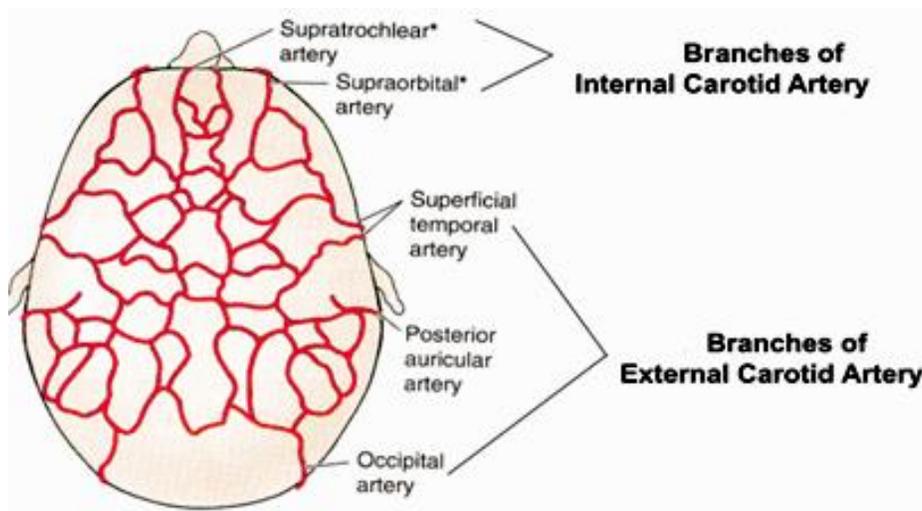


Scalp and Face / part 2

Arterial Supply of the Scalp

The scalp has a rich blood supply to nourish the hair follicles, and the smallest cut bleeds profusely. As with the nerves, the arteries run through the “C” layer.

- a) **Supratrochlear** and the **supraorbital arteries**: are branches of the ophthalmic artery (which is branch of internal carotid artery), they ascend over the forehead up to the vertex, in company with the supratrochlear and supraorbital nerves.



- b) **Superficial temporal artery**: the smaller terminal branch of the external carotid artery, ascends in front of the auricle in company with the auriculotemporal nerve. It divides into terminal branches: anterior and posterior branches, which supply the skin over the frontal and temporal regions.
- c) **Posterior auricular artery**: It is a branch of the external carotid artery, ascends behind the auricle, it supplies the scalp above and behind the auricle.

- d) **Occipital artery**: ascends from the apex of posterior triangle, in company with the greater occipital nerve. It supplies the skin over the back of the scalp and reaches as high as the vertex.

Arterial Supply of the Face

☒ The facial artery

- Course:

It arises from the external carotid artery in the upper neck. It arches upward and over the submandibular salivary gland and curves around the inferior margin of the body of the mandible at the anterior border of the masseter muscle. Its pulse can be easily felt here. It next runs upward in a tortuous course toward the angle of the mouth. It then ascends along the side of the nose to the medial angle of the eye, where it anastomoses with the terminal branches of the ophthalmic artery.

- Branches

1. The **submental artery**: supplies the skin of the chin and lower lip.
2. The **inferior labial artery**: arises near the angle of the mouth. It runs medially in the lower lip and anastomoses with its fellow of the opposite side.
3. The **superior labial artery** arises near the angle of the mouth. It runs medially in the upper lip and gives branches to the septum and ala of the nose.
4. The **lateral nasal artery** arises from the facial artery alongside the nose. It supplies the skin on the side and dorsum of the nose.
5. The **angular artery** is the terminal part of the facial artery. It runs between the side of the nose and the medial canthus of the eye.

☒ Ophthalmic artery

The facial branches are: **supraorbital**, **supratrochlear**, and **dorsal nasal** arteries.

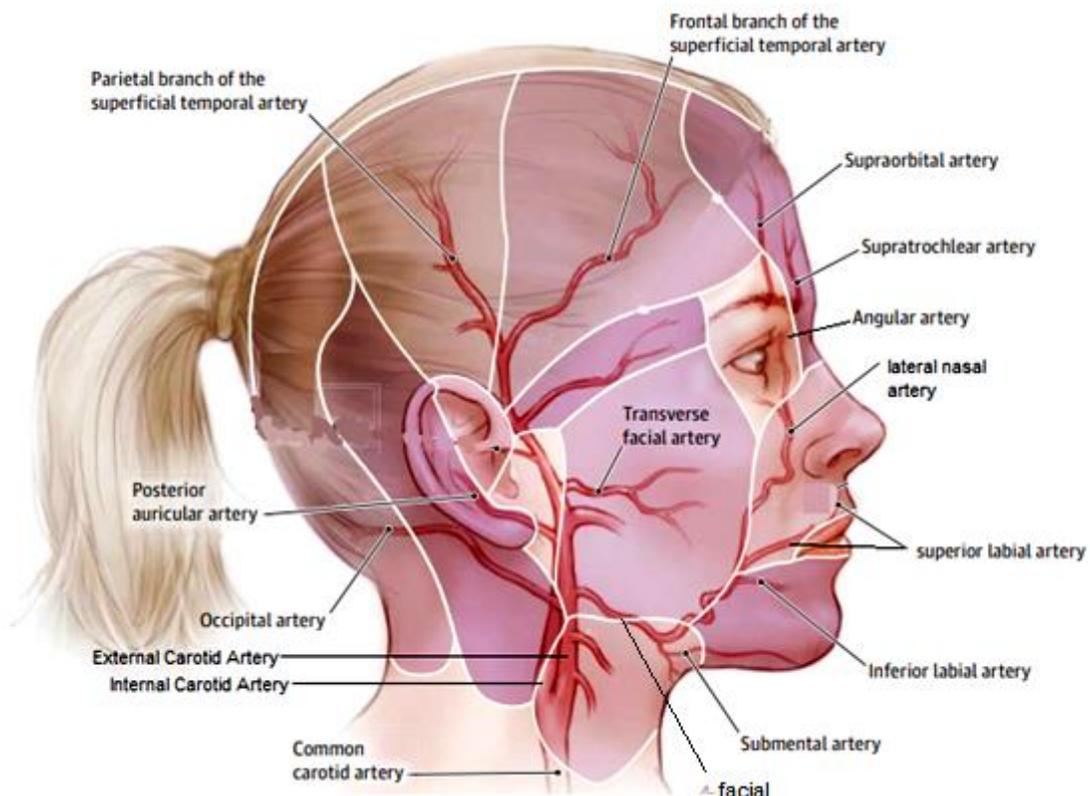
☒ Maxillary artery

Is a branch of the external carotid artery that gives the terminal branches: **infraorbital**, and **mental** arteries.

☒ The superficial temporal artery

The smaller terminal branch of the external carotid artery, commences in the parotid gland. It ascends in front of the auricle to supply the scalp

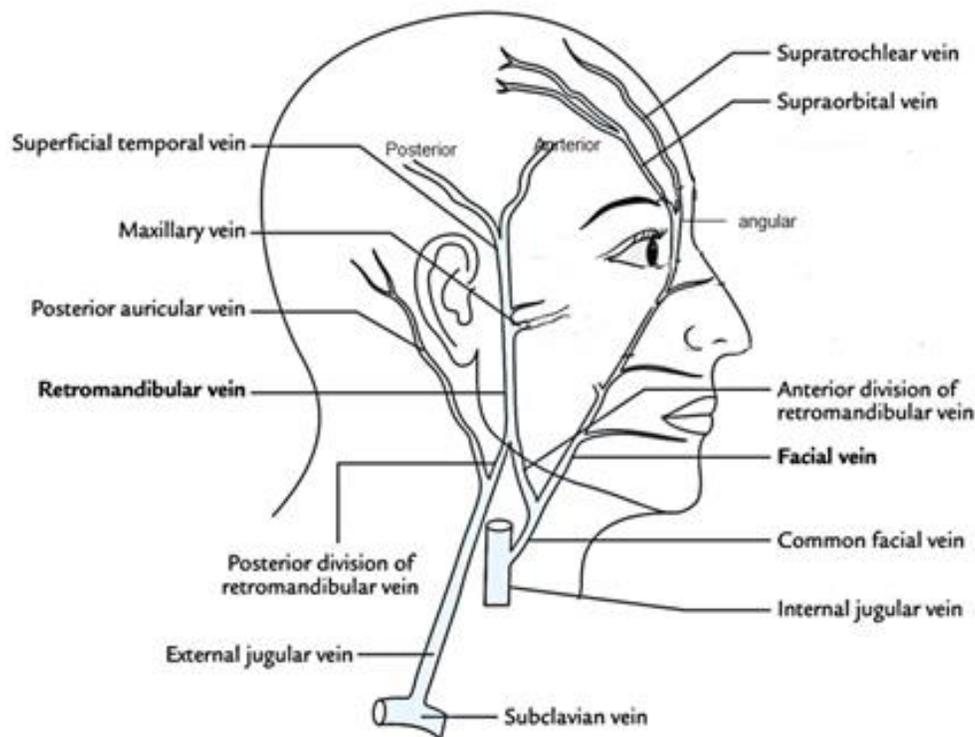
Transverse facial artery is a branch of the superficial temporal artery within the parotid gland. It runs forward across the cheek just above the parotid duct and below the zygomatic arch.



Venous Drainage of the Scalp

The major veins of the head and neck drain the deoxygenated blood into the **superior vena cava** in the right atrium of the heart, these veins are formed by union of other smaller veins (tributaries); as in the following:

- The **supratrochlear** and **supraorbital veins** unite at the medial angle of the eye to form the **angular vein** which continues as **facial vein**. The facial vein receives tributaries that correspond to the branches of the facial artery.
- The **superficial temporal vein** unites with the **maxillary vein** in the parotid gland to form the **retromandibular vein**, which divides into anterior and posterior division.



- The **posterior auricular vein** unites with the **posterior division of the retromandibular vein**, just below the parotid gland, to form the **external jugular vein**.
- The **occipital vein** usually drains into sub occipital venous plexus.
- The veins of the scalp freely anastomose with one another and are connected to the diploic veins of the skull bones and the intracranial venous sinuses by valveless emissary veins

Venous Drainage of the Face

1-The facial vein:

It is formed at the medial angle of the eye by the union of the supraorbital and supratrochlear veins. The facial vein is connected to the cavernous sinus by the superior ophthalmic vein of the brain; this connection is of great clinical importance because it provides a pathway for the spread of infection from the face to the cavernous sinus.

The facial vein descends behind the facial artery to the lower margin of the body of the mandible. It crosses superficial to the submandibular gland.

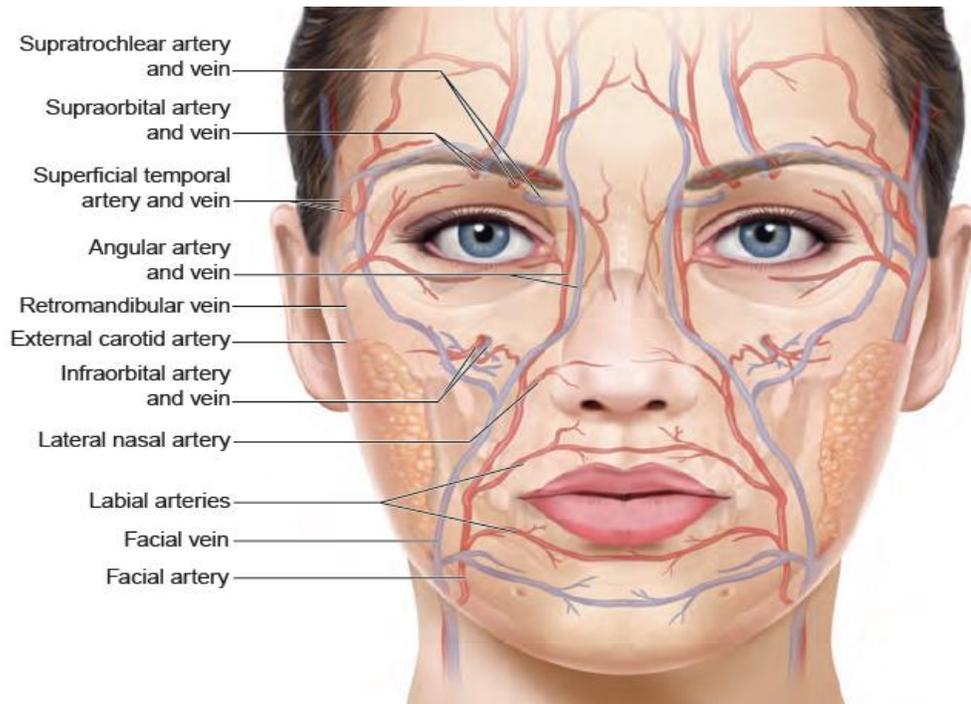
It is joined by the anterior division of the retromandibular vein to form the common facial vein.

The facial vein ends by draining into the internal jugular vein.

The facial vein receives tributaries that correspond to the branches of the facial artery. It is joined to:

- The pterygoid venous plexus by the **deep facial vein**.
- The cavernous sinus by the **superior ophthalmic vein**.

2-The transverse facial vein joins the superficial temporal vein within the parotid.



Arterial supply and venous drainage of the face

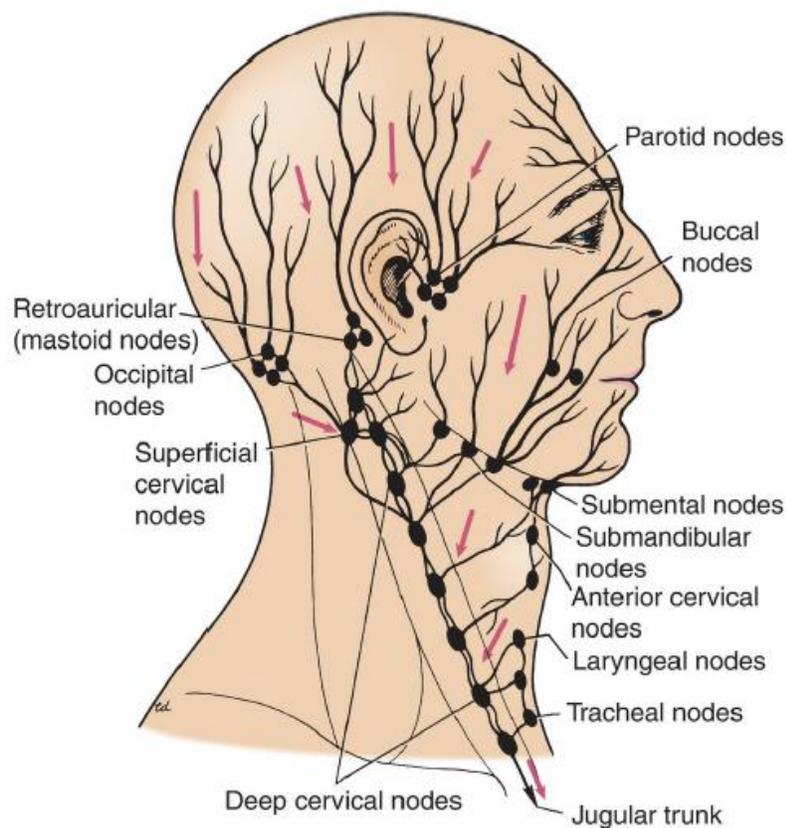
Lymph Drainage of the Scalp and Face

A lymph node is part of the immune system; they are widely present throughout the body and are connected by the lymphatic vessels. They are major sites of B and T cells and other white blood cells, acting as filters for foreign cells and cancer cells. The lymph nodes are subjected to a number of different pathological conditions including tumours, infection and inflammation.

The main lymph nodes of the scalp, Face and their drainage sites are:

- Lymph vessels in the anterior part of the scalp, forehead and anterior part of the face drain into the **submandibular lymph nodes**.

- Lymph vessels in the lateral part of the scalp above the ear, the lateral part of the face (including the lateral parts of the eyelids) drain into the **superficial parotid (preauricular) nodes**.
- The central part of the lower lip and the skin of the chin drain into the **submental lymph nodes**.
- Lymph vessels in the part of the scalp above and behind the ear drain into the **mastoid nodes**.
- Lymph vessels in the back of the scalp drain into the **occipital nodes**.



This is the End of the Lecture – Good Luck