

Section 3.2: Circulatory System

SNC2D

MRS. FRANKLIN

Did you know?

Your heart is about the size of an adult's closed fist and the heart beats about 100 000 x a day.

The heart functions with blood vessels

- Veins, arteries, and capillaries that would circle Earth 2x if laid end to end – WOW!



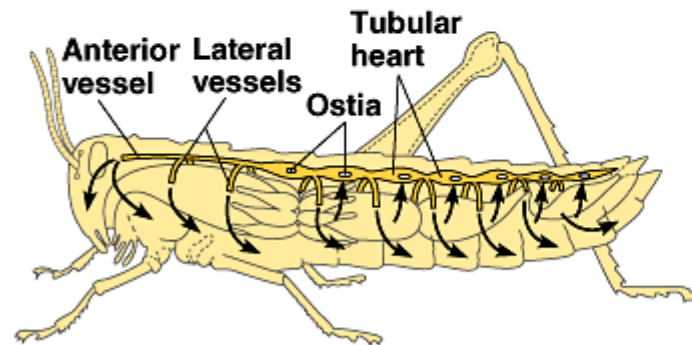
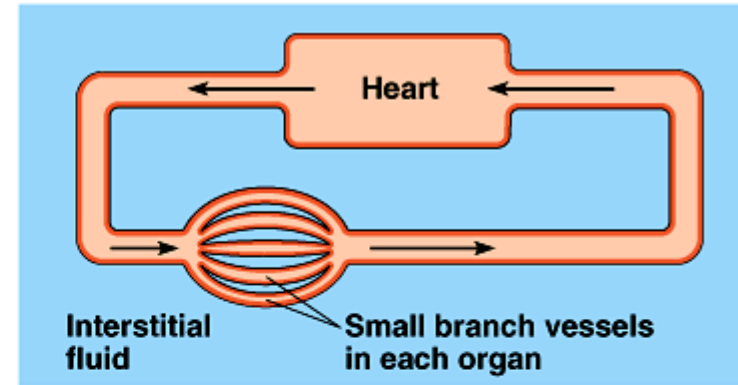
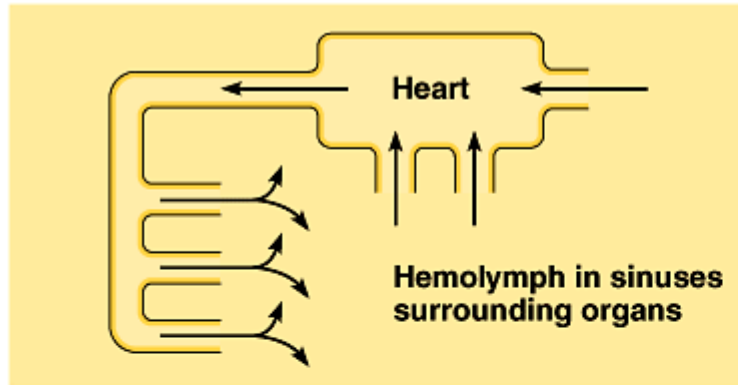
Types of Circulatory Systems

There are two main types of circulatory systems:

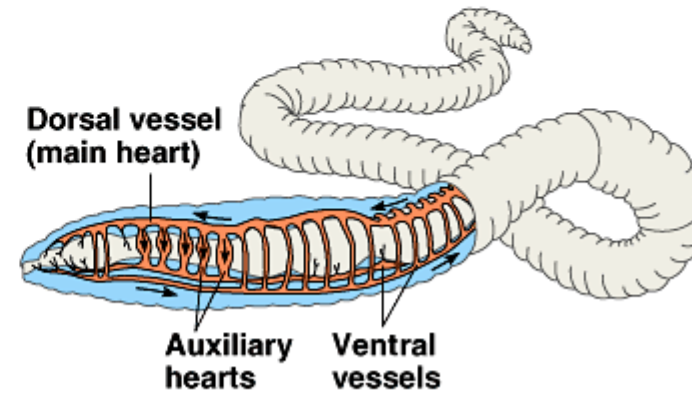
1) Open Circulatory System: the system does not transport blood through vessels. The blood is mixed into the body cavity of the organism.

2) Closed Circulatory System: the blood travels within closed vessels and is kept separate from the rest of the tissues.

Open vs. Closed Circulatory Systems



(a) Open circulatory system



(b) Closed circulatory system

Circulatory System

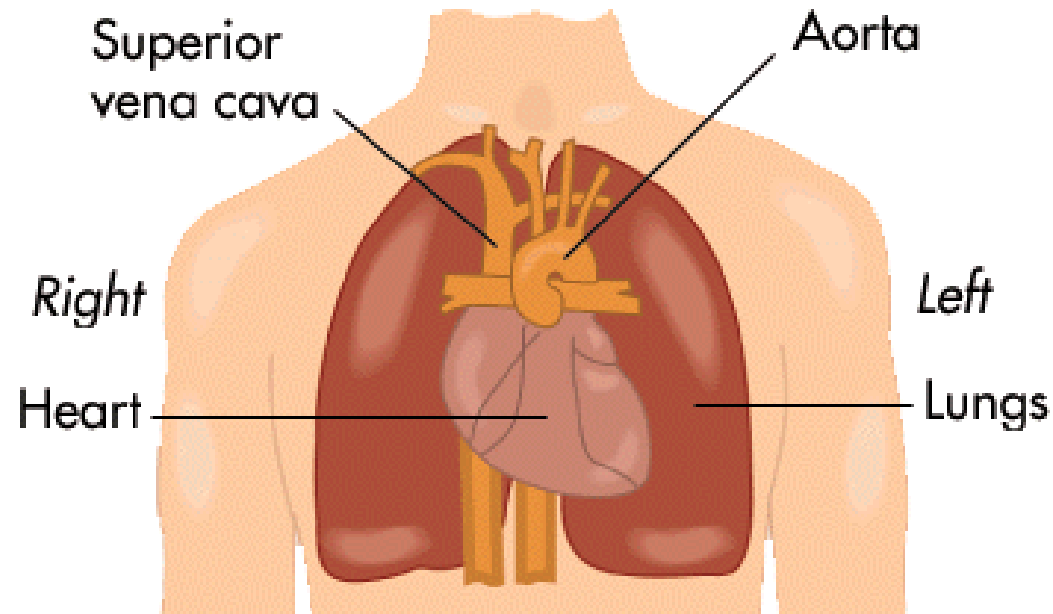
The circulatory system helps to transport blood, nutrients and wastes around the body

Main Functions:

1. Transports gases, nutrient molecules, and waste materials
2. Regulates internal temperature and transports chemical substances vital for health
3. Protects against blood loss from injury and disease causing microbes

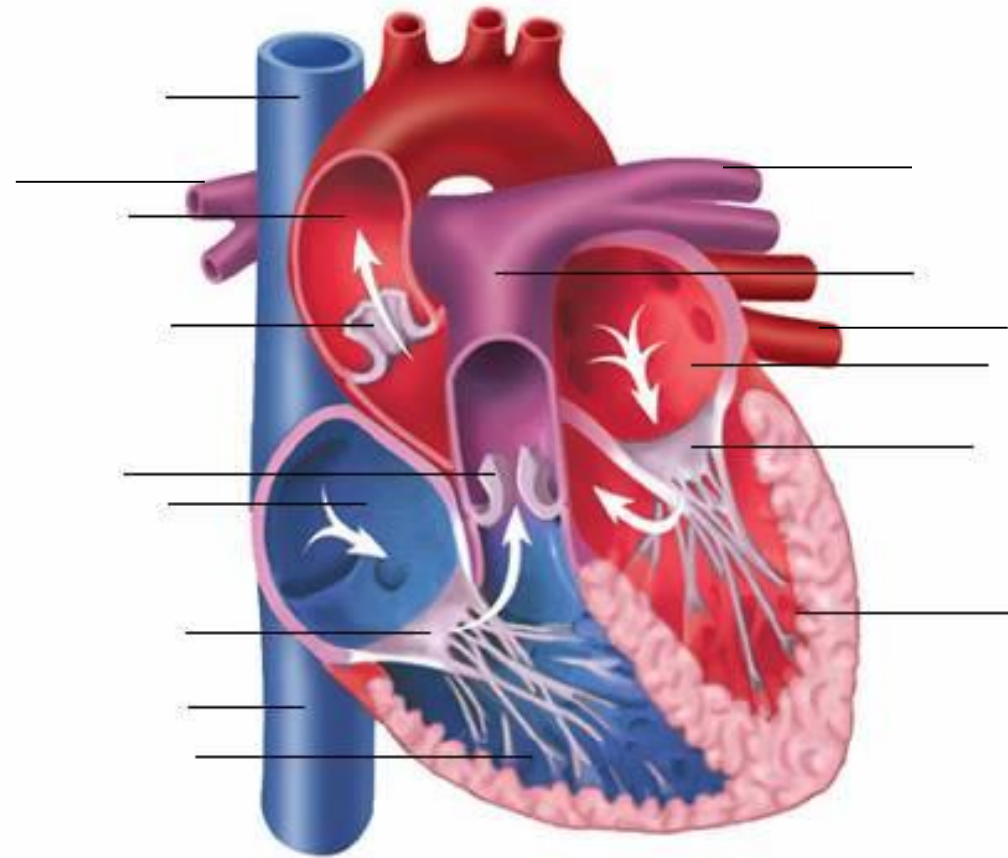
The Human Heart

The human heart is located slightly to the left middle of chest and contains walls of cardiac muscle.

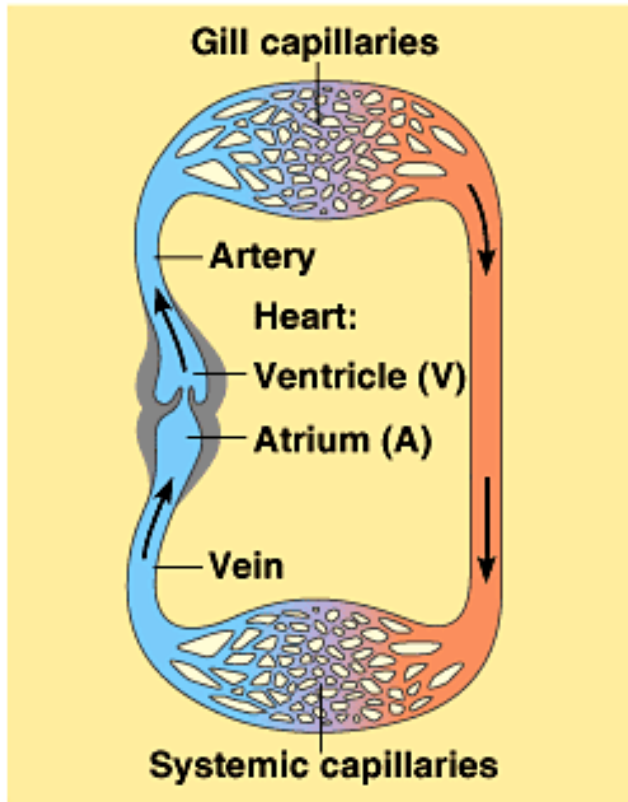


The chambers within the heart ensure that the blood only flows in one direction.

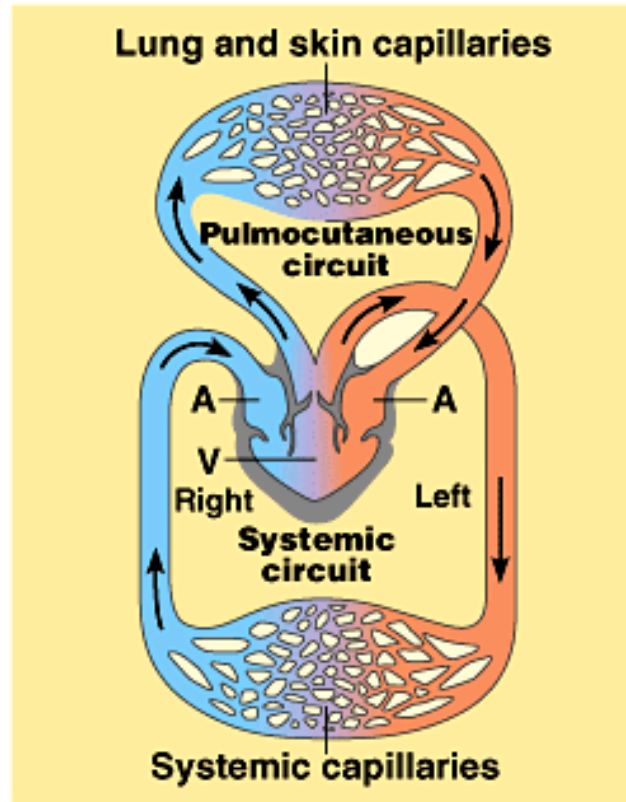
Structure of the Heart (pg. 100 of Textbook)



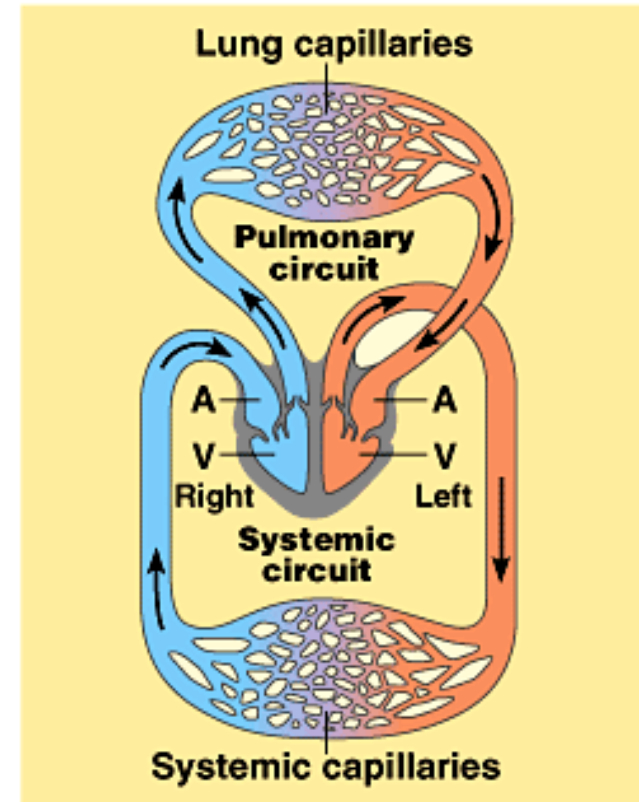
Comparing Heart Structures



(a) Fish



(b) Amphibian



(c) Mammal

Blood Vessels

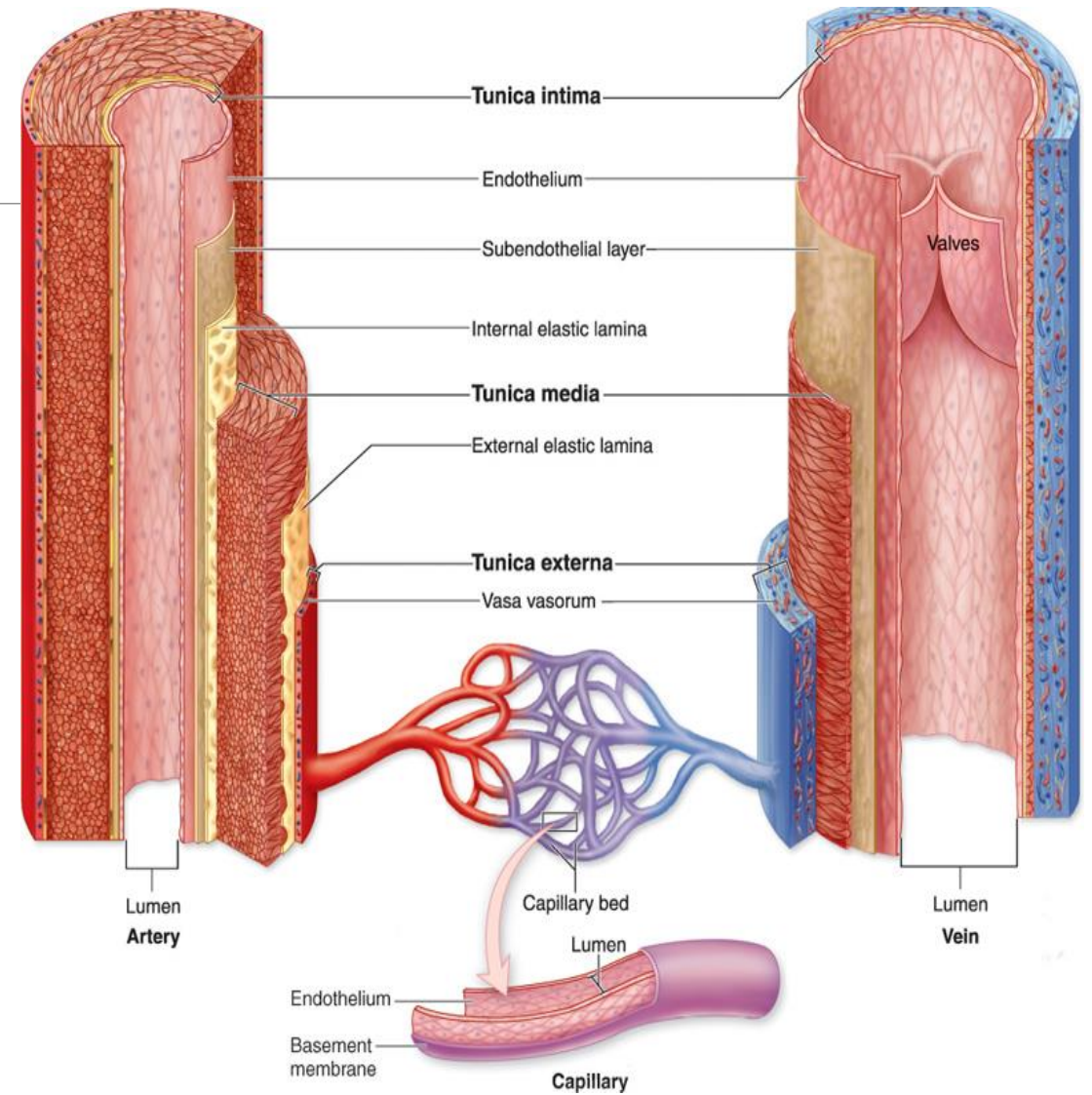
There are three main types of blood vessels in the human body:

- *Veins:*
- *Arteries:*
- *Capillaries:*

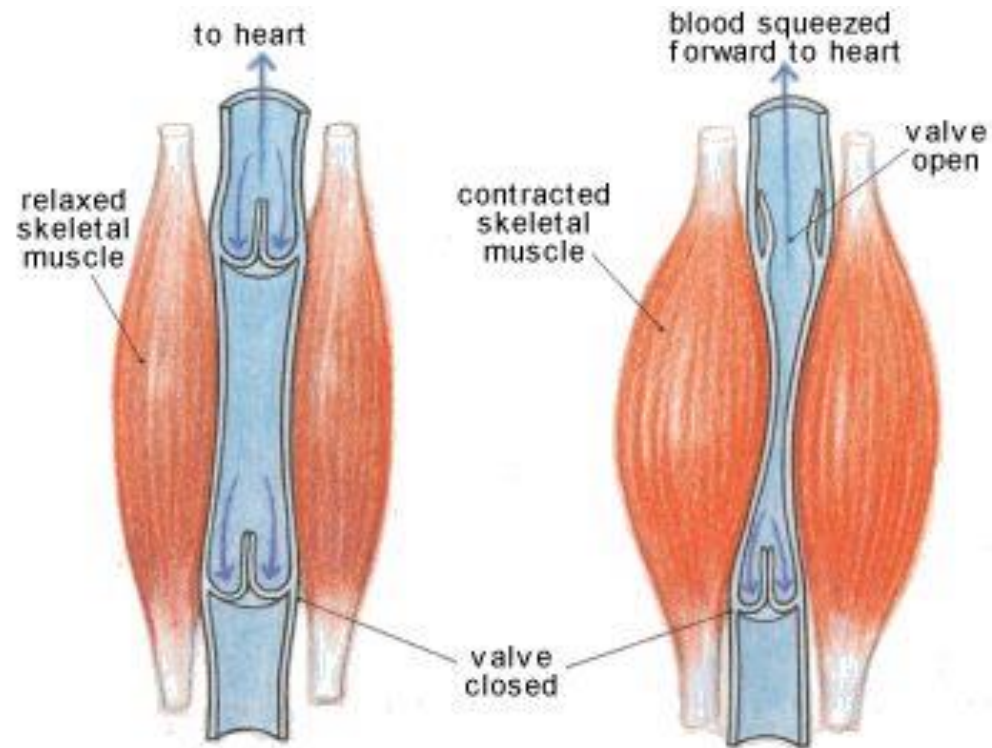
Comparing Blood Vessels

Compare all three types of blood vessels

Blood Vessels	Smooth muscle wall	Main Role	Valves
Capillaries			
Arteries			
Veins			



Valves in Veins



The valves in the veins help to prevent backflow when the blood is flowing to the heart against gravity.

Homework

- Textbook: pg. 107 # 4, 5, 7

- Complete the worksheets given in class