



Anatomy & Physiology Lesson 4 Exam

Please read these instructions before you begin to answer the questions that follow.

You are welcome to work your answers on this paper examination for your convenience. You will submit your final answers through an uploaded file through our app. When you are satisfied that your answers are correct, use the app to download an instruction file for the corresponding lesson. This will open the lesson, so you are able to add your work for grading. Complete this file upload for grading. Only the answers on the submitted file will be considered for grading.

You have reached the end of Lesson 4 and are ready for your Lesson 4 Examination. After you complete it, log in and submit through the app. Good luck!

Instructions:

Follow the instructions for each question. Show your work in the space provided and write the answer on the line. You will need to show your work on the file submitted to your teacher for grading.

Multiple Choice (worth 2 points each): Enter your selected answer into the blank space provided.

- D 1. Which of the following are roles performed by the structures of the upper respiratory system?
- A. conduct air to the lower respiratory tract
 - B. moisten and regulate the temperature of the inhaled air
 - C. responsible for voice
 - D. all of the above
- C 2. Which structure is NOT part of the lower respiratory tract?
- A. trachea
 - B. bronchi
 - C. larynx
 - D. lungs
- C 3. What structure directs food or air to the correct passageways?
- A. trachea
 - B. larynx
 - C. epiglottis
 - D. tongue

A 4. Which of the following correctly traces the path of air after it is inhaled?

- A. epiglottis, trachea, bronchioles, alveoli
- B. bronchioles, alveoli, epiglottis, trachea
- C. epiglottis, bronchioles, alveoli, trachea
- D. alveoli, epiglottis, trachea, bronchioles

A 5. is the respiratory process by which air is continuously moved into and out of the lungs.

- A. Pulmonary ventilation
- B. External respiration
- C. Respiratory gas transport
- D. Internal transport

B 6. True or False: Emotions and conscious control do not affect breathing rates

- A. True
- B. False

A 7. What is the driving force behind respiration?

- A. increasing oxygen levels
- B. decreasing oxygen levels
- C. increasing blood flow
- D. decreasing carbon dioxide levels

B 8. Which structures control the rate of breathing?

- A. lungs and heart
- B. medulla oblongata and pons
- C. brain stem and PNS
- D. diaphragm and intercostals

B 9. True or False: Women take more frequent breaths than men due to the difference in lung volume.

- A. True
- B. False

C 10. Symptoms of _____ are weight loss, sweating, fever, fatigue, and coughing up of blood.

- A. pneumonia
- B. COPD
- C. tuberculosis
- D. asthma

D 11. Blood is composed of _____, the liquid portion, and _____, the solid components.

- A. red blood cells, white blood cells
- B. formed elements, plasma
- C. veins, blood vessels
- D. plasma, formed elements

A 12. Which white blood cells performs phagocytosis and are formed in the red bone marrow?

- A. neutrophils
- B. basophils
- C. lymphocytes
- D. monocytes

__C_13. Neutrophils perform which of the following functions?

- A. destroy parasitic worms
- B. control the inflammatory response
- C. kill bacteria and fungi
- D. morphs into macrophages

__A_14. During clotting, endothelin is released to perform what function which reduces blood loss?

- A. constriction of the blood vessel wall
- B. adhere platelets to the vessel wall
- C. form a platelet plug
- D. release of clotting factors

__B_15. Erythropoiesis is initiated when what organ secretes erythropoietin?

- A. bone marrow
- B. kidneys
- C. brain
- D. medulla oblongata

__A_16. True or False: RBCs go through hemolysis after 120 days and it's parts are recycled to make new RBCs.

- A. True
- B. False

__C_17. What structure on the surface of red blood cells helps the body in determining whether the cell is foreign or not?

- A. antibody
- B. hemoglobin
- C. antigen
- D. carbohydrate

__B_18. The blood type _____ is the universal donor, while blood type _____ is the universal recipient.

- A. A, O
- B. O, AB
- C. A, B
- D. AB, O

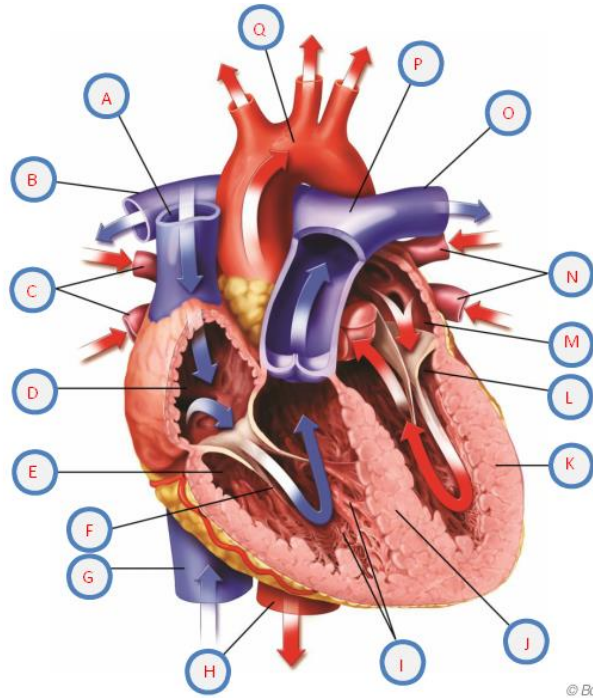
__C_19. Which of the following is not measured in a complete blood test?

- A. red blood cells
- B. platelets
- C. anemia
- D. white blood cells

__A_20. All of the following are characteristics of anemia EXCEPT

- A. lack of clotting factors in the blood
- B. decreased RBC levels
- C. reduced oxygen carrying capacity of RBCs
- D. insufficient amount of hemoglobin

Use the image below to answer questions 21-23.



D 21. What is the structure labeled Q?

- A. pulmonary trunk
- B. superior vena cava
- C. left atrium
- D. aortic arch

B 22. The left and right ventricles are labeled ___ and ___ above.

- A. D and M
- B. E and L
- C. P and A
- D. G and H

D 23. What valve separates structures labeled D and E?

- A. left atrioventricular valve
- B. right atrioventricular valve
- C. left bicuspid valve
- D. right bicuspid valve

B 24. Blood enters the heart at the right atrium. It then travels to the right ventricle and leaves the heart through the _____ on its way to the lungs.

- A. pulmonary trunk
- B. pulmonary artery
- C. aortic arch
- D. superior vena cava

__C_25. Which heart layer lines the inside of the heart and valves?

- A. pericardium
- B. myocardium
- C. endocardium
- D. epicardium

__B_26. Which of the following is not considered a component of the heart conduction system?

- A. sinoatrial (SA) node
- B. epicardium
- C. Purkinje fibers
- D. atrioventricular (AV) node

__C_27. Blood pressure measured when the left ventricle contracts is called _____pressure.

- A. diastolic
- B. stroke
- C. systolic
- D. mean

__B_28. True or False: Blood is not considered a connective tissue.

- A. True
- B. False

__B_29. Which steroid can deposit fat in the walls of the arteries and lead to blockages over time?

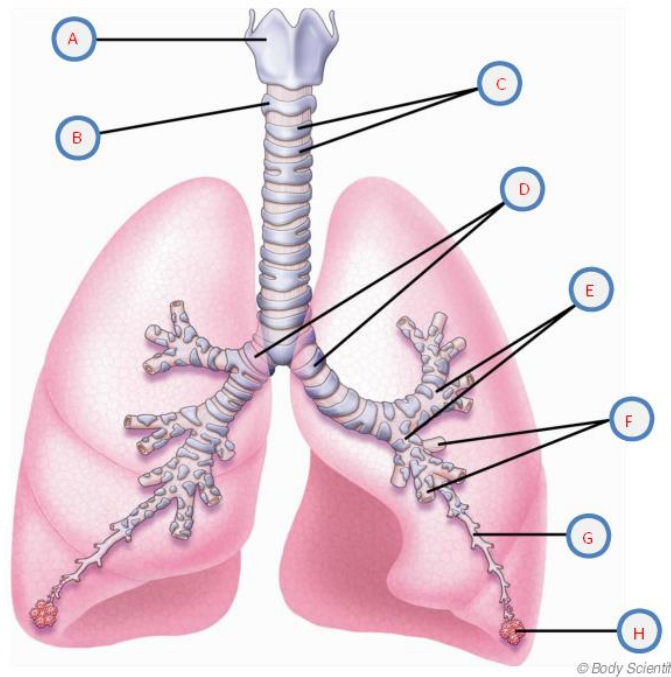
- A. HDL
- B. LDL
- C. triglycerides
- D. estrogen

__D_30. Which heart disease leads to the brain being deprived of oxygen?

- A. hypertension
- B. heart attack
- C. coronary artery disease
- D. stroke

Labeling (worth 8 points total)

Use the diagram below to answer question 31.



31. Use the following word bank to match the correct glands with the corresponding letter above.

Word Bank:

___E___ Secondary Bronchi

___C___ Cartilaginous Rings

___A___ Larynx

___F___ Tertiary bronchi

___B___ Trachea

___H___ Alveoli

___G___ Bronchiole

___D___ Primary Bronchi

Matching (worth 12 points, 1 point each)

32. Match the terms in Column I with the descriptions in Column II.

ColumnI	ColumnII
<u>e</u> ___ jaundice	a. inflammation of the voice box
<u>k</u> ___ heart murmur	b. inflammation of the myocardium in the heart
<u>a</u> ___ laryngitis	c. overproduction of immature WBCs in bone marrow
<u>g</u> ___ hemophilia	d. abnormal ballooning of a blood vessel
<u>b</u> ___ myocarditis	e. blood disorder associated with yellow skin color
<u>I</u> ___ influenza	f. narrowing and inflammation of the airways
<u>c</u> ___ leukemia	g. blood clotting disease
<u>d</u> ___ aneurism	h. closure of an artery due to plaque build up
<u>L</u> ___ pneumonia	i. Viral infection that affects the respiratory system
<u>j</u> ___ sickle cell anemia	j. misshapen RBCs leading to less oxygen being carried
<u>h</u> ___ myocardial infarction	k. sound caused by the heart valves not closing properly
<u>f</u> ___ asthma	l. pathogenic infection of the lungs

Essays (worth 20 points, 10 points each)

33. *Explain why low blood pressure is considered a potentially dangerous condition. In contrast, explain how hypertension (high blood pressure) is considered the “silent killer.” Include symptoms for each and the risk factors and possibly treatments for hypertension.*

Low Blood Pressure

Low blood pressure is a condition in which blood levels are recorded below 90 millimeters of mercury (mm Hg). In some people it is usually desirable while to most people it is considered dangerous. Low blood pressure is caused by medical conditions such as blood loss, heart problems, lack of nutrients and dehydration among other conditions. This condition is considered dangerous because in severe cases, it leads to deprivation of enough oxygen from the body which makes the body unable to carry out key functions. It further could lead to damage to the heart and brain hence may cause death. (Clinic, 2020)

Symptoms of Low Blood Pressure include the following:

- Fatigue
- Fainting

- Blurred vision
- Lack of concentration
- Dizziness
- Nausea

Risks associated with Low Blood pressure.

Low blood pressure can occur to anyone regardless of age and gender, however, it highly risky with:

Age: Adults are prone to low blood pressure when standing and after eating. This is usually common to person over age 65 years. (Association, 2020)

Diseases and condition: Low blood pressure also highly attacks people suffering from conditions such as diabetes, parkinsons disease and some heart conditions.

Medication: several types of medication are known to cause low blood pressure, these include, and high blood pressure medication and alpha blockers have a higher risk.

Treatment for Low Blood Pressure:

Several measures are recommended to avoid or treat Low Blood Pressure; these include:

Use more Salt: While high blood pressure requires that patients use very low amounts of salts in their diet, more salt can work on the advantage for patients of Low blood pressure.

Medication: several medications are recommended to patients of Low blood pressure; they include;

Fludrocortisones- which helps in boosting blood levels

drug midodrine-recommended for people who suffer from low blood pressure when they stand.

High Blood Pressure

High Blood pressure refers to blood measurements that are above 140/90mm Hg. This condition is referred to silent killer because it has no symptoms, it cause harm to cardiovascular system which results in damage of the arteries and heart muscles and damage tp the arteries that supply blood to the brain which could lead to stroke. It also causes damages to arteries that supply blood to the kidney and hence kidney disease. (Clinic, 2020)

Symptoms of High Blood Pressure

There are no symptoms for High Blood pressure; however, the only way to know if you have you have High Blood pressure is to test for it. Three elevated tests are required to be able to confirm diagnosis for Hypertension.

Risks associated with blood pressure:

High blood has various risks associated with it, they include:

- Age-Older people are at higher risk of suffering from High Blood pressure
- Family History
- Obesity or being overweight increases chance of high blood pressure
- Not being physically active (Clinic, 2020)

Treatment for High Blood Pressure

Most recommended treatment for Hypertension is change of Life style in the following ways:

- Eating a heart-healthy diet with less salt
- Getting regular physical activity
- Maintaining a healthy weight or losing weight if you're overweight or obese
- Limiting the amount of alcohol you drink

Medication are prescribed in cases diet change is not effective. Such medication includes:

- Calcium channel blockers
- Angiotensin II receptor blockers (ARBs)
- Angiotensin-converting enzyme (ACE) inhibitor
- Thiazide diuretics. (Clinic, 2020)

34. Imagine that you are a doctor and a female patient visits your office with a complaint of headache, fatigue, sinus pain, and stuffiness, body aches, and chills. You take her temperature and discover she has a fever of 102°F. She tells you that she felt fine the night before but woke up that morning feeling terrible.

A: Based on these symptoms, what is your first diagnosis and why?

B: What do you suggest to treat her ailment and how can she best prevent getting sick again in the future?

C: Lastly, what precautions can she take to prevent other people from getting sick?

- A. My first diagnosis for her symptoms would be influenza-This is because influenza symptoms appear flu like and could appear in a period of 1 to 5 days after being infected by the influenza virus. The symptoms for influenza include; Fever over 100.4 F (38 C), Aching muscles, Chills and sweats, Headache, Dry persistent cough, Fatigue and weakness, Nasal congestion, Sore throat
- B. Apart from recommending bed rest and taking fluids to enable the body help in fighting the virus, anti-inflammatory pain relievers. Alongside this an annual vaccine would also be able to help her for a long time treatment and prevention.
- C. To avoid infecting other people with the virus, I will recommend that she gets a vaccine for influenza, to avoid contact with people especially family members, maintaining high hygiene and cleanliness, covering coughs and sneezes and avoid touching mouth, nose and eyes. Washing her hands often and practicing health habits. (Debra Sullivan)