

BIO 4432 – Human Anatomy*Resource #9*

The concepts this resource covers are the topics typically covered during this week of the semester. If you do not see the topics your particular section of class is learning this week, please take a look at other weekly resources listed on our website for additional topics throughout the semester.

We also invite you to look at the group tutoring chart on our website to see if this course has a group tutoring session offered this semester.

If you have any questions about these study guides, group tutoring sessions, private 30 minute tutoring appointments, the Baylor Tutoring YouTube channel or any tutoring services we offer, please visit our website www.baylor.edu/tutoring or call our drop in center during open business hours. M-Th 9am-8pm on class days 254-710-4135.

Keywords: Arteries, Veins, Circle of Willis, Lymphatic system

Topic of the Week: Arteries, Veins, and Lymphatics

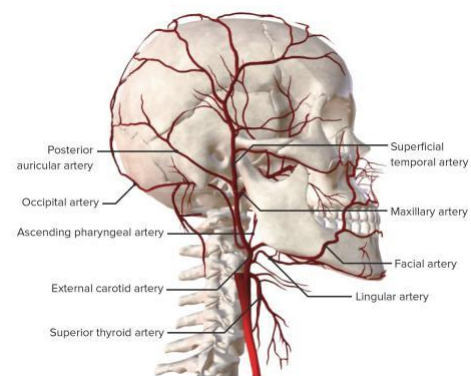
Arteries

Subclavian

- **Vertebral artery:** travels through the transverse foramina of cervical vertebrae
- **Internal thoracic artery:** supplies anterior chest wall and breasts
 - o Branches into anterior intercostal arteries
- **Thyrocervical trunk**
 - o Branches into **inferior thyroid**, suprascapular, and transverse cervical

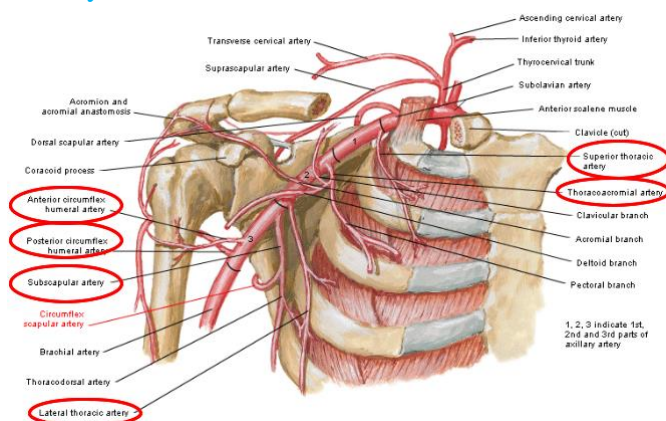
External carotid (Some Anatomists Like Freaking Out Poor Medical Students)

- **Superior thyroid**
- **Ascending pharyngeal**
- **Lingual**
- **Facial**
- **Occipital**
- **Posterior auricular**
- **Maxillary**
 - o Sphenopalatine
 - o **Middle meningeal**
 - o Inferior alveolar
- **Superficial temporal**



This image was taken from Lecturio.

Axillary *This image was taken from ResearchGate.*



Divided into 3 parts:

- 1st part (proximal to pectoralis minor) - **supreme thoracic**
- 2nd part (posterior to pectoralis minor) - **thoracoacromial**
 - **lateral thoracic**
- 3rd part (distal to pectoralis minor)
 - **anterior and posterior humeral circumflex**
 - **subscapular**
 - o thoracodorsal

Femoral artery: supplies muscles of the thigh

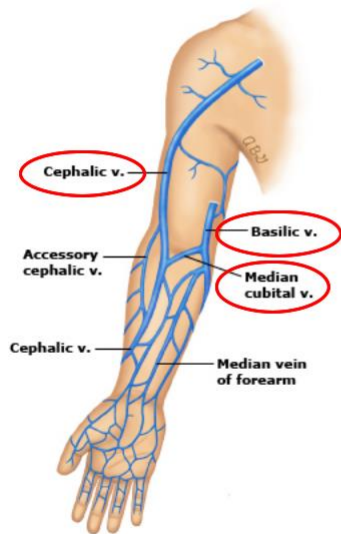
- Deep femoral artery
 - o Medial circumflex femoral: main artery supplying the head and neck of the femur
 - o Lateral circumflex femoral

The **popliteal artery** is a continuation of the femoral artery.

- Anterior tibial
- Posterior tibial
- Genicular arteries (knees)

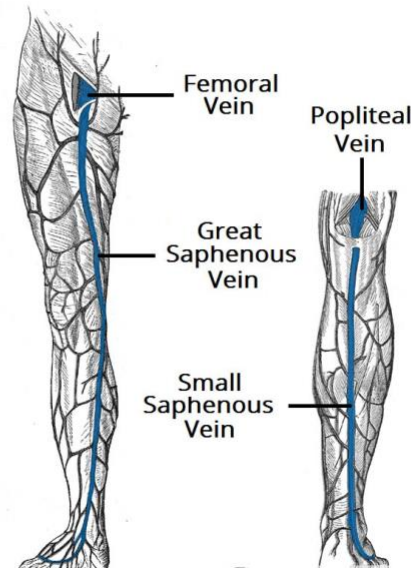
Veins

Superficial veins of the upper limb:



This image was taken from www.uptodate.com.

Superficial veins of the lower limb:



This image was taken from TeachMeAnatomy.info.

Veins of the thorax:

- Azygos vein: drains the right side
- Hemiazygos vein
- Accessory hemiazygos vein

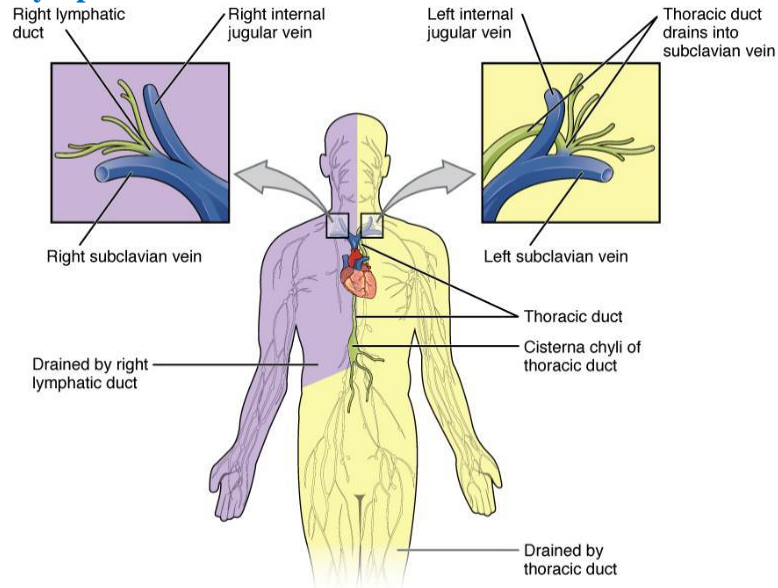
Deep veins of the upper limb: (run with the artery with the same name)

- Brachial
- Axillary
- Subclavian

Deep veins of the lower limb: (run with the artery with the same name)

- Femoral
- Deep femoral
- Popliteal
- Anterior and posterior tibial

Lymphatics



This image was taken from TeachMeAnatomy.com.

The **right lymphatic duct** drains the area colored in **purple**.

The **thoracic duct** drains the area colored in **yellow**.

The **cisterna chyli** drains lymph from the lower limbs and intestines.

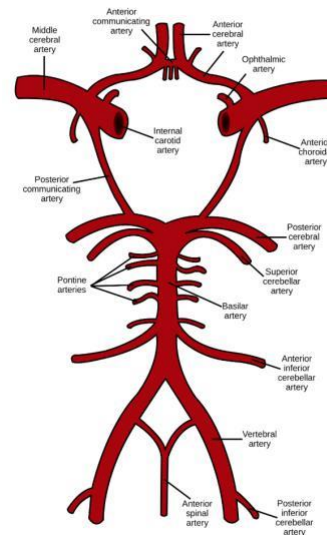
Drainage follows this flow: 2 lumbar trunks + intestinal trunk → cisterna chyli → thoracic duct

Highlight #1: Circle of Willis

The main arteries contributing to the Circle of Willis are the **internal carotid** and **vertebral arteries**.

The arteries that make up the Circle of Willis are:

1. Anterior cerebral
2. Anterior communicating
3. Posterior cerebral
4. Posterior communicating
5. Internal carotid

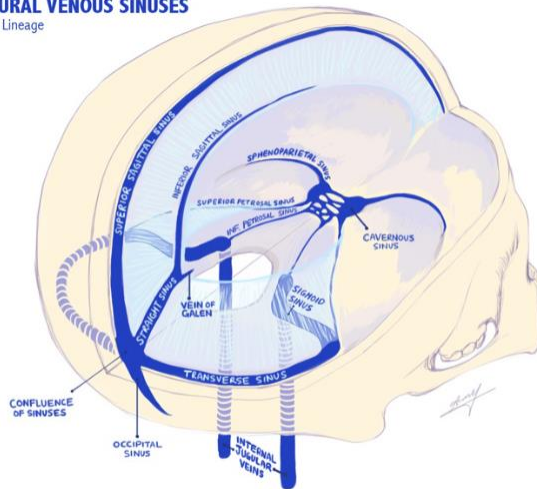


This image was taken from operativeneurosurgery.com

Highlight #2: Dural Venous Sinuses

This video can help you familiarize yourself with the spatial arrangement of the dural venous sinuses: <https://www.youtube.com/watch?v=TX5Fxrg4SD4>

DURAL VENOUS SINUSES
© Lineage



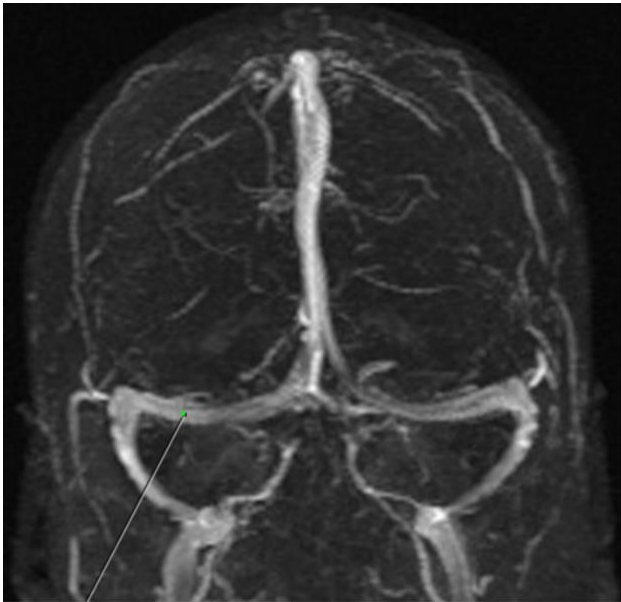
This image was taken from step1.medbullets.com.

The dural venous sinuses drain into the **internal jugular vein**.

- Superior and inferior sagittal sinuses
- Straight sinus
- Transverse sinus
- Sigmoid sinus

Week 12 Knowledge Checkpoint:

1. The brachiocephalic artery divides to form the right common carotid and the ____ ____ artery.
 - a. Left subclavian
 - b. Right subclavian
 - c. Left common carotid
 - d. Right thoracic artery
2. What structure does the vertebral artery travel through?
 - a. Vertebral foramen
 - b. Foramen magnum
 - c. Intervertebral foramen
 - d. Transverse foramen
3. Which lymphatic duct drains lymph from the right leg?
 - a. Right lymphatic duct
 - b. Thoracic duct
4. Name the indicated sinus in this image from Dartmouth.



THINGS YOU MAY STRUGGLE WITH!

1. **Branches of arteries:** Draw a flow chart, starting at the heart, with all the branches of every artery. This will help you visualize the branches and condense the information into an easier to see format. Once you get the general idea of what branches where, look at schematic images and angiograms to familiarize yourself with more realistic structures. Acland's is always a good resource!
2. **Circle of Willis:** Look at angiograms and models of this in Complete Anatomy! There is a feature that lets you look at an angiogram of the structures side by side with the model.

CONGRATS: You made it to the end of the resource! Thanks for checking out these weekly resources! Don't forget to check out our website for group tutoring times, video tutorials and lots of other resources: www.baylor.edu/tutoring!

Answers

1. b
2. d
3. b
4. transverse sinus