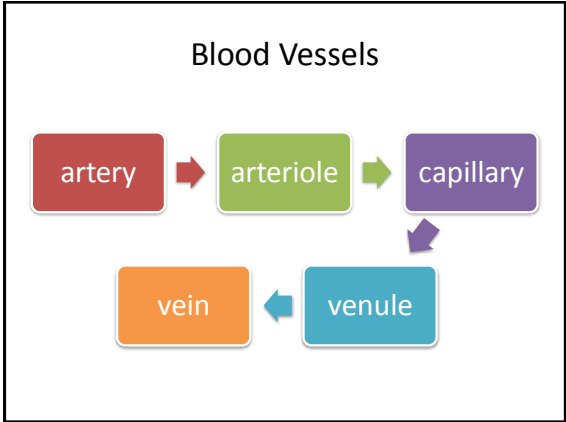


Blood Vessels



Artery Anatomy

- Tunica Interna
- Tunica Media
- Tunica Externa

Capillary Anatomy

- Endothelium
- Basement membrane



Vein Anatomy

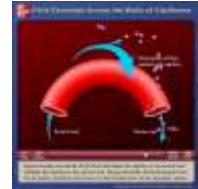
- Tunica Interna
- Tunica Media
- Tunica Externa
- Valves

Blood Vessel Function

- Arteries
 - Carry blood away from heart
- Veins
 - Returns blood to heart

Blood Vessel Function

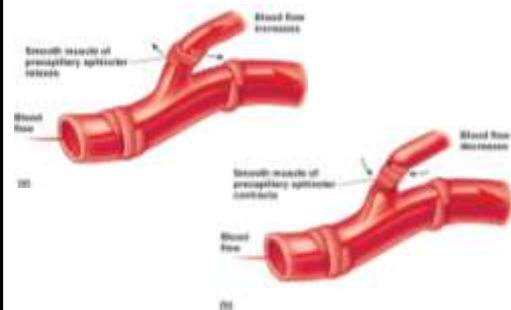
- Capillaries
 - Gases, nutrients, wastes exchange
 - Molecules move due to concentration and pressure differences



Control of Blood Flow

1. Precapillary sphincters
 - circular, valve-like muscle at arteriole-capillary junction
2. Vasoconstriction
 - narrowing blood vessel's lumen
3. Vasodilation
 - expanding blood vessel's lumen

Control of Blood Flow



Blood flow - Veins

- not very efficient
 - “pushing” by arteriole doesn't help
- Factors affecting
 1. Contraction of the diaphragm
 2. Pumping action of the skeletal muscles
 3. Valves in the veins.



Fig. 15.6

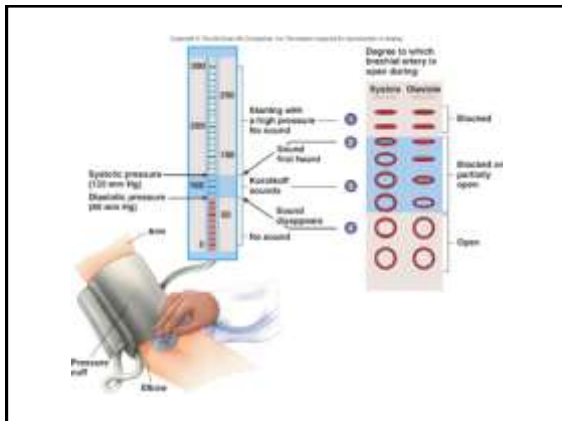
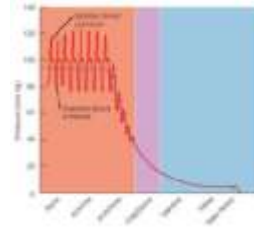
Blood Pressure

- Average force exerted on inner walls of blood vessels
- Maximum pressure = systolic
- Minimum pressure = diastolic
- Pulse = expansion & contraction of artery wall



Blood Pressure

- Decreases with distance from left ventricle



Factors affecting blood Pressure

- Average is 120/80
1. Cardiac Output
 2. Blood volume
 3. Blood Viscosity
 4. Peripheral Resistance