ANNO ACCADEMICO 2020-21: *I ANNO – infermieri*

<u>Inglese Scientifico</u>
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Course materials

Pack VIII

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Prepositions practice

Use *ABOUT*, *AT*, *FOR* or *TO*:

1. How much does he charge __ __ a haircut?

2. First you have to send an application __ __ the personnel manager.

3. She told us __ __ her new projects.

4. Who is he waiting __ __?

5. She forgot __ __ our annual meeting.

6. I'm looking __ __ my car keys. I can't find them.

7. Mary is really worried __ __ her exam.

8. Where's Professor Lee? John's mother is looking __ __ him.

9. They are talking __ __ the chairman's affair.

10. I always listen __ __ my parents' advice.

11. The professor sent the student __ __ the reference section of the library.

12. Please look __ __ me. I'm talking to you.

13. I'm thinking __ __ my trip to Canada.

14. They used to laugh __ __ her provincial manners.

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Making questions

Put the words in the correct order to make questions:

1. old how you are?

__ __?

2. live where you do?

__ __?

3. you brothers have or any do sisters?

__ __?

4. mother born where your was?

__ __?

5. your is than father your uncle older?

__ __?

6. like grandparents of you your do most which?

__ __?

7. a are teacher you?

__ __?

8. today time what going to you are work?

__ __?

9. work you Mondays when do finish on?

__ __?

10. go why you work to today didn't?

__ __?

11. work your was at yesterday boss?

__ __?

12. the Milan you Cathedral have in visited?

__ __?

13. Louvre in when you the did Paris visit?

__ __?

14. you what you were do when in did Amsterdam?

__ __?

15. Museum you the were Science did when you in visit London?

__ __?

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Medical abbreviations (acronyms)

	Abbr./ acronym			**Meaning**
1	RTA	**a**	return to ward	
2	RTI	**b**	Senior House Officer	
3	RTW	**c**	short of breath	
4	Rx	**d**	sphygmomanometer	
5	s.c.	**e**	specific gravity	
6	s.l.	**f**	Speech and Language Therapist	
7	SaO_2	**g**	subcutaneous	
8	SG	**h**	respiratory tract infection	
9	SHO	**i**	take (prescription) / treatment (hospital)	
10	SLT	**j**	sit out of bed	
11	SOB	**k**	road traffic accident	
12	SOOB	**l**	oxygen saturation	
13	sphyg.	**m**	sublingual	

	Abbr./ acronym			**Meaning**
14	stat.	**n**	three times a day (Latin)	
15	T	**o**	thromboembolism-deterrent stockings	
16	T&A	**p**	immediately (Latin)	
17	t.i.d.	**q**	tissue, infection, moisture balance, edges of wound	
18	tabs	**r**	upper respiratory tract infection	
19	TEDS	**s**	temperature	
20	TIA	**t**	temperature, pulse, respiration	
21	TIME	**u**	urea / unit	
22	TPR	**v**	ultrasound scan	
23	u/a	**w**	tonsils and adenoids	
24	U	**x**	transient ischaemic attack	
25	URTI	**y**	urinanalysis	
26	USS	**z**	tablets (pills)	

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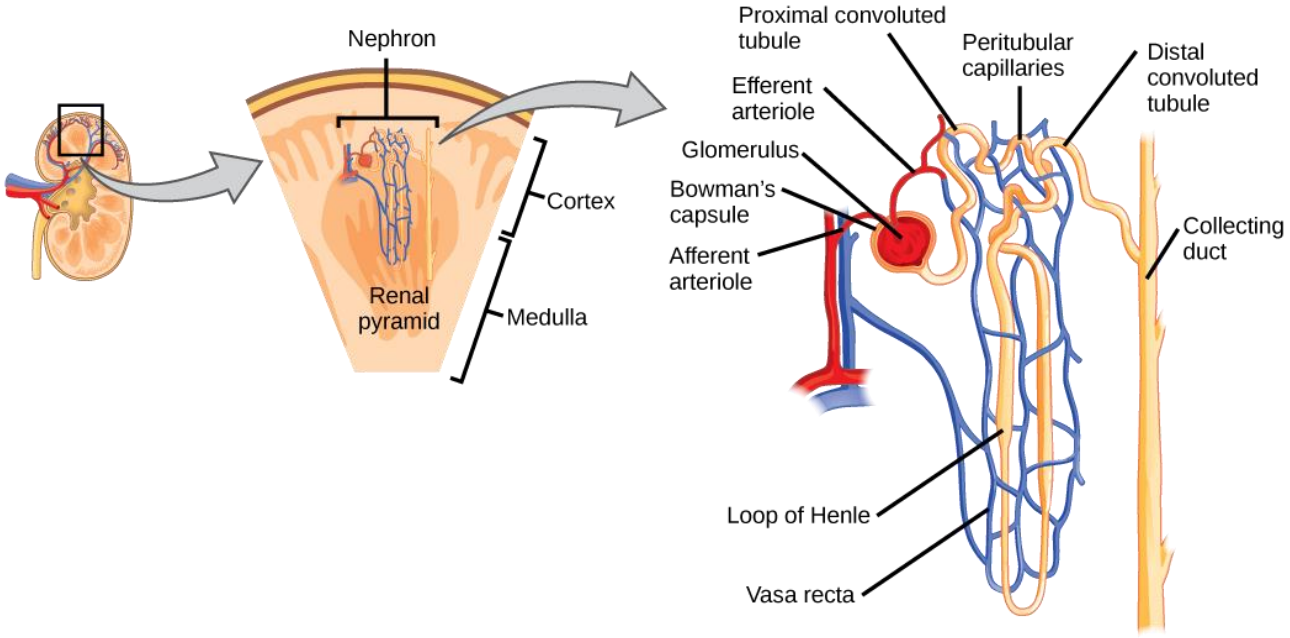
The nephron



The basic unit of the **structure and function of the kidneys** is the **nephron**, which comprises the **glomerulus** and the **renal tubule**. Each human kidney contains about 1,200,000 nephrons, a number that is constant from birth, as new nephrons cannot develop. The renal tubule starts in the **cortex** of the kidney with the **glomerulus**, where the blood enters the **capillary network** (with **fenestrated epithelium**) that is **enveloped** by the **Bowman's capsule**, the start of the renal tubule. The glomerulus is where the initial **filtration** from the blood into lumen of the renal tubule takes place. The renal tubule then continues into the **proximal convoluted tubule**, which is still in the **renal cortex**. It then becomes the **loop of Henle**, which generally passes deep into the **medulla inner zone** (**thick/ thin descending limb**) before **looping** back to the **kidney cortex** (**thin/ thick ascending limb**). The **distal convoluted tubule** then joins the **collecting duct**, which joins with further collecting ducts as they pass through the **medulla** to the **renal pelvis**.

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The urinary tract

The **internal organs** of the body also include the **urinary system** and the **internal genital organs**. Both systems of organs have been incorporated in the **urogenital system**, owing to their close **anatomical** and **functional** relation to one another.

Here we can see the **kidneys** on either side of the **spine**, with the **renal pelvis** that enters into the **ureter**, which in turn leads down to the **urinary bladder** in the **pelvic cavity**.

In males, the **prostate gland** is situated beneath the **bladder**, which encircles the **urethra** like a ring. Here, it has been exposed length-wise, and shows the passage of the urethra. The prostate gland tends to enlarge with increasing age, which constricts the urethra and sometimes causes problems with **urination**.

The **kidneys** play a key role in controlling **water levels** in the body, and **cleanse the blood** of dissolved **waste matter**. The **total volume of blood** in a body flows through the kidneys approximately **15 times per hour**. Blood is **filtered** in the **renal cortex**; **urine** is **concentrated** in the **medulla**, from which it empties into the **renal pelvis**.

There are numerous **kidney diseases** that can cause **severe functional disorders**. This kidney has been pervaded with numerous **cysts**, and is significantly **enlarged**. Both symptoms are caused by a **hereditary disease**. In contrast, this kidney has been severely **atrophied** as a result of **chronic infection**. Such severe cases can only be helped by regular **haemodialysis** or a **kidney transplant**.

Female reproductive organs are largely contained within the body. They include the two **ovaries**, the two **fallopian tubes**, and the **uterus**. With each **monthly cycle**, an **egg** matures in the **ovaries** and is then captured by the **funnel-like** end of the **Fallopian tubes**. **Fertilisation** normally occurs on the way to the **uterus**. The egg then nests itself into the **mucus membrane** of the uterus.

In this specimen, we can see once again the internal female genital organs, shown separately. In the middle, we can recognise the **uterus**; it has been cut open horizontally. We can recognise the **Fallopian tubes**, and the **ovaries** on either side.

On this **enlarged uterus**, we can see several small **growths**, called **myomas**. These are **benign tumours** resulting from **uncontrolled growth** of **muscular tissue** in the **uterine wall**. Myomas are quite common. However, in most cases, they do not cause any problems.

Female **breasts** are also included with the **external genital organs**. Outside of **pregnancy**, they consist primarily of **fatty tissue**, as can be seen here on the left of the picture. The **network of glandular ducts** is so fine as to be scarcely visible to the **naked eye**. On the right, we can see **breast cancer**. Its **hard tissue** has almost completely **infiltrated the breast**.

Questions

1. The urinogenital system comprises...

A. The kidneys and the uterus.

B. The urinary system and the internal genital organs.

C. The urinary system and the genital organs.

D. The kidneys and the genital organs.

2. The two kidneys are positioned…
A. To the left of the spine.
B. One on each side of the spine.
C. To the right of the spine.
D. Side by side.

3. The ureter passes down from…
A. The kidneys to the bladder.
B. The medulla to the bladder.
C. The kidneys to the urethra.
D. The bladder to the kidneys.

4. The prostate gland in males is positioned…
A. Beneath the bladder, around the ureter.
B. Around the bladder.
C. Above the bladder.
D. Beneath the bladder, around the urethra.

5. As men get older, their prostate gland…
A. Gets smaller.
B. Stops working.
C. Gets bigger.
D. Becomes necrotic.

6. The kidneys control the body water levels and…
A. Clean out dissolved waste matter from the blood.
B. Clean out dissolved waste matter from the urine.
C. Reabsorb the dissolved waste matter from the urine.
D. Clean out the salts from the blood.

7. All of the blood in the body flows through the kidneys…
A. About once every 15 hours.
B. About 15 times per day.
C. About 15 times during the night.
D. About 15 times per hour.

8. What happens in the medulla?
A. The urine is reabsorbed.
B. The urine is diluted.
C. The urine is concentrated
D. The urine is less concentrated.

9. Cyst formation on the kidneys can be caused by…
A. Chronic infections.
B. Waste matter in the urine.
C. Salts in the urine.
D. Hereditary diseases.

10. Necrosis of the kidney can be caused by…

A. Chronic infections.
B. Waste matter in the urine.
C. Salts in the urine.
D. Hereditary diseases.

11. What are the main organs of the internal female reproductive organs.

A. Two ovaries, two fallopian tubes and two uteruses.
B. One ovary, two fallopian tubes and the uterus.
C. Two ovaries, the fallopian tube and the uterus.
D. Four ovaries, two fallopian tubes and the uterus.

12. Where are the eggs usually fertilised?

A. In the uterus.
B. In the fallopian tubes.
C. In the ovaries.
D. When it arrives in the uterus.

13. The small myomas that often grow in the wall of the uterus are…

A. Cancerous.
B. Part of the mucus membrane of the uterus.
C. Sites of necrosis.
D. Not cancerous

14. Female breasts consist primarily of…

A. Glandular ducts.
B. Fatty tissue.
C. Hard tissue.
D. Cancer.

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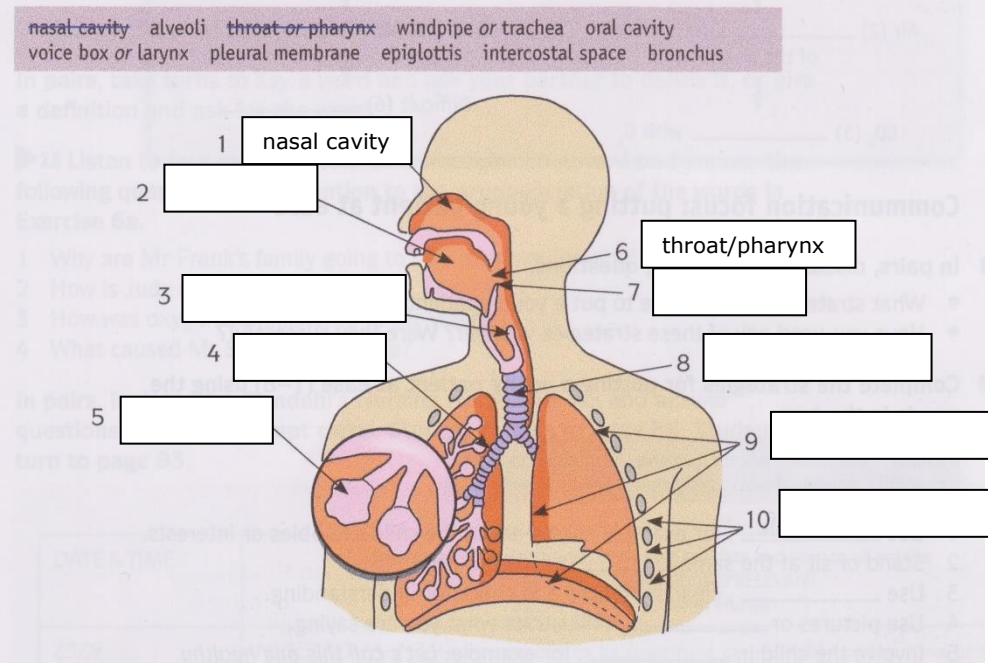
Asthma

Tim, a **Charge Nurse** on the **Paediatric Respiratory Ward**, is describing the normal flow of air into the lungs to **Suzie**, an **8-year-old patient**. Suzie has been admitted after having her first serious asthma attack and needs education about managing her condition.

Listen to Tim as he explains the different parts of the respiratory system to Suzie.



Tim: Hello, Suzie. Can I come and sit here with you for a while? You're looking a bit brighter than yesterday, aren't you? We'll have a chat about your breathing now, and then I'll have a talk to you about what happens to your airways when you have an asthma attack. OK with you?

Suzie: Why do I have to do all that? Sounds like school!

Tim: Come on. It's not as bad as that! The thing is, Suzie, I want you to be able to understand what's happening to you during an asthma attack, so that you can cope when you have another attack. Does that sound like a good idea?

Suzie: Yeah, I suppose so. So, what do I have to do?

Tim: Well, I've got this little booklet for you to take home with you. Have a look on the first page, and you'll see a diagram of what we call your respiratory system. That's the one. Now, I'm going to tell you what happens to the air when it comes into our bodies and travels to our lungs.

Suzie: Is that, like, when you are having an asthma attack?

Tim: Good point. No, I'm talking about what happens normally, how the air should move into your lungs.

Suzie: Oh, OK.

Tim: Right, let's start. The air is breathed into your nasal cavity – that's your nose – where it's warmed and filtered. It moves past the oral cavity – that's your mouth. Now it goes through your pharynx, or throat, then comes to the epiglottis. That's the little flap which stops food going into your lungs when you swallow. The tube which carries food to your stomach is right next to it, so that part is like a road which divides into two roads. Can you see that?

Suzie: Oh, yeah. Hey, this is interesting!

Tim: Oh, great! I thought you'd find it interesting. Now the air is moving past your larynx, or voice box, so that you can make sounds. It moves down your trachea, or windpipe, and into the bronchus. That's the part which swells when you have an attack. We'll talk about what happens in an asthma attack later, OK?

Suzie: Yeah, OK. What happens to the air now, Tim?

Tim: Oh, I can see you are right into this! Well, see how the bronchus divides into the two lungs? That's it. The lungs are covered by the pleural membrane. That's the special covering that protects your lungs. *Pleural* is just a medical word for lungs. Inside the lungs are the alveoli, which are masses of tiny sacs which help your lungs to exchange carbon dioxide for oxygen. Then you can breathe out the carbon dioxide.

Suzie: I get it now. What about these things around the lungs?

Tim: Those are your ribs. In between the ribs, we have the intercostal space. *Intercostal* is the medical word for 'in between the ribs'. Well done, Suzie. You've got all the labels there.

Complete the common names for the medical terms given:

	Medical term	**Common name**
1	nasal cavity	
2	oral cavity	
3	pharynx	
4	epiglottis	'flap'
5	larynx	
6	trachea	
7	bronchus	
8	lungs	
9	alveoli	

When air passes from your nose to your alveoli, are the following statements **true** or **false**:

1. The air passes through your nose and directly into the pharynx.

A. True **B.** False

2. The air passes through your windpipe and into your voice box.

A. True **B.** False

3. The air passes through your oral cavity, via the throat to pass the larynx.

A. True **B.** False

4. The pharynx is where you make sounds.

A. True **B.** False

5. The epiglottis prevents food and liquid going into the lungs.

A. True **B.** False

6. After passing through the bronchi, the air enters the trachea.

A. True **B.** False

7. From the windpipe, the air passes into the bronchus.

A. True **B.** False

8. The air passes through your bronchus, into the lungs, to eventually arrive at the alveoli.

A. True **B.** False

9. In the alveoli, the oxygen is removed from the body.

A. True **B.** False

10. The air sacs in the lungs allow the exchange of oxygen for carbon dioxide.

A. True **B.** False

Match the medical terms to their meanings:

	Medical term		**Choice**	**Meaning**
1	Inspiration	**a**	At four litres per minute	
2	Inspiratory rate	**b**	The rate at which a person breathes out (breaths per minute)	
3	Respirations	**c**	Breathes (movement of air into and out of the lungs)	
4	Respiratory rate	**d**	The rate at which a person breathes in (breaths per minute)	
5	Expiration	**e**	Breathing in	
6	Expiratory rate	**f**	The rate at which a person breathes in and out (breaths per minute)	
7	@ 4 L/min	**g**	Breathing out	

Note: VERB: (to) breathe; NOUN: (a) breath

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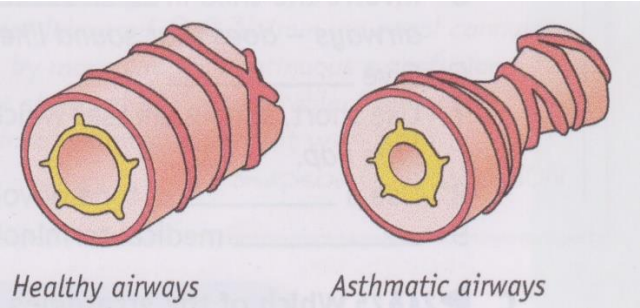
Asthma (Contd)

Now listen to the rest of Tim and Suzie's conversation.



Tim: Have a look at the next page for me. Can you see the two diagrams?

Suzie: These ones? One says it's a picture of healthy airways, and the other is a picture of a person who is having an asthma attack.

Tim: That's right. Let's call this one 'healthy airways', and the other one 'asthmatic airways'. You can see that the healthy airways have a lining of healthy tissue. The tissue layer isn't very thick.

Suzie: But the tissue in the asthma airways is thicker, isn't it?

Tim: Yes, the tissue in the asthma airways becomes inflamed.

Suzie: What's the layer around the tissue called?

Tim: That's a muscle layer. The muscle layer contracts, or squeezes. In the healthy airways, the air flows through the airways and is conducted into and out of the alveoli, or tiny air sacs. In the alveoli, carbon dioxide is exchanged with oxygen. This is called respiration, or breathing.

Suzie: What happens to the other airway – I mean to the asthmatic airway?

Tim: You remember that the tissue in the asthma airways becomes swollen during an asthma attack?

Suzie: Yeah.

Tim: Well, the muscle squeezes the swollen tissue and the lining of the airways swells as well. This means the airway is narrowed. Can you see that there is less room for air to go through?

Suzie: Yeah, I can see that.

Tim: That's why your chest muscles tighten and it becomes difficult to breathe. You start wheezing when you breathe in. It also takes much longer for you to breathe out again.

Suzie: I hate that!

Tim: It's frightening when it happens, isn't it? Now that you know what happens during an asthma attack, it'll make it easier for you to understand why you need your medication.

Suzie: Yeah, thanks Tim. I'll look at the book until Mum comes back.

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Listen to and watch the DVD and try to answer the questions below:

The locomotive system
(to accompany the DVD of Body Worlds)

An essential vital function of the body is **movement**. It is made possible by our **locomotive system**, which consists of **bones**, **muscles** and **joints**. The bones taken as a whole, namely the **skeleton**, form the internal framework of the body. With its more than **200 bones** and **100 articular joints**, it provides the body with **stability**, **support** and **flexibility**.

Each **joint** is enclosed by a membranous capsule that stabilises it. We can find **cartilage** wherever elasticity is required by the skeletal system, for example, in the area of the **sternum**. Here the cartilage permits the rising and falling movements of the **thorax** during breathing.

The surfaces of joints are also covered with cartilage. This reduces friction. Here we see a bent **knee joint**. The surface of the cartilage is as **smooth as glass**. If we look deeper, we see the **cruciate ligaments**; here the outer **collateral ligaments**, and here the **inner and outer meniscus**. If the joint is **arthritic**, the cartilage will be increasingly lost, either through **inflammation** or **wear**. This knee joint already shows severe signs of **abrasion** on the on the **articular surfaces**. **Knee** and **hip** joints are especially prone to **arthritis**, because they are subjected to **stress** caused by individual's body weight, and to **severe wear** during the course of a lifetime. In more extreme cases, a worn-out joint can be replaced by a **prosthesis**. A prosthesis is designed to emulate the natural joint in form and angle of inclination. It is **cemented into the bone** by means of a long shaft, and is usually **made of stainless steel, titanium or Teflon**.

Nearly every bone has a **hard compact** outer zone, or **cortical** substance, and a core of **spongy bone**, or **trabecular**. The latter is configured according to physical demands, and forms lines of tension depending on the force of **pressure** and **contraction**. This structure lends bones substantial **stability**, while at the same time remaining **lightweight**. The human skeleton only weighs an average of **10 kg**; nevertheless, it is stronger that reinforced concrete of the same size that will probably weigh four to five times as much.

Bone fractures can heal well, thanks to the unique capacity of bones to **regenerate**. However, to **mend properly**, the bone fragments have to be **securely immobilised**, so that they cannot move. For this reason, with bone fractures, **stainless steel screws**, **wires** and **plates** are frequently used to join the fragments firmly, as can be seen in this exhibit. **Surgical spreaders** serve to keep **soft tissue** away from the **bones** during an **operation**. With complicated fractures, **external fixators** are used, such as shown here in the lower leg, and here in the wrist section. The screws are secured to the bone through the skin.

On the right side of the chest, we can see a **pacemaker**. The **electrode** of the pacemaker is inserted from behind the **collarbone** into a **vein**, until it reaches the **heart**, where it is

secured. At the back of this specimen, we can see an operation on the **spinal column**. Two neighbouring **vertebrae** have been **fused together** with the aid of **screws** and **connection pieces**. Such **surgical procedures** are sometimes necessary with **slipped discs**.

Bone disease can affect the entire organism. This severe **deformation** is usually caused by a **hereditary dysfunction** of bone formation. The **internal organs** have to adapt their **shape** and **dilation** to the unusual form of the **torso**.

Contractions performed by individual **muscles** that are attached to the **bones** set the **skeleton** in **motion**. These two specimens stem from one and the same body. The **skeleton** has been removed, while the **muscular system** has been displayed separately. Skeletal muscles generally have a broader, more-fleshy, origin, and bridge one or more **joints** from one end to the other. They transmit their **pulling power** to the bones via strong inelastic **tendons**.

This body shows once again the two systems of the **locomotive system** separately from one another; namely, in one half of the body the **muscular system**, and the **skeletal system** in the other half. Moreover, this half allows us to see the **internal organs**. We can clearly see that the lung has been blackened by years of smoking.

(music)

Answer the following questions:

1. The main components of our locomotive system are bones muscles and joints.
A. True **B.** False

2. The bones form the internal framework of the body, known as the skeleton.
A. True **B.** False

3. The body has more than 300 bones.
A. True **B.** False

4. The rising and falling movements of the chest are possible because of the elasticity of the cartilage of the sternum.
A. True **B.** False

5. In arthritic joints, there is a build-up of cartilage.
A. True **B.** False

6. A prosthesis can be used to replace a broken bone.
A. True **B.** False

7. A prosthesis usually included stainless steel, titanium or Teflon.
A. True **B.** False

8. The inside of the bone is the "trabecular, the outside is the cortex.
A. True **B.** False

9. Bones have great stability but are also very light.
A. True **B.** False

10. The human skeleton weights about 20 kg.
A. True **B.** False

11. Bone fractures cannot heal.
A. True **B.** False

12. Stainless steel screws, wires and plates are often used to join fragments of bones together again.
A. True **B.** False

13. Patients with slipped discs can have their damaged vertebrae fused together using screws and connection pieces.
A. True **B.** False

14. Motion is possible because the muscles are attached to the different organs.
A. True **B.** False

15. Skeletal muscles transmit their pulling power to the bones via strong inelastic tendons.
A. True **B.** False