

Blood Supply of Head & Neck

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Objectives

- Enlist the major arteries supplying head and neck.
- How common carotid arteries take origin.
- Enlist important relations of common carotid arteries.
- Describe the relations and branches of external carotid artery.
- Describe the relations and branches of subclavian artery.
- Enlist the major veins supplying head and neck.
- Discuss the formation of external and internal jugular veins.
- Describe the tributaries of external and internal jugular veins.

Arteries of Head & Neck

- Common Carotid Artery
- External Carotid Artery
- Internal Carotid Artery
- Subclavian Artery

Common Carotid Arteries

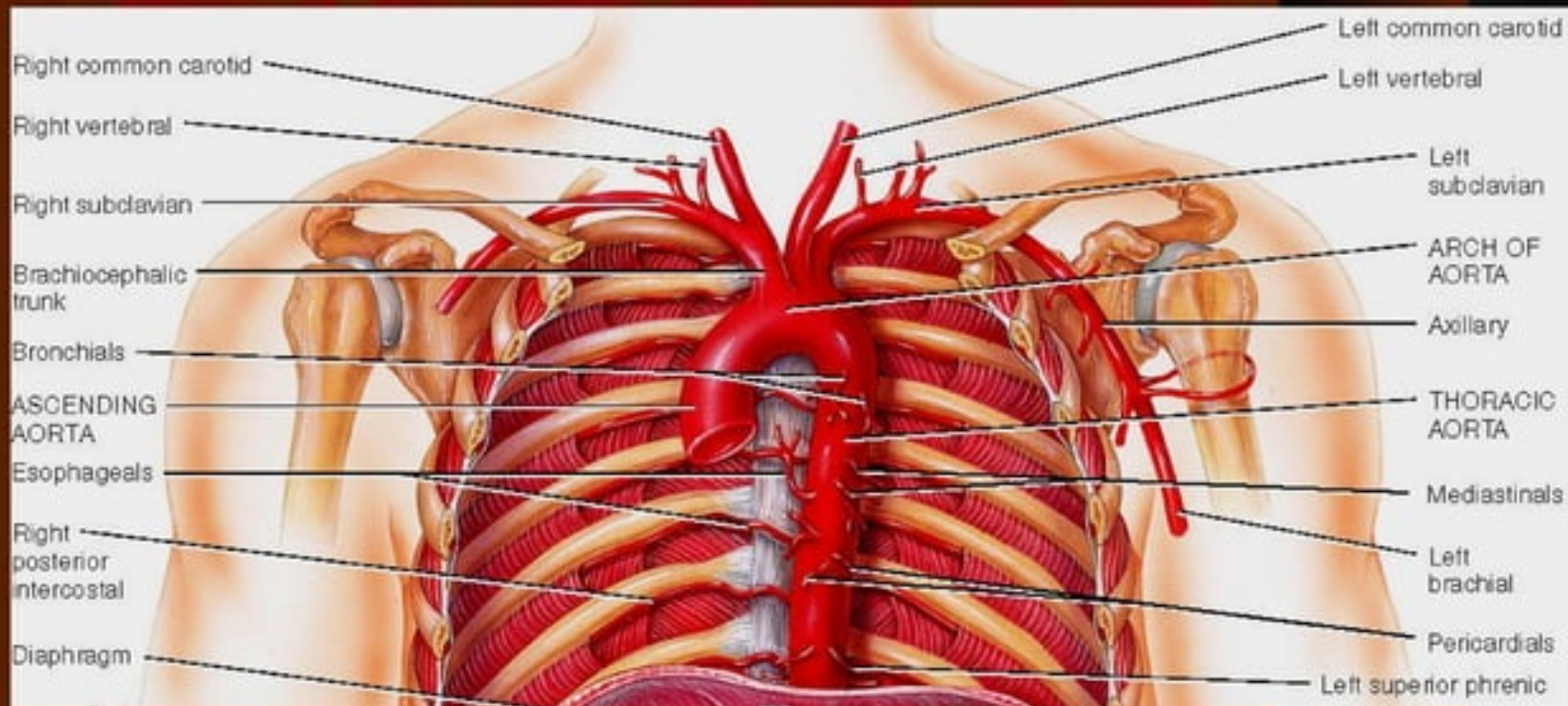
Right Common Carotid Artery:

- Arises from brachiocephalic artery
(Behind right sternoclavicular joint)

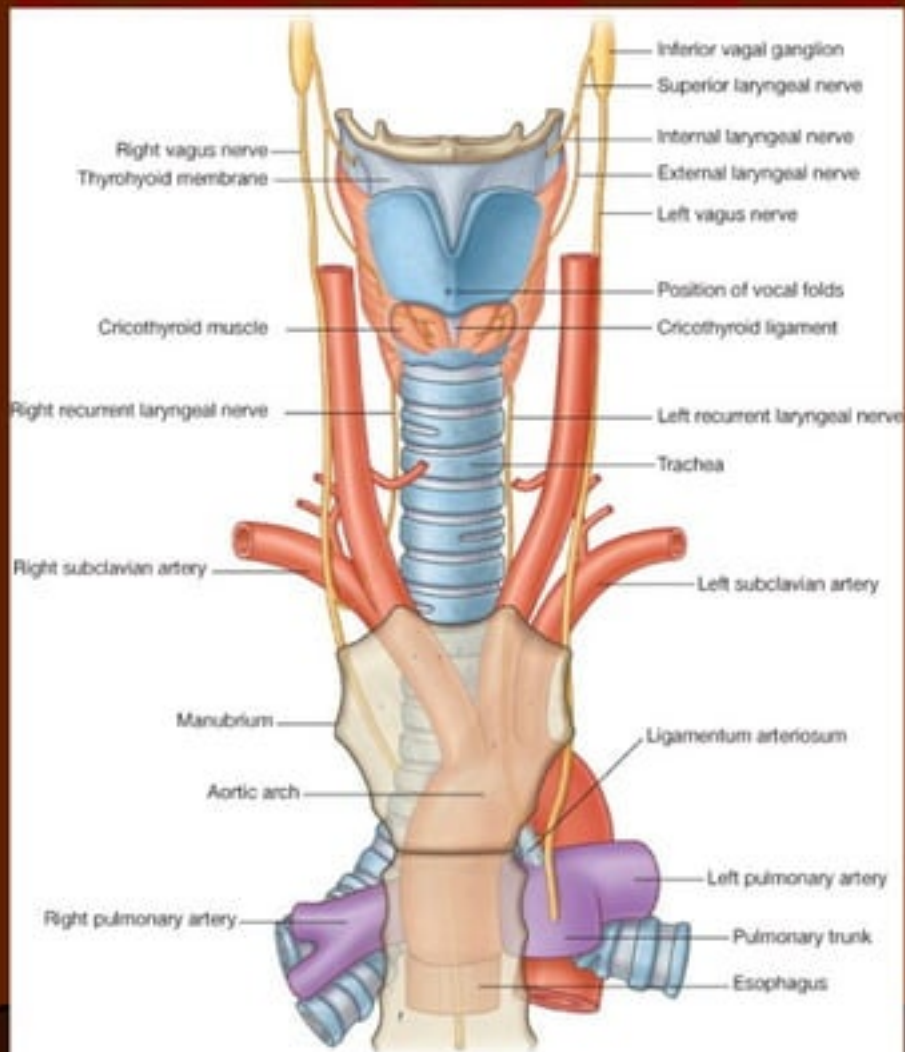
Left Common Carotid Artery:

- Arises from Arch of Aorta
- Runs upwards in the neck from sternoclavicular joint to upper border of thyroid cartilage

Common Carotid Arteries



Common Carotid Arteries



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Relations of Common Carotid Artery

Anterolaterally:

- Sternocleidomastoid
- Sternohyoid
- Sternothyroid
- Superior belly of omohyoid

Posteriorly:

- Prevertebral muscles

Medially:

- Larynx
- Pharynx

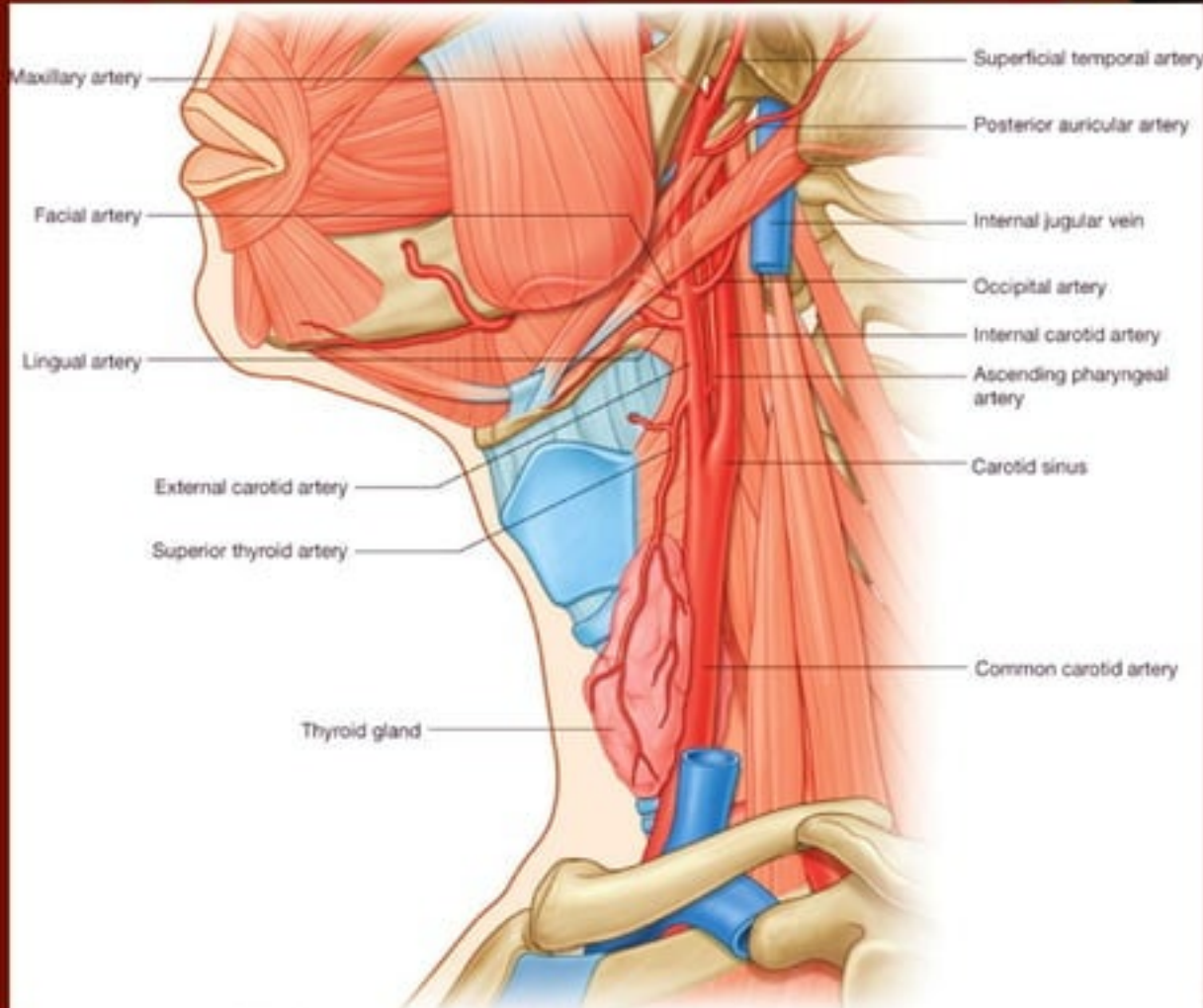
Laterally:

- Internal jugular vein

Branches of Common Carotid Artery

- External Carotid Artery
- Internal Carotid Artery

Common Carotid Arteries



External Carotid Artery

- Begins at the level of upper border of thyroid cartilage
- Terminates in the substance of the parotid gland behind the neck of mandible by dividing into:
 - Superficial temporal artery
 - Maxillary artery

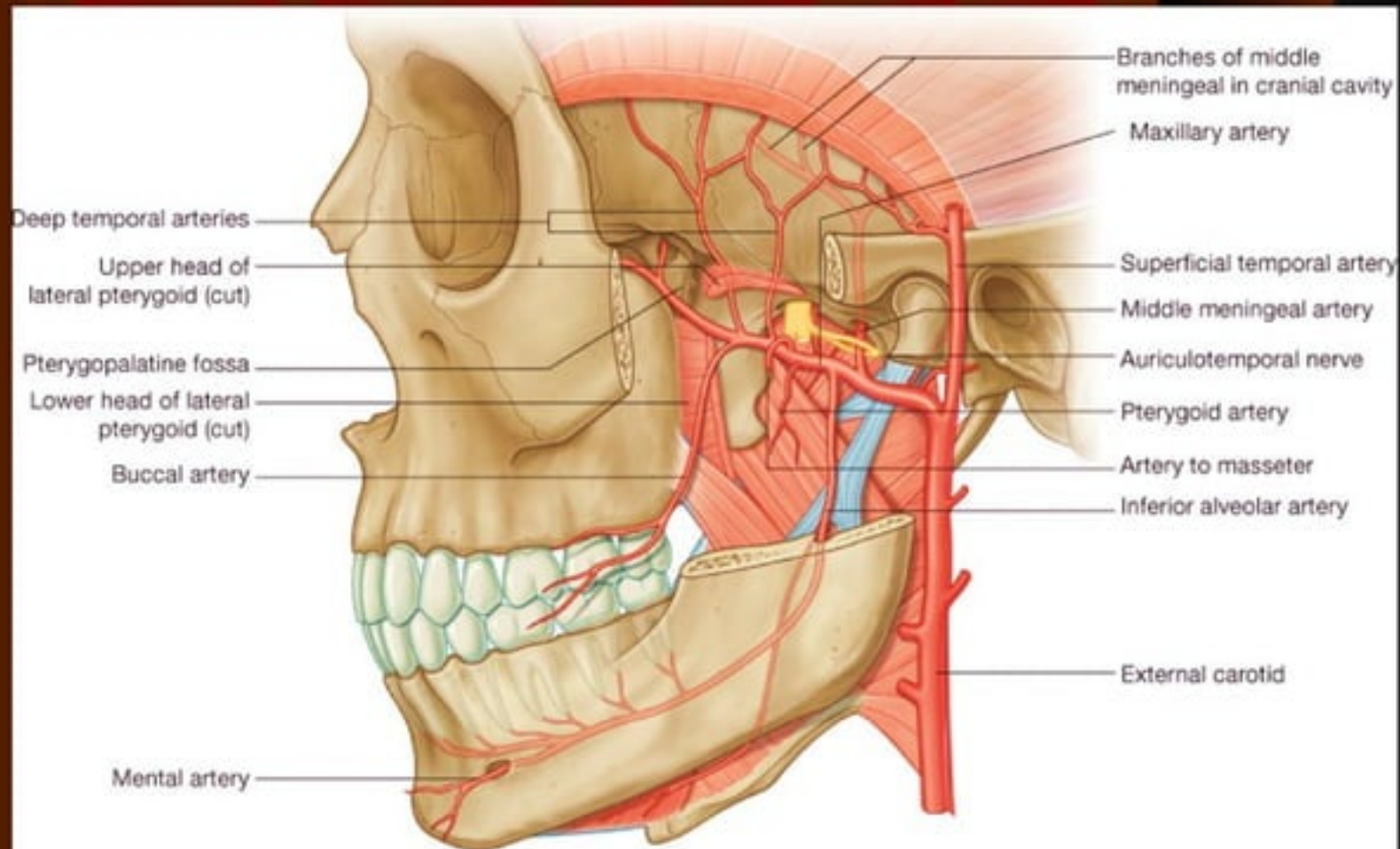
Supply of External Carotid Artery

- Neck
- Face
- Scalp
- Tongue
- Maxilla

Branches of External Carotid Artery

- Superior thyroid artery
- Ascending pharyngeal artery
- Lingual artery
- Facial artery
- Occipital artery
- Posterior auricular artery
- Superficial temporal artery
- Maxillary artery

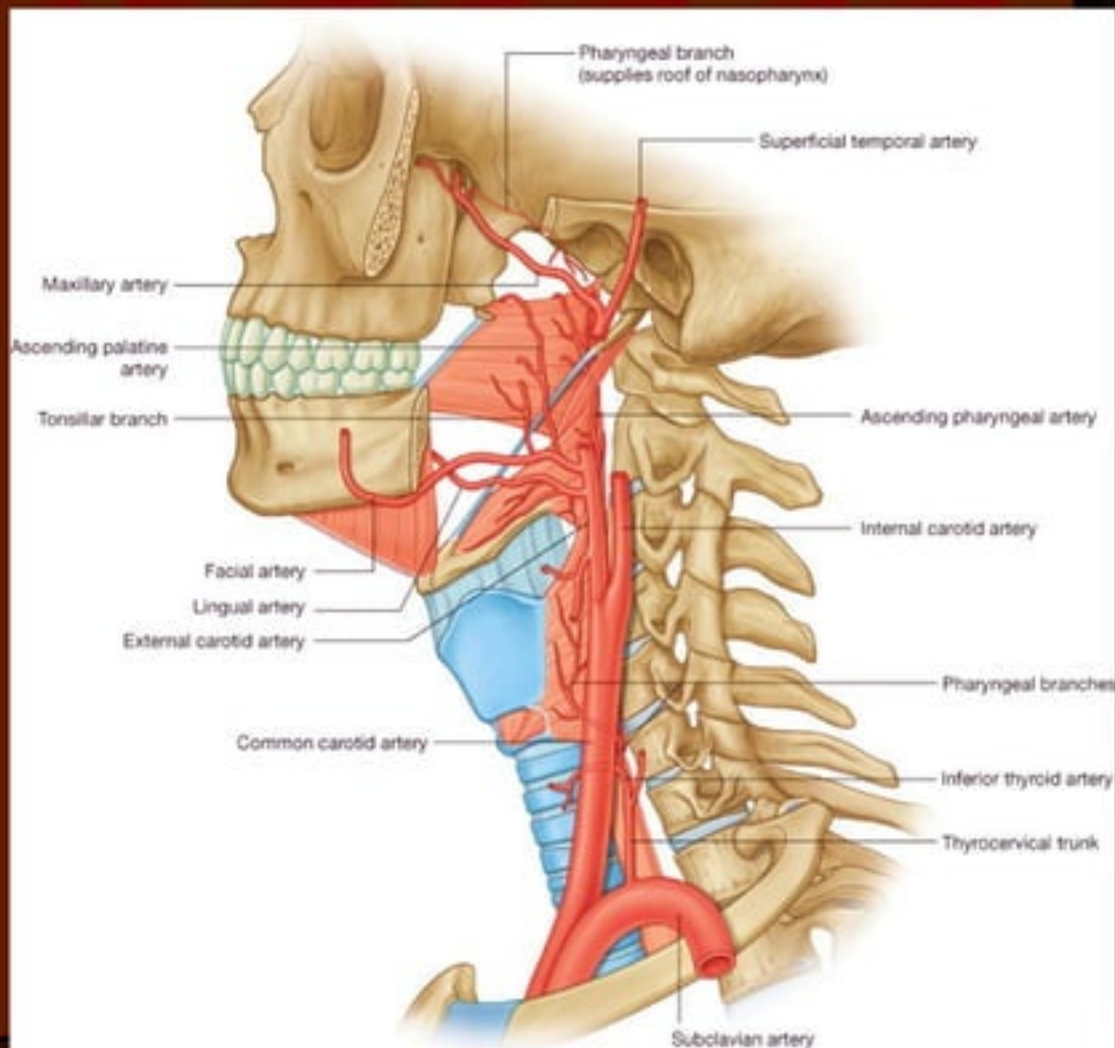
Branches of External Carotid Artery



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Branches of External Carotid Artery



Internal Carotid Artery

- Begins at the level of upper border of thyroid cartilage
- **No branches in the neck**
- Through carotid canal enters into cranial cavity
- Supplies brain, eyes, forehead and part of the nose

Subclavian Artery

Right Subclavian Artery:

- Arises from brachiocephalic artery
(Behind right sternoclavicular joint)
- At outer border of 1st rib it becomes Axillary Artery

Left Subclavian Artery:

- Arises from Arch of Aorta in the thorax
- Runs upwards to the root of the neck & arches laterally
- At outer border of 1st rib it becomes Axillary Artery

Subclavian Artery

Scalenus Anterior muscle passes anterior to the artery on each side and divides it into **3 parts**.

1. 1st part of subclavian artery
2. 2nd part of subclavian artery
3. 3rd part of subclavian artery

1st part of Subclavian Artery

Extends from the origin of the subclavian artery to the medial border of the Scalenus anterior muscle.

Branches:

1. Vertebral artery
2. Thyrocervical Trunk
3. Internal thoracic artery

1st part of Subclavian Artery

Branches:

1. Vertebral artery

- Spinal and muscular branches in neck
- Branches in skull

1st part of Subclavian Artery

Branches:

2. Thyrocervical Trunk

- Inferior thyroid artery
- Superficial cervical artery
- Suprascapular artery

1st part of Subclavian Artery

Branches:

3. Internal thoracic artery

- Superior epigastric artery
- Musculophrenic artery

2nd part of Subclavian Artery

Lies behind the Scalenus anterior muscle.

Branches:

1. Costocervical trunk

- Superior intercostal artery
- Deep cervical artery

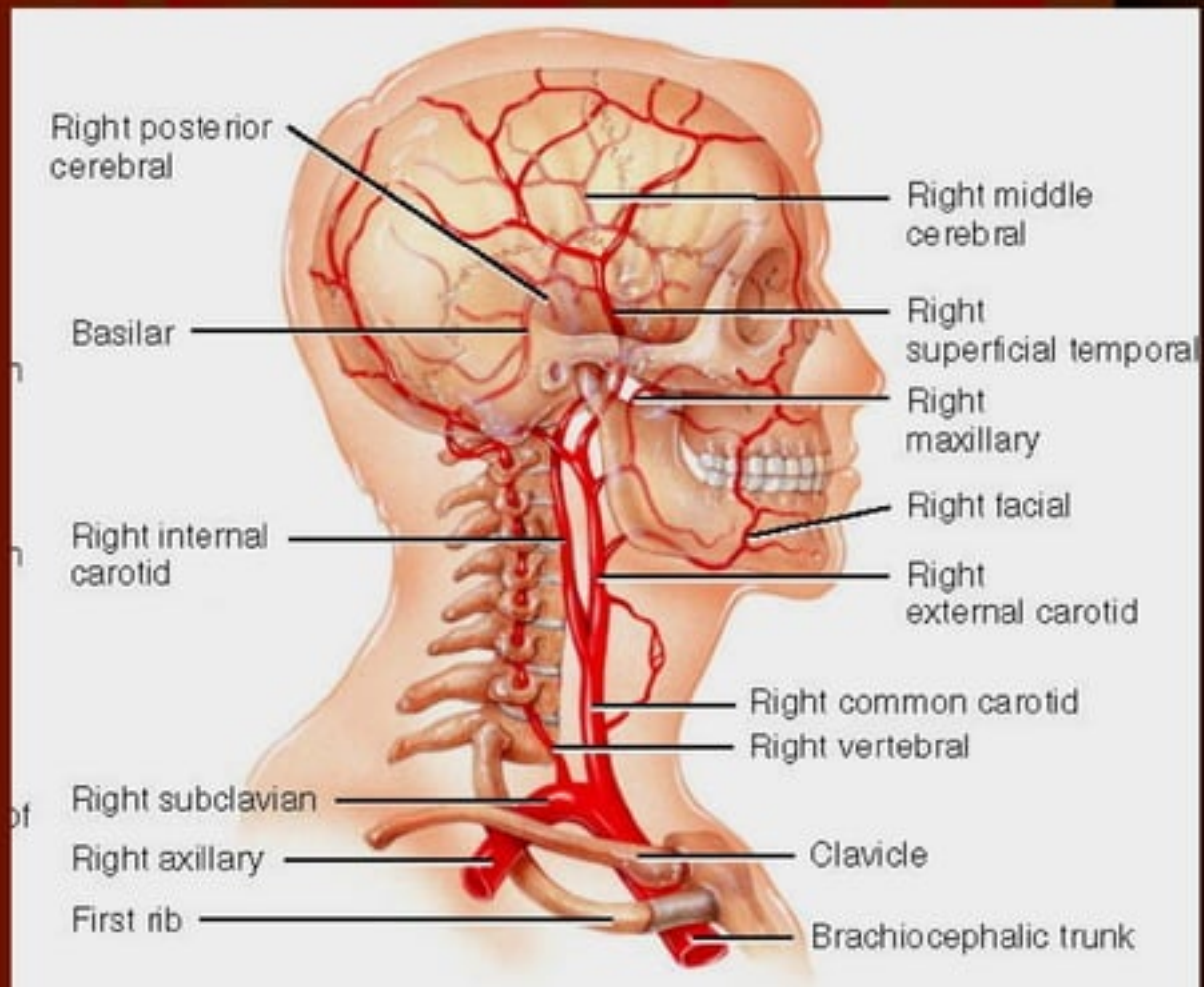
3rd part of Subclavian Artery

Extends from the lateral border of the Scalenus anterior muscle to the lateral border of 1st rib.

Branches: (Occasional)

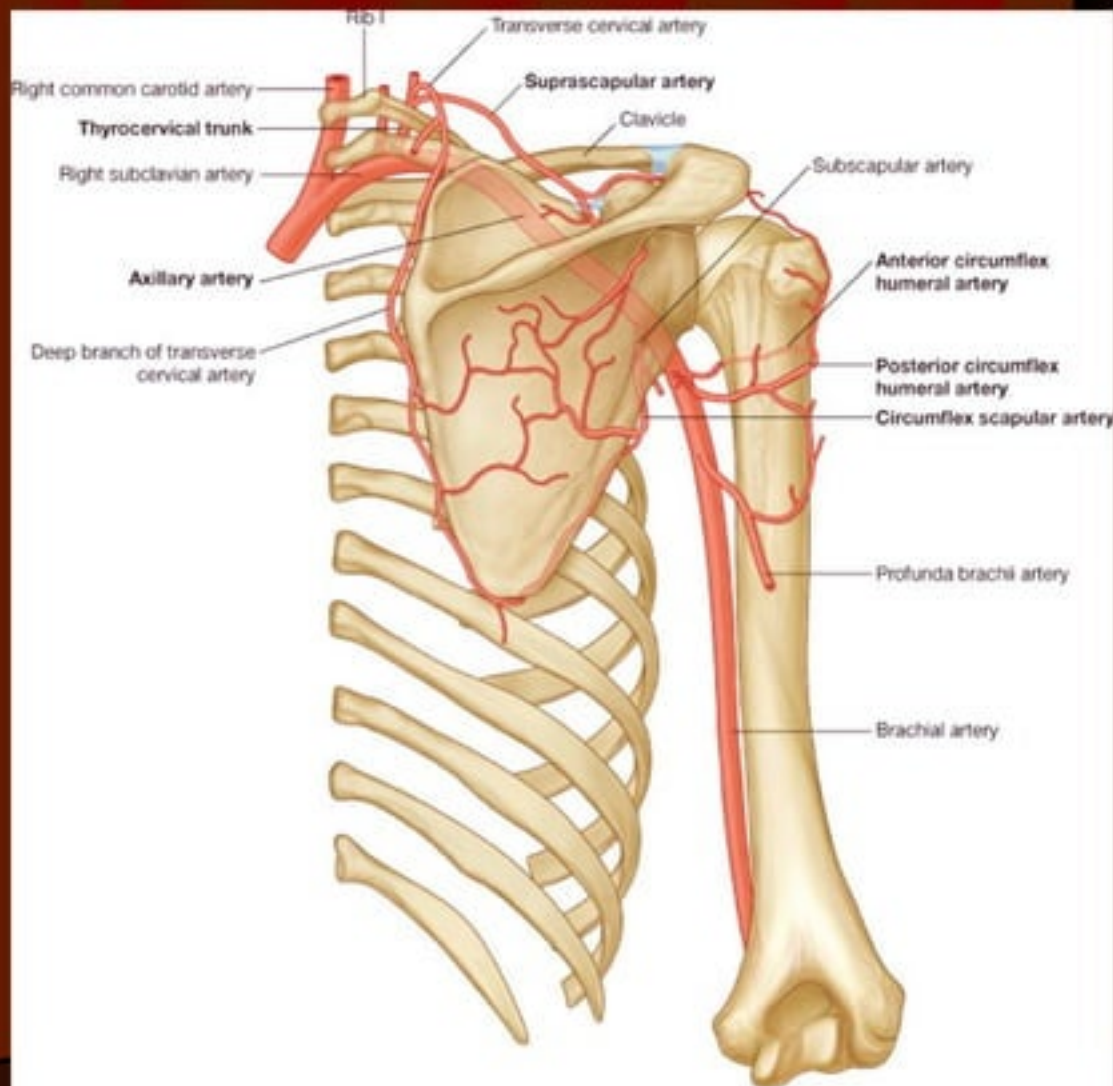
1. Superficial cervical artery
2. Suprascapular artery

Subclavian Artery



(b) Right lateral view of branches of brachiocephalic trunk in neck and head

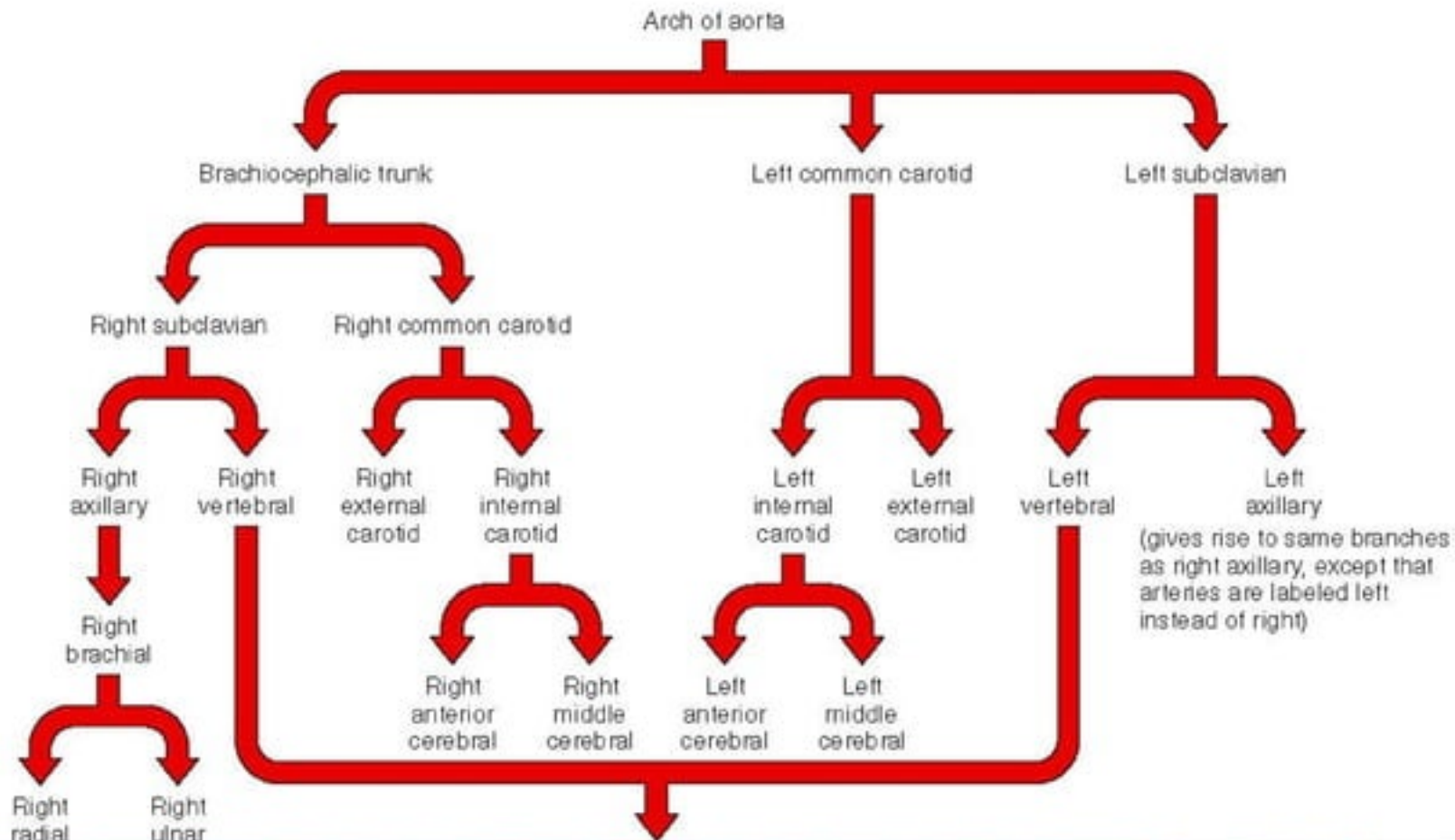
Branches of Subclavian Artery



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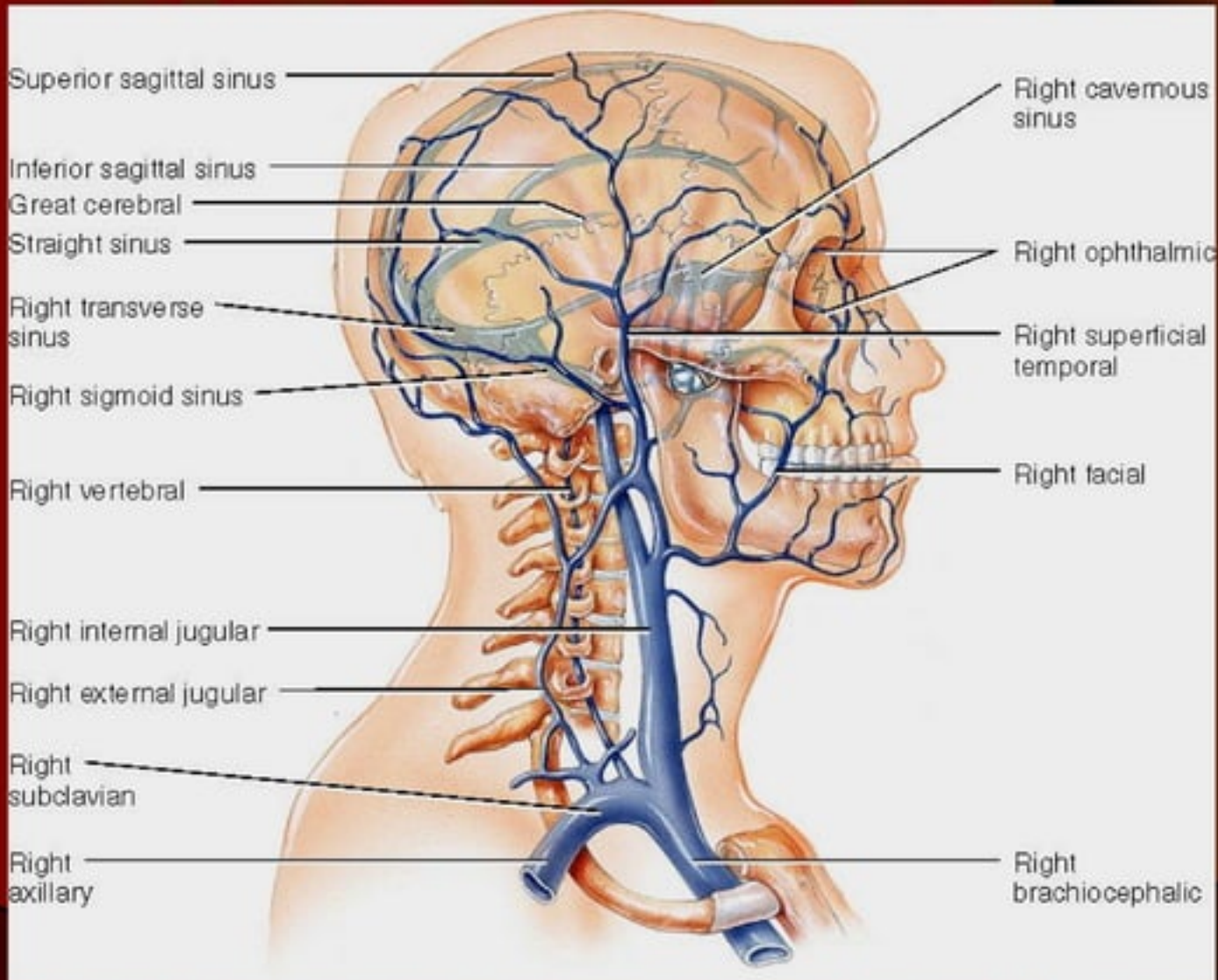
Veins of Head & Neck

- Veins of Brain
- Venous Sinuses
- Veins of Face and Neck

Veins of Face and Neck

- Facial vein
- Superficial temporal vein
- Maxillary vein
- Retromandibular vein
- External jugular vein
- Anterior jugular vein
- Internal jugular vein
- Subclavian vein

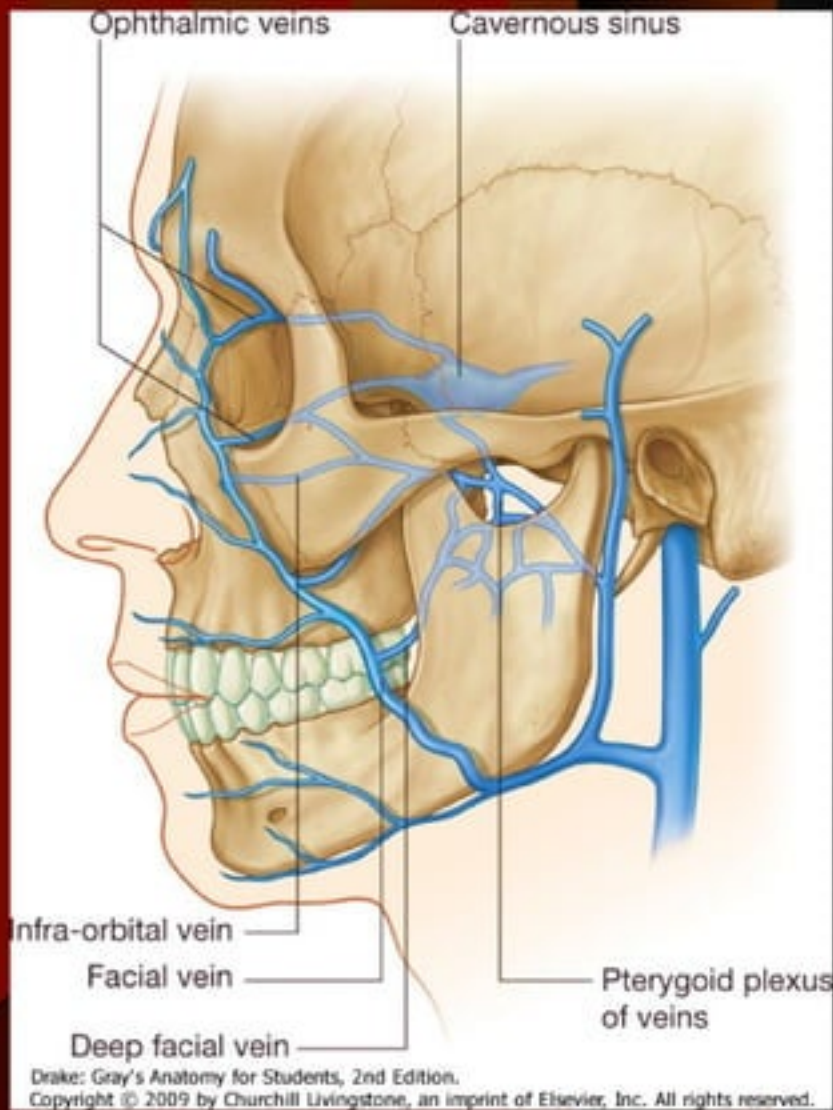
Veins supplying Head and Neck



Facial Vein

Formed at medial angle of eye by the union of supraorbital and supratrochlear veins.

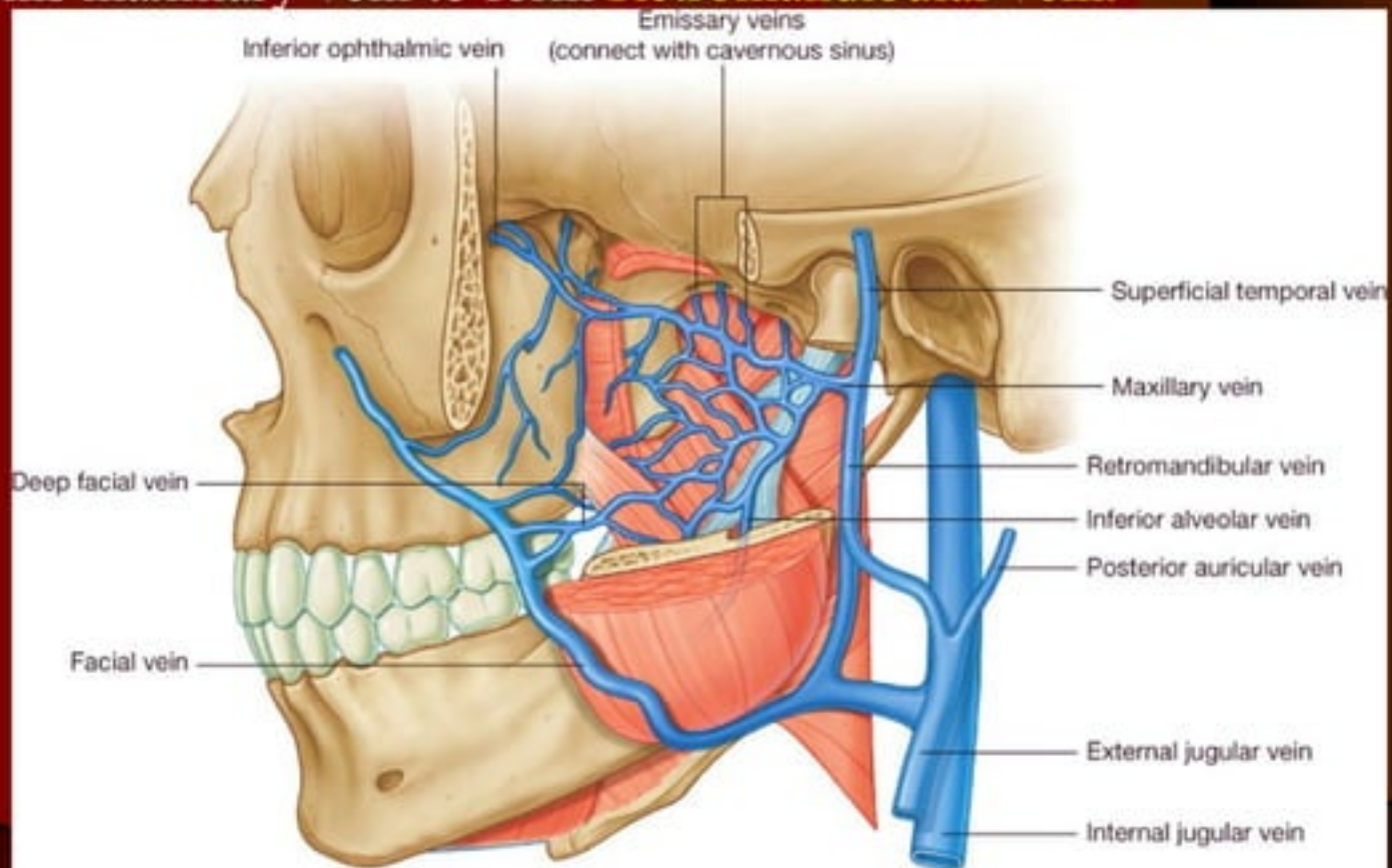
It joins anterior division of retromandibular vein



Superficial temporal Vein

Formed on the side of the scalp. Enters parotid gland.

It joins maxillary vein to form **Retromandibular vein**.



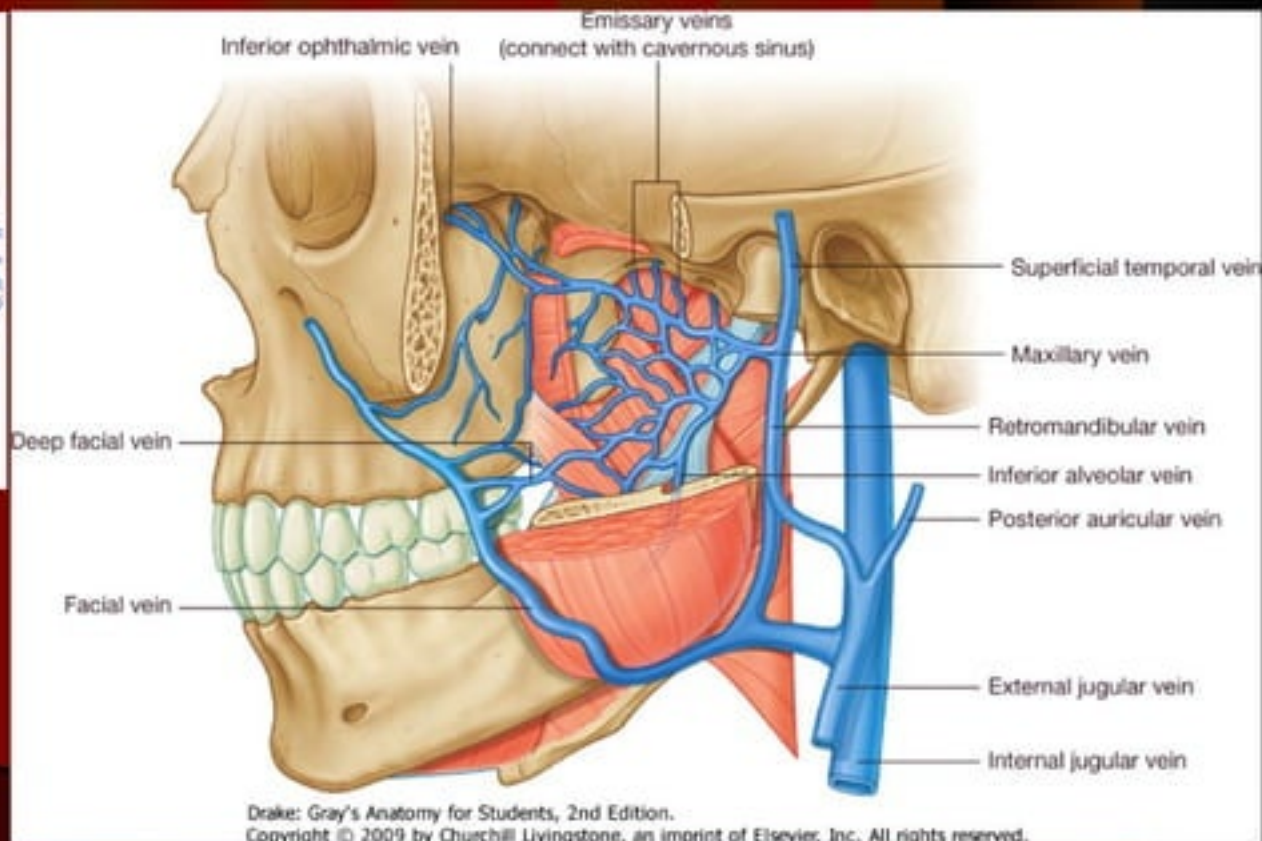
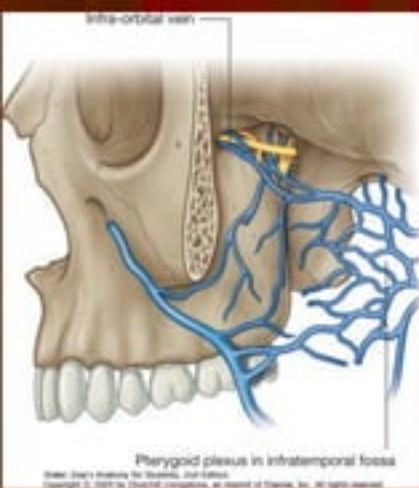
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Maxillary Vein

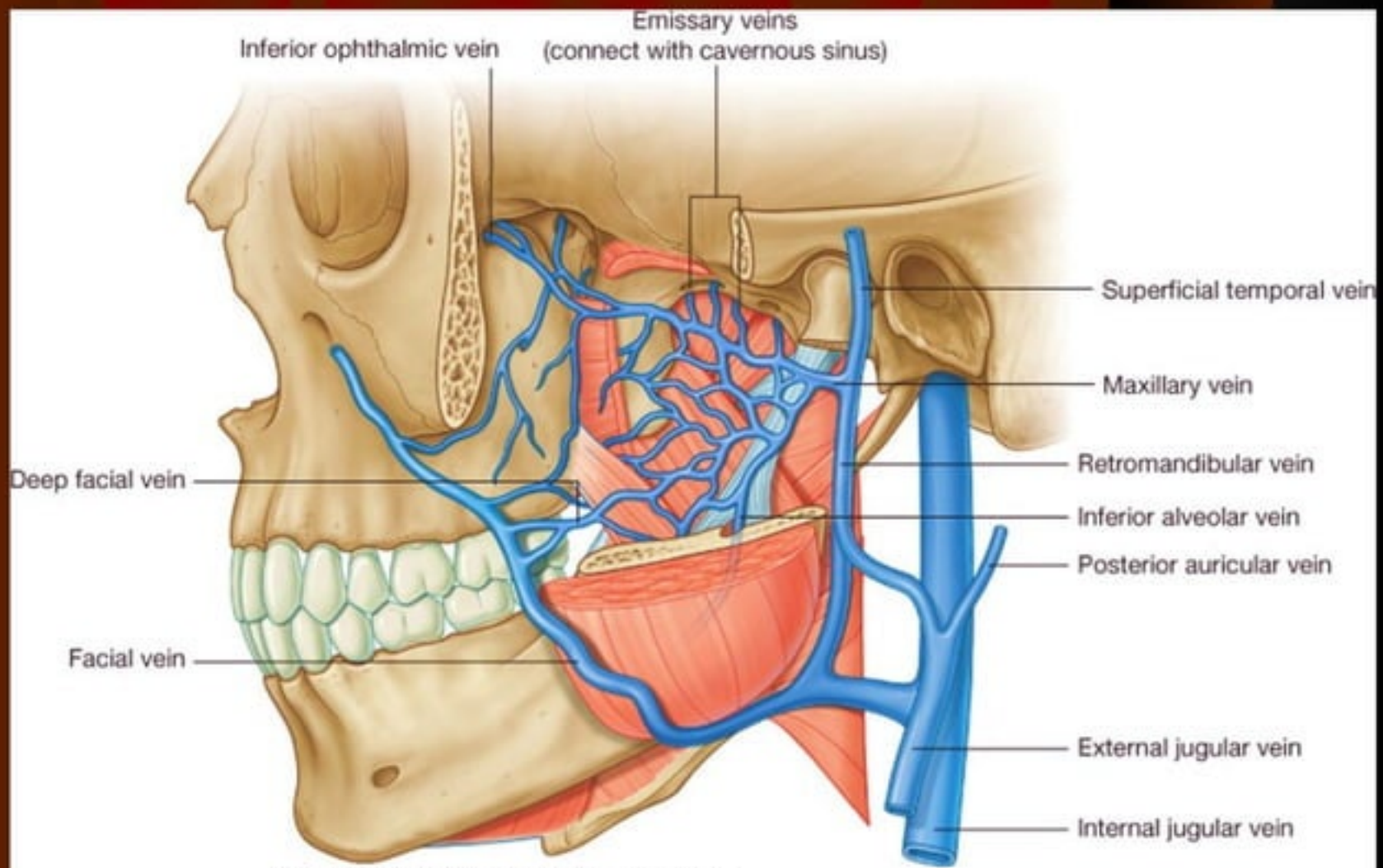
Formed in the Infratemporal fossa from the Pterygoid venous plexus.

It joins superficial temporal vein to form **Retromandibular vein**.



Retromandibular Vein

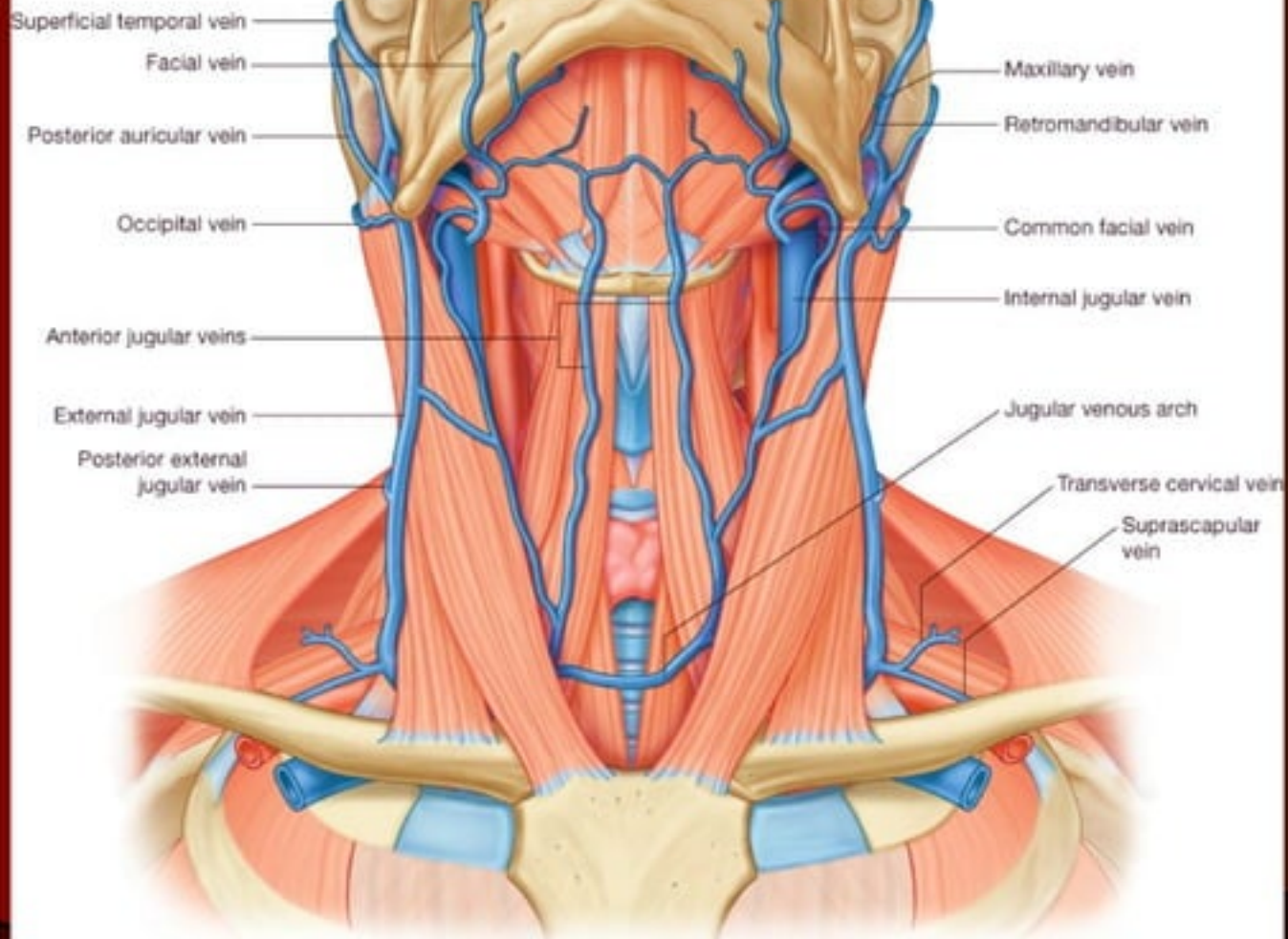
- Formed by the union of maxillary vein and superficial temporal vein.
- Leaving parotid gland divides into anterior branch and posterior branch.
- Anterior branch joins facial vein.
- Posterior branch joins posterior auricular vein to form external jugular vein.



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External jugular Vein

- Formed behind the angle of jaw by the union of Posterior branch of retromandibular vein with posterior auricular vein.
- It drains into subclavian vein
- Tributaries:
 - Posterior external jugular
 - Transverse cervical
 - Suprascapular
 - Anterior jugular



Internal jugular Vein

- Receives blood from brain, face and neck.
- Continuation of sigmoid sinus and leave the skull from jugular foramen.
- Ends by joining subclavian vein to form brachiocephalic vein.
- **Tributaries:**
 - Facial vein
 - Pharyngeal vein
 - Lingual vein
 - Superior thyroid vein
 - Middle thyroid vein

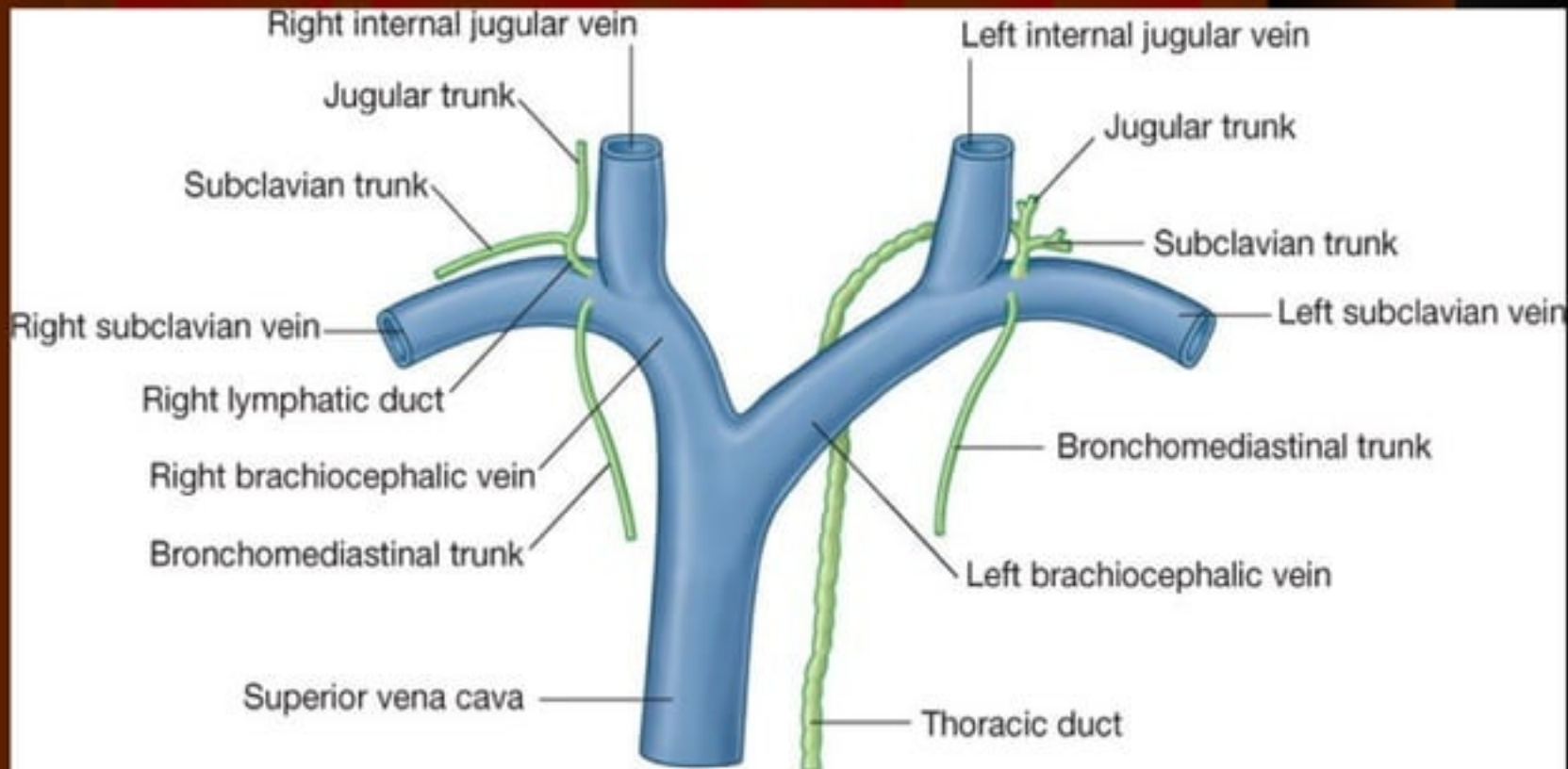
Subclavian Vein

- Continuation of axillary vein at the outer border of 1st rib.
- Joins internal jugular vein to form brachiocephalic vein.

Tributaries:

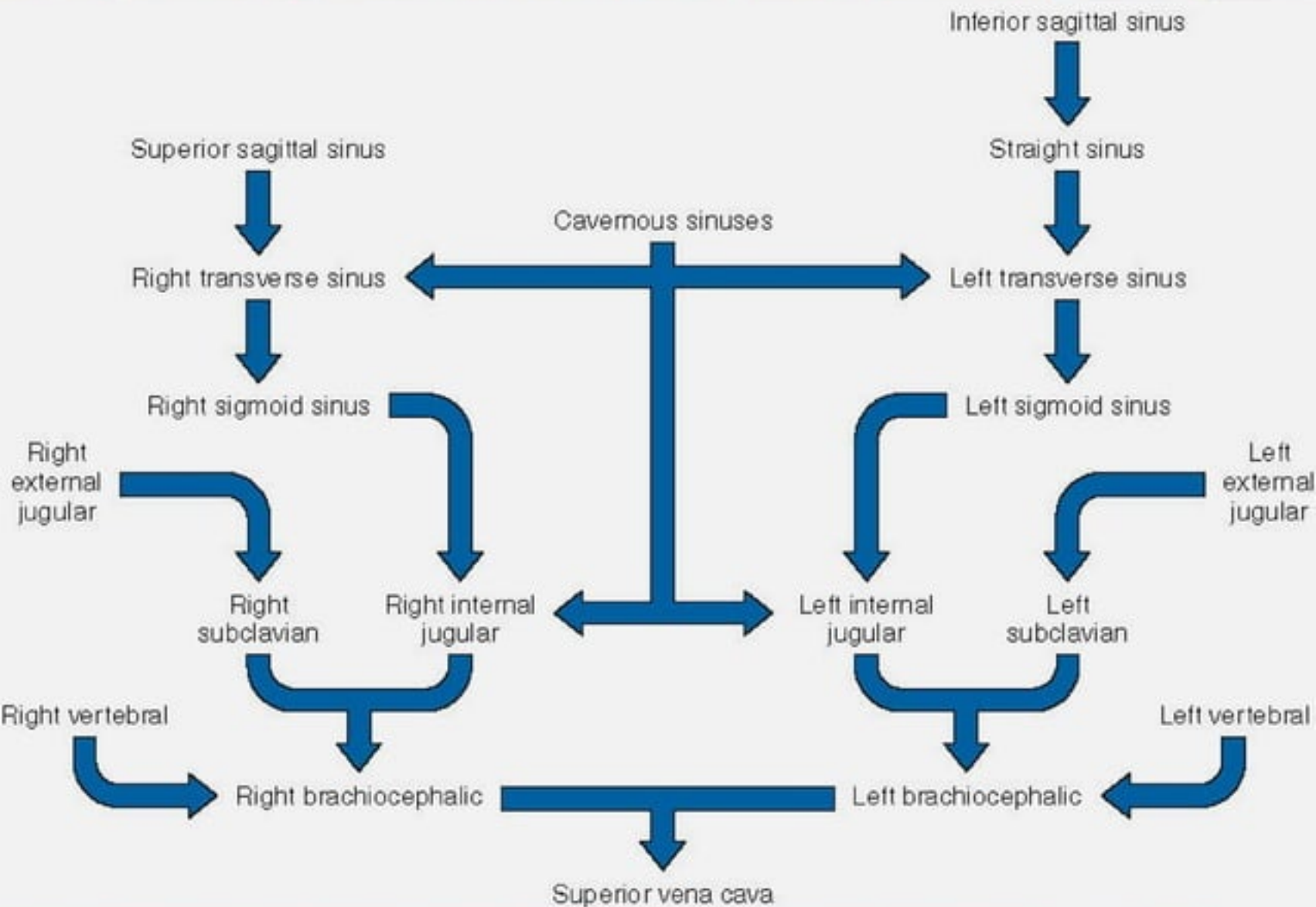
- External jugular vein

Brachiocephalic Veins & SVC

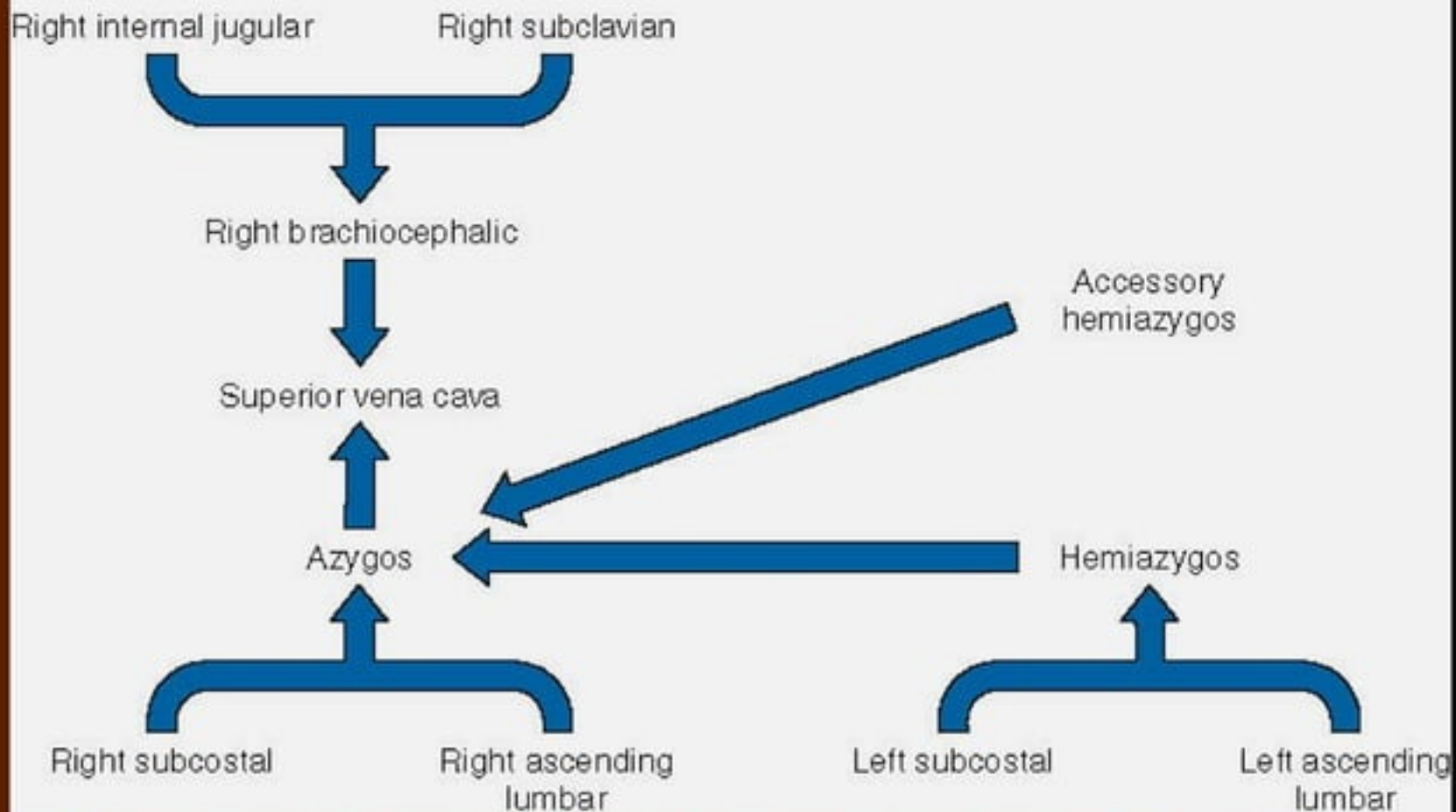


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