

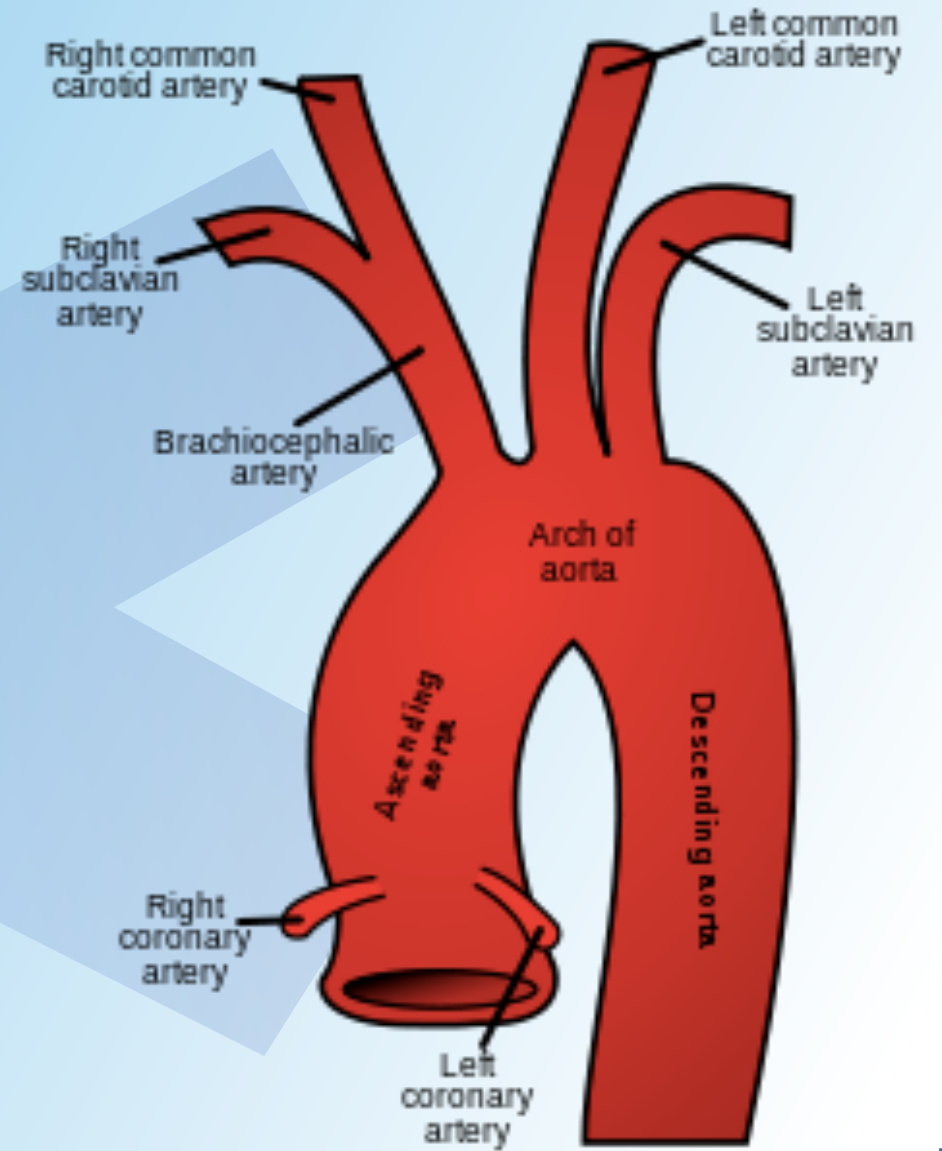
Blood Supply of the Head and Neck

Saturday October 27th 2018

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Blood supply

- **Artery** = blood flowing away from the heart
- Left side vs right side



Common carotid arteries

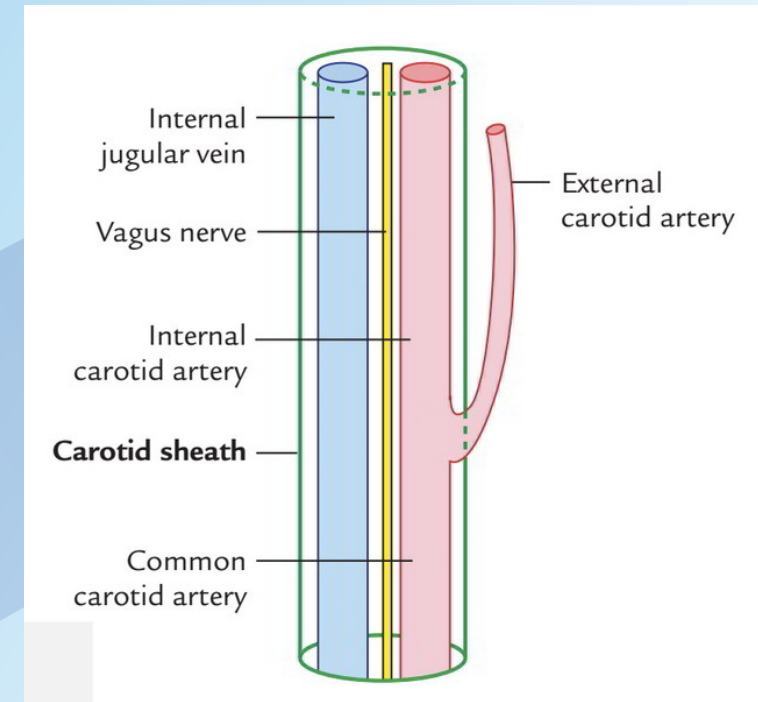
Internal carotid artery

- NO branches in the neck
 - ♥ Internal jugular vein + vagus + internal carotid artery = common carotid sheath ♥

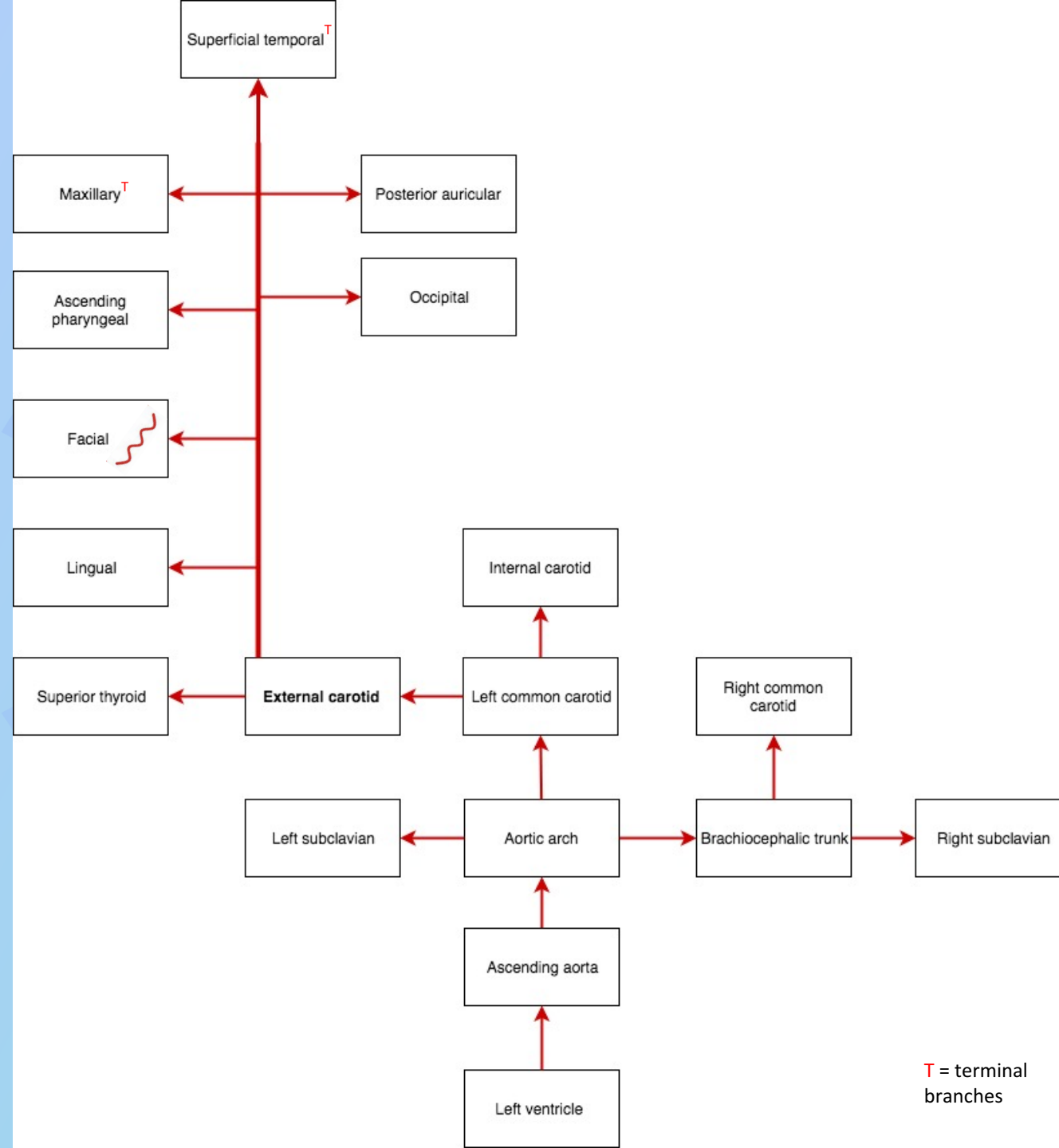
- Carotid sinus
 - Regulates BP
- Carotid bodies
 - Chemoreceptors

Nerve to carotid body of pharyngeal branch of vagus n. (CN X)

Carotid sinus branch of glossopharyngeal n. (CN IX)



External carotid artery



1-2-3

One branch arises medially

- Ascending pharyngeal

Two branches arise posteriorly

- Occipital

- Posterior auricular

Three branches arise anteriorly

- Superior thyroid

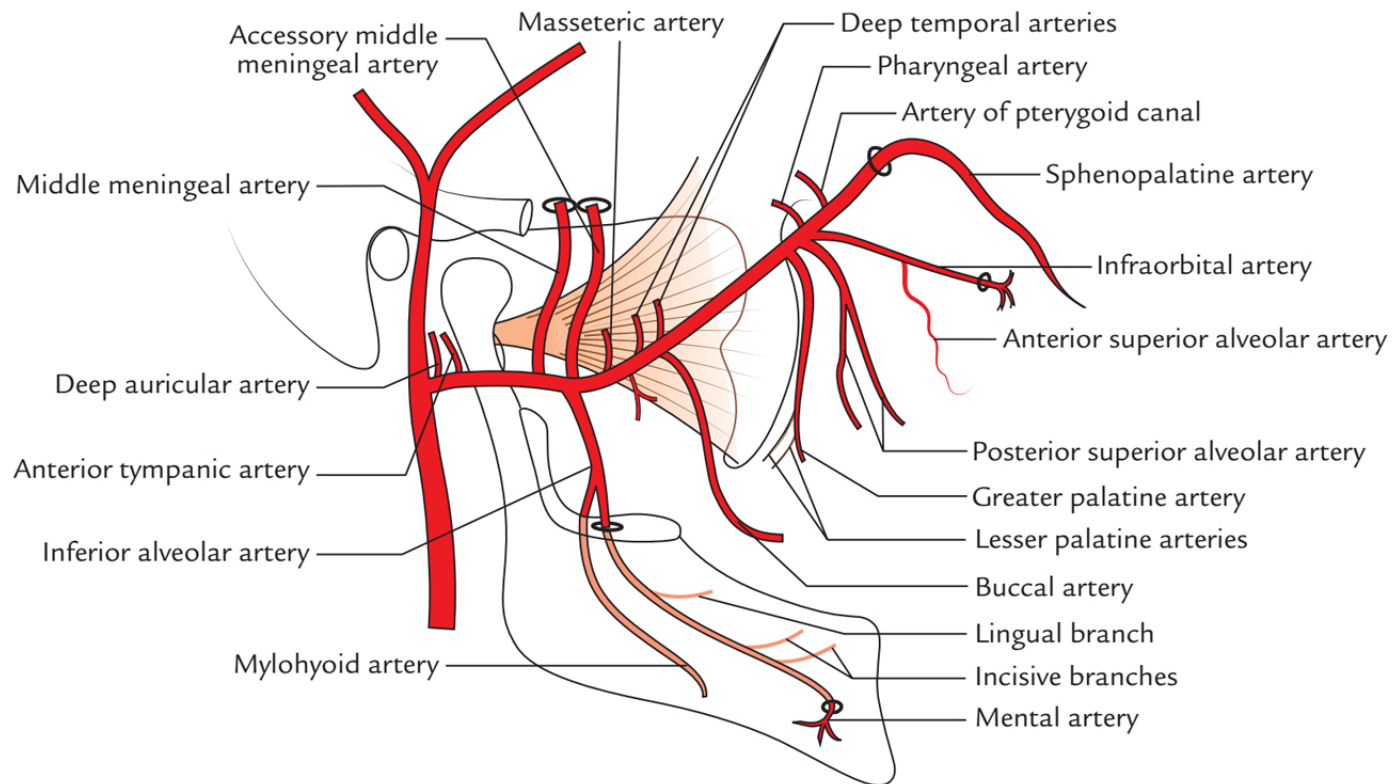
- Lingual

- Facial

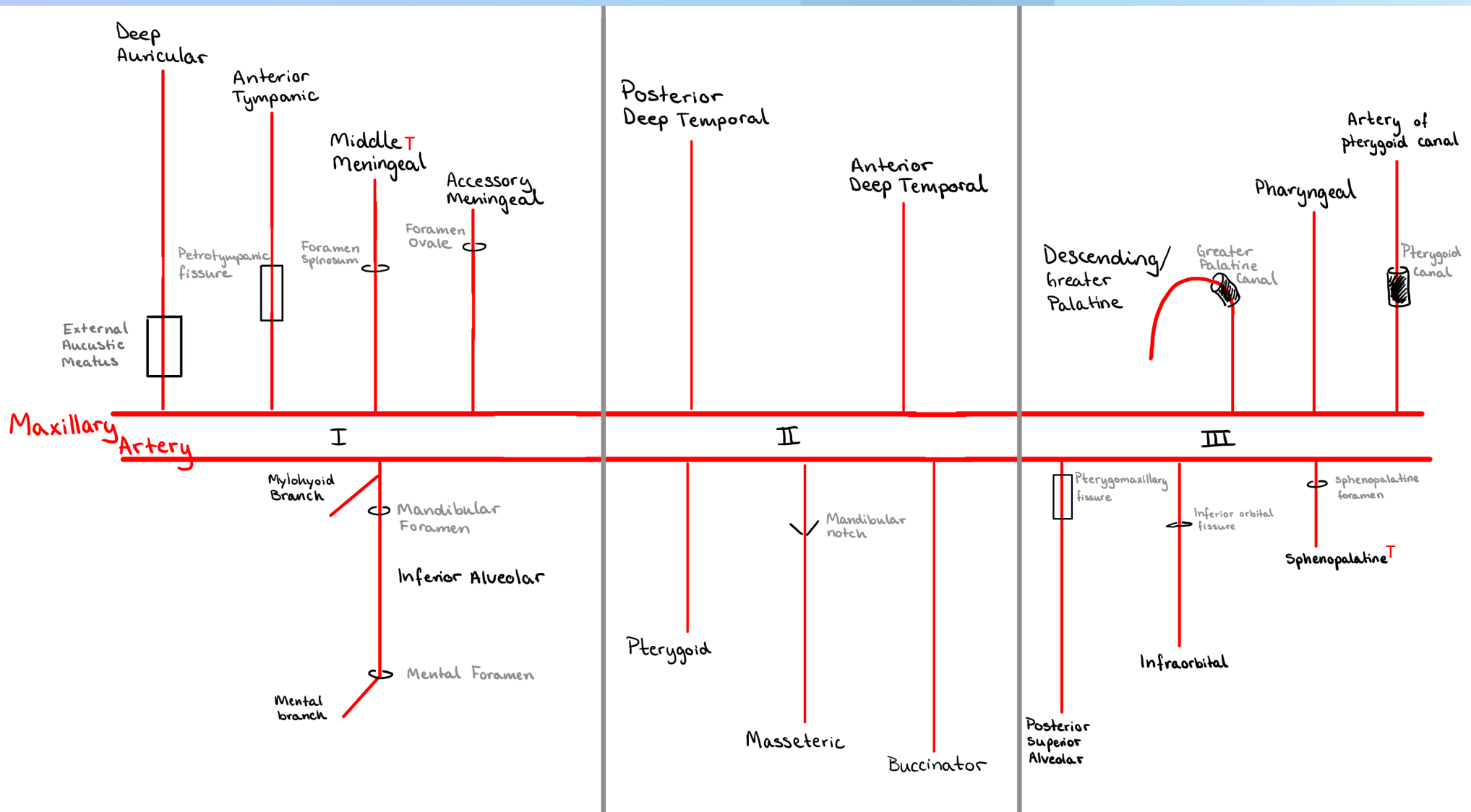
Some
Ancient
Lovers
Find
Old
Positions
More
Stimulating

T = terminal branches

Maxillary artery



- **1st Mandibular part**
 - 5 branches
 - Retromandibular foramen
- **2nd Pterygoid part**
 - 5 branches
 - Infratemporal foramen
- **3rd Pterygopalatine part**
 - 6 branches
 - Pterygopalatine foramen



Retromandibular foramen

Infratemporal foramen

Pterygopalatine foramen

5

Deep	dogs
Auricular	are
Anterior	always
Tympanic	trying (to)
Middle	mount
Meningeal	my
Accessory	aunt
Meningeal	margaret's
Inferior	inner
Aveolar	ankle

5

Posterior	people
Deep	don't
Temporal	tend (to)
Anterior	always
Deep	display
Temporal	the
Pterygoid	proper
Masseteric	mail
Buccinator	boxes

6

Descending	Dear
Palatine	pastor
Pharyngeal	preach
Artery of	about
Pterygoid	porn
Canal	cause
Posterior	proper
Superior	sex
Alveolar	always
Infraorbital	is
Sphenopalatine	sacred

Which branch arises from the second portion of the maxillary artery?

- a. Anterior tympanic
- b. Buccal artery
- c. Middle meningeal artery
- d. Pharyngeal artery

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1st

2nd

1st

3rd



DAM I AM Piss Drunk But Stupid Drunk I Prefer, Must Phone Alcoholics Anonymous

- **D**ep auricular artery
- **A**nterior tympanic artery
- **M**iddle meningeal artery
- **I**nferior alveolar
- **A**ccessory meningeal artery
- **M**asseteric artery
- **P**terygoid artery
- **D**eep temporal artery
- **B**uccinator artery
- **S**phenopalatine artery
- **D**escending (great) palatine artery
- **I**nfraorbital artery
- **P**osterior superior alveolar artery
- **M**iddle superior alveolar artery
- **P**haryngeal artery
- **A**nterior superior alveolar artery
- **A**rtery of pterygoid canal

Maxillary artery gives rise to all of the following except?

- a. Infraorbital
- b. Submental
- c. Anterior tympanic
- d. Inferior alveolar
- e. Middle meningeal artery

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- b. Submental**
- c. Anterior tympanic
- d. Inferior alveolar
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Submental is a branch off of the facial artery 😊

Facial artery



- Cervical part
 - Ascending palatine artery
 - Tonsillar branch
 - Submental artery
 - Glandular branches
- Facial part
 - Inferior labial artery
 - Superior labial artery
 - Lateral nasal branch
 - Angular artery^T

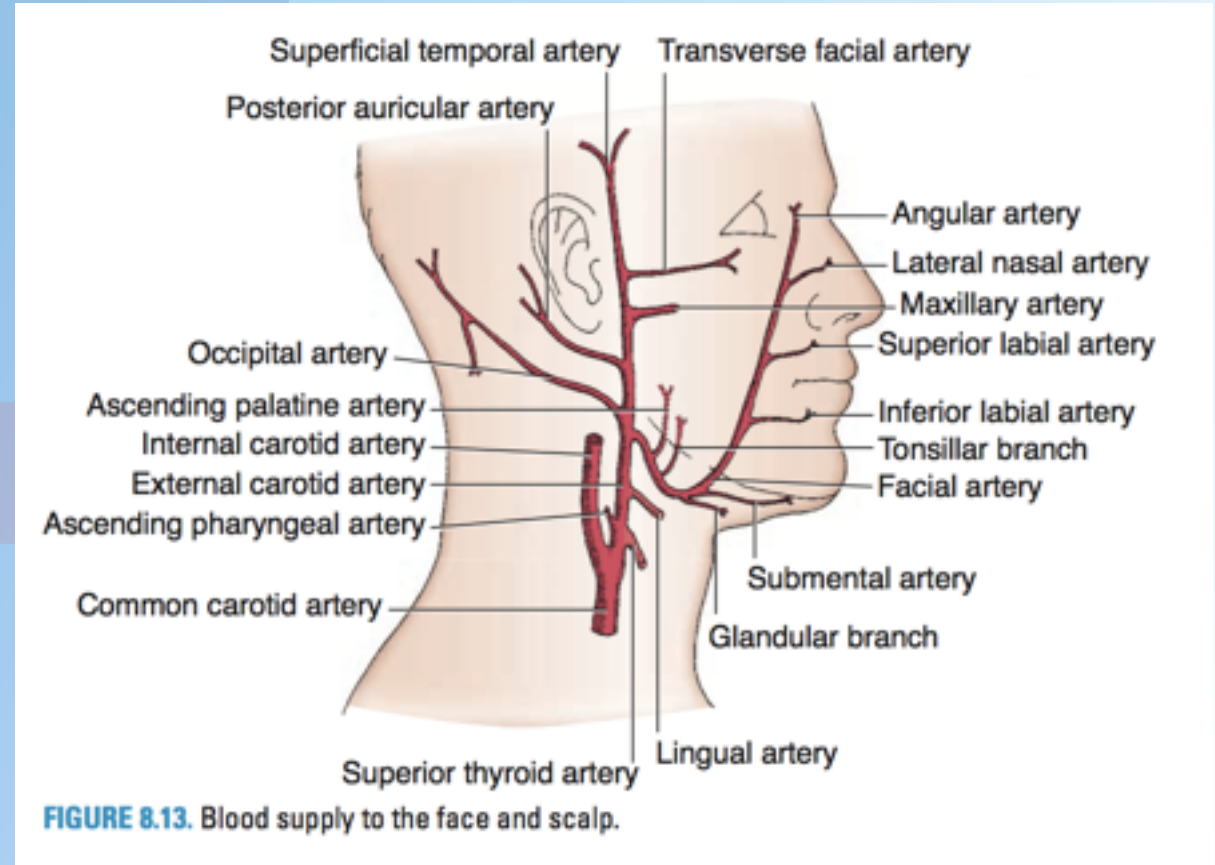
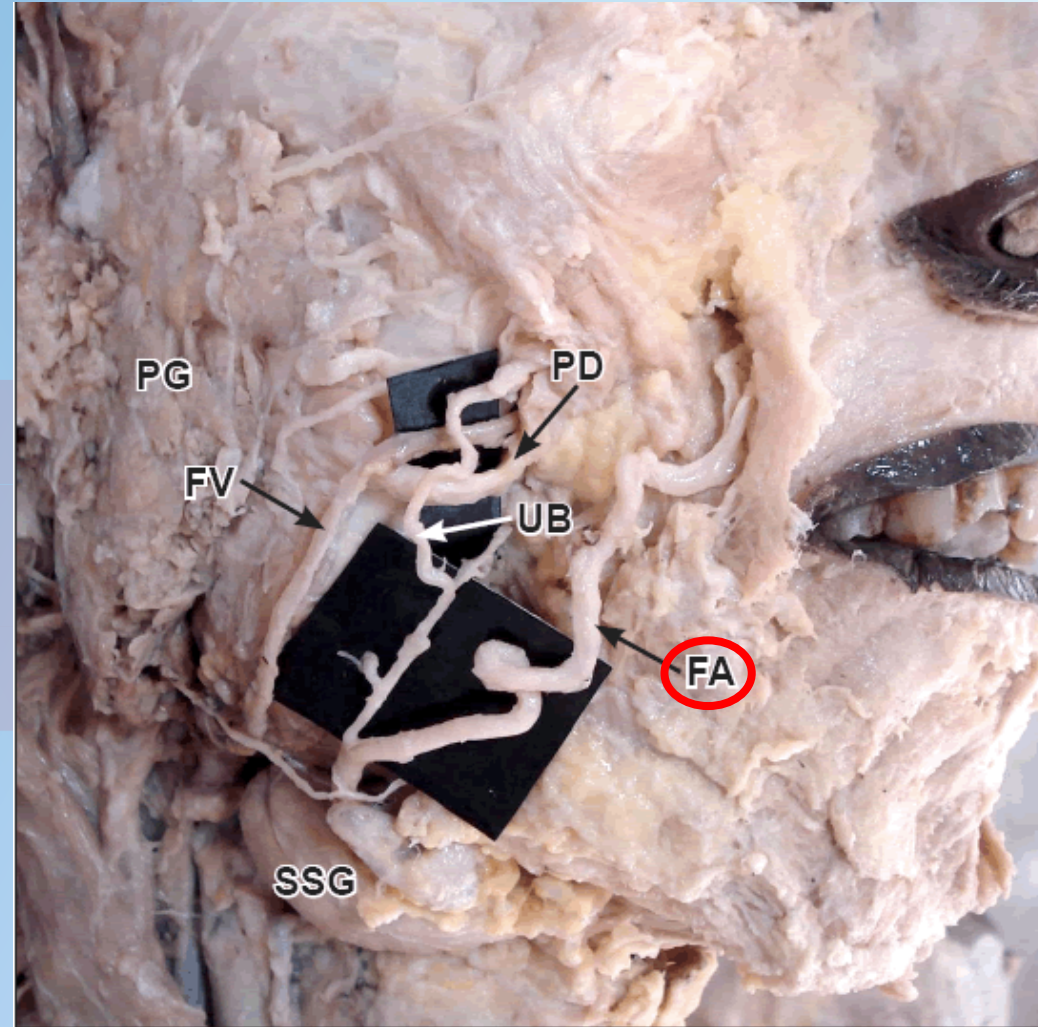


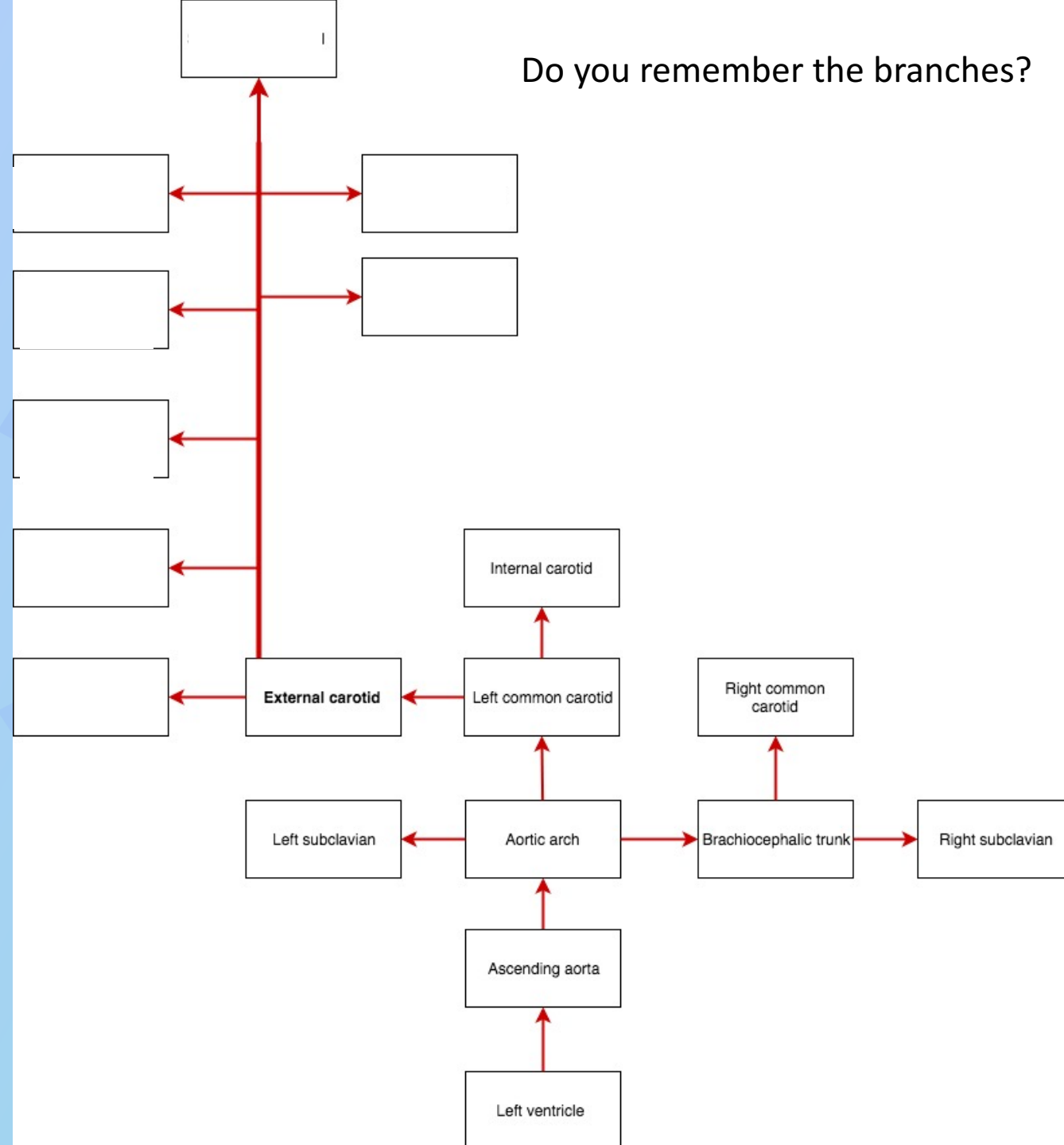
FIGURE 8.13. Blood supply to the face and scalp.

Practical note!

Remember arteries are not red!

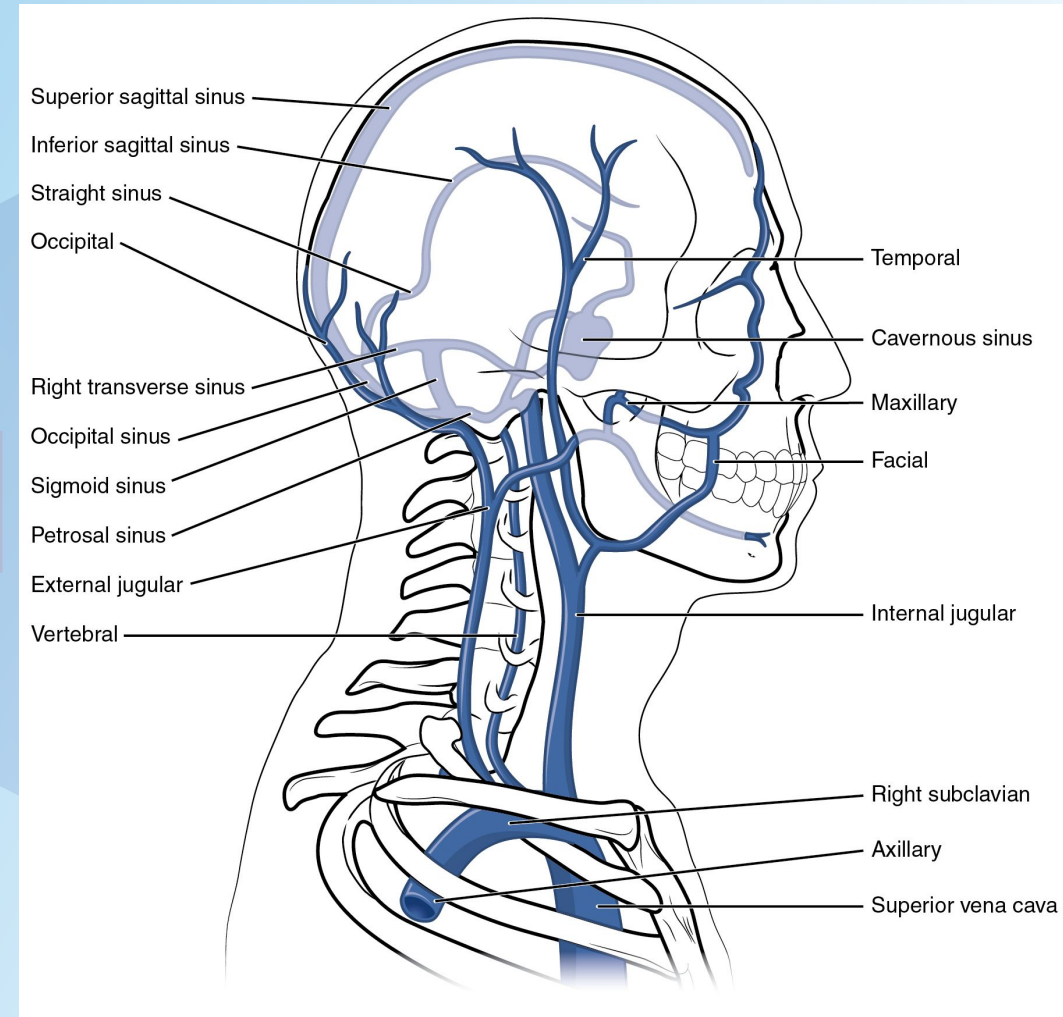


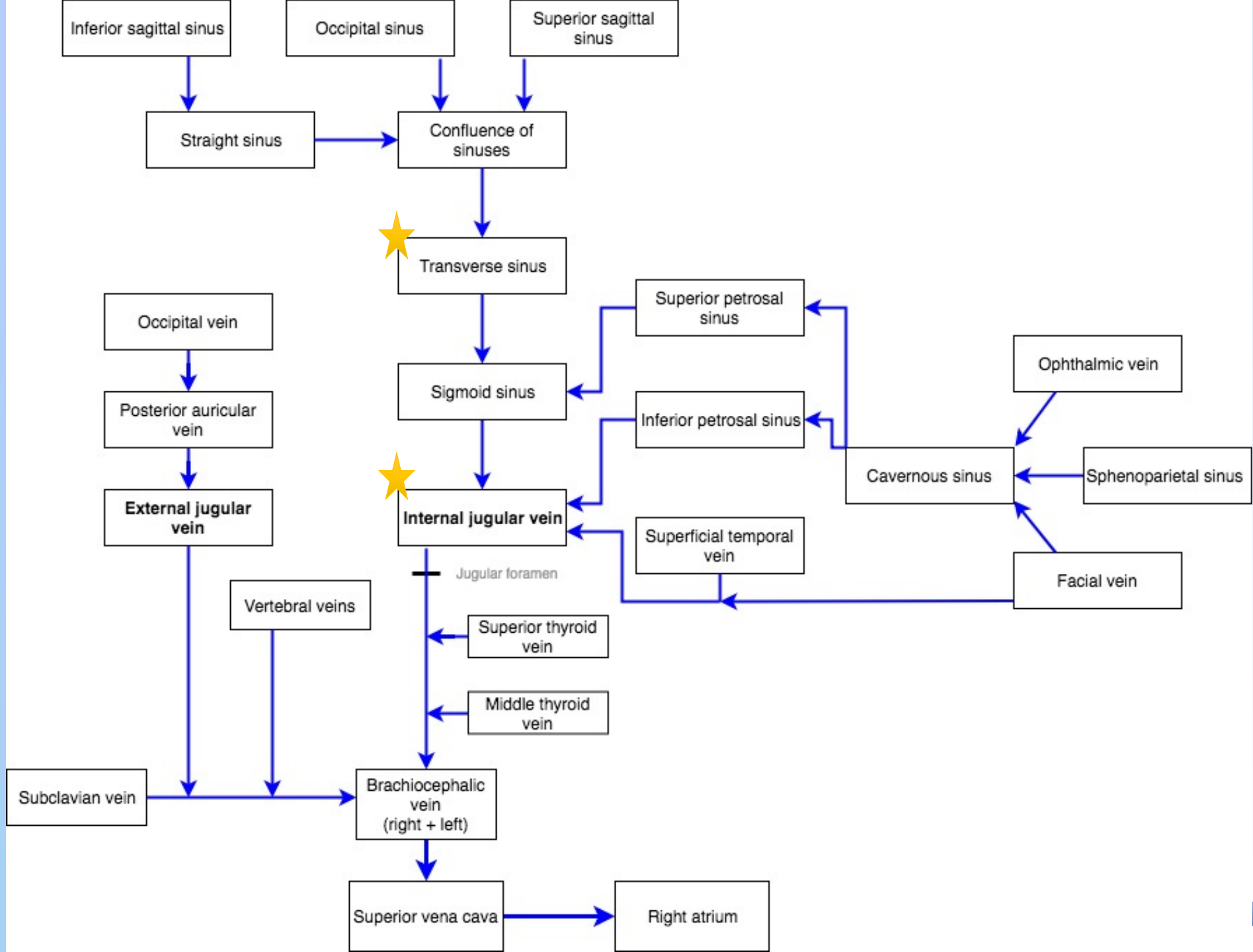
Do you remember the branches?

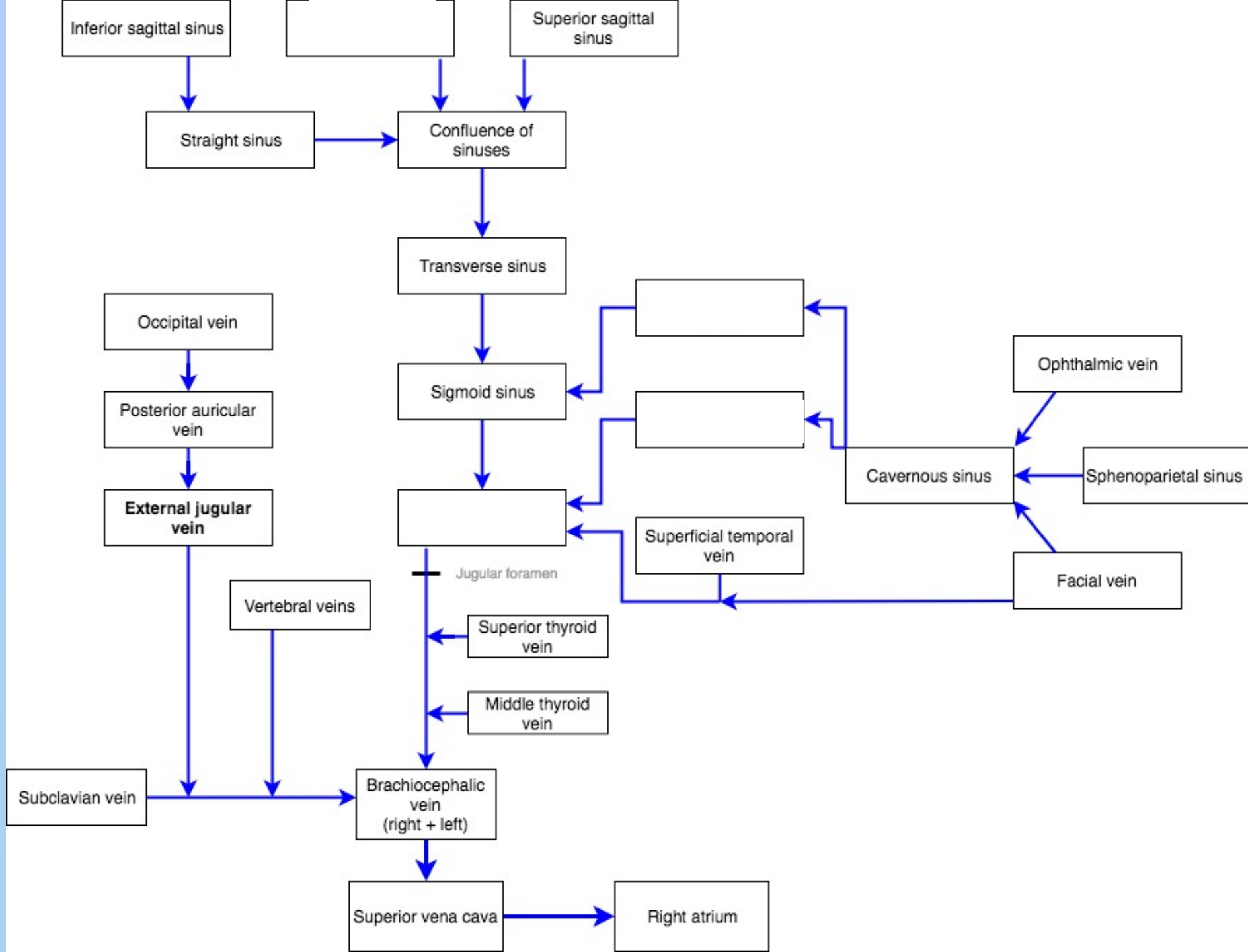


Venous drainage

- **Vein** = blood flowing towards the heart
- **Sinus** = a sac or cavity in any organ or tissue
- The brain and meninges
 - Dural venous sinuses
- The scalp and face
 - Veins synonymous with arteries of the face and scalp → internal and external jugular veins
- The neck
 - Anterior jugular veins

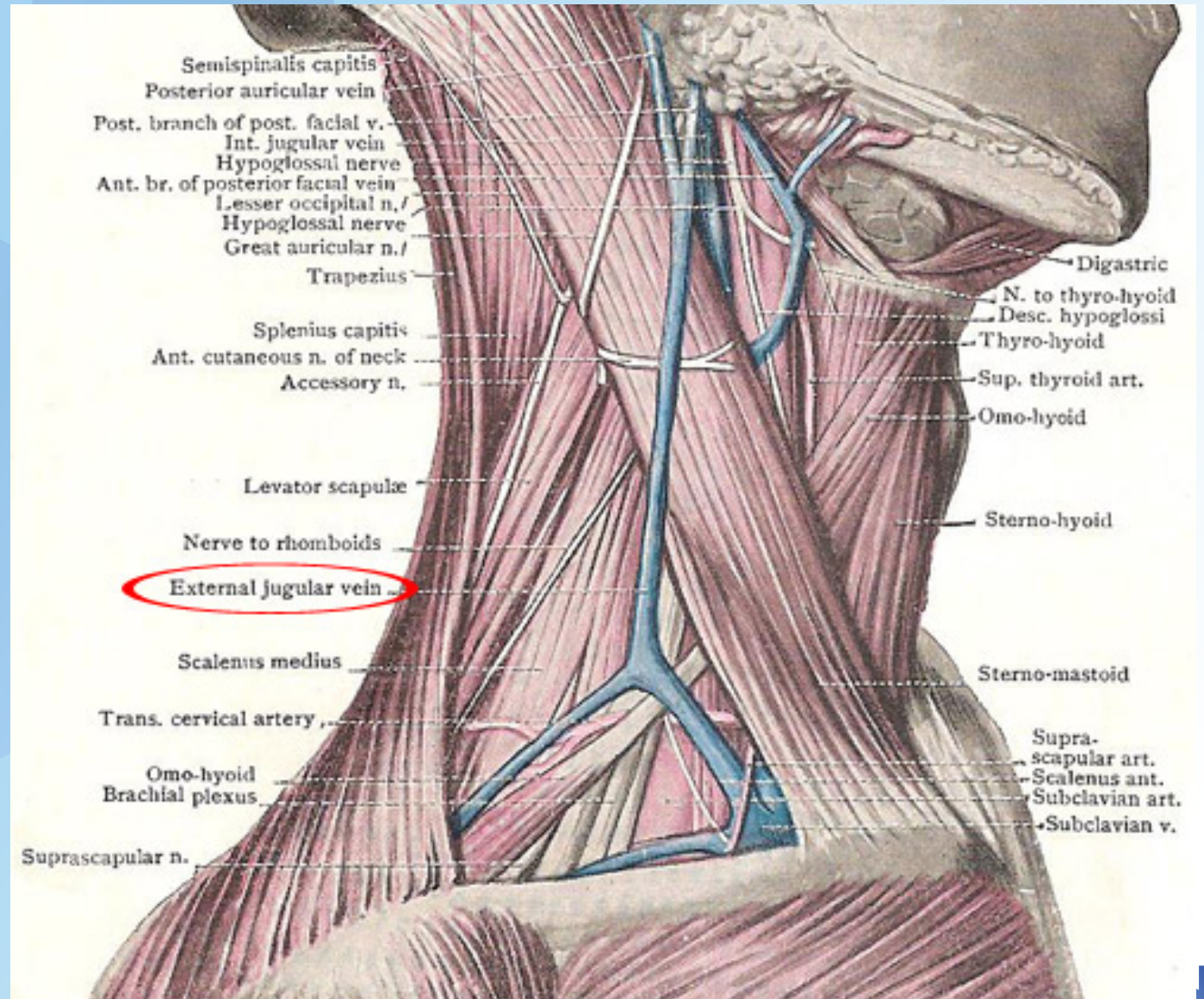


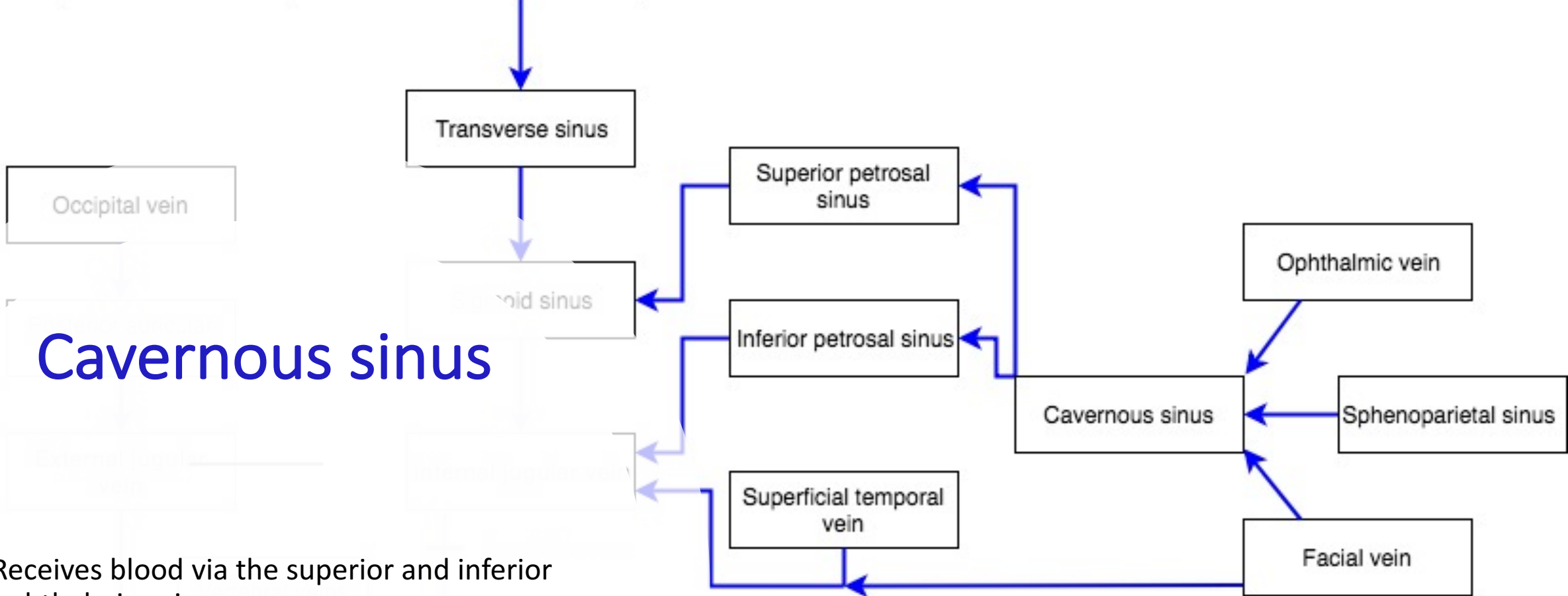




A little practical note

Remember veins are not actually blue!!





Cavernous sinus

- Receives blood via the superior and inferior ophthalmic vein
- Drains into the the superior and inferior petrosal sinuses
- Connects with the pterygoid venous plexus

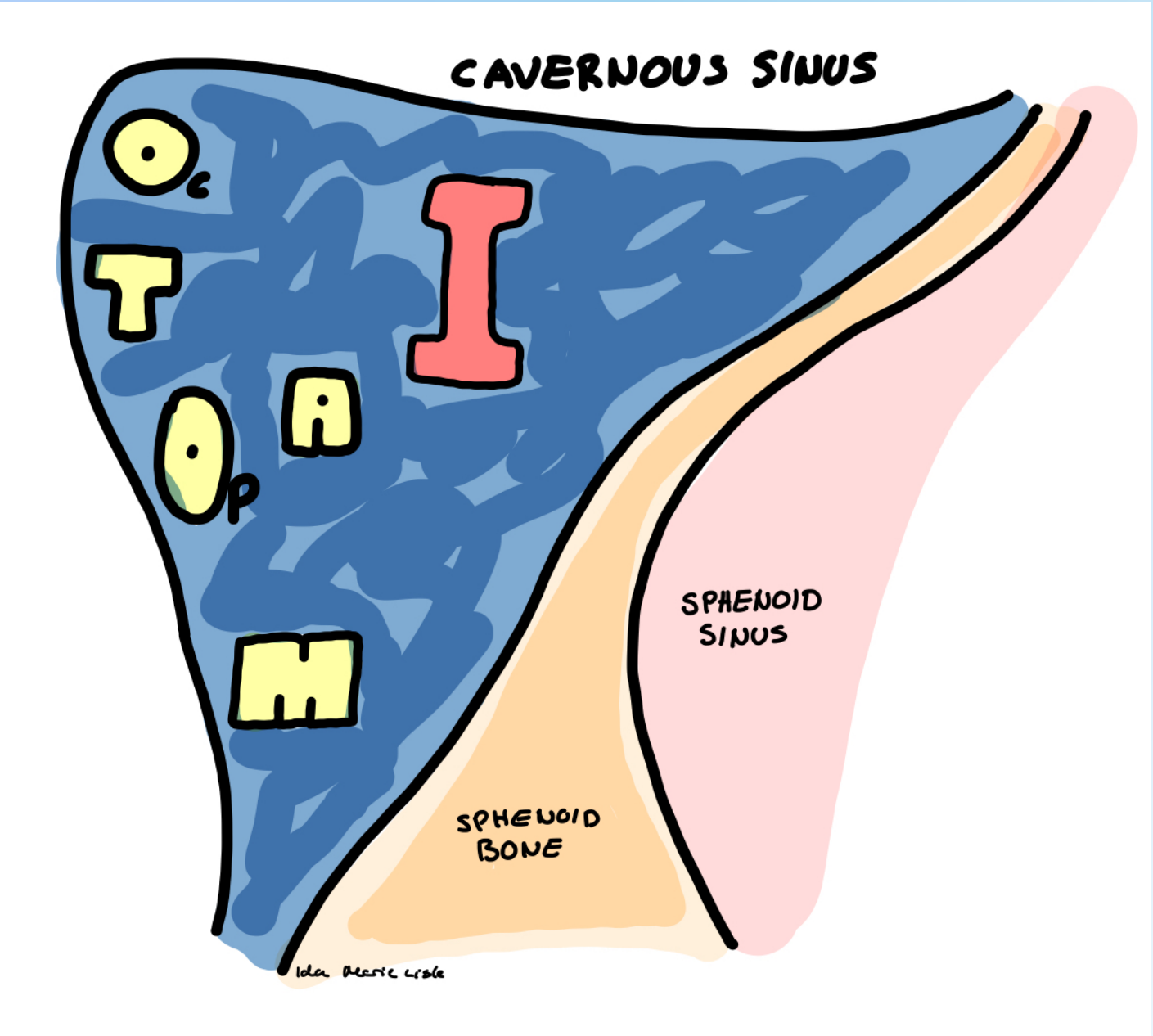
Oculomotor nerve, III

Trochlear nerve, IV

Ophthalmic nerve, V₁

Abducens nerve, VI

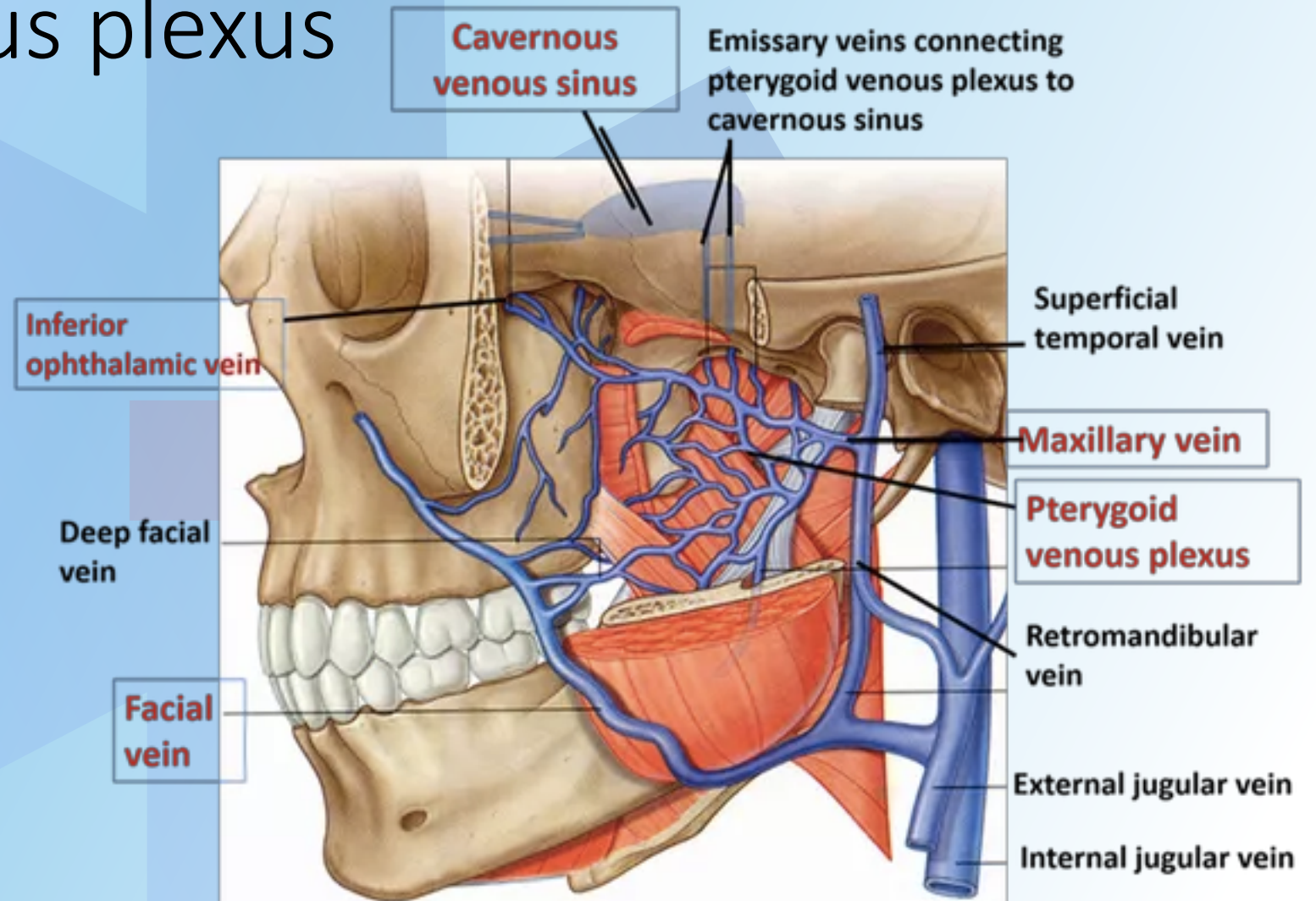
Maxillary nerve, V₂



Internal carotid artery

Pterygoid venous plexus

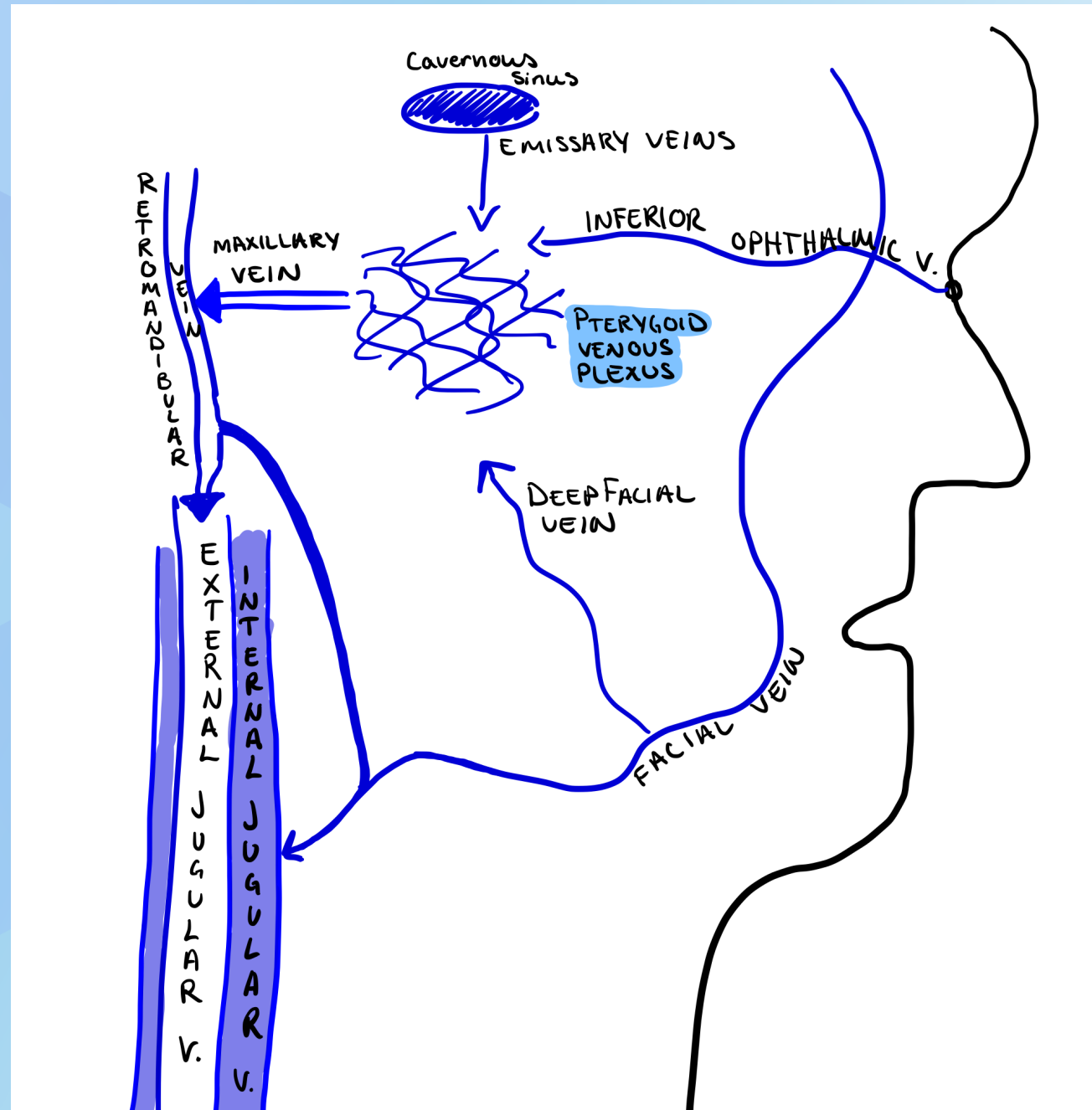
- Pterygoid plexus receives tributaries corresponding with the branches of the **maxillary artery**
- Pterygoid plexus → maxillary vein



Let's draw...

Remember!
"3 in 1 out"

Do
It
Easy,
Mom

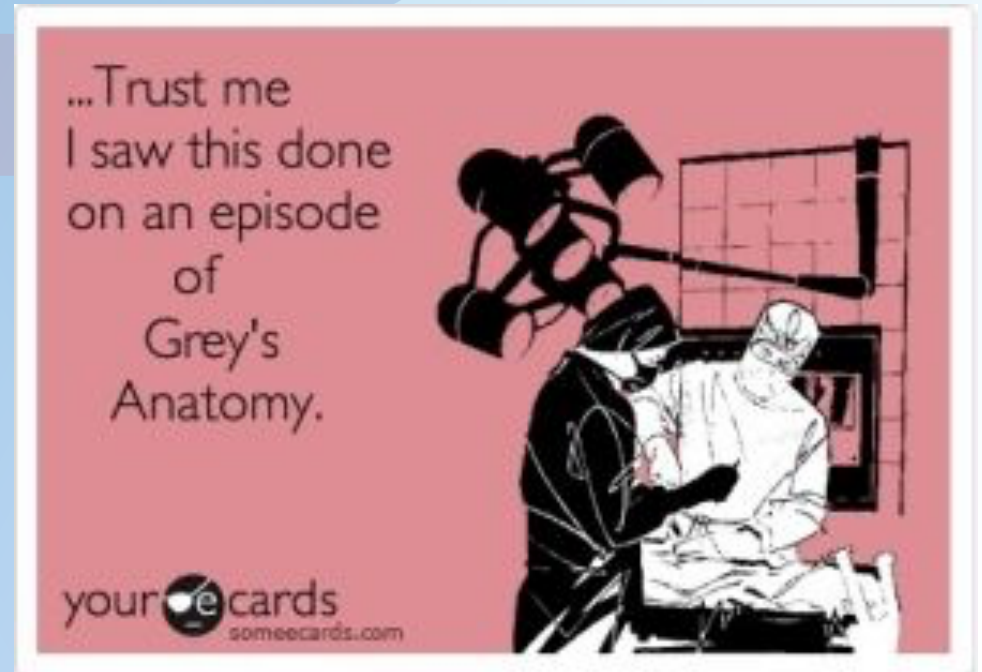


Which of the two dural venous sinuses unite to form the internal jugular vein?

- a. superior and inferior sagittal
- b. superior and inferior petrosal
- c. superior petrosal and cavernous
- d. inferior petrosal and sigmoid
- e. transverse and sigmoid

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Clinical notes

Epidural hematoma

- Fracture of the squamous part of the temporal bone can cause rupture of the middle meningeal arteries

Subdural hematoma

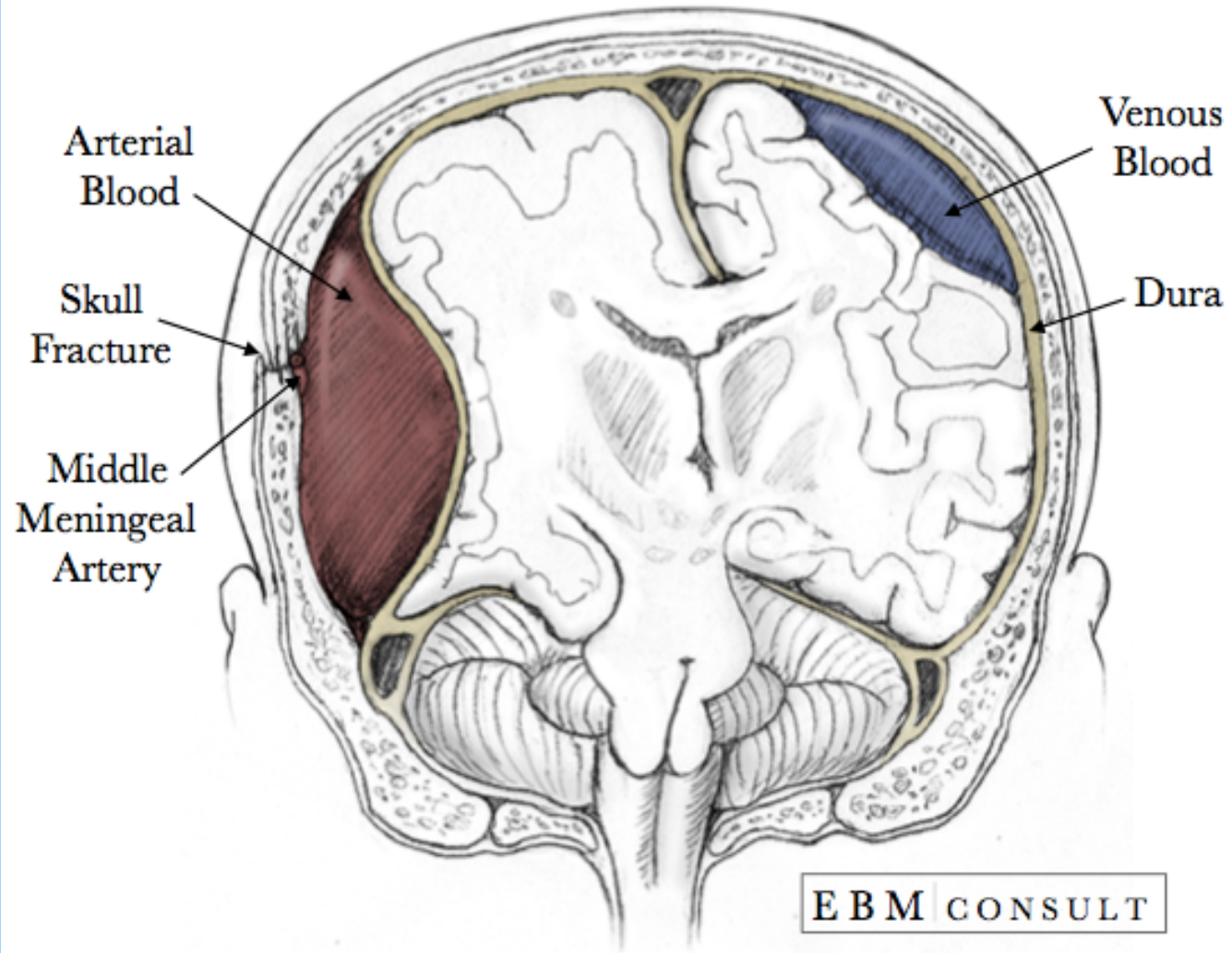
- Rupture of the bridging cerebral veins as they pass from the brain to the venous sinuses
 - Due to a blow to the front or back of the head

Epidural Hematoma

(Does Not Cross Suture Line)

Subdural Hematoma

(Crosses Suture Line)



Useful videos

- Branches of maxillary artery
 - <https://www.youtube.com/watch?v=SyLtfcri-cl>
- Blood supply head and neck
 - <https://www.youtube.com/watch?v=kJf8wdJPZeQ&t=337s>
- Venous drainage of head and neck
 - <https://www.youtube.com/watch?v=S5auxUantv0>

