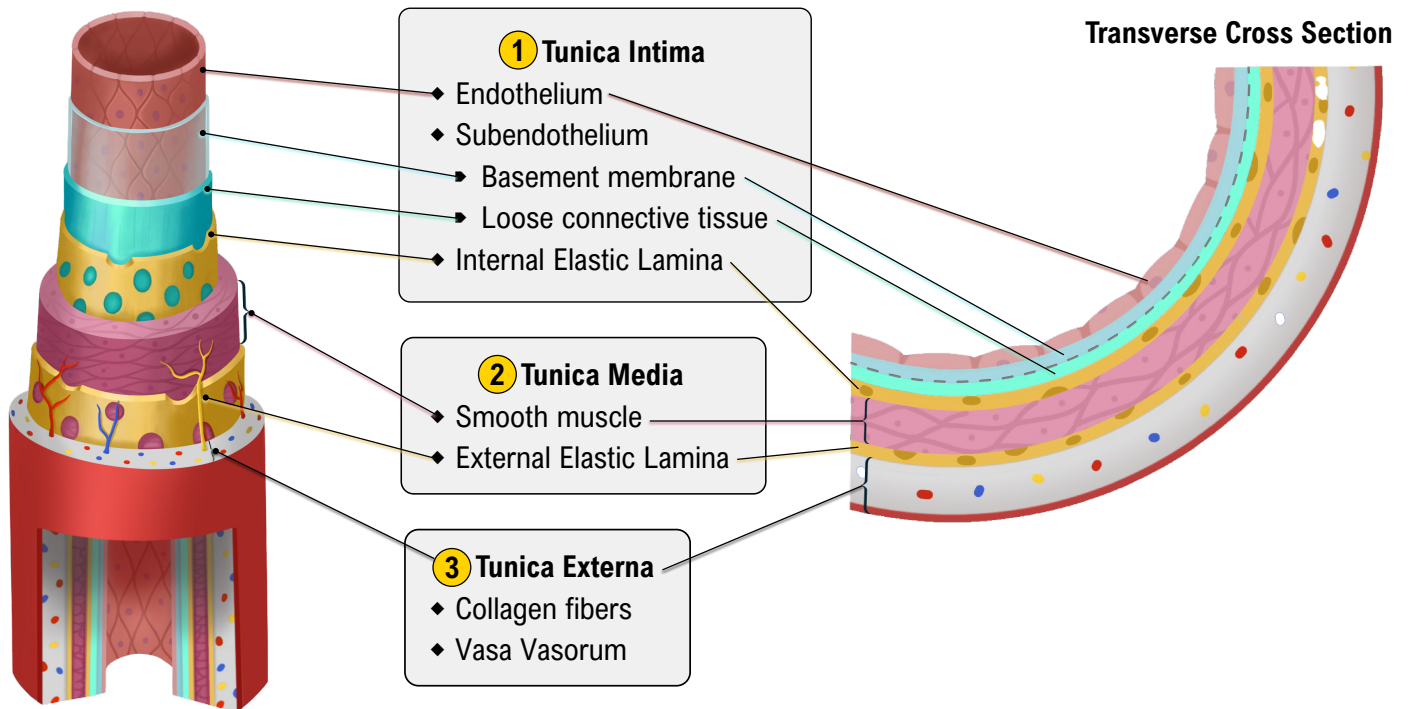


TOPIC: GENERAL BLOOD VESSEL STRUCTURE

General Blood Vessel Structure

- ♦ Although there are variations, many blood vessels are made of ____ distinct structural layers (tunics):



1 Tunica Intima: ____teral/innermost layer; contains *endothelium*, *subendothelium*, & *internal elastic lamina*.

- *Endothelium*: simple squamous epithelium lining lumen of ____ blood vessels.
- *Subendothelium*: consists of basement membrane & ____ connective tissue.
- *Internal Elastic Lamina (IEL)*: layer of ____ connective tissue present in larger *arteries*.

2 Tunica Media: ____iddle & often thickest layer; contains mostly s____ooth ____uscle & elastic fibers.

- *External Elastic Lamina (EEL)*: similar to the IEL but is closer to the exterior surface in larger arteries.
____ (vasoconstriction) & ____ (vasodilation) to regulate blood flow/pressure.

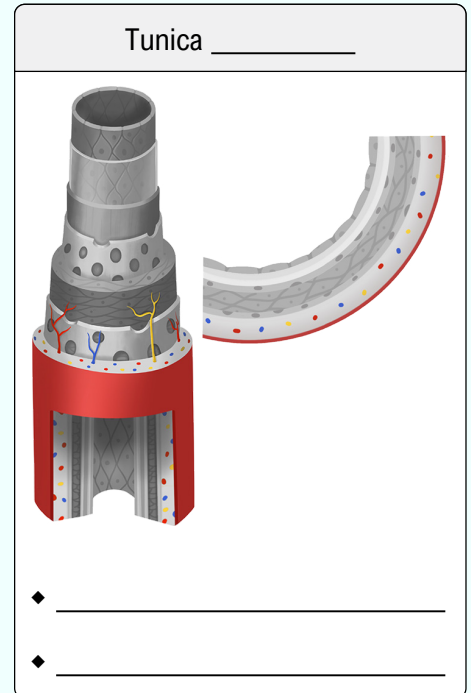
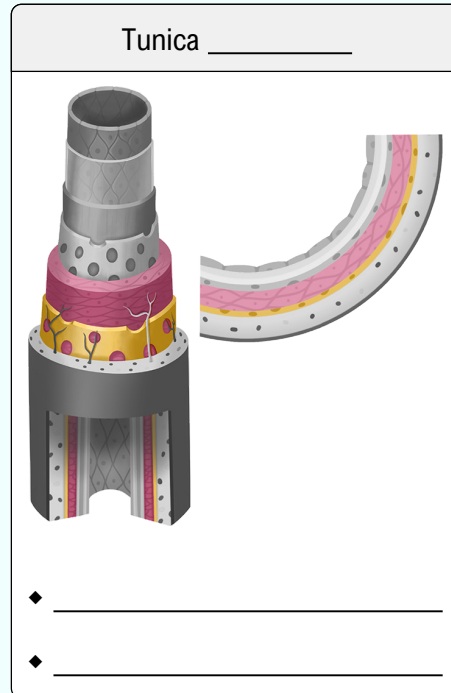
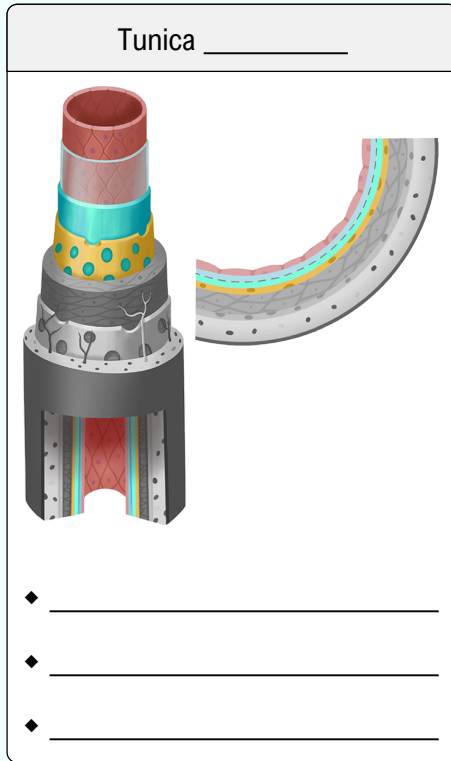
3 Tunica Externa: ____teral/outermost layer; composed mostly of collagen fibers.

- *Vasa Vasorum*: system of ____ blood vessels that nourish external tissues of blood vessel wall.
- Protects/reinforces blood vessel & anchors it to surrounding tissues.

TOPIC: GENERAL BLOOD VESSEL STRUCTURE

EXAMPLE

Appropriately label each image with the tunic that it is highlighting & list the components of each tunic.



PRACTICE

Which of the following statements is true?

- a) The tunica media in veins is thicker than tunica media in arteries.
- b) The tunica intima contains the endothelium, which lines the lumen of all blood vessels.
- c) The walls of all blood vessels always have 3 distinct layers/tunics.
- d) The tunica externa is mostly composed of smooth muscle that can contract, causing vasoconstriction.

TOPIC: GENERAL BLOOD VESSEL STRUCTURE

PRACTICE

Which blood vessel layer contains the greatest *proportion* of collagen?

- a) Tunica intima.
- b) Tunica media.
- c) Tunica externa.
- d) The elastic laminae.

PRACTICE

Which blood vessel tunic has the most active role in controlling blood flow?

- a) Tunica intima, as it makes direct contact with the blood.
- b) Tunica media, as it contains smooth muscle which causes the vessel's diameter to change.
- c) Tunica externa, as it dampens the large pressure changes caused by the beating of the heart.
- d) None of the layers play an active role in controlling blood flow.