A&P 20 Blood Vessels & Circulation Essay

Blood Vessels Circulat.

Author: OpenStax College

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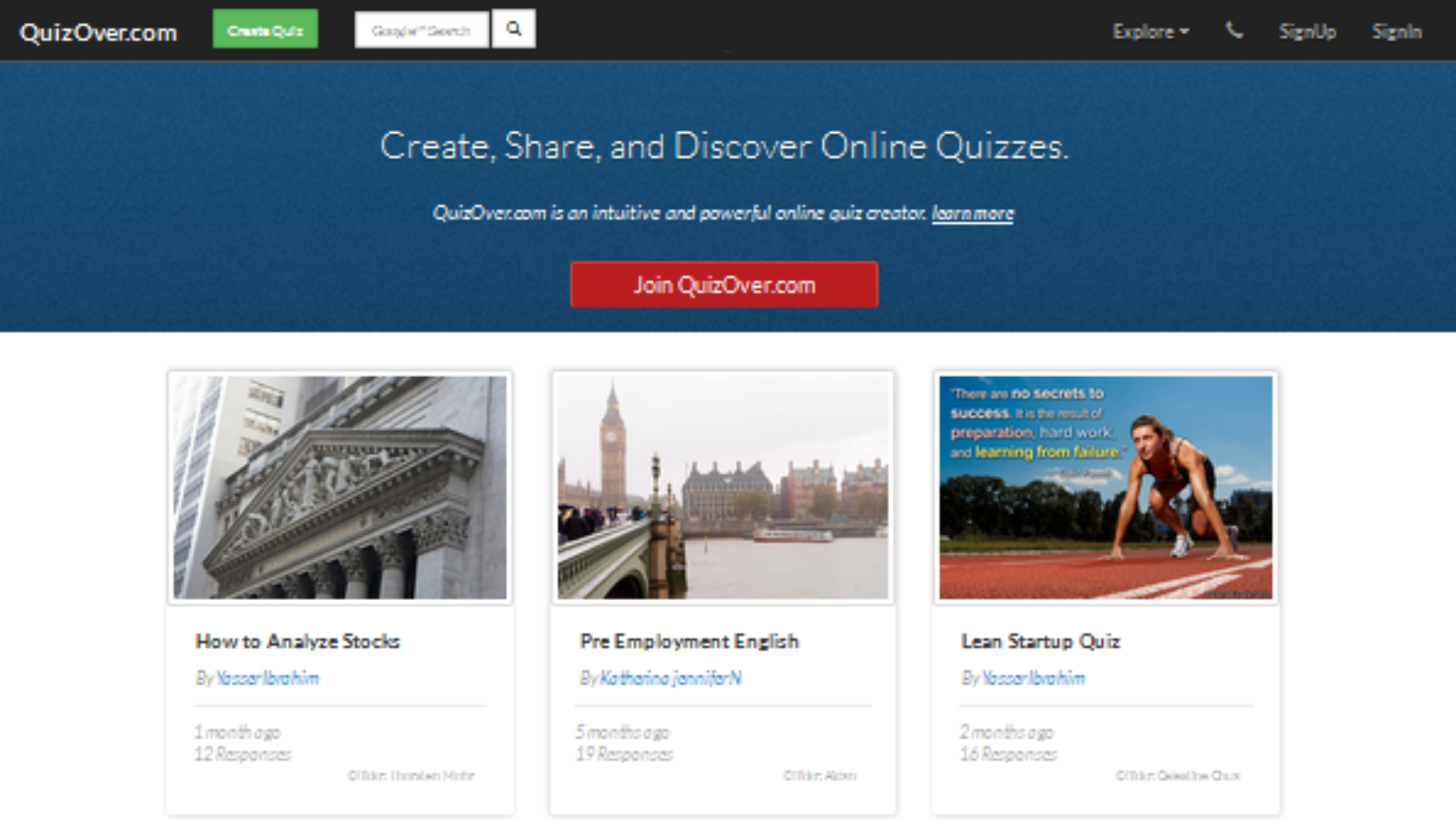

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4. Chapter: A&P 20 Blood Vessels & Circulation Essay

1. A&P 20 Blood Vessels & Circulation Essay Questions

4.1.1. Watch this video (http://openstaxcollege.org/l/capillaryfunct) to e...

Author: OpenStax College

Watch this video (http://openstaxcollege.org/l/capillaryfunct) to explore capillaries and how they function in the body.

Capillaries are never more than 100 micrometers away. What is the main component of interstitial fluid?

- Water.

Check the answer of this question online at QuizOver.com:
Question: Watch this video http://openstaxcollege OpenStax College Anatomy

4.1.2. Listen to this CDC podcast (http://openstaxcollege.org/l/CDCpodcast...

Author: OpenStax College

Listen to this CDC podcast (http://openstaxcollege.org/l/CDCpodcast) to learn about hypertension, often described as a "silent killer."

What steps can you take to reduce your risk of a heart attack or stroke?

- Take medications as prescribed, eat a healthy diet, exercise, and don't smoke.

Check the answer of this question online at QuizOver.com:
Question: Listen to this CDC podcast http:/ OpenStax College Anatomy Physiology

4.1.3. Arterioles are often referred to as resistance vessels. Why?

Author: OpenStax College

Arterioles are often referred to as resistance vessels. Why?

- Arterioles receive blood from arteries, which are vessels with a much larger lumen.
  As their own lumen averages just 30 micrometers or less, arterioles are critical in slowing down-or resisting-blood flow.
  The arterioles can also constrict or dilate, which varies their resistance, to help distribute blood flow to the tissues.

Check the answer of this question online at QuizOver.com:
Question: Arterioles are often referred to as OpenStax College Anatomy Quest

4.1.4. Cocaine use causes vasoconstriction. Is this likely to increase or ...

Author: OpenStax College

Cocaine use causes vasoconstriction. Is this likely to increase or decrease blood pressure, and why?

- Vasoconstriction causes the lumens of blood vessels to narrow. This increases the pressure of the blood flowing within the vessel.

Check the answer of this question online at QuizOver.com:
Question: Cocaine use causes vasoconstriction. Is OpenStax College Anatomy

4.1.5. A blood vessel with a few smooth muscle fibers and connective tissu...

Author: OpenStax College

A blood vessel with a few smooth muscle fibers and connective tissue, and only a very thin tunica externa conducts blood toward the heart.

What type of vessel is this?

- This is a venule.

Check the answer of this question online at QuizOver.com:
Question: A blood vessel with a few smooth muscle OpenStax College Anatomy

4.1.6. You measure a patient's blood pressure at 130/85. Calculate the pat...

Author: OpenStax College

You measure a patient's blood pressure at 130/85. Calculate the patient's pulse pressure and mean arterial pressure.

Determine whether each pressure is low, normal, or high.

- The patient's pulse pressure is 130 - 85 = 45 mm Hg. Generally, a pulse pressure should be at least 25 percent of the systolic pressure, but not more than 100 mm Hg.
  Since 25 percent of 130 = 32.5, the patient's pulse pressure of 45 is normal.
  The patient's mean arterial pressure is 85 + 1/3 (45) = 85 + 15 = 100.
  Normally, the mean arterial blood pressure falls within the range of 70 - 110 mmHg, so 100 is normal.

4.1.7. An obese patient comes to the clinic complaining of swollen feet an...

Author: OpenStax College

An obese patient comes to the clinic complaining of swollen feet and ankles, fatigue, shortness of breath, and often feeling "spaced out."

She is a cashier in a grocery store, a job that requires her to stand all day. Outside of work, she engages in no physical activity.

She confesses that, because of her weight, she finds even walking uncomfortable.

Explain how the skeletal muscle pump might play a role in this patient's signs and symptoms.

- People who stand upright all day and are inactive overall have very little skeletal muscle activity in the legs.
  Pooling of blood in the legs and feet is common.
  Venous return to the heart is reduced, a condition that in turn reduces cardiac output and therefore oxygenation of tissues throughout the body.
  This could at least partially account for the patient's fatigue and shortness of breath, as well as her "spaced out" feeling, which commonly reflects reduced oxygen to the brain.

4.1.8. A patient arrives at the emergency department with dangerously low ...

Author: OpenStax College

A patient arrives at the emergency department with dangerously low blood pressure.

The patient's blood colloid osmotic pressure is normal.

How would you expect this situation to affect the patient's net filtration pressure?

- The patient's blood would flow more sluggishly from the arteriole into the capillary bed.
  Thus, the patient's capillary hydrostatic pressure would be below the normal 35 mm Hg at the arterial end.
  At the same time, the patient's blood colloidal osmotic pressure is normal-about 25 mm Hg.
  Thus, even at the arterial end of the capillary bed, the net filtration pressure would be below 10 mm Hg, and an abnormally reduced level of filtration would occur.
  In fact, reabsorption might begin to occur by the midpoint of the capillary bed.

4.1.9. True or false? The plasma proteins suspended in blood cross the cap...

Author: OpenStax College

True or false? The plasma proteins suspended in blood cross the capillary cell membrane and enter the tissue fluid via facilitated diffusion.

Explain your thinking.

- False. The plasma proteins suspended in blood cannot cross the semipermeable capillary cell membrane, and so they remain in the plasma within the vessel, where they account for the blood colloid osmotic pressure.

4.1.10. A patient arrives in the emergency department with a blood pressure...

Author: OpenStax College

A patient arrives in the emergency department with a blood pressure of 70/45 confused and complaining of thirst. Why?

- This blood pressure is insufficient to circulate blood throughout the patient's body and maintain adequate perfusion of the patient's tissues.
  Ischemia would prompt hypoxia, including to the brain, prompting confusion.
  The low blood pressure would also trigger the renin-angiotensin-aldosterone mechanism, and release of aldosterone would stimulate the thirst mechanism in the hypothalamus.

4.1.11. Nitric oxide is broken down very quickly after its release. Why?

Author: OpenStax College

Nitric oxide is broken down very quickly after its release. Why?

- Nitric oxide is a very powerful local vasodilator that is important in the autoregulation of tissue perfusion. If it were not broken down very quickly after its release, blood flow to the region could exceed metabolic needs.

Check the answer of this question online at QuizOver.com:
Question: Nitric oxide is broken down very quickly OpenStax College Anatomy

4.1.12. Identify the ventricle of the heart that pumps oxygendepleted blood...

Author: OpenStax College

Identify the ventricle of the heart that pumps oxygendepleted blood and the arteries of the body that carry oxygen-depleted blood.

- The right ventricle of the heart pumps oxygen-depleted blood to the pulmonary arteries.

Check the answer of this question online at QuizOver.com:
Question: Identify the ventricle of the heart that OpenStax College Anatomy

4.1.13. What organs do the gonadal veins drain?

Author: OpenStax College

What organs do the gonadal veins drain?

- The gonadal veins drain the testes in males and the ovaries in females.

Check the answer of this question online at QuizOver.com:
Question: What organs do the gonadal veins drain OpenStax College Anatomy Quest

4.1.14. What arteries play the leading roles in supplying blood to the brain?

Author: OpenStax College

What arteries play the leading roles in supplying blood to the brain?

- The internal carotid arteries and the vertebral arteries provide most of the brain's blood supply.

Check the answer of this question online at QuizOver.com:
Question: What arteries play the leading roles in OpenStax College Anatomy

4.1.15. All tissues, including malignant tumors, need a blood supply. Expla...

Author: OpenStax College

All tissues, including malignant tumors, need a blood supply. Explain why drugs called angiogenesis inhibitors would be used in cancer treatment.

- Angiogenesis inhibitors are drugs that inhibit the growth of new blood vessels.
  They can impede the growth of tumors by limiting their blood supply and therefore their access to gas and nutrient exchange.

Check the answer of this question online at QuizOver.com:
Question: All tissues including malignant tumors OpenStax College Anatomy Quest

4.1.16. Explain the location and importance of the ductus arteriosus in fet...

Author: OpenStax College

Explain the location and importance of the ductus arteriosus in fetal circulation.

- The ductus arteriosus is a blood vessel that provides a passageway between the pulmonary trunk and the aorta during fetal life.
  Most blood ejected from the fetus' right ventricle and entering the pulmonary trunk is diverted through this structure into the fetal aorta, thus bypassing the fetal lungs.

Check the answer of this question online at QuizOver.com:
Question: Explain the location and importance of OpenStax College Anatomy Quest