

## Blood Vessels

1. Blood vessels are \_\_\_\_\_

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2. Types of blood vessels

A. \_\_\_\_\_

B. \_\_\_\_\_

C. \_\_\_\_\_

D. \_\_\_\_\_

E. \_\_\_\_\_

### Arteries

3. Function is \_\_\_\_\_

4. Structure is \_\_\_\_\_

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5. Layers of the arteries

a. tunica interna ( \_\_\_\_\_ )

i. composed of \_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_ called \_\_\_\_\_

ii. endothelium rests on stretchy \_\_\_\_\_

iii. smooth structure of endothelium prevents  
\_\_\_\_\_ by allowing blood cells to pass  
through without being damaged

iv. endothelium regulates blood flow by releasing chemicals that cause  
\_\_\_\_\_ and \_\_\_\_\_

b. tunica media ( \_\_\_\_\_ )

- i. \_\_\_\_\_ layer of artery
- ii. composed of
  - 1. \_\_\_\_\_
  - 2. \_\_\_\_\_
- c. tunica externa ( \_\_\_\_\_ )
  - i. \_\_\_\_\_ layer
  - ii. composed of irregular connective tissue
  - iii. function is \_\_\_\_\_

6. Vasoconstriction

- a. nervous system stimulates \_\_\_\_\_ in the tunica media to contract
- b. this causes the blood vessels to \_\_\_\_\_

7. Vasodilation

- a. nervous system is \_\_\_\_\_
- b. this results in smooth muscle \_\_\_\_\_
- c. this causes the blood vessels to \_\_\_\_\_

8. Changes in the diameter of arteries affects amount of \_\_\_\_\_ and \_\_\_\_\_.

**Arterioles**

9. Arteries branch into smaller blood vessels called \_\_\_\_\_ these arterioles will eventually branch into \_\_\_\_\_

10. Arterioles closest to the arteries have \_\_\_\_\_ and thicker walls as they get closer to the capillaries the walls get \_\_\_\_\_ and there are fewer \_\_\_\_\_

11. The arterioles really close to the capillaries consist of only

- a. \_\_\_\_\_
- b. some \_\_\_\_\_
- c. small amount of \_\_\_\_\_

### Capillaries

12. Capillaries are \_\_\_\_\_

13. They connect the smallest \_\_\_\_\_ and smallest \_\_\_\_\_.

14. Composed of only \_\_\_\_\_ ( 1 cell layer thick)

15. They have thin slit \_\_\_\_\_ where endothelial cells overlap. This is where materials enter and leave the capillary.

16. Tissues have varying amounts of capillaries:

- a. tissues like \_\_\_\_\_ use lots of oxygen, nutrients, atp so they have \_\_\_\_\_ of capillaries
- b. tissues like \_\_\_\_\_ have slow metabolism so they \_\_\_\_\_ capillaries

17. Blood flow through capillaries is controlled by

\_\_\_\_\_. (smooth muscles that circle capillary entrances)

- a. If tissue surrounding a capillary has a low supply of nutrients and oxygen the sphincter \_\_\_\_\_(allowing blood through it)

- b. if tissue surrounding a capillary has an adequate supply of nutrients and oxygen  
the sphincter \_\_\_\_\_ (directing blood elsewhere)

18. Main function of capillaries is

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19. Materials leave and enter the capillaries by the processes of

- a. \_\_\_\_\_ (movement from high to low concentration)  
b. \_\_\_\_\_ (movement based on pressure gradient)  
c. \_\_\_\_\_ (movement based on water concentration)

20. Example: Capillaries left heart have a high concentration of \_\_\_\_\_,  
the muscle tissue has a low concentration of \_\_\_\_\_. Oxygen moves by  
\_\_\_\_\_ from the \_\_\_\_\_ to the \_\_\_\_\_.

### **Venules**

21. Venules are

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22. Venules fuse together to form \_\_\_\_\_.

### **Veins**

23. Veins are blood vessels that return blood to the \_\_\_\_\_.

24. Have \_\_\_\_\_ layers

25. When compared to the arteries veins are

- A. \_\_\_\_\_  
B. less \_\_\_\_\_

C. less \_\_\_\_\_

D. greater \_\_\_\_\_

26. The reason for the decrease in muscle and elastic tissue is

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27. In order to help blood move through veins due to the low pressure veins have

a. \_\_\_\_\_ which are

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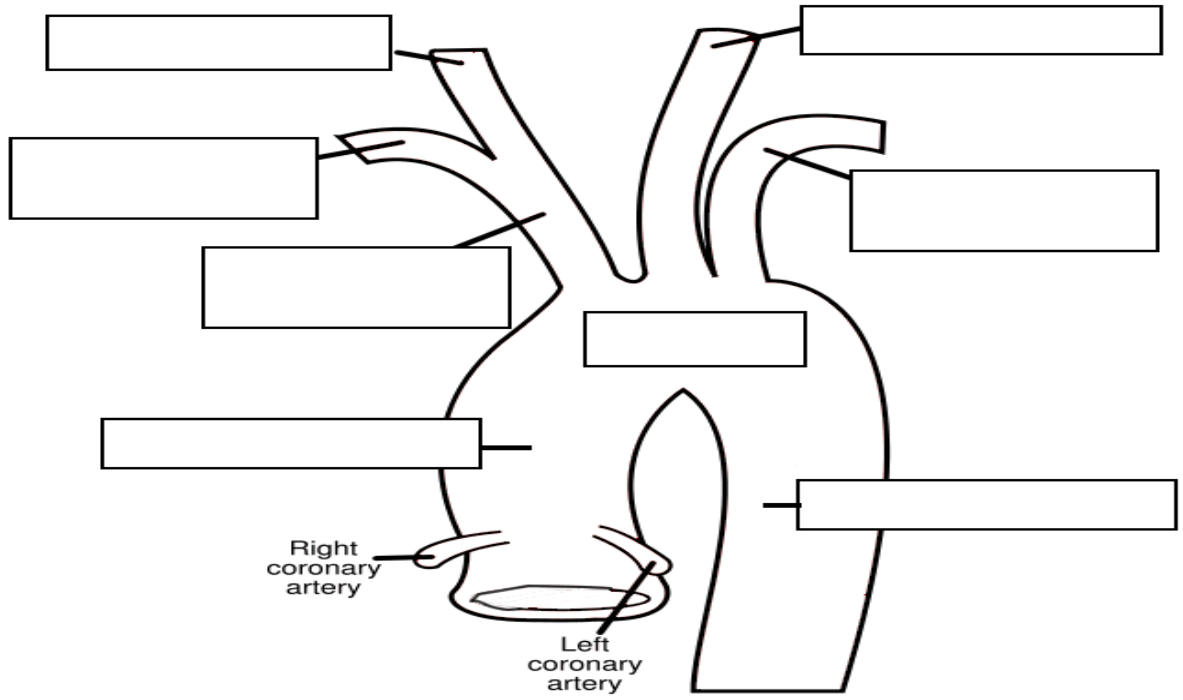
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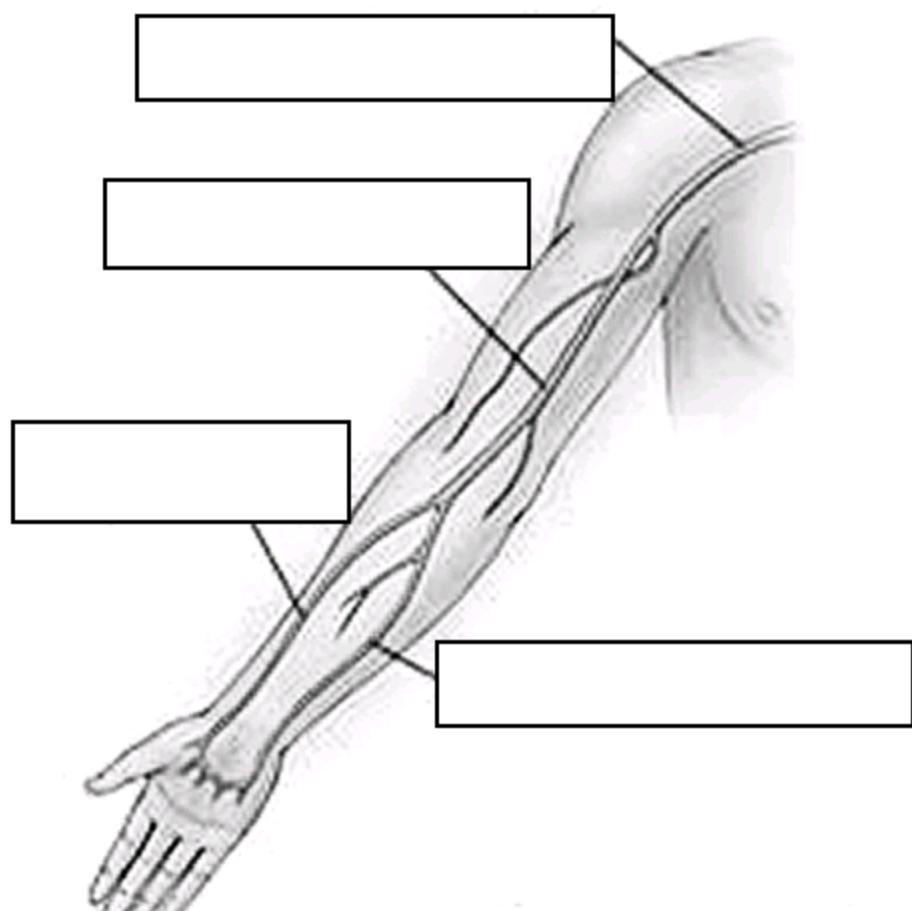
b. they are surrounded by \_\_\_\_\_ which helps move  
blood by \_\_\_\_\_

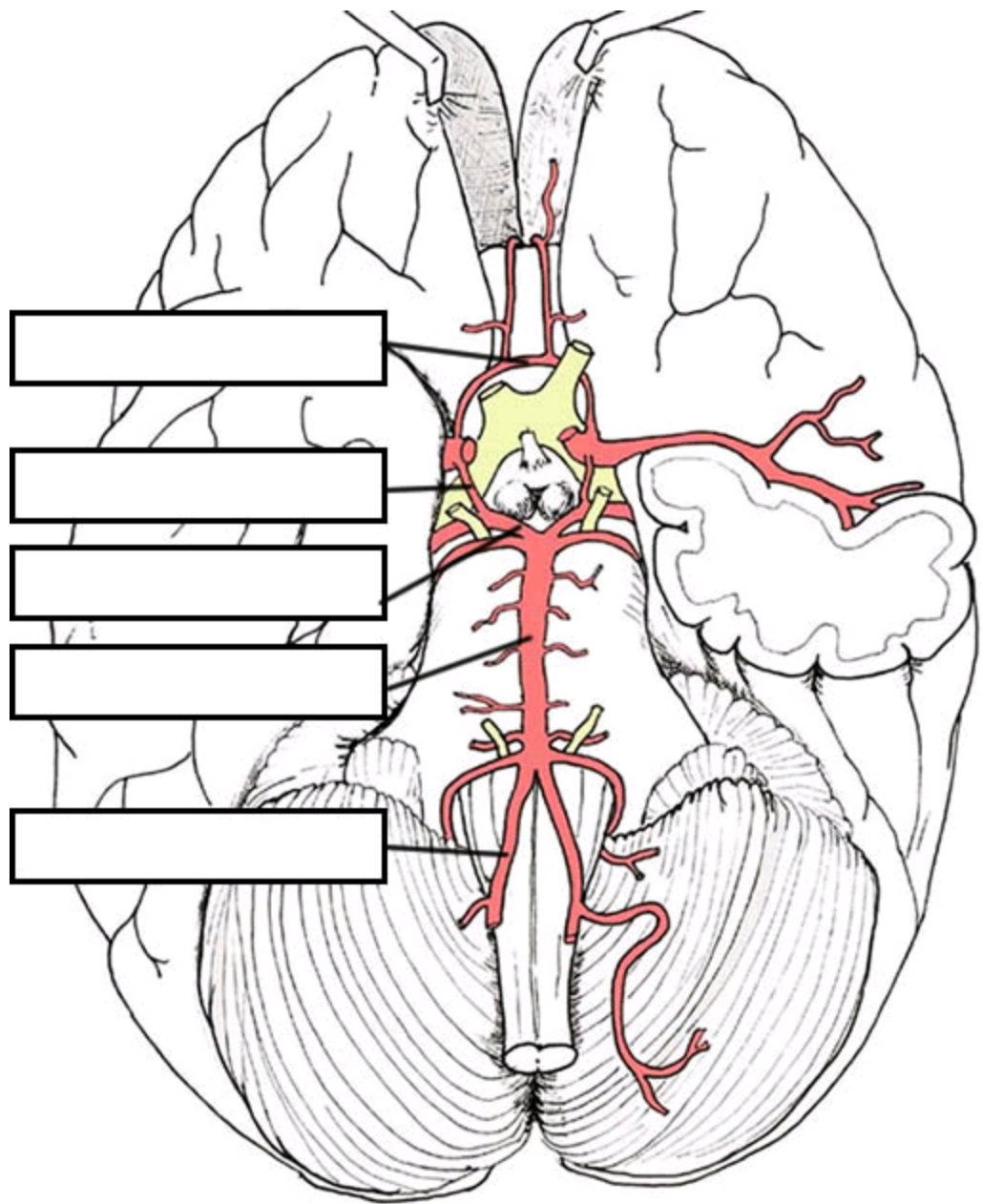
c. they have a \_\_\_\_\_ diameter which helps blood  
flow by

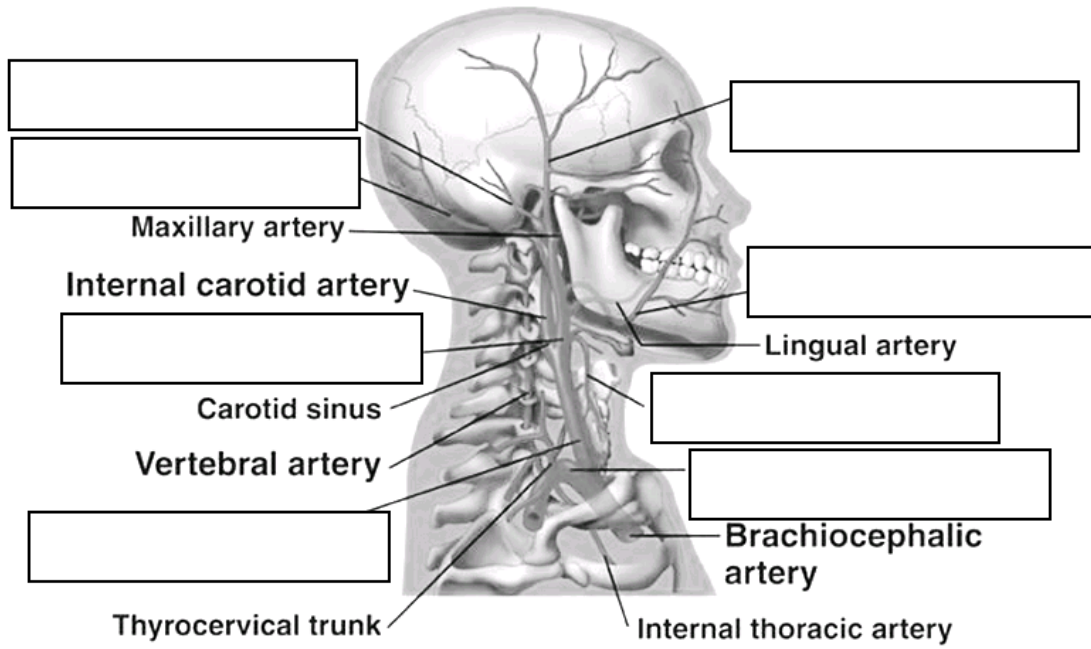
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# Major Blood Vessels of the Body









## Disorders of Blood Vessels

28. Coronary Artery Disease:

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29. Peripheral Artery Disease

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30. Aneurysm

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31. Raynaud's Phenomenon

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32. Peripheral Venous Disease

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33. Deep Vein Thrombosis

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34. Ischemia

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