ШАДРИНСКИЙ ФИЛИАЛ

ГБПОУ «Курганский базовый медицинский колледж»

**СБОРНИК ТЕКСТОВ И УПРАЖНЕНИЙ**

**по теме «Сердечно-сосудистая система»**

«CardiovascularSystem»

**для аудиторной и внеаудиторной работы**

**студентов медицинского колледжа**

**по УД «Иностранный язык (английский)»**

**специальность 31.02.02 «Акушерское дело»**

**специальность 34.02.01 «Сестринское дело»**

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Сборник текстов и упражнений по теме «Сердечно-сосудистая система» по УД «Иностранный язык (английский)», специальности 31.02.02 «Акушерское дело», 34.02.01 «Сестринское дело», 31.02.0 «Лечебное дело» / Вениаминова И.П. – Шадринский филиал ГБПОУ КбМК. - Шадринск, 2020. - 17 с.

Сборник текстов и упражнений по теме «Сердечно-сосудистая система» по УД «Иностранный язык (английский)» предназначен для аудиторной и внеаудиторной работы студентов медицинского колледжа по специальностям 31.02.02 «Акушерское дело», 34.02.01 «Сестринское дело», 31.02.0 «Лечебное дело». В него включены лексика по теме, которую необходимо освоить, представлены тексты для чтения, перевода, даны упражнения на закрепление лексики и для лучшего усвоения темы, а также творческие задания. Рассчитано на 14 часов (включая самостоятельную работу студентов)

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**Text 1.Heart and Blood**

*Переведителексикуктексту и уточните транскрипцию:*

* heart
* blood
* wonderful
* during
* to strengthen
* disease
* regular regimen
* to take(to feel) smb’s pulse
* in such a way
* beat
* vein
* capillary
* artery
* to carry
* cell
* blood pressure (B.P.)
* blood test
* cardiogram of one’s heart

Heart and Blood

Your heart is a wonderful organ that works during every minute of your life. You can help it work long and well. You can strengthen it, protect it from disease by exercises and regular regimen.

Take your pulse and in such a way you can control the work of your heart.

Our pulse is about 70 beats per minute. After heavy exercises the heart works faster and then the pulse will be faster, too, perhaps 100 beats. After a minute or two the pulse will be normal again.

About 5 litres of blood fill our arteries, veins and capillaries. Arteries carry blood from the heart, veins carry blood to the heart.

Blood has red blood cells, white blood cells and plasma. Today doctors can take blood pressure (B.P.), listen to the heart, take bloodtests and take cardiogram of a patient’s heart.

Proverb: A merry heart does good like a medicine.

**Упражнения:**

1. *Найдите словосочетания в тексте:*

укрепить сердце; защитить сердце; прощупывать пульс; таким образом; контролировать работу сердца; 70 ударов в минуту; пульс будет учащенным; пульс будет нормальным; измерить давление; прослушать сердце; сделать анализ крови

1. *Ответьте на вопросы:*

1. How can you strengthen your heart?

2. Can you take anybody’s pulse?

3. What do you learn when you take the pulse?

4. How many beats is the pulse of a healthy person?

5. When does the heart work faster?

6. Where do arteries carry blood?

7. Where do veins carry blood?

1. *Перескажите текст.*

**Text 2.Heart**

The heart is simply a pump, which circulates blood throughout the body. Tubes called blood vessels carry it from the heart to all parts of the body and back again. This round trip is known as the circulation. Vessels carrying blood away from the heart are known as arteries and those returning blood to the heart are known are known as veins.

The heart pumps blood round the body about 70 times a minute in adults. The heartbeats can be felt as the pulse where certain arteries lie just beneath the skin, and the most well – known place where this occurs is at the wrist.

The heart lies in the chest immediately behind the breast bone. It consists of two chambers, left and right, separated from each other by a wall. Each chamber is further divided into upper and lower compartments, which communicate with each by valves. Each upper compartment is called an atrium and each lower a ventricle. Note that there is no communication at all between the left and right sides of the heart.

Heart failure, or cardiac arrest, means that the heart has stopped beating. This of course, means that no blood is being pumped round the body and death occurs in a few minutes. But as the heart is just a simple pump, it can be made to beat artificially by rhythmically applying pressure to the chest. This squeezes the heart between the breast bone and forces blood out the heart into the circulation. When pressure on the chest has been relaxed, blood returns to the heart again.

**Упражнения:**

*1. Выучите новую лексику:*

1. can be felt as the pulse – можноопределитьпопульсу
2. immediately behind the breast bone – непосредственнозагрудиной
3. is further divided – далееподразделяется
4. communicate with each other – сообщаютсядруг с другом
5. heartfailure – паралич, остановка сердца; сердечная недостаточность
6. as the heart is just a simple pump – посколькусердцевсеголишьпростойнасос
7. pump - насос
8. circulate - циркулировать
9. tube - труба
10. carry - переносить
11. artery - артерия
12. vein - вена
13. adult - взрослый
14. pulse - пульс
15. skin - кожа
16. occur - происходить
17. wrist - запястье
18. chest - грудная клетка
19. breast - грудь
20. chamber - камера
21. valve - клапан
22. atrium - предсердие
23. ventricle - желудочек
24. death - смерть
25. apply - применять
26. pressure - давление
27. squeeze - сжимать
28. spine - позвоночник
29. relax - расслабиться

*2. Найдите английские эквиваленты:*

просто насос, кровеносные сосуды, круговое движение, известны как, у взрослых, располагаться непосредственно под кожей, где это происходит, состоит из двух камер, каждый верхний отдел, вообще нет сообщения, заставить биться искусственно, выталкивать кровь из сердца

*3.Найдитерусскиеэквиваленты:*

throughout the body, blood vessels, about 70 times a minute, immediately behind the breast bone, separated from each other, upper and lower compartments, communication, cardiac arrest, round the body, to beat artificially, pressure on the chest

*4.Ответьтенавопросы.*

1. Whatisheart?
2. What are tubes carrying blood called?
3. Where can the heartbeats be felt?
4. Where does the heart consist of?
5. What compartments is each chamber divided into?
6. What are the compartments called?
7. What does heart failure mean?
8. Can the heart be made to beat artificially?
9. When does blood return to the heart again?

*5.Поставьте предложения в вопросительную форму*.

1. The heart circulates blood throughout the body.
2. The heartbeats can be felt as the pulse.
3. Each chamber is divided into upper and lower compartments.
4. The heart has stopped beating.
5. Death occurs in a few minutes.
6. Vessels returning blood to the heart are known as veins.

*6. Переведите на английский следующие предложения*:

1. Сердце похоже на простой насос.
2. У взрослого человека сердце сокращается с частотой примерно 70 раз в минуту, за час оно перекачивает около 300 литров крови.
3. Работа сердца очень важна. Оно непрерывно движет кровь по кровеносным сосудам.
4. Если прижать стенку артерии к кости там, где она ближе к коже, то можно ощутить пульс.
5. Сердце состоит из двух камер, разделенных перегородкой.
6. Правый и левый отделы сердца не связаны между собой.
7. Паралич означает, что сердце остановилось.
8. Когда давление на грудную ослабевает, кровь вновь возвращается в сердце.

*7. Составьте 10 вопросов к тексту “Heart”.*

**Text 3. The Work of the Human Heart**

The human heart contracts from the first moment of life to the last one. The contractions of the heart pump blood through the arteries to all the parts of the body. Scientists have determined that the total weight of the blood pumped by the heart daily is about 10 tons.

Physiologists have established that in the adult the heart makes from 60 to 72 beats per minute. In children the rate of heartbeat is much higher. Research work of many scientists has helped to determine that the rate of heartbeat increases depending on different emotions.

Each beat of the heart is followed by a period of rest for the cardiac muscle. Each wave of contraction and a period of rest following it compose a cardiac cycle. The period of rest is shorter during greater physical exertion and longer when the body is at rest.

The physiologists called the first phase of short contraction of both atria – the atria systole, the second phase of more prolonged contraction of both ventricles – the ventricular systole. The period of rest of the cardiac muscle is called the diastole.

The blood received by the left atrium from the pulmonary circulation is discharged out by the left ventricle to the systemic circulation through the aorta. Theatriaactasreceivingchambers.

**Упражнения:**

*1. Напишитетранскрипциюсловивыучитеих:*

1) pump- насос, накачивать, нагнетать, выталкивать, выбрасывать

2) rate- частота, степень

pulse rate -частотапульса

respiratory rate -частотадыхания

3) beat- удар;  ударять (beat, beaten)

4) per minute -вминуту

5) contract-сокращаться

6) artery- артерия

7) systole- систола

8) diastole-диастола

9) atrium- (pl. atria) предсердие

10) ventricle – желудочек

*2. Найдите в тексте и выпишите английские эквиваленты:*

сокращение сердца; по артериям; общий вес крови; у взрослого; частота сердцебиений; период расслабления; физическая нагрузка; большой круг кровообращения; малый круг кровообращения

*3. Выпишите из текста все существительные во множественном числе, допишите к каждому форму единственного числа.*

**Text 4.Heart Diseases**

Heart disorders fall into two main groups: congenital and acquired. Congenital heart defects are caused by structural defects. Acquired heart disease is mainly due to rheumatic fever.
Congenital defects may result in cyanosis if the defect is such that blood does not pass through the lungs for oxygenation. The patient has blue lips and blue fingers and toe-nails. The ends of the fingers and toes are rounded and club-like. Sometimes there is an opening between the left and right side of the heart, or even between the aorta and pulmonary artery.

Symptoms depend on the type of heart disease. Sometimes, the defect is picked up on a routine examination; at other times there may be breathlessness, difficulty in walking or running, swelling of feet and puffiness of face, and later of the whole body. Some these anomalies can be surgically corrected.

**Упражнения:**

*1. Напишитетранскрипциюсловивыучитеих:*

* disorder - расстройство, нездоровье
* congenital - врожденный
* acquired - приобретенный
* club-like - зд. похожий на барабанные палочки
* pulmonary - легочный
* to depend on - зависетьот
* to pick up - уловить, обнаружить
* puffinss – одутловатость

*2. Переведитенаанглийскийязык:*

врожденный, приобретенный, дефекты (пороки) сердца, структурные дефекты, врожденные пороки сердца, у больного посиневшие губы, пальцы на руках и ногах закругленные, похожи на барабанные палочки, отверстие, легочная артерия

*3. Ответьте на вопросы к тексту:*

1. What kind of groups do the heart disorders fall?

2. What are the symptoms of some congenital heart defects?

3. Can these anomalies be surgically corrected?

*4. Найдите верное определение для следующих терминов:* **1. systole 2. atrium 3. diastole 4. ventricle 5. blood 6. heart**

a) either of the upper chambers of the heart, their muscular walls are thinner than those of the ventricles;

b) a fluid that circulates throughout the body via the arteries and veins;

c) the period between two contractions of the heart when the muscles of the heart relax;

d) a hollow muscular cone-shaped organ lying between the lungs;

e) the period of the cardiac cycle during which the heart contracts;

f) either of the two lower chambers of the heart, which have thick walls.

**Text 5. Blood**

Blood contains a fluid called plasma plus microscopical cellular elements: erythrocytes, leucocytes, and thrombocytes.

Erythrocytes are red blood cells of which 4.5 – 5 million are found in each cubic millimeter. These cells are made in the bone marrow and are important in transporting oxygen from the lungs through the blood stream to the cells all over the body. The oxygen is then used up by body cells in the process of converting food to energy (catabolism). Hemoglobin, containing iron, is an important protein in erythrocytes, which helps in carrying the oxygen as it travels through the blood stream. Erythrocytes also carry away carbon dioxide (CO2), a waste product of catabolism of food in cells, from the body cells to the lungs. On arriving there it is expelled in the process of breathing.

Leucocytes are white blood cells from 4.000 to 10.000 per cubic millimeter exiting in several types: granulocytes and agranulocytes, which are also subdivided into different types.

Granulocytes are cells with granules in their cytoplasm formed in the bone marrow. There are three types of granulocytes: eosinophils, basophils, neutrophils.

Agranulocytes are produced in lymph nodes and spleen. There are two types of agranulocytes: lymphocytes and monocytes.

Thrombocytes or platelets are tiny cells formed in the bone marrow. They are necessary for blood clotting. Their number is 400.000 per cubic millimeter. The plasma is the fluid portion before clotting has occurred. The serum is the fluid portion of blood remaining after the coagulation process is completed.

The body contains about five liters of blood kept at a constant temperature of 37\*C. Blood consists of three different types of cell floating in a liquid called plasma. The blood cells are known as red cells, white cells and platelets. Red cells and platelets are unique among body cells in having no nucleus. Blood cells are so small that one cubic millimeter of blood (the size of a pin head) contains about five million red cells, 7.000 white cells and 250.000 platelets.

The red blood cells contain a pigment called hemoglobin, which gives the blood its red color. The main function of red cells is to carry oxygen to the body cells.

For its journey from the lungs to the body cells, oxygen combines with hemoglobin of the red cells. It is then released from the hemoglobin when the body cells are reached. Some people do not have enough hemoglobin in their red cells and are consequently short of oxygen. This condition is called anemia and such people tire easily, become breathless on exertion and have a pale complexion. They need special care during general anesthesia.

The white blood cells defend the body against disease. They do this by attacking germs and repairing damage.

The function of platelets is to stop bleeding. They do this in two ways: by blocking the cut blood vessels; and by producing substances, which help the blood to clot.

Упражнения:

*1. Запишите транскрипцию слов и выучите их:*

1. to contain - содержать
2. plasma - плазма
3. microscopical - микроскопический
4. element - элемент
5. erythrocyte - эритроцит
6. leucocyte - лейкоцит
7. thrombocyte - тромбоцит
8. bonemarrow - костный мозг
9. to transport - транспортировать, переносить
10. to convert - преобразовывать, превращать
11. to carry - переносить
12. to arrive - прибывать
13. to expel - вытеснять, выводить
14. catabolism - катаболизм
15. hemoglobin (haemoglobin) - гемоглобин
16. agranulocyte - агранулоцит
17. cytoplasm- цитоплазма
18. granulocyte - гранулоцит
19. eosinophil - эозинофил
20. basophil - базофил
21. neutrophil - нейтрофил
22. node - узел
23. spleen - селезенка
24. lymphocyte - лимфоцит
25. monocyte - моноцит
26. platelet - тромбоцит
27. tiny - крошечный
28. bloodclotting - свертываемость крови
29. to occur - происходить, случаться
30. to remain - оставаться
31. coagulation - коагуляция
32. to complete - заканчивать

*2. Найдите в тексте английские эквиваленты:*

микроскопические клеточные элементы, в каждом кубическом миллиметре, через кровоток, по всему организму, процесс превращения пищи в энергию, выводить, продукт отхода, выталкивать, несколько видов, лимфатические узлы, крошечные клетки, свертываемость крови, завершаться

*3. Найдитерусскиеэквиваленты:*

to call, to be found, bone marrow, to be used, to convert, iron, to be expelled, spleen, a fluid portion, coagulation process, three types of granulocytes, tiny cells, blood clotting, the main function, five liters of blood

*4. Ответьтенавопросы:*

1. What does blood contain?
2. How many erythrocytes can be found in each cubic millimeter?
3. Where are these cells made?
4. What is their function?
5. What role does hemoglobin play?
6. What are the types of leucocytes?
7. Whereareagranulocytesproduced?
8. What types of granulocytes do you know?
9. Whatorganformsthrombocytes?
10. How many platelets are there in one cubic millimeter?
11. What is the difference between the plasma and serum?

**Text 6.Circulatory System**

The circulatory system is made up of the vessels and the muscles that help and control the flow of the blood around the body. This process is called circulation. The main parts of the system are the heart, arteries, capillaries and veins.

As blood begins to circulate, it leaves the heart from the left ventricle and goes into the aorta. The aorta is the largest artery in the body. The blood leaving the aorta is full of oxygen. This is important for the cells in the brain and the body to do their work. The oxygen rich blood travels throughout the body in its system of arteries into the smallest arterioles.

On its way back to the heart, the blood travels through a system of veins. As it reaches the lungs, the carbon dioxide (a waste product) is removed from the blood and replace with fresh oxygen that we have inhaled through the lungs.

**Arteries.**Arteries are tough, elastic tubes that carry blood away from the heart. As the arteries move away from the heart, they divide into smaller vessels. The largest arteries are about as thick as a thumb. The smallest arteries are thinner than hair. These thinner arteries are called arterioles. Arteries carry bright red blood! The color comes from the oxygen that it carries.

**Veins.** Veins carry the blood to the heart. The smallest veins, also called venules, are very thin. They join larger veins that open into the heart. The veins carry dark red blood that doesn't have much oxygen. Veins have thin walls. They don't need to be as strong as the arteries because as blood is returned to the heart, it is under less pressure.

**Heart**. Heart is the strongest musclein the body. Heart is divided into two sides. The right side pumps blood to your lungs where it picks up oxygen. The left side pumps oxygen-soaked blood out to your body. They do not work on their own, but together as a team. The body's blood is circulated through the heart more than 1,000 times per day. Between five and six thousand quarts of blood are pumped each day. Your heart is about the same size as a fist.

**Упражнения:**

*1. Запишите транскрипцию слов и выучите их:*

1. to make up - составлять
2. vessel - сосуд
3. flow - течь
4. circulation - кровообращение
5. ventricle - желудочек
6. to remove - перемещать
7. replace - менять
8. to inhale -вдыхать
9. tough - жесткий
10. tube - труба
11. join - соединять
12. wall-стенка
13. to pump - качать
14. pick up - собирать
15. oxygen-soaked - кислородосодержащий
16. quart – кварта (единица объема в Великобритании)
17. fist – кулак

*2. Найдите в тексте английские эквиваленты:*

кровообращение, желудочек, свежий кислород, самая большая артерия, перекачивает кровь, работают в команде, красные кровяные тельца, белые кровяные тельца, тромбоциты, размером с кулак

*3. Найдитерусскиеэквиваленты:*

Veins, arteries, nutrients, capillaries, transport, oxygen, energy, dark, heat, circulatory, lungs, carbon dioxide, bright, blood, heart, pumped, intestine, atmosphere.

*4. Ответьтенавопросы:*

1. What does Circulatory System consist of?
2. What is circulation?
3. What is the largest artery in the body?
4. What do know size of your heart?
5. What are the main elements of blood?
6. How many litres of blood are in the human body?

**Text 7.Blood Transfusion**

A blood transfusion is a safe, common procedure in which you receive blood through an intravenous (IV) line inserted into one of your blood vessels. Blood transfusions are used to replace blood lost during surgery or a serious injury. A transfusion also might be done if your body can't make blood properly because of an illness. During a blood transfusion, a small needle is used to insert an IV line into one of your blood vessels. Through this line, you receive healthy blood. The procedure usually takes 1 to 4 hours, depending on how much blood you need.

Blood transfusions are very common. Each year, almost 5 million Americans need a blood transfusion. Most blood transfusions go well. Mild complications can occur. Very rarely, serious problems develop.

The heart pumps blood through a network of arteries and veins in the body. Blood has many vital jobs. For example, it carries oxygen and other nutrients to your body's organs and tissues. Having a healthy supply of blood is important for your overall health. Blood is made up of various parts, including red blood cells, white blood cells, platelets (PLATE-lets), and plasma. Blood is transfused either as whole blood (with all its parts) or, more often, as individual parts.

**Blood Types.**Every person has one of the following blood types: A, B, AB, or O. Also, every person's blood is either Rh-positive or Rh-negative. So, if you have type A blood, it's either A positive or A negative.

The blood used in a transfusion must work with your blood type. If it doesn't, antibodies (proteins) in your blood attack the new blood and make you sick.

Type O blood is safe for almost everyone. About 40 percent of the population has type O blood. People who have this blood type are called universal donors. Type O blood is used for emergencies when there's no time to test a person's blood type.

People who have type AB blood are called universal recipients. This means they can get any type of blood.

If you have Rh-positive blood, you can get Rh-positive or Rh-negative blood. But if you have Rh-negative blood, you should only get Rh-negative blood. Rh-negative blood is used for emergencies when there's no time to test a person's Rh type.

**Blood Banks.**Blood banks collect, test, and store blood. They carefully screen all donated blood for infectious agents (such as viruses) or other factors that could make you sick. (For more information, go to Blood banks also screen each blood donation to find out whether it's type A, B, AB, or O and whether it's Rh-positive or Rh-negative. You can get very sick if you receive a blood type that doesn't work with your own blood type. Thus, blood banks carefully test donated blood.

**Упражнения:**

*1. Запишитетранскрипциюсловивыучитеих:*

1. bloodtransfusion – переливание крови

2. commonprocedure – обычнаяпроцедура

3. intravenous –внутривенная

4. bloodvessels – кровеносныесосуды

5. toreplace- заменить

6. complications – осложнения

7. rarely – редко

8. arteries – артерии

9. blood type – группакрови

10. antibodies – антитела

11. tocollect – собирать

12. carefully – внимательно

13. donatedblood – донорскаякровь

*2. Найдите в тексте английские эквиваленты:*

переливание крови безопасно, кровеносный сосуд, во время операции, процедура обычно занимает, небольшие осложнения, сердце перекачивает кровь, сеть артерий и вен, группа крови, антитела, собирают, тестируют и хранят кровь, донорская кровь

*3.Найдитерусскиеэквиваленты:*

a safe procedure, to receive blood, a blood vessel, to replace blood, lost during surgery, a serious injury, to make blood properly, mild complications, to pump blood, red blood cells, white blood cells, platelets, a blood type, universal recipients, to test donated blood

*4. Ответьтенавопросы:*

1. What is blood transfusion?

2. When are blood transfusions used?

3. What kind of needles are used during a blood transfusion?

4. Can complications occur during a blood transfusion?

5. What blood types do you know?

6. What do blood banks do?

*5. Найдите в кроссворде 16 слов и выражений по теме «Сердечно-сосудистая система»:*



*6. Составьте свой кроссворд на тему «Сердечно-сосудистая система».*

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