Ch 42.3 Notes

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Vocab

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Endothelium: A single layer of flattened epithelial cells

Systolic Pressure: When arterial blood pressure is highest because the heart contracts during ventricular systole

Pulse: The rhythmic bulging of the artery walls with each heartbeat

Diastolic Pressure: When the ventricles are relaxed and there is lower substantial blood pressure

Vasoconstriction: When the smooth muscles in arteriole walls contract and the arterioles narrow

Vasodilation: The smooth muscles in arteriole walls contract, the arterioles narrow and there is an increase in diameter that causes blood pressure in the arteries to fall

Lymphatic System: The lost fluid and the proteins within it are recovered and returned to the blood via the (X)

Lymph: The recovered fluid from the lymphatic system

Lymph Nodes: Small, lymph-filtering organs found in a lymph vessel

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Notes

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Blood vessels

Endothelium

* Simple squamous

Arteries

Away

Endothelium + Smooth muscle + connective tissue

High blood pressure

* Thick walls

Aorta = largest artery

Vein

Visit

Lower pressure than arteries

* greater chance of backflow of blood
  + have one-way valves to keep that from happening

Endothelium + Smooth muscle + connective tissue

Inferior vena cava= largest vein

Vein vs Artery

Arteries go away from the heart

* higher pressure = thicker walls

Veins visit the heart

* Lower pressure = thinner walls

Capillaries

Arteries branch into arterioles that branch into capillaries

Tiny blood vessels

* Gas exchange

Surrounds endothelium

Blood flow velocity

Volume of blood moving is constant

Walls don’t expand

Narrower vessels= move faster, you’d think

* Slows from arteries🡪 arterioles🡪 capillaries
  + So many more capillaries than arterioles, so total area is greater in capillaries
* Speeds up from capillaries🡪 venules🡪 veins
  + Smaller area

Blood Pressure

Flow high to low

Walls of arterioles/capillaries small diameter= resistance to flow= dissipates pressure

Ventricular systole= highest

* Ventricular contraction= spike in BP
* Diastole = lower pressure

Regulation of blood pressure

Vasoconstriction

* Smooth muscle contracts
* Arterioles narrow
* Increase BP upstream

Vasodilation

* Smooth muscle relaxes
* Arterioles dilate
* Decrease BP upstream