʃəuldə gə:dl] – obręcz barkowa
- thigh [θai] – udo
- thumb [θʌm] – kciuk
- toe [təu] – palec u nogi
- trunk [trʌŋk] – tułów
- wrist [rist] – nadgarstek

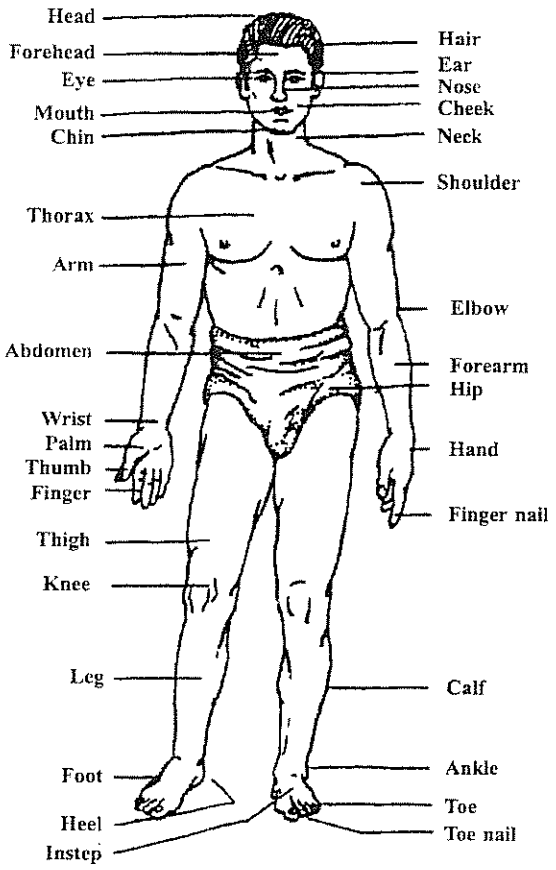

Fig. 1. The human body

EXERCISE A. Answer the following questions.

1. What are the main parts of the human body?
2. What are the parts of the face?
3. Which is the biggest part of the human body?
4. What are the parts of the upper and lower limbs?

EXERCISE B. Put the words given below in the proper column.

the arm • the ankle • the cheek • the chest • the elbow • the eye • the foot • the mouth • the thigh • the thumb • the toe • the wrist • the waist • the ear • the finger nail • the back • the hip • the hand • the leg

the head	the trunk	the upper extremity	the lower extremity
		the arm	

EXERCISE C. Where do you wear the things listed below? Make sentences as in the example, using the prepositions *in, on, round.*

Example: You wear gloves on your hands.

earrings • a watch • make-up • shoes • spectacles • a scarf • an umbrella • a hat • a belt • a ring • a bracelet • a rucksack • a ribbon • tights • a bag • slippers • nail polish • a cap • a necklace

EXERCISE D. Which part of the body can you break, twist, or hurt? Make some sentences as in the example.

Example: You can break your arm or your leg.

EXERCISE E. Complete the sentences, using the following words: **above, below, on the sides of, between.**

1. The neck is located ..... the head and the trunk.
2. The forearm is ..... the arm.
3. The ears lie ..... the head.
4. The leg is ..... the thigh.
5. The ankle is located ..... the foot.
6. The middle finger is ..... the forefinger and ring finger.

Task 1

*Look at each group of four words. Circle the **odd one out**. Write a short explanation of why it does not belong.*

1. head – arm – leg – trunk
2. hand – foot – shoulder – pelvis
3. eye – ear – nose – spine
4. chest – back – abdomen – thigh
5. knee – elbow – wrist – skull
6. trunk – extremities – skull – abdomen
7. upper limb – lower limb – torso – face
8. thorax – abdomen – pelvis – ankle
9. head – neck – trunk – femur
10. upper extremity – lower extremity – trunk – eye

Task 2

*Match each **common term** with its **technical/medical equivalent**. Write one sentence for each pair (use the technical word).*

Common	**Medical**
1. belly	a. femur
2. chest	b. abdomen
3. backbone	c. thorax
4. collarbone	d. tibia
5. thighbone	e. patella
6. kneecap	f. cranium
7. skull	g. clavicle
8. shinbone	h. spine

Example Sentence

- *Common: belly → Technical: abdomen*
- *Sentence: The patient complained of pain in the abdomen.*

Task 3

*Work in pairs. Student A secretly chooses a **body part or larger structure**. Student B asks up to **20 yes/no questions** until they guess it. Switch roles.*

Useful Question Starters

- Is it part of the **head / trunk / extremities**? Is it **upper or lower**? Is it **internal or external**? Is it a **joint, bone, organ, or muscle**? Can you **see it from outside**?

UNIT 2

THE ANATOMICAL DIRECTIONS

The description of the location of a body part is usually made with reference to other structures. The following locative adjectives are commonly used in medical writing to describe location or place of parts of the body:

1) right, left
2) outside, inside
3) upper, lower
4) internal, external
5) superficial, deep (nearer and farther from the surface of the body)
6) proximal, distal (especially of limbs, nearer and farther from the trunk)
7) superior, inferior (higher and lower)
8) anterior, posterior (nearer the front, nearer the back)
9) ventral, dorsal (the front, the back)
10) medial, lateral (nearer and farther from the midline)

For example, the thorax is **above** the abdomen, the elbow is **between** the arm and forearm. We can also say, the thorax is **superior** to the abdomen.

Study other examples:

The diaphragm is **inferior** to the lungs and it is **superior** to the pancreas. The upper limbs are **lateral** to the trunk. The wrist is **distal** to the arm; it is **proximal** to the fingers. The front surface of the body is the **ventral** surface, the back surface is the **dorsal** surface of the body. The outside of the leg is the **lateral** surface; the inside of the leg is the **medial** surface. The trachea runs **anteriorly** to the oesophagus.

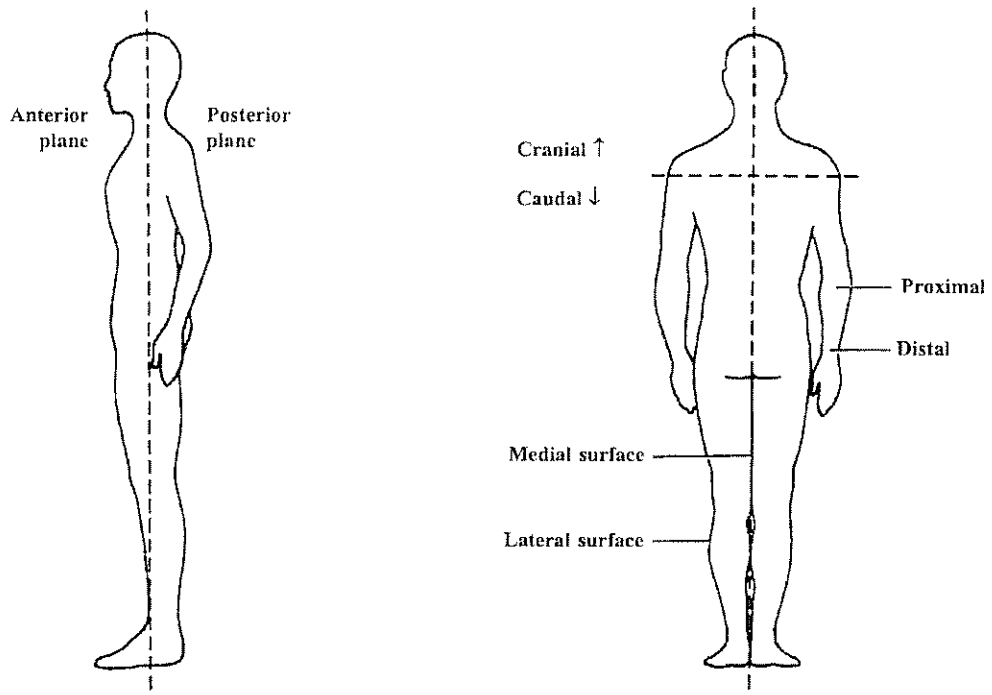

Fig. 2. Directions of the body

Word List

- anterior [æn'tiəriə] – przedni
- ascend [ə'send] – iść w górę, wznosić się, wstępować
- comprise [kəm'praiz] – zawierać, składać się, obejmować
- contain [kən'tein] – zawierać, mieścić w sobie
- couch [kautʃ] – leżanka, kozetka
- descend [di'send] – schodzić, obniżać się, zstępować
- direct [di'rekt; dai'rekt] – kierować, skierować; bezpośredni
- distal ['distəl] – dystalny, dalszy, końcowy
- dorsal ['do:səl] – grzbietowy
- downwards ['daunwədz] – na (w) dół, ku dołowi
- extend [ik'stend] – zasięg; rozciągać, rozprzestrzeniać
- forwards ['fo:wədz] – naprzód, ku przodowi
- lateral ['lætərəl] – boczny, poprzeczny
- medial ['mi:diəl] – środkowy
- navel ['neivəl] – pępek
- palm [pa:m] – dłoń
- parallel ['pærələl] – równoległy
- pass [pa:s] – przejście; przechodzić
- posterior [po'stiəriə] – tylny, ku tyłowi
- proximal ['proksiməl] – bliższy, dosiebny, proksymalny
- side [said] – strona, bok
- superior [sju:'piəriə] – górny, wyższy
- surface ['sə:fis] – powierzchnia, zewnętrzna strona
- trachea [trə'ki:ə] – tchawica
- upright ['Aprait] – wyprostowany
- ventral ['ventrəl] – brzuszny

EXERCISE A. Choose the appropriate locative adjective to complete the following sentences.

1. The eyes are ..... to the nose.
2. The mouth is ..... to the nose.
3. The thorax is ..... to the abdomen.
4. The elbow is ..... to the wrist.
5. The seven ribs are joined ..... to the sternum and all the ribs are joined ..... to the vertebral column.
6. The heart lies ..... to the lungs.
7. The palm of the hand is on its ..... surface.
8. The little toe is on the ..... surface of the foot.
9. The bones of the ankle are on ..... and ..... sides of the leg.
10. The calf is the ..... side of the leg.
11. A wrist watch is worn on the ..... area of the lower arm.

EXERCISE B. Practise this dialogue.

Nurse: I'd like you to stand up straight, the arms by the sides and the legs parallel to each other. Raise your arms above the head and put them slowly down. Now, please lie down on the couch with your legs stretched out in front of you. Try to lift your head up slowly as far as you can. Do you feel any pain in your neck or back?

Patient: No, I don't.

Nurse: That's OK. Now, lift your right leg up straight without bending your knee and then bring it down. Repeat this with your left leg. Do you feel anything?

Patient: Oh, yes. This time I feel a sharp pain in my lower back.

Nurse: Stand up, please. Keep your legs stretched, feet together. I'd like you to bend down. Try to touch your toes with your fingers.

Patient: I can't bend down any more, it hurts me terribly in my back.

Nurse: That's enough. Thank you, Mr Roberts.

EXERCISE C. Translate into English.

1. Oczy położone są po obu stronach nosa.
2. Usta znajdują się poniżej nosa.
3. Klatka piersiowa leży nad przeponą.
4. Wewnętrzna strona uda jest środkową powierzchnią.
5. Tchawica zstępuje przed przełykiem.
6. Plecy są na grzbietowej powierzchni ciała.

Task 1

Work in pairs. Decide if the sentence is correct. If not, correct it using proper anatomical directions.

1. The nose is posterior to the ears.
2. The heart is lateral to the lungs.
3. The stomach is inferior to the diaphragm.
4. The spine is anterior to the sternum.
5. The fingers are proximal to the shoulder.
6. The brain is superficial to the skull.
7. The patella is distal to the hip joint.
8. The ribs are deep to the lungs.

Task 2

Work in pairs or small groups. Choose three body parts. Describe their position relative to each other using ***anatomical directions****. Compare until all group members contribute.*

Examples:

- Compare: *clavicle, ribs, scapula*

  "The clavicle is superior to the ribs but anterior to the scapula."

- Compare: *spine, sternum, lungs*

  "The spine is posterior to the sternum and medial to the lungs."

Task 3

Work in pairs. One student is the ***patient****, the other is the* ***paramedic****. The patient describes where they feel pain, using common words. The paramedic reformulates the description using* ***anatomical directions****.*

Examples:

- "My lower back hurts."
- "So the pain is in the inferior back region, posterior to the abdomen."

- "I feel pain in the upper leg, close to the hip."
- "You feel pain in the proximal lateral part of the thigh."

- "The pain is just behind my shoulder."
- "The pain is in the region posterior to the scapula."

UNIT 3

THE BODY CAVITIES

There are three main cavities in the human body: the cranial cavity, the thoracic cavity and the abdominopelvic cavity.

The cranial cavity is situated in the head. It contains the brain, which is the central part of the nervous system.

The thoracic cavity extends from the base of the neck to the diaphragm. The thorax (or the chest) is protected by the ribs, the sternum and the spinal column. The main structures in the thorax are the heart, the lungs, the oesophagus and large blood vessels, such as the aorta and pulmonary arteries.

The abdominopelvic cavity, which is the largest cavity in the body lies below the diaphragm. It consists of two parts: the abdominal cavity proper and the pelvic cavity. The abdominal wall is made up of three layers of muscles, fatty tissue and the skin. The contents of the abdominal cavity include the stomach, small and large intestines, the liver, the pancreas, the spleen and the kidneys.

The pelvic cavity is located inferior to the abdominal cavity. The contents of the pelvis are: the urinary bladder, the lower part of the large intestine, the rectum and in females the female reproductive organs. These include two ovaries, Fallopian tubes (or oviducts), uterus and vagina.

EXERCISE A. Answer the following questions.

1. What are the main cavities in the body?
2. What is the thorax bounded by?
3. What organs does the thoracic cavity contain?
4. What are the contents of the abdominal cavity?
5. What organs lie in the pelvis?
6. Which is the largest cavity in the human body?

EXERCISE B. Put the words listed below in the right column.

the trachea • the stomach • the kidneys • the lungs • the bladder • the brain • the heart • the rectum • the oesophagus • the ureter • the sternum • the liver • the duodenum • the ribs • the sacrum • the aorta • the ovaries • the pulmonary arteries • the uterus

the cranial cavity	the thoracic cavity	the abdominal cavity	the pelvic cavity

EXERCISE C. Match the two columns and then make full sentences, using the expressions: **be responsible for, be concerned with, deal with.**

Example: The nervous system is responsible for sensitivity by controlling the response to the internal and external stimuli.

1. Nervous system	a) transport of food, wastes and respiratory gases
2. Endocrine system	b) nutrition (ingestion, digestion and absorption of food)
3. Respiratory system	c) sensitivity to the internal and external stimuli
4. Circulatory system	d) reproduction
5. Digestive system	e) movement
6. Excretory system	f) metabolism, growth and sexual characteristics
7. Reproductive system	g) respiration (oxygen intake and carbon dioxide loss)
8. Locomotor system	h) excretion (elimination of waste products of metabolism)

Word List

- abdominopelvic cavity [ˌæbdəmɪnəˈpelvɪk ˈkæviti] – jama brzuszno-miedniczna
- brain [breɪn] – mózg
- cranial cavity [ˈkreɪnɪəl ˈkæviti] – jama czaszkowa
- diaphragm [ˈdaɪəfræm] – przepona
- Fallopian tube [fəˌləʊpɪən ˈtjuːb] – jajowód
- feverish [ˈfiːvərɪʃ] – gorączkujący
- heart [hɑːt] – serce
- large intestine [ˌlɑːdʒ ɪnˈtestɪn] – jelito grube
- liver [ˈlɪvə] – wątroba
- lung [lʌŋ] – płuco
- (o)esophagus [iˈsɒfəgəs] – przełyk
- ovary [ˈəʊvərɪ] – jajnik
- oviduct [ˈəʊvɪdʌkt] – jajowód
- pancreas [ˈpæŋkrɪəs] – trzustka
- pelvis [ˈpelvɪs] – miednica
- peritoneum [ˌperɪtəʊˈniːəm] – otrzewna
- rectum [ˈrektəm] – odbyt
- reproductive [ˌriːprəˈdʌktɪv] – rozrodczy
- reproductive organs (pl.) [ˌriːprəˈdʌktɪv ˈɔːgənz] –organy rozrodcze
- rib [rɪb] – żebro
- slightly [ˈslaɪtlɪ] – nieznacznie
- small intestine [smɔːl ɪnˈtestɪn] – jelito cienkie
- spinal column [ˌspaɪnl ˈkɒləm] – kręgosłup
- spleen [spliːn] – śledziona
- sternum [ˈstɜːnəm] – mostek
- stomach [ˈstʌmək] – żołądek
- thoracic cavity [θɔːˈræsɪk ˈkæviti] – jama klatki piersiowej
- urinary bladder [ˈjʊərɪnərɪ ˈblædə] – pęcherz moczowy
- uterus [ˈjuːtərəs] – macica
- vagina [vəˈdʒaɪnə] – pochwa

EXERCISE D. Study the table below and then complete the sentences, choosing suitable verbs of position from Table 1.

Table 1. Verbs denoting position, direction and structure

Position	Direction	Structure
be	be directed	be made up of
be found	lead	consist of
lie	run	be composed of
be situated	extend	be built up of
be located	pass	contain
	descend	comprise
	ascend	

1. The nose ..... in the central part of the face.
2. The cheeks ..... on either side of the face.
3. The forehead ..... above the nose.
4. The mouth ..... below the nose.
5. The diaphragm ..... between the thorax and abdomen.
6. The abdomen ..... below the diaphragm.

EXERCISE E. Complete the following sentences choosing suitable verbs of direction from Table 1.

1. The oesophagus ..... downwards to the stomach.
2. The aorta ..... through the diaphragm.
3. The trachea ..... from the pharynx to the main bronchi.
4. The trachea ..... in front of the oesophagus.
5. The optic nerve ..... from the retina into the cranial cavity.
6. The acoustic nerve ..... from the organ of Corti into the brain.

EXERCISE F. Complete the following sentences choosing suitable verbs of structure from Table 1.

1. The skull ..... the brain.
2. The trunk ..... two cavities.
3. The upper limb ..... three segments.
4. The lower limb ..... three parts.
5. The upper limb ..... two joints.
6. The lower limb ..... two joints.

EXERCISE G. Translate into English.

1. Jama piersiowa jest ograniczona od przodu mostkiem, z boku żebrami, a z tyłu kręgosłupem.
2. Serce oraz płuca, położone po jego obu stronach, znajdują się w jamie piersiowej.
3. Jama brzuszna, która jest największą jamą ciała, zawiera główne części układu pokarmowego.
4. Żołądek prowadzi do jelita cienkiego, które przechodzi w jelito grube.
5. Jama miednicza, która położona jest pod jamą brzuszną, zawiera pęcherz moczowy, dolną część jelita grubego, odbyt oraz żeńskie narządy rozrodcze.

UNIT 13

THE PULSE RATE

Word List
- beat [bi:t] – uderzenie; uderzyć
- count [kaunt] – liczba, ilość; liczyć
- excitement [ik'saitmənt] – podniecenie, zdenerwowanie
- fear [fiə] – strach, obawa
- heartbeat ['ha:t,bi:t] – uderzenie serca, bicie serca
- hold [həuld] – trzymać
- index finger ['indeks ,fiŋgə] – palec wskazujący
- indicate ['indikeit] – wskazać, wskazywać
- infant ['infənt] – niemowlę, dziecko do 2 lat
- middle finger [,midl 'fiŋgə] – palec środkowy
- newborn ['nju:bo:n] – noworodek
- pulse [pʌls] – tętno, puls
- radial ['reidiəl] – promieniowy
- rapid ['ræpid] – szybki
- relaxation [,ri:læk'seiʃən] – rozluźnienie, odprężenie
- sex [seks] – płeć
- thready ['θredi] – nitkowaty

The pulse beat is a measure of the heartbeat. Every time the heart beats the blood is forced through arteries round the body. The pulse beat can be felt easily on the radial artery at the patient's wrist. In order to take the pulse the nurse should hold the patient's hand with two fingers, the index finger and middle finger, over the pulse and the thumb on the back of the wrist. It should be remembered that the thumb has its own pulse and if it is put on the artery, the nurse may feel her own thumb pulse.

Another important vital sign, apart from temperature, is pulse rate. It is the number of times the heart beats per minute. The nurse counts the number of beats per minute and records its character, that is, whether it is weak or strong, slow or rapid, regular or irregular.

The normal pulse rate changes with age; it decreases with age. It is faster in females than in males. It varies with the position of the person; it is more rapid when the person is standing than when the person is sitting and slowest when the person is fully relaxed. The pulse rate increases during excitement, anger, fear and anxiety. It decreases during sleep, rest and relaxation.

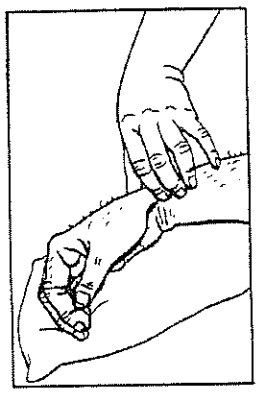

Fig. 14. Recording the pulse at the radial artery

In a newborn infant the normal pulse rate is 120-140 beats per minute. In the adult it is between 65-80 beats per minute. The pulse is usually slower in old age. A normal pulse beat should be related to the age of the person and have a regular rhythm.

Abnormalities in pulse, such as thready pulse, irregular rhythm, and a rate below 50 or above 100 should be reported to the doctor. Changes in the pulse beat indicate a serious problem with the patient's circulation.

EXERCISE A. Answer the following questions.

1. Where are the heartbeats transmitted?
2. What is the pulse rate?
3. How is the pulse measured?
4. Who has a faster pulse rate?
   - a man or a woman;
   - a baby or an adult;
   - a young person or an elderly;
   - a person who is working or sleeping;
   - a relaxed person or an excited one?
5. What is a normal pulse rate in a newborn infant?
6. Should any abnormalities in the pulse beat be reported to the doctor? Why?

EXERCISE B. Choose the correct answer to complete the sentences.

1. The best site for taking the pulse beat is the patient's ..... .
   a) elbow b) wrist c) knee

2. When taking the pulse, the ..... fingers are put over the pulse.
   a) middle and ring b) ring and small c) index and middle
3. The ..... has its own pulse.
   a) thumb b) index finger c) middle finger
4. In an adult the normal pulse is ..... beats per minute.
   a) 55 – 65 b) 65 – 80 c) 80 – 90
5. The pulse rate usually ..... with age.
   a) remains the same b) increases c) decreases
6. The pulse rate below ..... per minute indicates a serious health problem.
   a) 50 beats b) 80 beats c) 100 beats

EXERCISE C. Give the opposites of the following words.

below -
easy -
female -
excited -
front -
rapid -
regular -
weak -

EXERCISE D. Make up the dialogues as in the example, using the prompts given below.

Example: A: What was the nurse doing when Dr Briggs entered the room?
B: She was taking the patient's pulse when Dr Briggs entered the room.

1. A: the nurse /do/the patient/faint
   B: the nurse/collect the blood sample
2. A: the nurse/do/the lights/go out
   B: bandage the patient's leg
3. A: Dr Briggs/do/the nurse/enter the room
   B: examine the patient
4. A: Prof. Higgins/do/Dr Martin/enter his office
   B: phone Prof. Peterson
5. A: the patient/do/get an asthmatic attack
   B: have a short walk in the garden
6. A: the nurse/do/the patient/start to cry
   B: give a painful injection

EXERCISE E. Study the following abbreviations used by doctors in making written orders for the nurses in hospitals. Then, write the sentences below in full, as in the example.

Table 4. Abbreviations related to time/schedules

Abbreviation	Meaning
sos	When necessary
q	Every
stat	Immediately
bid	Two times a day
tid	Three times a day
qid	Four times a day
h	Hour
qh	Every hour
d	Day
qd	Every day
qh	Every hour
q2h	Every two hours
AM	Morning
Mn	Midnight
N	Noon

Example: Urine specimens to lab qd AM. Urine specimens to the laboratory every day in the morning.

1. Throat culture stat.
2. Milk of magnesia 30 ml sos.
3. Shallow rapid breathing q4h for 2d.
4. Take T and P q2h.
5. OOB with assistance tid.
6. Blood sugar q2d AM.
7. NPO after N.
8. Chest X-ray stat.

EXERCISE F. Give the English equivalents of the Polish words in brackets.

1. He slipped, fell and (skaleczył) ---- his knee.
2. When he tried to walk, he felt a sharp (ból) ---- in his left leg.
3. This woman looks pale. I'm aftraid she is going to (zemdleć) -----.
4. I've got such a bad (ból gardła) ---- -------. I'm sure I've caught a cold.
5. She touched a hot pot and (oparzyła) ----- her hand.
6. She is short-sighted and has to wear (okulary) -------.
7. When he was playing basketball he (zwichnął) -------- his ankle.
8. There was an accident in West Street and someone has already called an (karetka pogotowia) ---------.
9. His left kidney is in a poor condition, so he has to have kidney (przeszczepienie) ----------.

EXERCISE G. Translate into English.

1. Tętno mierzone jest na nadgarstku dwoma palcami: wskazujacym i środkowym.
2. Oprócz uderzeń tętna na minutę, pielegniarka musi zanotować jego charakter i rytm.
3. Tętno zależy od wieku, płci i pozycji w jakiej znajduje się pacjent.
4. Ilość uderzeń tętna wzrasta przy zdenerwowaniu, niepokoju i złości.
5. Normalne tętno u dorosłych wynosi 65 – 80 uderzeń na minutę i powinno mieć regularny rytm.
6. Siostro, proszę mierzyć temu pacjentowi tętno co pół godziny.
7. Jesli tętno będzie wyższe niż 100/min. proszę natychmaiast mnie zawiadomić.

UNIT 14

RESPIRATION

Respiration (or breathing) is essential for life, because each cell in the body must get oxygen or it will die. Respiration consists of an inspiration of the air into the lungs and an expiration of the air out of the lungs. During respiration oxygen is taken into the lungs and carried with the blood to all tissues, while carbon dioxide is taken from the tissues, carried to the lungs and expelled out. Oxygen and carbon dioxide are carried around the body by the red blood cells. Observation of respiration includes its rate and depth, sounds and difficulty in breathing.

In order to count the respiratory movements the nurse should hold the patient's arm in such a way that it lies lightly across his chest or abdomen. The patient should not be aware of what the nurse is doing because patients do not breathe normally if they notice the nurse's counting. It is quite easy to count the respiration rate with the nurse's hand on the patient's pulse. The rate should be counted for a full minute.

When recording the patient's respiration rate, the nurse should note its rate, character, depth, regularity and rhythm. Normal respiration is rhythmical, regular and quiet.

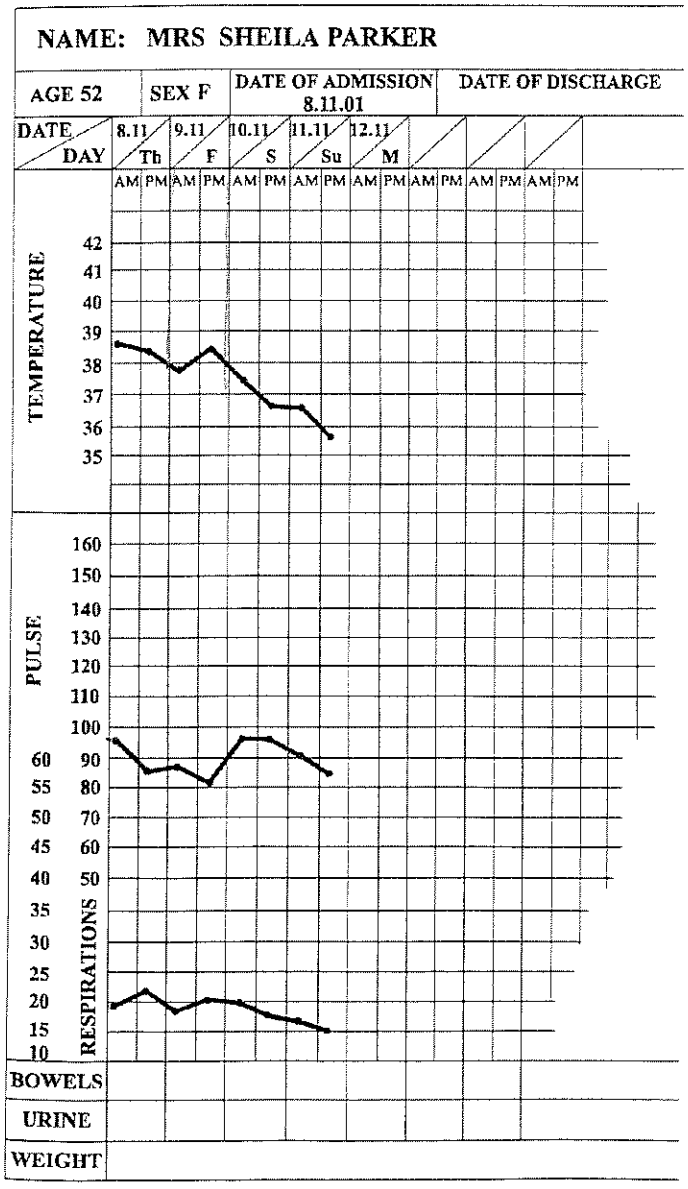

Fig. 15. The chart of the patient's temperature, pulse and respiration (the t.p.r. chart)

Word List

- administer [ədˈministə] – podawać, stosować lek
- apn(o)ea [æpˈni:ə] – bezdech
- carbon dioxide [ˌka:bən daiˈoksaid] – dwutlenek węgla
- chart [tʃa:t] – karta
- coma [ˈkəumə] – śpiączka (głęboka)
- condition [kənˈdiʃən] – stan, warunek
- decrease [diˈkri:s] – zmniejszyć, obniżyć
- dyspn(o)ea [disˈpniə] – duszności
- expel [ikˈspel] – wydalać, usuwać
- expiration [ˌekspiˈreiʃən] – wydech
- febrile state [ˈfi:brail ˈsteit] – stan gorączkowy
- hypnotic [hipˈnotik] – środek nasenny
- increase [inˈkri:s] – zwiększyć, podwyższyć
- infant [ˈinfənt] – niemowlę, dziecko do 2 lat
- inspiration [ˌinspəˈreiʃən] – wdech, inspiracja
- involuntary [inˈvoləntəri] – mimowolny, niezależny od woli
- pause [po:z] – pauza, przerwa
- shallow [ˈʃæləu] – płytki
- temporary [ˈtempərəri] – tymczasowy
- voluntary [ˈvoləntəri] – dobrowolny, nieprzymusowy

Respiration rate decreases with age. The normal respiration rate for a newborn is 40 per minute, at 12 months old, it is 30 per minute, from 2-5 years it is 24-28 per minute, and in an adult the rate is from 16-18 per minute (slightly quicker in women). The rate may be increased after exercise, and by emotion or excitement. It is decreased and shallow during rest or sleep. In abnormal conditions, such as fever and after the administration of certain drugs, the respiration rate is increased. It is decreased in patients suffering from brain injuries, coma, and after the administration of hypnotic drugs.

The temperature, pulse and respiration (abbreviated to t.p.r.) must be recorded on the same chart because only when taken together can they tell us of the patient's condition. All this indicates that the patient's condition is becoming better or worse. Difficulty in breathing is called dyspnoea, and temporary absence of respiration is called apnoea.

EXERCISE A. Answer the following questions.

1. Why is respiration so important for our life?
2. What does respiration consist of?
3. Where is the oxygen carried from the lungs?
4. Where should the patient's arm lie when the nurse is counting the respiration rate?
5. Should the patient know that the nurse is counting the respiration rate? Why?
6. When is the respiration rate increased?
7. When is it decreased?
8. What is the normal respiration rate for a three-year-old child?
9. Why should t.p.r. be recorded on the same chart?

EXERCISE B. Choose the correct alternative to complete the sentences.

1. During expiration the air gets ..... the lungs.
   a) into b) out of
2. The respiration ..... with age.
   a) increases b) decreases
3. The respiration is slower in ..... .
   a) men than in women b) women than in men
4. When a person has fever, the respiration rate is ..... than normal.
   a) faster b) slower
5. The administration of hypnotic drugs ..... the respiration rate.
   a) increases b) decreases
6. The normal respiration rate for a three-year old child is ..... .
   a) 24–28 per minute b) 30–40 per minute
7. Apnoea is the temporary ..... of breathing.
   a) decrease b) absence

EXERCISE C. Fig. 15 shows the chart of Mrs Parker's temperature, pulse and respiration take every day (in the morning and afternoon). Interpret the changes in the temperature, pulse and respiration, filling in the blanks in the following report:

On the day of Mrs Sheila Parker's admission to hospital in the morning, her temperature w elevated and showed 38.8°C. The pulse rate was ..... and the respiration rate w slightly increased and reached 20 per minute. On the same day in the afternoon ....

Use the following key words: **rise/fall; increase/decrease; suddenly; rapidly; slowly; constantl on the same level; finally**

EXERCISE D. Match the words listed below with their definitions.

a splint, a scalpel, a thermometer, a stretcher, a bandage

1. ..... a device used for taking temperature
2. ..... a stiff support for preventing a broken bone from moving
3. ..... a narrow piece of cloth that is put around a wound or injured limb
4. ..... a folded bed to carry an injured person
5. ..... a small, sharp pointed knife used in surgery

EXERCISE E. Make up dialogues between a nurse and a student nurse, Linda, as in the example. Use the prompts given below.

Example: Linda: Shall I bandage the wound?
Nurse: No, put on some antibiotic ointment and leave the wound open.

1. put these drugs on the table	no / put / into the cupboard
2. put these used syringes on the tray	no / throw / into a waste container
3. take this patient's temperature in the armpit	no / take / the rectum
4. change the patient's position	no / put another pillow to raise his head and chest a little
5. give the patient an injection	no / give / a tablet

EXERCISE F. Match para-medical occupations with their definitions.

1. A radiographer	a) does routine tests of blood, urine, sputum, stools, etc.
2. A medical laboratory technician	b) advises on different diets for different types of patients
3. A physiotherapist	c) takes and develops X-ray pictures.
4. A dietician (diet consultant)	d) fills the medical records
5. A medical clerk	e) treats the patients by corrective exercise, massage and electrotherapy.

EXERCISE G. Give the opposites of the following.

absence	-	inspire	- .....
deep	-	light	- .....
fast	-	noisy	- .....
increase	-	normal	- .....

EXERCISE H. Translate into English.

1. Poprzez oddychanie organizm dostaje tlen potrzebny do życia.
2. Pielęgniarka liczy ilość oddechów na minutę oraz notuje ich charakter, rytm, głębokość, itp.
3. Powinna liczyć tak, aby pacjent tego nie zauważył.
4. Po podaniu środków nasennych, oddech stał się wolniejszy i spokojniejszy.
5. Pacjent ma wysoką gorączkę i jego oddech jest szybki, płytki i nieregularny.
6. Proszę mierzyć temu pacjentowi TPR co 4 godziny.

UNIT 15

BLOOD PRESSURE

Word List
- atherosclerosis [ˌæθərəʊskliəˈrəʊsis] – miażdżyca tętnic
- blood pressure [ˈblʌd preʃə] – ciśnienie krwi
- brachial artery [ˈbreikiəl ˈa:təri] – tętnica ramienna
- carry out [kæri ˈaut] – wykonywać, przeprowadzać
- constant [ˈkonstənt] – stały, trwały
- cuff [kʌf] – mankiet
- couch [kautʃ] – leżanka, kozetka
- deflate [di:ˈfleit] – wypuścić powietrze z czegoś
- diameter [daiˈæmitə] – średnica
- diastolic pressure [ˌdaiəˈstolik ˈpreʃə] – ciśnienie rozkurczowe
- equal [ˈi:kwəl] – równy, jednakowy
- exert [igˈzə:t] – wywierać
- h(a)emorrhage [ˈheməridʒ] – krwotok
- inflatable [inˈfleitəbl] – nadmuchiwany
- inflate [inˈfleit] – napompować
- level [ˈlevəl] – poziom
- loss [los] – utrata
- maintain [meinˈtein] – utrzymywać, podtrzymywać
- manometer [məˈnomitə] – manometr
- mercury [ˈmə:kjuri] – rtęć
- pump [pʌmp] – pompa; pompować
- quantity [ˈkwontiti] – ilość
- risk factor [ˈrisk fæktə] – czynnik ryzyka
- sphygmomanometer [ˌsfigməməˈnomitə] – sfygmomanometr
- stethoscope [ˈsteθəˌskəup] – słuchawka, stetoskop
- systolic pressure [sisˈtolik ˈpreʃə] – ciśnienie skurczowe

When the heart beats, the blood exerts pressure on the walls of blood vessels. The pressure is greatest in the arteries and lowest in the veins. Blood pressure depends on the pumping force of the heart and the quantity of circulating blood. The patient's blood pressure is often taken during nursing care. This can be done using a sphygmomanometer. Blood pressure is measured in millimetres of mercury (mm Hg). Blood pressure is the greatest at each heartbeat and is called systolic pressure. Blood pressure is lowest between the heartbeats and is called diastolic pressure.

The normal systolic pressure for a middle-aged adult is between 110 to 130 mm Hg (millimetres of mercury). The diastolic pressure is usually about two-thirds of the normal systolic pressure and is rather constant; it is 70 to 90 mm Hg. The systolic blood pressure rises slightly with age. It also depends on the level of activity and excitement. In a person 20 years old, the normal systolic pressure is about 120 mm Hg and the normal diastolic pressure is 80 mm Hg.

A common circulatory problem is hypertension, which is an increase in blood pressure. It is caused by a loss of elasticity by the walls of the arteries and a decrease in diameter of the arteries. The risk factors of hypertension are atherosclerosis (deposits of fatty material on the interior walls of arteries), cigarette smoking, and lack of exercise. A decrease in blood pressure is usually the result of haemorrhage, shock and heart attack.

Two pieces of equipment are used to take blood pressure: a sphygmomanometer and a stethoscope. Before taking blood pressure the patient should be asked to lie or sit on a bed or on a couch with his right arm uncovered to the shoulder. The sphygmomanometer should be placed beside his arm and on the same level. It consists of a mercury manometer and an inflatable cuff. The cuff is put round the patient's arm and the stethoscope is applied over the brachial artery. Then the cuff is inflated until the brachial pulse disappears. Then the air is slowly released from the cuff. The first pulse beats heard when the cuff is deflated show the systolic pressure. The deflation of the cuff is continued until the last pulse sounds are heard. This shows the diastolic pressure.

In recording blood pressure, the systolic pressure is written over the diastolic, for example, BP 120/80 mm Hg (one hundred and twenty over eighty millimetres of mercury).

The patient's temperature, pulse, respiration (t.p.r.) and blood pressure (b.p.) should be taken and recorded on a chart regularly. They represent a valuable picture of the patient's condition and progress.

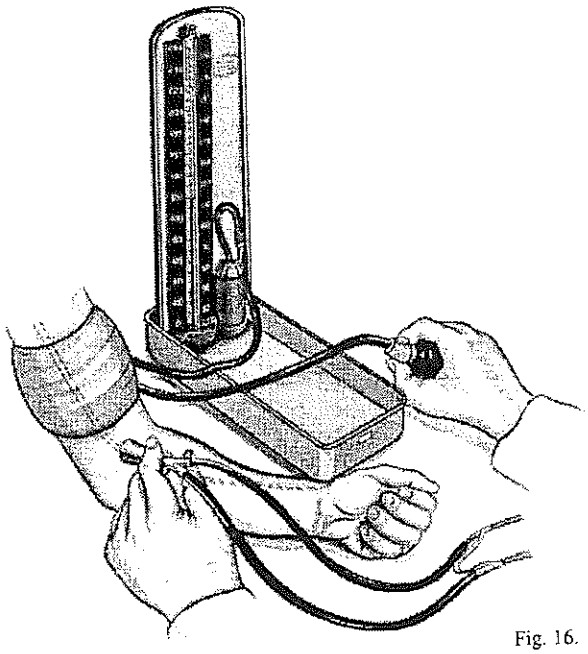

Fig. 16.
Measurement of blood pressure with a sphygmomanometer

EXERCISE A. Answer the following questions.

1. What does the blood pressure depend on?
2. What instrument is used to take blood pressure?
3. What does it consist of?
4. What is the systolic and diastolic pressure?
5. What is hypertension?
6. When is the blood pressure decreased?

EXERCISE B. Choose the best answer to complete the sentences.

1. The blood pressure is the highest in the ..... .
   a) capillaries b) veins c) arteries
2. Blood pressure is measured in ..... .
   a) micrometers Hg b) millimetres Hg c) centimetres Hg
3. The normal systolic pressure for an adult is ..... mm Hg.
   a) 100 – 110 b) 110 – 130 c) 130 – 160
4. Diastolic pressure is the blood pressure ..... .
   a) at the heartbeats b) between the heartbeats c) both at and between the heartbeats
5. Diastolic pressure is about ..... the normal systolic pressure.
   a) one-third of b) the same as c) two-thirds of
6. ..... is not a risk factor of hypertension.
   a) atherosclerosis b) sedentary lifestyle c) allergy
7. The cuff is inflated until the brachial pulse ..... and slowly deflated until the first pulse beats are heard.
   a) appears b) disappears c) reappears

EXERCISE C. Give the nouns related to these verbs. Then, use them to complete the sentences below.

circulate - .....
deflate - .....
excite - .....
measure - .....
press - .....

1. Careful ..... of all vital signs is necessary for a clinical picture of a disease.
2. Regular exercise and proper diet improves the ..... .
3. Low blood ..... is increased by a cup of strong coffee.
4. The news that Prof. Roberts is going to visit our hospital caused a great ..... among hospital staff.
5. ..... of tyres in the wheels may lead to an accident.

EXERCISE D. Match the words listed below with their definitions.

a stethoscope; a wheelchair; a sling; forceps; a syringe

1. ..... a triangular piece of cloth hung around the neck to support a broken arm
2. ..... a mobile chair on which an invalid can sit and move
3. ..... a tube with a plunger which moves inside it, forcing the contents out through the needle
4. ..... two ear-pieces connected to a tube and a metal disc, used to listen to the sounds inside the body
5. ..... an instrument similar to a pair of scissors, used for holding and pulling

Now, use these words to complete the sentences.

1. I'm going to change the dressing. Could you pass me the .....?
2. Mrs Wilson's broken forearm has just been put to a plaster. Now, the upper limb must be flexed and supported by a ..... .
3. Mr Walker cannot walk. You have to take him to the X-ray Department in a ..... .
4. Where are the ..... and needles? I'll need them soon to give an injection.
5. I'm going to listen to the patient's heart and lungs. Could you pass me a .....?

EXERCISE E. Make up dialogues as in the example. Use the list of wards and the hints given below.

Paediatric Ward; Gynaecological Ward; Neurosurgical Ward; Dermatological Ward; Ophthalmic Ward; Ear, Nose, Throat Ward (E.N.T. Ward)

Example: Visitor: Where can I find Mrs Stevenson? She suffers from neurosis.
Nurse: In the Psychiatric Ward, I suppose.

1. Jack Smith, aged 7 years / complicated measles
2. Mrs Peterson / women's disease
3. Mr Bell / disease of the eye
4. Mr Burns / laryngitis
5. Mrs Swan / disease of the skin
6. Mr Newman / cerebral stroke

EXERCISE F. Translate into English.

1. Jednym z obowiązków pielęgniarki jest mierzenie ciśnienia krwi.
2. Wyróżnia się dwa rodzaje ciśnienia krwi: skurczowe i rozkurczowe.
3. Normalne ciśnienie rozkurczowe równe jest 2/3 ciśnienia skurczowego.
4. Sfygmomanometr składa się z rtęciowego manometru i nadmuchiwanego mankietu, który umieszcza się wokół ramienia pacjenta.
5. Ciśnienie krwi musi być zanotowane na karcie chorobowej pacjenta.
6. Proszę usiąść, podwinąć rękaw do ramienia. Zamierzam zmierzyć panu ciśnienie krwi.

Taking Patient History in Emergency Medicine

In emergency medicine, time is short, the patient may be in pain or distress, and decisions must be made quickly. Unlike a full medical history in a hospital or clinic, an **emergency patient interview** focuses on gathering **essential information fast**, while still keeping the patient calm and safe.

Main Goals of the Emergency Interview

1. **Identify the problem** – Why did the patient call for help? What is the main complaint?
2. **Assess urgency** – Is this life-threatening? Do we need to act immediately?
3. **Collect essential information** – Even a few short answers can guide treatment.
4. **Establish communication** – Clear, calm questions help build trust, even in stressful situations.

Structure of the Emergency Interview

1. **Chief Complaint (CC)**
    - The patient's main problem in their own words.
    - Example: *"I have severe chest pain."*
2. **History of Present Illness (HPI)**
    - Focus on the current problem: when it started, how it feels, what makes it better/worse.
    - In emergencies, the **SAMPLE** and **OPQRST** methods are often used:
        - **SAMPLE:** Signs/Symptoms, Allergies, Medications, Past medical history, Last oral intake, Events leading up.
        - **OPQRST:** Onset, Provocation, Quality, Radiation, Severity, Time.
3. **Past Medical History (PMH)**
    - Only the most relevant: chronic diseases, recent hospitalizations, surgeries.
4. **Medications and Allergies**
    - Crucial for safe treatment.
5. **Events and Environment**
    - What was the patient doing when symptoms started? What happened just before the incident?

Communication Tips

- Use **clear questions**: *"Where does it hurt?"*
- Speak **calmly and slowly** – the patient may be in shock or scared.
- Check **understanding** – repeat key details back: *"So the pain started 20 minutes ago, correct?"*
- In case the patient cannot answer, talk to **bystanders, family, or caregivers**.

Why It Matters

- A clear and efficient interview can mean faster diagnosis, better treatment, and even save a life.
- Paramedics and emergency staff must balance **collecting information** with **providing urgent care**.

Task 1

Match the terms with their definitions.

Terms

1. chief complaint (CC)
2. SAMPLE
3. OPQRST
4. past medical history (PMH)
5. bystander
6. urgency

Definitions

a. The most important or main problem the patient describes.
b. A structured method to assess pain (Onset, Provocation, Quality, Radiation, Severity, Time).
c. Information about previous illnesses, surgeries, or chronic diseases.
d. The need for immediate medical attention.
e. Someone who is near the patient but not directly involved in the incident.
f. A quick mnemonic to collect information: Signs/Symptoms, Allergies, Medications, Past history, Last oral intake, Events leading up.

Task 2

Decide if the sentences are true (T) or false (F). Correct the false ones.

1. In emergency medicine, the patient interview is as detailed as in a hospital clinic.
2. The patient's own words are important in identifying the chief complaint.
3. SAMPLE and OPQRST are tools to help organize questions.
4. If the patient cannot answer, no information can be collected.
5. Communication style is as important as the medical questions.

Task 3

Choose the correct word out of the provided options.

1. In emergency medicine, time is often _____, so decisions must be made quickly.
   a) large b) short c) briefed d) tiny
2. The patient's main problem, expressed in their own words, is called the _____ Complaint.
   a) First b) Chief c) Leading d) Major
3. The SAMPLE method helps paramedics remember to ask about Signs, Allergies, Medications, Past medical history, Last oral intake, and _____ leading up to the incident.
   a) Events b) Episodes c) Experiences d) Encounters
4. In OPQRST, the "Q" stands for _____, which refers to how the pain feels.
   a) Quantity b) Quality c) Question d) Quotation

5. A patient's _____ history includes conditions like asthma, diabetes, or recent surgeries.
   a) Medical b) Physical c) Healthful d) Biological
6. Knowing a patient's medications and _____ is crucial for safe treatment.
   a) Infections b) Allergies c) Injuries d) Diagnoses
7. To keep patients calm in emergencies, paramedics should speak _____ and slowly.
   a) Calmly b) Quietly c) Softly d) Patiently
8. If the patient cannot answer, information can be collected from _____, family, or caregivers.
   a) Observers b) Bystanders c) Passengers d) Onlookers

Task 3

In pairs, discuss the following questions:

1. Why is communication important in emergencies?
2. How can repeating information back to the patient build trust?
3. In which situations do you think paramedics don't have time for open questions?
4. What can paramedics do if the patient is unconscious?

The Funnel Technique

The **funnel technique**—starting with broad, open questions and gradually narrowing to more specific, closed ones—is a **very common interview strategy in general medicine**. It helps patients tell their story in their own words before the clinician directs them toward details.

But in **emergency medicine**, the situation is a bit different.

When the funnel technique *can* be useful in emergencies

- **If the patient is stable** and able to speak, it's helpful to begin with a short open question:
  - *"Can you tell me what happened?"*
  - *"How are you feeling right now?"*
- This allows the patient to express their main concern quickly, often revealing information you might not think to ask directly.
- Then, narrowing down with closed questions ensures you collect **specific, actionable data** (e.g., allergies, medications, onset time).

When it may *not* be appropriate

- **In critical or life-threatening cases** (cardiac arrest, severe trauma, airway compromise), there is no time for broad, open questions.
- In these cases, clinicians use **focused, closed, rapid questions** (yes/no, one-word answers) or structured mnemonics like **SAMPLE** and **OPQRST**.

- Example: *“Do you have chest pain now?” → “Yes.”*
- *“How long has it lasted?” → “10 minutes.”*

Best practice in emergency medicine. Use a modified funnel:

1. **Very brief open question** if the patient can talk (to capture the chief complaint).
    - *“What’s wrong?” / “Tell me what happened.”*
2. Quickly move to **structured, closed questions** to gather essential details.
3. Always prioritize **ABCs (Airway, Breathing, Circulation)** over history-taking.

In short:

- The **pure funnel technique** is too slow for many emergencies.
- A **hybrid approach**—a quick open question, followed by rapid focused questions—is most appropriate.

Task 4

*Read the questions below. Write **O** (open), **C** (closed), **F** (follow-up), or **L** (leading) next to each one.*

1. Can you describe how the pain feels?
2. You haven’t eaten anything unusual today, have you?
3. When exactly did the pain start?
4. What were you doing when the accident happened?
5. So the pain gets worse when you move, right?

Task 5

*Read the questions below. Write **O** (open), **C** (closed), **F** (follow-up), or **L** (leading) next to each one.*

Part B – Modify the Questions

Change the questions below to a **different type** (open → closed, closed → open, etc.).

1. **Open → Closed**
   What medications are you taking? → _____
2. **Closed → Open**
   Do you have any allergies? → _____
3. **Leading → Closed**
   You don’t smoke, do you? → _____
4. **Closed → Follow-up**
   Have you had chest pain before? → _____

Task 5

Write one example of each type of question that you could use with a patient in an emergency situation:

- **Open:** _____
- **Closed:** _____
- **Follow-up:** _____
- **Leading:** _____

Task 6

Write one example of each type of question that you could use with a patient in an emergency situation:

Work in pairs: one **Paramedic**, one **Patient**.

- Roleplay the emergency interview in front of the group (3–5 minutes).
- Use a mix of **open, closed, follow-up, and leading questions**.
- Focus on **body parts, anatomical directions, symptoms, and patient history**.
- After the roleplay, the group and teacher will have a **short debrief**:

Debrief Questions (for the group)

1. Did the paramedic identify the **chief complaint** and main symptoms?

2. Were **anatomical terms** (left/right, upper/lower, body part names) used correctly?

3. Did the paramedic balance **open, closed, follow-up, and leading questions**?

4. Was the patient able to give enough information?

5. What could have been done differently for clarity or efficiency?