

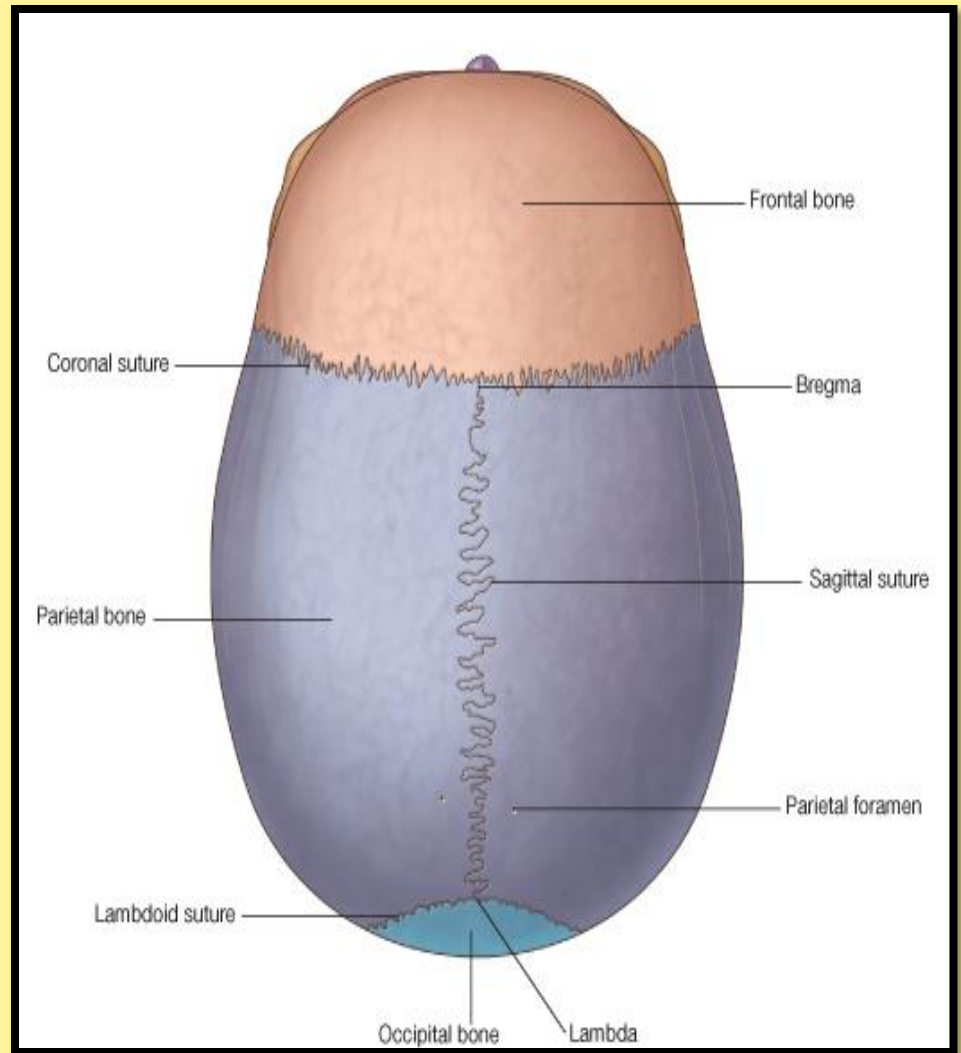
## Superior View of the Skull (Norma Verticalis)

Anteriorly the frontal bone articulates with the two parietal bones

### AT THE CORONAL SUTURE

The two parietal bones articulate in the midline

### AT THE SAGITTAL SUTURE

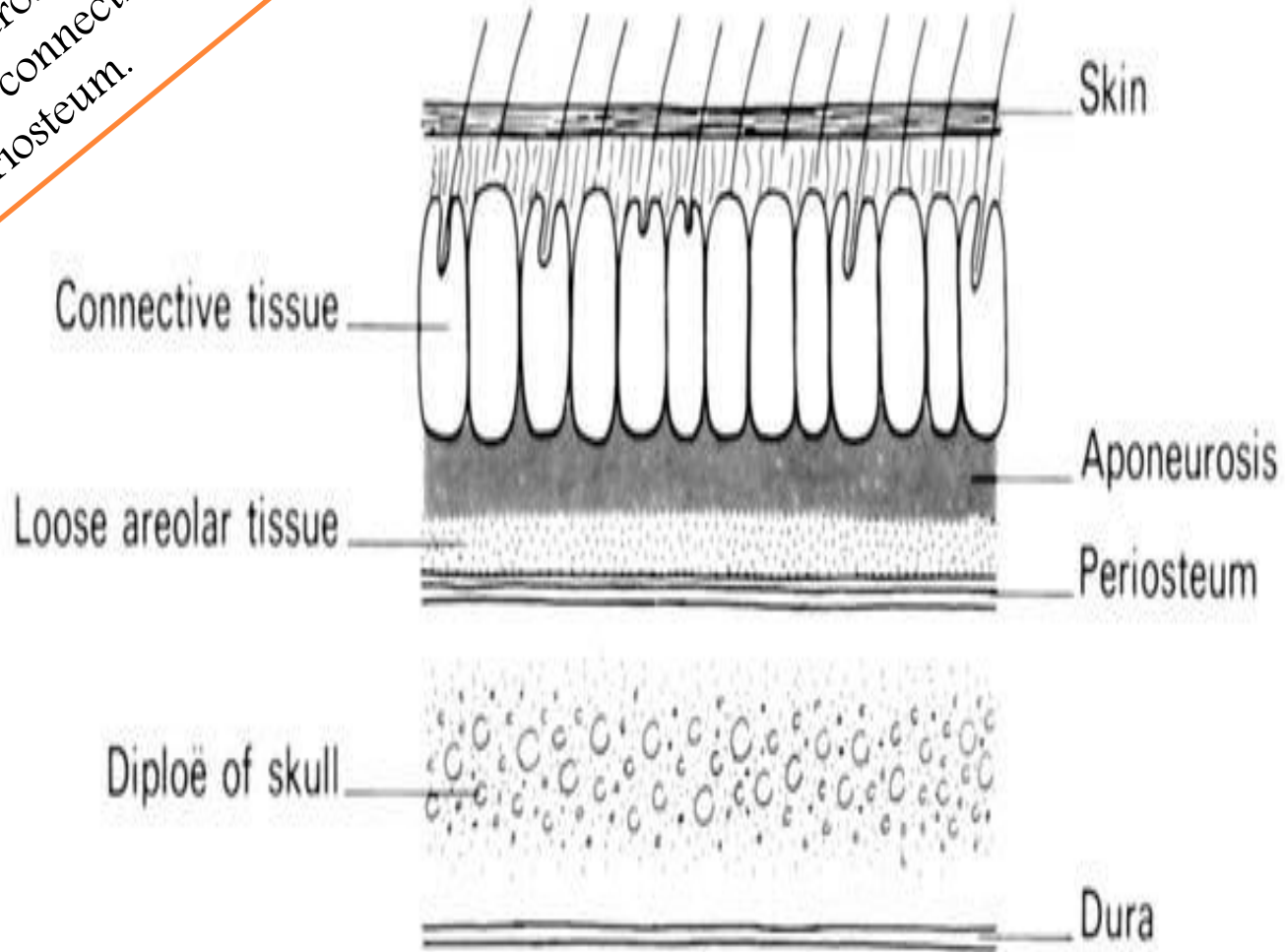


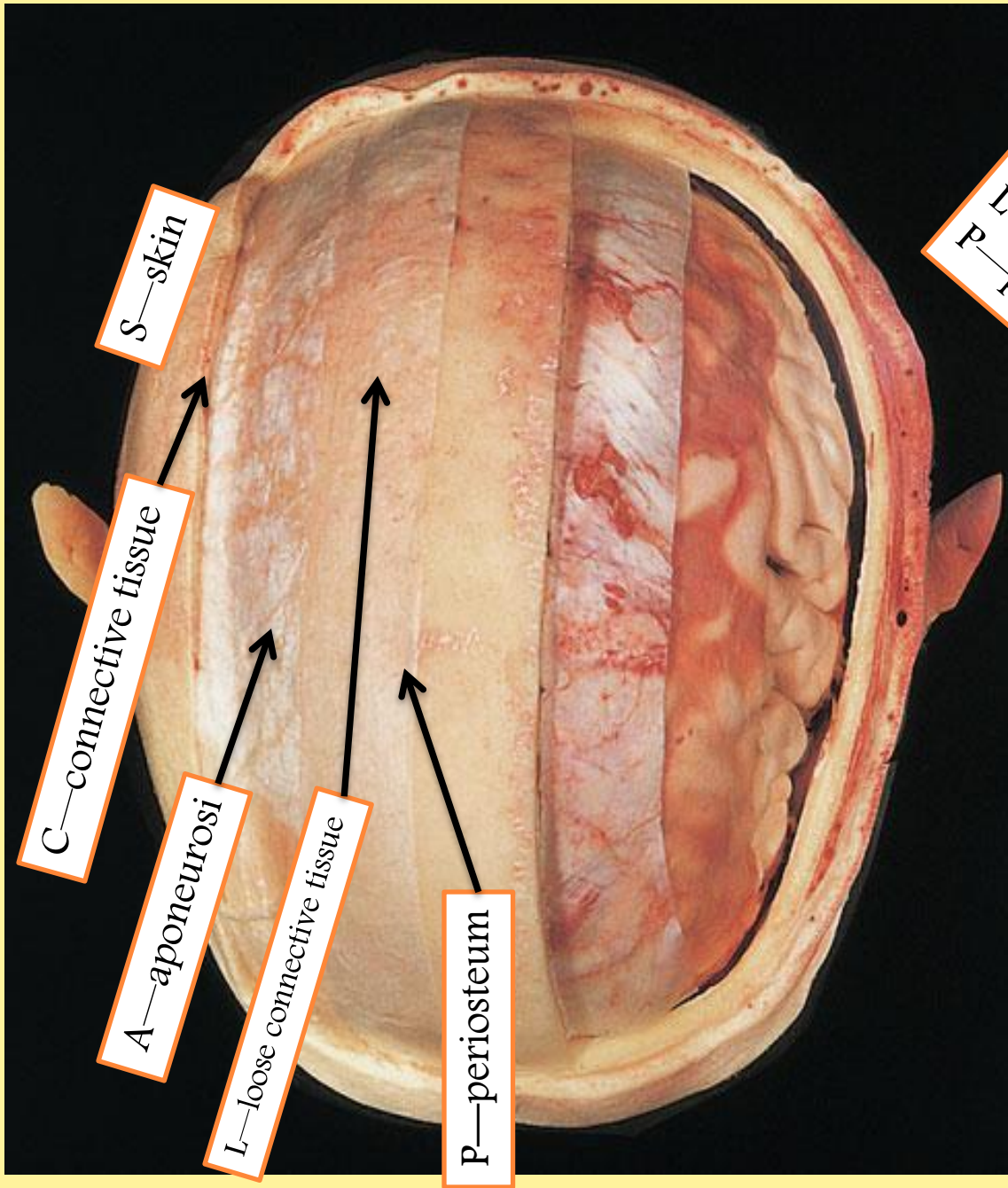
# lambdoid sutures



**To assist one in memorizing the names of the five layers of the scalp, use each letter of the word SCALP to denote the layer of the scalp.**

S—skin  
C—connective tissue  
A—aponeurosis  
L—loose connective tissue  
P—periosteum.





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# The Scalp

The scalp consists of **FIVE LAYERS**

S-skin

C-connective tissue (dense)

A-aponeurotic layer

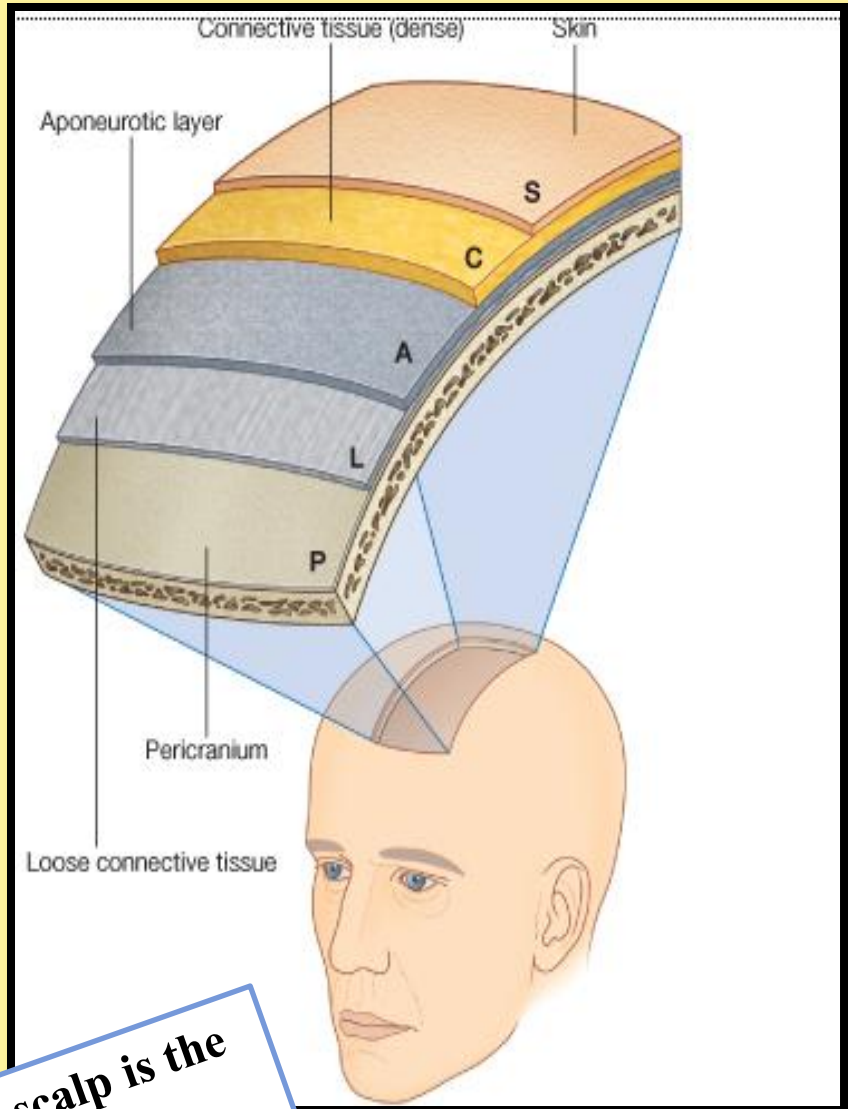
L-loose connective tissue

P-pericranium

The first three of which are intimately bound together and move as a unit

## 1-Skin

is thick contains hair and contains numerous **sebaceous glands**



Remember that scalp is the common site for sebaceous cyst



Sebaceous cyst



## 2-Connective tissue

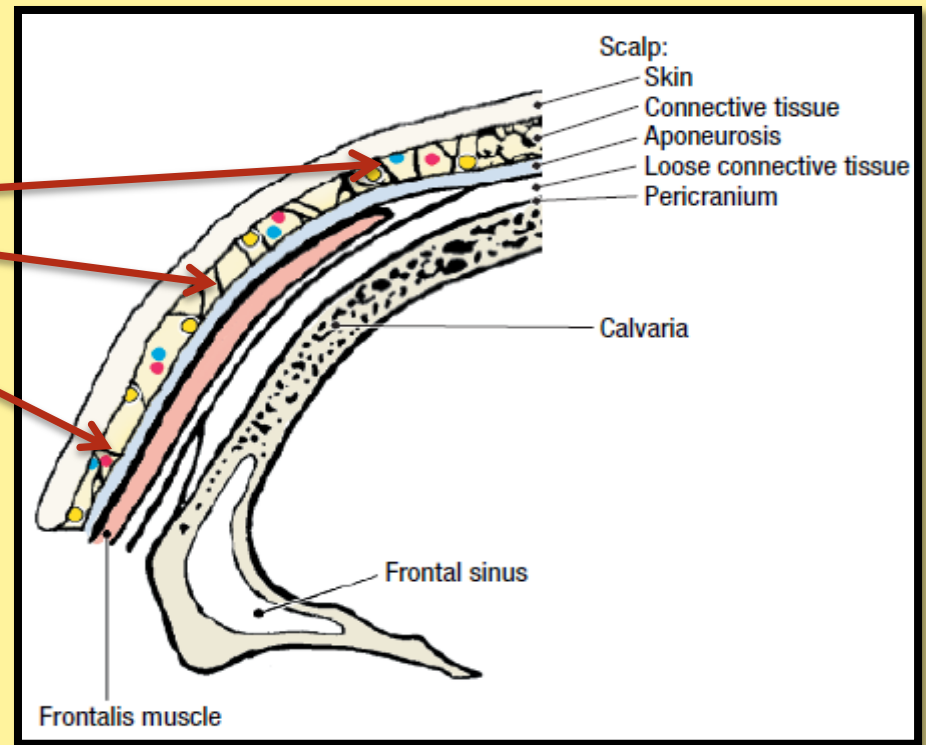
➤ Made of fibrous fascia and

**septa**

which unite the skin to the underlying aponeurosis of the occipitofrontalis muscle

➤ Contains

**numerous arteries and veins!!!**



It is often difficult to stop the bleeding of a scalp wound because the arterial walls ***are attached to fibrous septa*** in the subcutaneous tissue and are unable to contract or retract to allow blood clotting to take place

Local pressure applied to the scalp is the only satisfactory method of stopping the bleeding

### 3-Aponeurosis (epicranial),

is a thin, tendinous sheet that unites the occipital and frontal bellies of the occipitofrontalis muscle

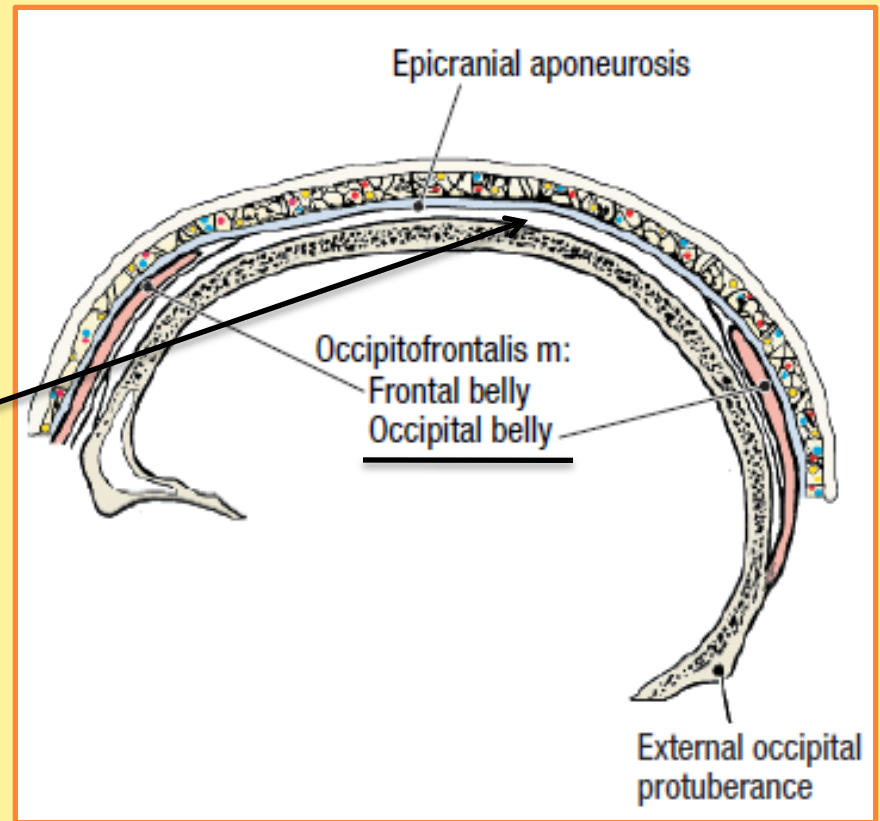
#### ➤ *Epicranial aponeurosis*

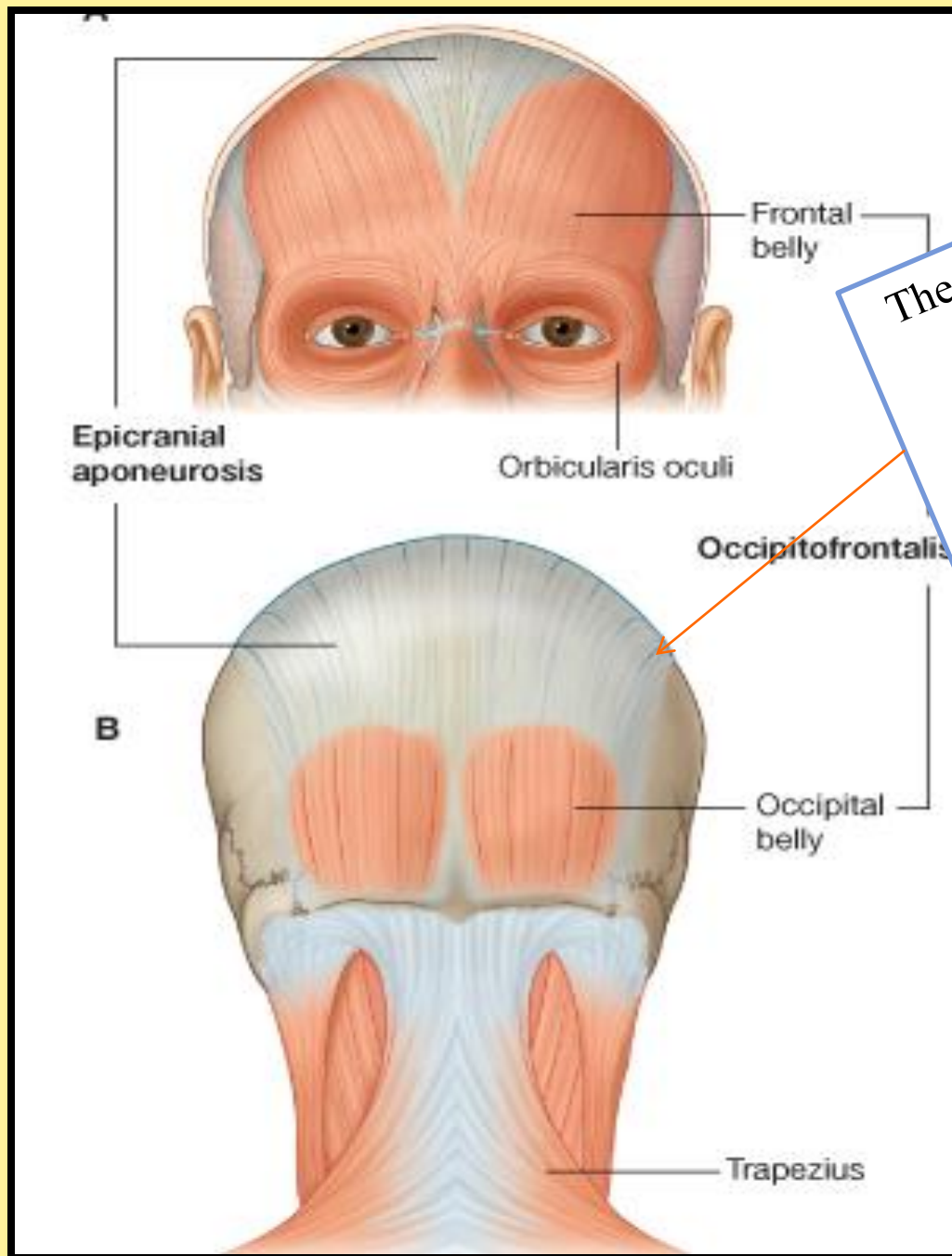
The lateral margins of the aponeurosis are attached to the temporal fascia.

The subaponeurotic space is the potential space beneath the epicranial aponeurosis.

It is limited in front and behind by the origins of the occipitofrontalis muscle, and it extends laterally as far as the attachment of the aponeurosis to the temporal fascia

The tension of the epicranial aponeurosis, produced by the tone of the occipitofrontalis muscles, is important in all deep wounds of the scalp. If the aponeurosis has been divided, the wound will gape open. For satisfactory healing to take place, the opening in the aponeurosis must be closed with sutures



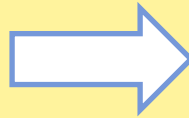


The subaponeurotic space  
Is under the  
aponeurosis of  
occipitofrontalis  
muscle





#### 4-Loose areolar tissue



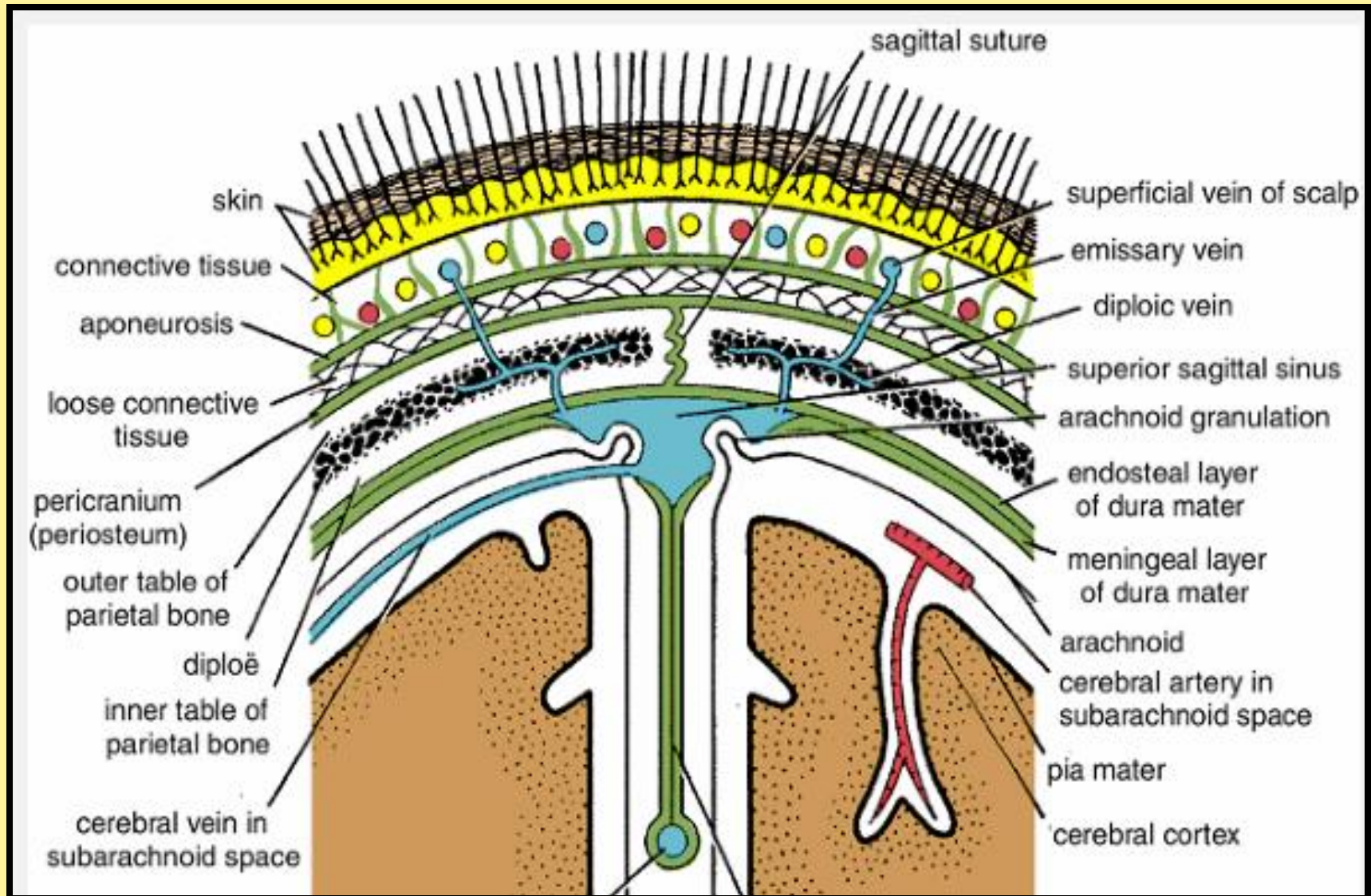
Also called the dangerous area  
Of the scalp

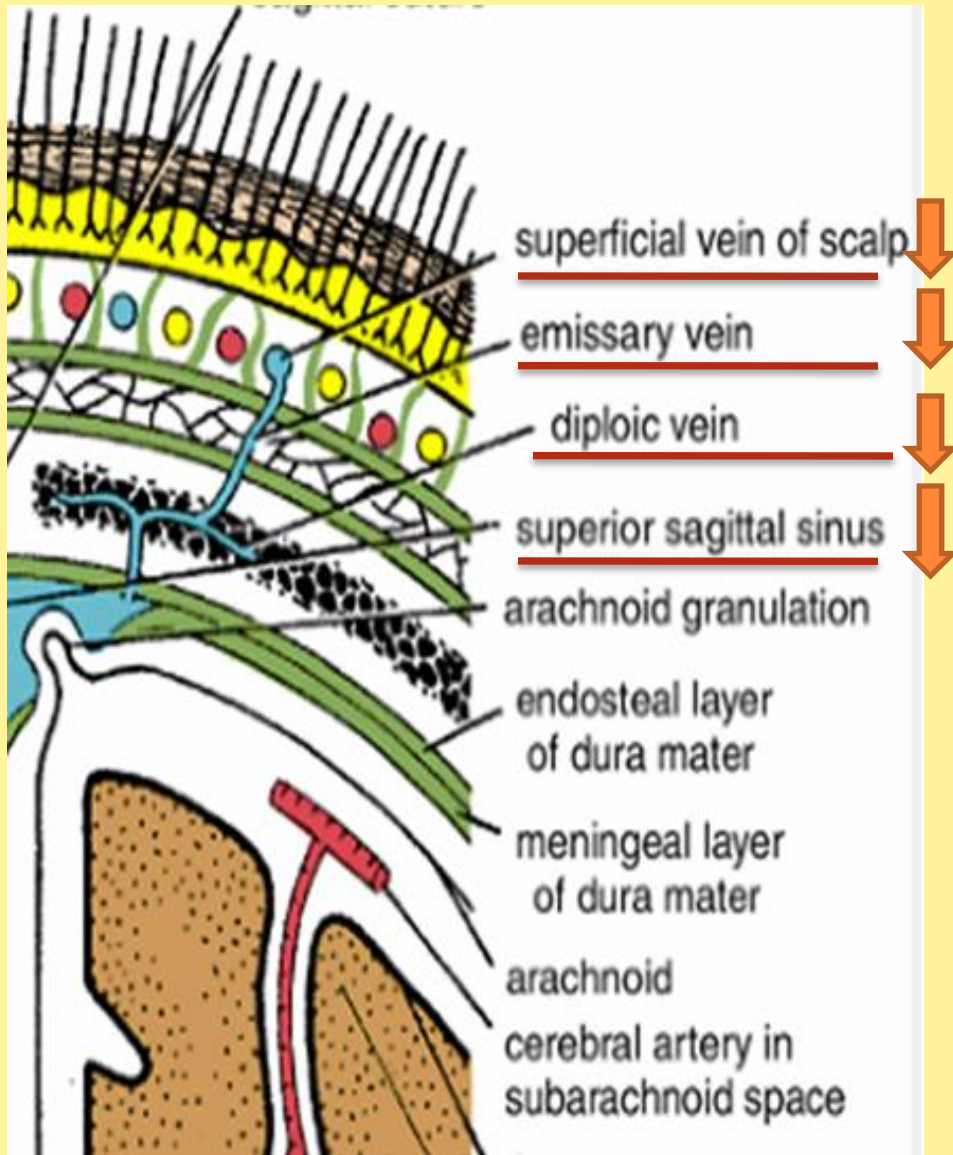
➤ Occupies the subaponeurotic space and extends anteriorly to the eyelids Therefore, any blood collection in this layer may extend to the root of the nose and the eyelids causing **Black eye**



Black eyes .....think of head trauma







➤ Made of loose areolar tissue which contains **important emissary veins.**

The emissary veins are valveless and connect

The superficial veins of the scalp  
with the diploic veins of the skull bones

## Causing **Osteomyelitis**

Infected blood in the diploic veins may travel by the emissary veins farther into the venous sinuses and produce venous sinus thrombosis

## **5-Pericranium**

is the periosteum covering the outer surface of the skull bones.

The sutures between individual skull bones, the periosteum on the outer surface of the bones becomes continuous with the periosteum on the inner surface of the skull bones . THEREFORE if there is any fluid collection beneath the pericranium (Cephalhaematoma) it will take the shape of the related bone





Read only



A right parietal cephalhematoma was first noted on this 2-week-old girl 2 days after her birth. Caused by bleeding under the **outer periosteum of a newborn's skull bone, usually the parietal bone**, swelling becomes evident by day 2 or 3 after delivery. The swelling is confined to the involved bone and does not extend beyond the suture lines or the midline of the skull

Treatment with **needle aspiration is contraindicated** because of the possibility of introducing an infection



# Muscles of the Scalp

## Occipitofrontalis

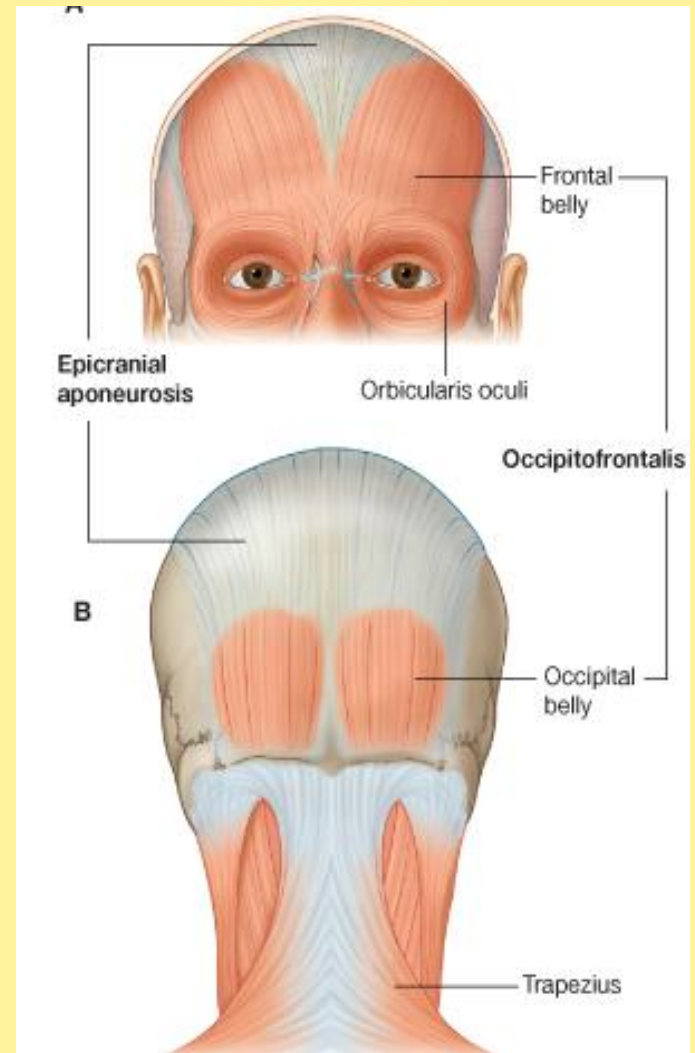
The origin

Insertion

nerve supply

action

The frontal bellies of the occipitofrontalis can raise the eyebrows in expressions of surprise or horror.



# Arterial Supply of the Scalp

The arteries lie in the superficial fascia.

***A-Branches of the ophthalmic artery***

**1-The supratrochlear**

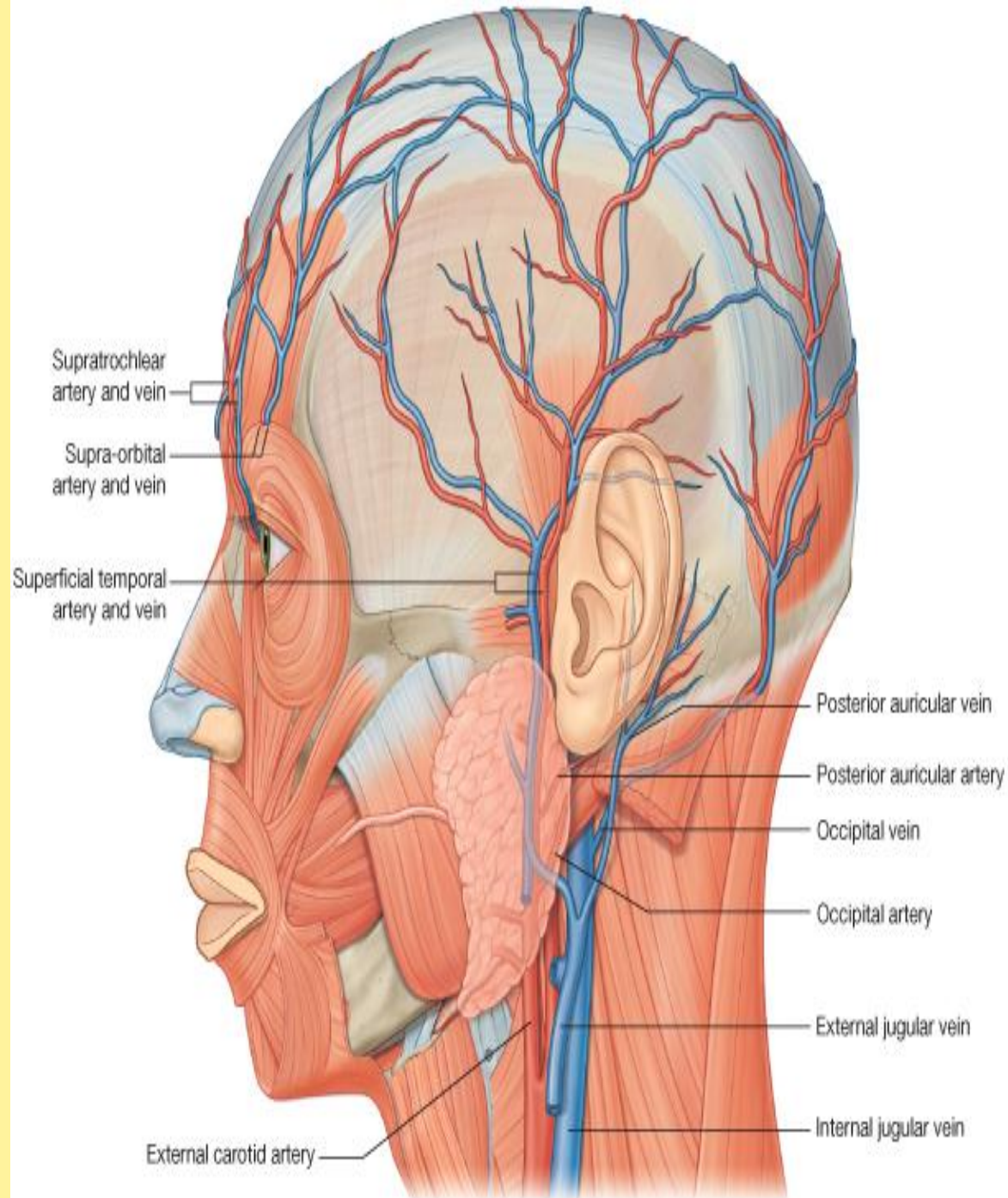
**2-The supraorbital**

***B-Branch of the external carotid artery***

**The superficial temporal artery**

**The posterior auricular artery**

**The occipital artery**



Anatomically, it is useful to remember in an emergency that all the superficial arteries supplying the scalp ascend from the face and the neck.

Thus, in an emergency situation, encircle the head just above the ears and eyebrows with a tie, shoelaces, or even a piece of string and tie it tight. Then insert a pen, pencil, or stick into the loop and rotate it so that the tourniquet exerts pressure on the arteries

