

- Tunica Media
 - Middle layer
 - Circular Smooth Muscle
 - Vasco-constriction/dilation
- Tunica Intima
 - Innermost layer
 - Endothelium
 - Minimize friction
- Lumen

Arteries (aa.)

- Direction of flow: Blood away from the heart
- Pressure: Higher
- Walls: Thicker = Tunica Media thicker than tunica externa
- Lumen: Smaller
- Valves: No valves

Veins (vv.)

- Direction of flow: Blood to heart
- Pressure: Lower
- Walls: Thinner = Tunica externa thicker than tunica media
- Lumen: Larger
- Valves: Valves

Capillaries

- Microscopic, one cell layer thick
- Network
- Bathed in extracellular matrix of areolar tissue
- Entire goal of C-V system is to get blood into capillaries where diffusion takes place.

Regulation of the Heartbeat

- Typical teen's heart rate is usually 60-100 beats per minute (bpm).
 - Heart rate is affected by age, fitness, emotions, exercise, and stress.
 - Regulates by the pacemaker, in the wall of the right atrium.
 - ➔ Causes atria to contract.
 - ➔ Also sends signal to AV node, causing ventricles to contract.
 - ➔ Controlled by nervous and endocrine systems.
 - Systolic: The top number, which is also the higher of the two numbers, measures the pressure in the arteries when the heart beats (when the heart muscle contracts).
 - Diastolic: The bottom number, which is also the lower of the two numbers, measures the pressure in the arteries between heartbeats (when the heart muscle is resting between beats and refilling with blood).
- When the heart's electrical system misfires, it's called atrial fibrillation.

- Try to get 40 - 60 minutes of moderate exercise daily.
- Avoid Smoking and Secondhand Smoke
 - Chemicals in smoke damage the cardiovascular system.
 - ➔ Nicotine narrow blood vessels, increases heart rate and blood pressure; carbon monoxide decreases oxygen in blood.
- Get Regular Health Checkups
 - It is much easier to prevent cardiovascular disease than it is to treat it.

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