

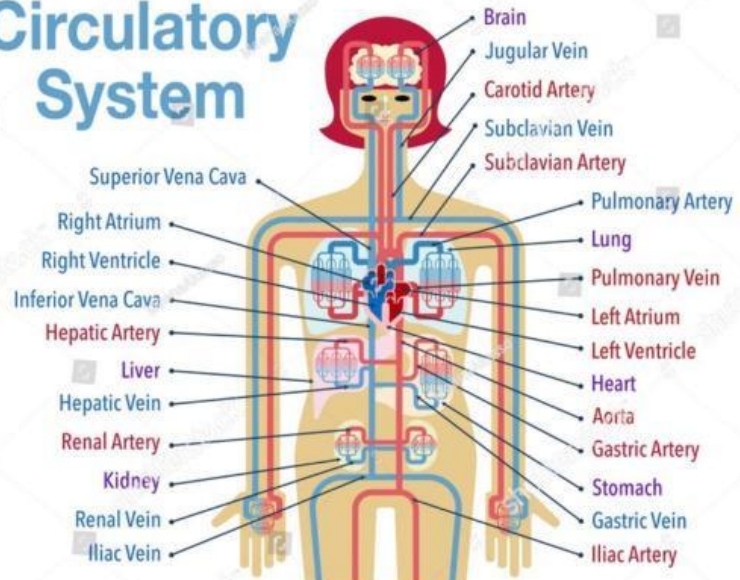


The Circulatory System: The Lifeline of the Human Body

Introduction

The **circulatory system** is a vital network responsible for transporting **oxygen**, **nutrients**, and **waste** throughout the body. It plays a key role in maintaining **homeostasis**, regulating temperature, and defending against infections. This system is composed of the **heart**, **blood vessels**, and **blood**, working together to sustain life.

Circulatory System



Structure and Components

The circulatory system consists of three main components:

- The **heart**, a muscular organ, pumps blood throughout the body.
- **Blood vessels** include **arteries**, which carry blood away from the heart, **veins**, which return blood to the heart, and **capillaries**, where nutrient and gas exchange occurs.
- **Blood** contains **red blood cells** (transporting oxygen), **white blood cells** (fighting infection), **platelets** (aiding in clotting), and **plasma** (the liquid portion).

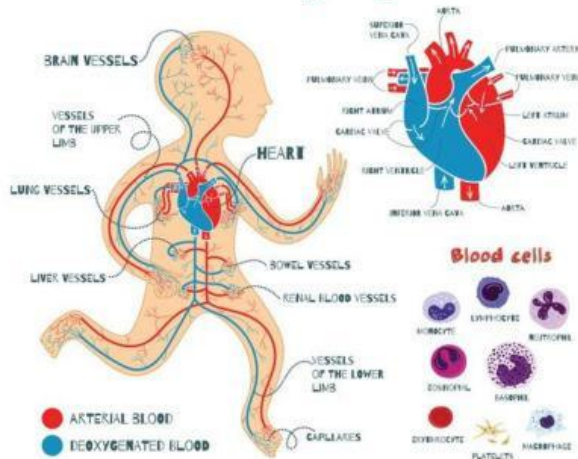
The Path of Blood Circulation

The circulatory system follows two primary circuits:

- **Pulmonary circulation:** Blood flows from the heart to the **lungs**, where it absorbs **oxygen** and releases **carbon dioxide**.
- **Systemic circulation:** Oxygen-rich blood is distributed to the entire body, delivering nutrients and collecting waste.

Importance for Health

Circulatory system



A healthy circulatory system is essential for **overall well-being**. Poor circulation can lead to conditions such as **hypertension**, **atherosclerosis**, or **stroke**. Maintaining cardiovascular health through **exercise**, a **balanced diet**, and avoiding smoking is crucial for preventing diseases.

Conclusion

The **circulatory system** is a complex yet essential network that keeps the body functioning. By transporting **oxygen**, nutrients, and removing waste, it ensures that all bodily systems operate efficiently.

Understanding its structure and functions is vital for promoting **cardiovascular health** and preventing disease.

A. Choose the correct answer.

1. What is the primary function of the circulatory system?

- a) To produce hormones
- b) To transport oxygen, nutrients, and waste throughout the body
- c) To break down food into nutrients
- d) To create new cells

2. Which of the following is NOT a component of the circulatory system?

- a) Heart
- b) Blood vessels
- c) Lungs
- d) Blood

3. What type of blood vessels carry blood away from the heart?

- a) Veins
- b) Capillaries
- c) Arteries
- d) Venule

- 4. What is the main function of red blood cells?**
- a) Fighting infections
 - b) Transporting oxygen
 - c) Clotting blood
 - d) Regulating body temperature
- 5. Which part of the circulatory system is responsible for exchanging nutrients and waste with tissues?**
- a) Arteries
 - b) Capillaries
 - c) Veins
 - d) Aorta
- 6. What is the purpose of pulmonary circulation?**
- a) To deliver oxygen-rich blood to the body
 - b) To remove toxins from the bloodstream
 - c) To transport blood between the heart and lungs
 - d) To prevent blood clotting
- 7. Which condition is caused by poor blood circulation?**
- a) Hypertension
 - b) Diabetes
 - c) Anemia
 - d) Fractures
- 8. Which blood cells are responsible for fighting infections?**
- a) Red blood cells
 - b) White blood cells
 - c) Platelets
 - d) Plasma
- 9. What carries oxygen-poor blood back to the heart?**
- a) Arteries
 - b) Capillaries

- c) Veins
- d) Aorta

10. What lifestyle habit helps maintain a healthy circulatory system?

- a) Smoking regularly
- b) Eating a high-fat diet
- c) Engaging in regular exercise
- d) Avoiding hydration

Vocabulary

Instructions:

1. Read the following sentences taken from the text.
2. Identify the bold word and match it with its correct definition.
3. Then, complete the fill-in-the-blank section using the appropriate bold word.

Words:

1. **Circulatory system**
2. **Homeostasis**
3. **Arteries**
4. **Capillaries**
5. **Hypertension**
6. **Nutrients**
7. **Oxygen**
8. **Plasma**
9. **Platelets**
10. **Cardiovascular health**

Definitions:

- a) The condition of having **high blood pressure**, which can increase the risk of heart disease.
- b) Small **blood vessels** where the exchange of nutrients and waste occurs.
- c) A network of organs and vessels that transports **blood** throughout the body.
- d) The liquid part of **blood** that carries cells and nutrients.
- e) Essential substances, such as **vitamins and minerals**, required by the body for growth and health.
- f) The maintenance of a stable **internal environment** in the body.
- g) Muscular tubes that carry **blood away from the heart**.
- h) Disc-shaped cells in **blood** that help with clotting.
- i) A gas necessary for **cellular respiration** and energy production.
- j) The overall condition of the **heart and blood vessels**.

Use the **bold words** from the list to complete the following sentences:

1. The _____ carries oxygen and nutrients throughout the body.
2. When the body's _____ is disrupted, it can lead to imbalances and illness.
3. _____ are blood vessels that transport oxygen-rich blood away from the heart.
4. The exchange of nutrients and waste occurs in the _____.
5. People with _____ have an increased risk of heart disease and stroke.
6. Healthy food provides essential _____ that support bodily functions.
7. The lungs provide _____ to the blood, which is carried to the body's tissues.
8. _____ makes up more than half of the blood's volume.
9. When you get a cut, _____ help stop the bleeding by forming clots.
10. Regular exercise is essential for maintaining good _____.

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