

# The Circulatory System

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*The **hearty** system*

# Facts

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- Main function?
  - Transport substances (gases, nutrients, wastes) around the body
  - Other functions?
  - Thermoregulation (body temperature)
  - Disease fighting
  - It is a **closed** system
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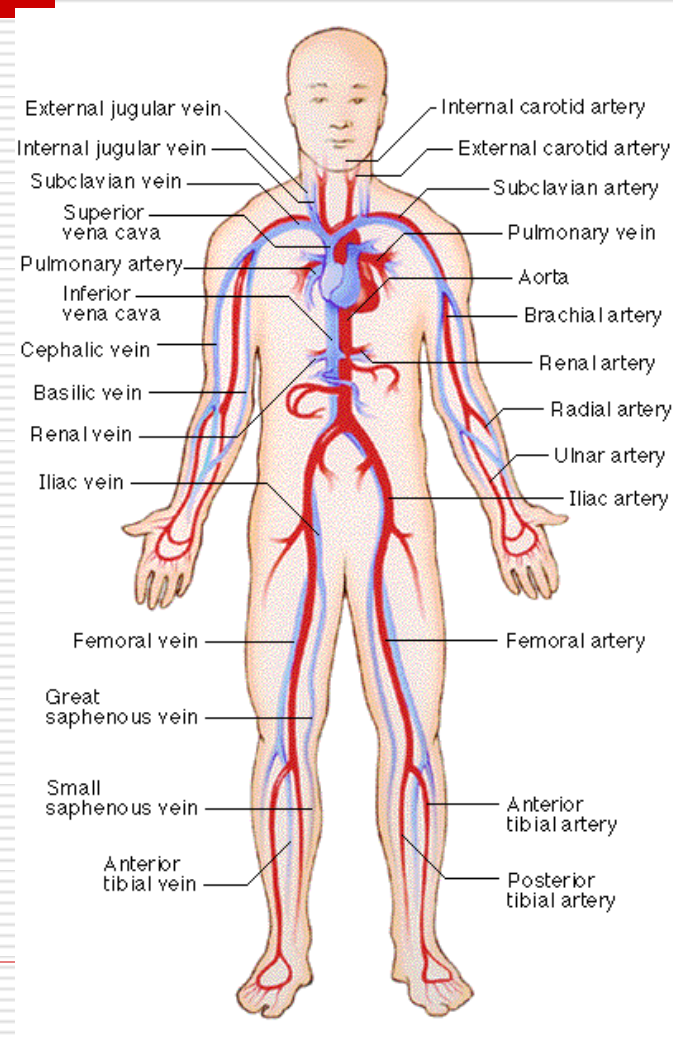
# Wild facts:

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- ❑ Your heart beats **30 000 000** times per year
  - ❑ Your heart pumps out about **19 000** litres of blood per day
  - ❑ Your blood vessels stretched out in a line would go around the equator **2.5** times – that's about **90 000** km.
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# It's all about the **threes**:

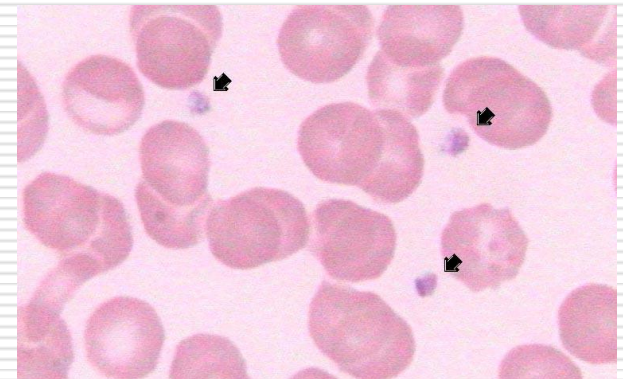
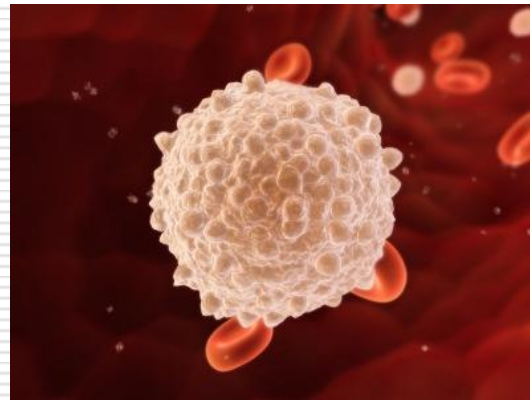
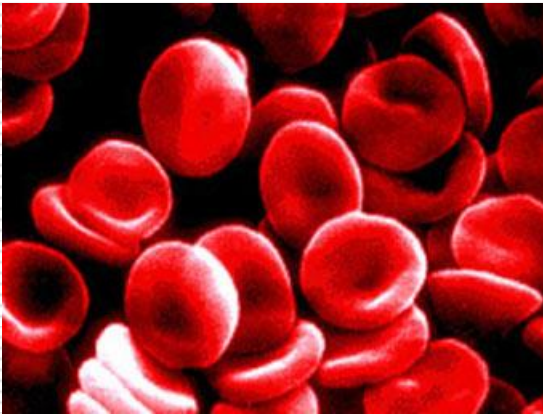
□ **Three** main components are the heart, blood, and blood vessels



# It's all about the **threes**

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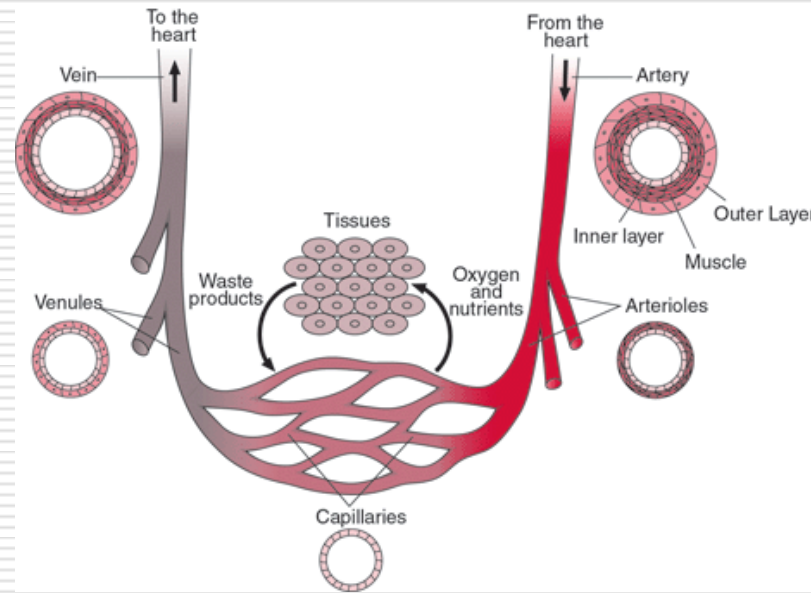
- **Three** types of **blood cells** are red blood cells, white blood cells, and platelets



# It's all about the **threes**

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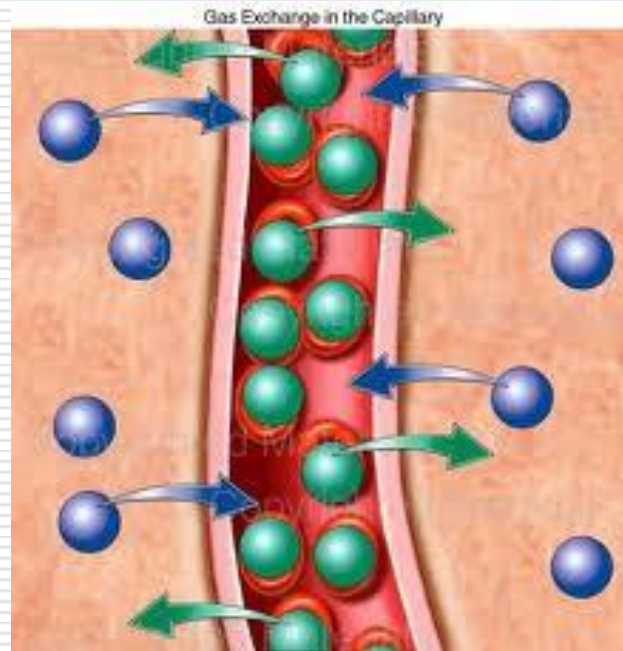
- **Three** types of **blood vessels** form the circulatory network – arteries, veins, capillaries



# It's all about the **threes**

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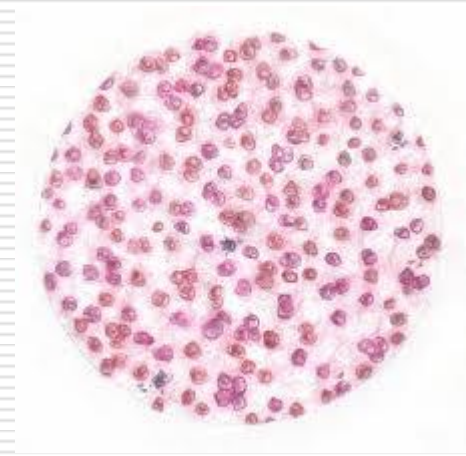
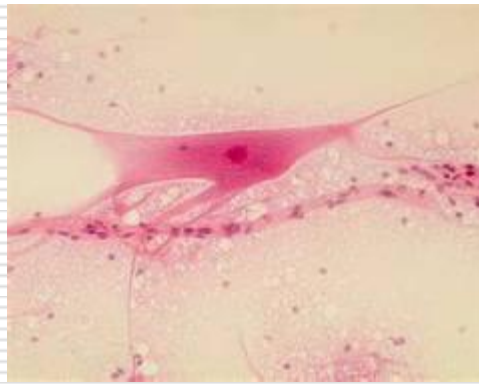
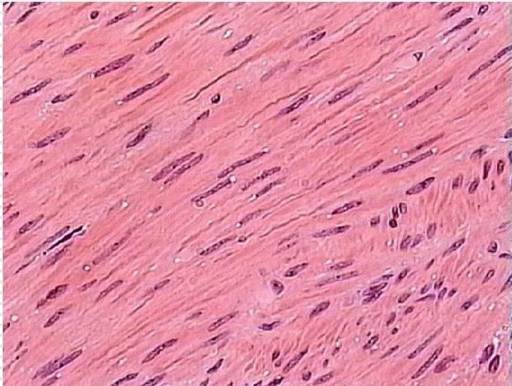
- It is at the capillary level that nutrient and gas exchange takes place



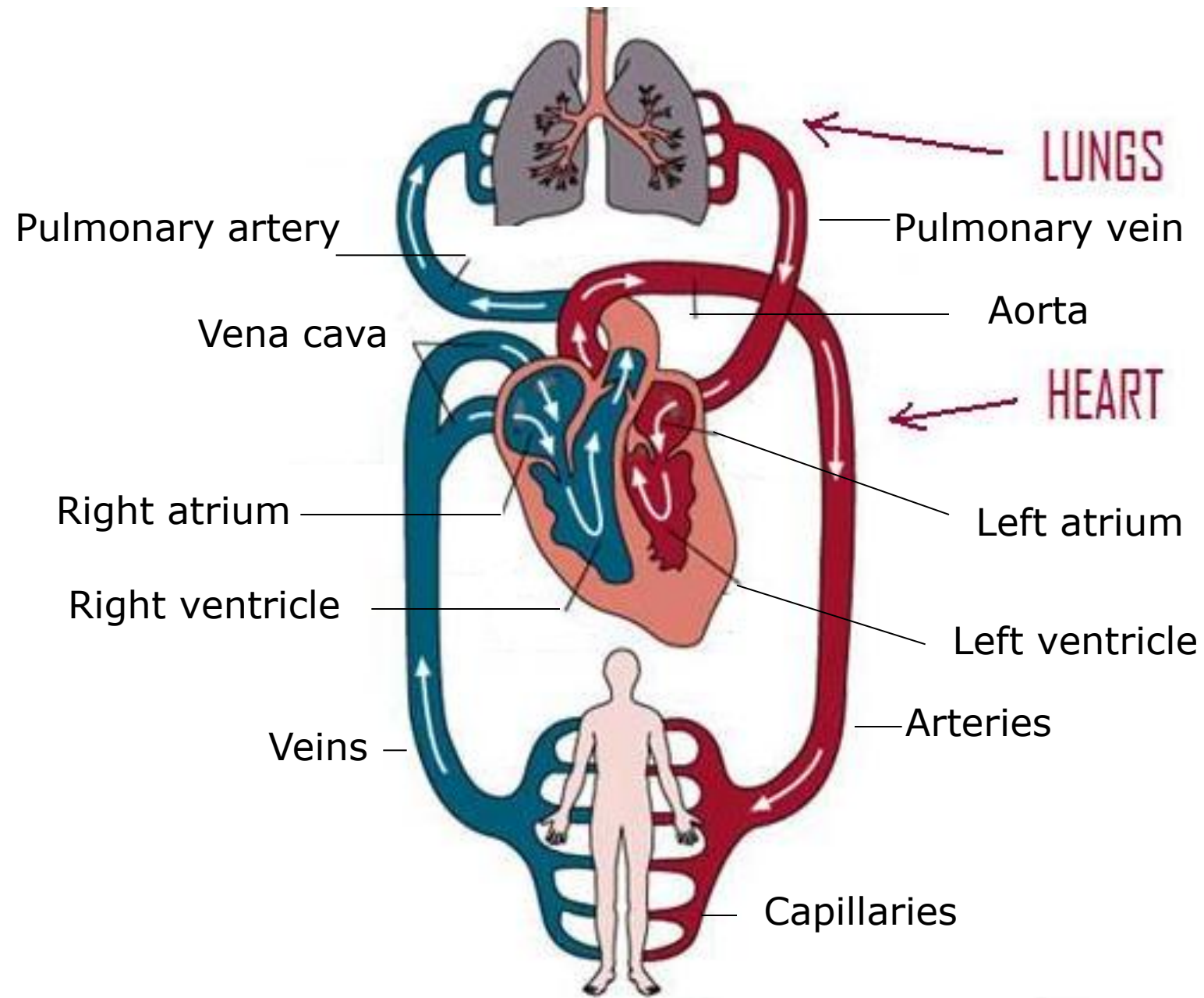
# It's all about the **threes**

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- **Three** types of **tissues** in the circulatory system are muscle, nerve, and connective (it is surrounded and lined by epithelial)



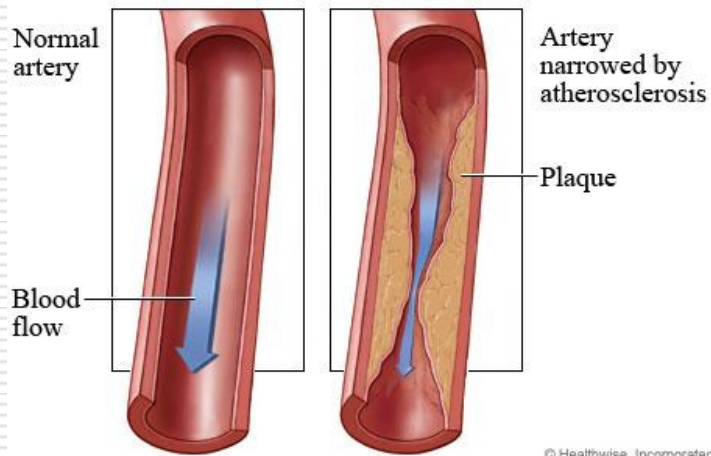




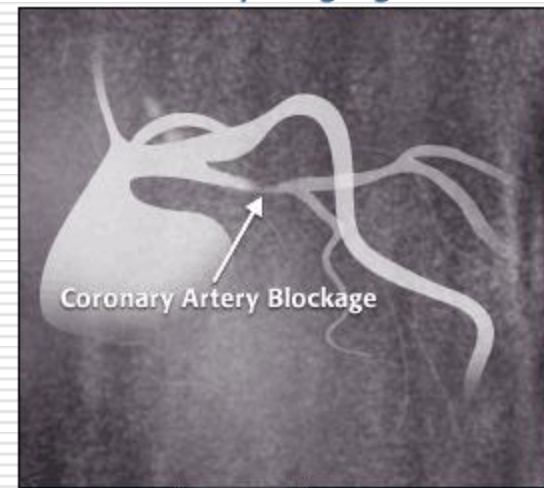
# Diseases and Disorders

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- ❑ Coronary Artery Disease (CAD)
- ❑ Heart Attack
- ❑ Both caused by blockage in the coronary arteries



Coronary Angiogram



# Blood Pressure & Heart Rate

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- Two numbers
  - **Systolic** pressure is the pressure in the arteries when the heart contracts
  - **Diastolic** pressure is the pressure in the arteries when the heart relaxes
  - What is yours?
  - Today: Heart Rate Investigation!
  - Homework: *circulatory system handout*
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