

Base of the Skull

The interior of the base of the skull is divided into three cranial fossae:

1-Anterior

The anterior cranial fossa is separated from the middle cranial fossa
By

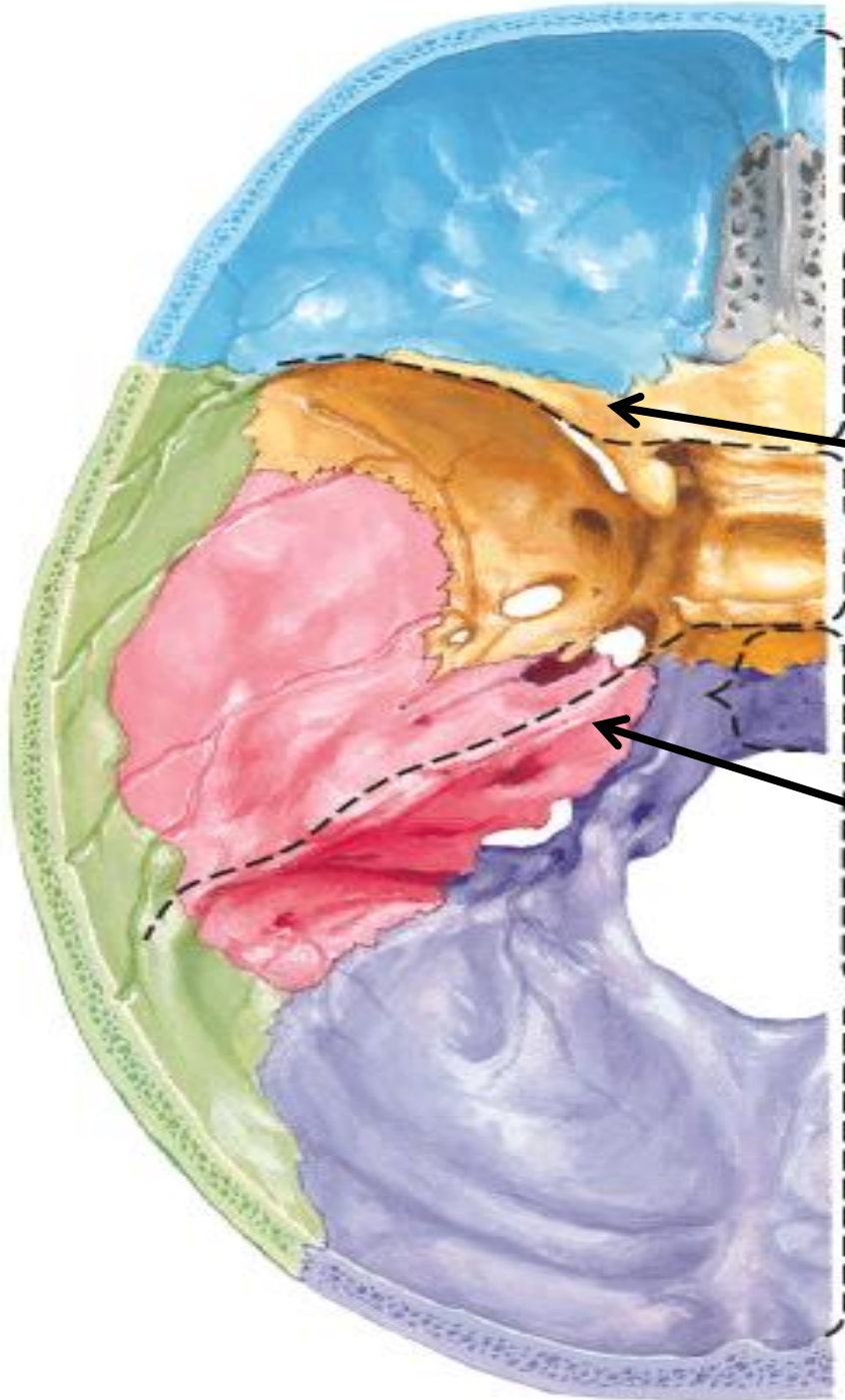
The lesser wing of the sphenoid

2-Middle

The middle cranial fossa is separated from the posterior cranial fossa
By

The petrous part of the temporal bone

3-Posterior



Anterior Cranial Fossa

Contains the frontal lobes of the cerebral hemispheres

It is bounded

Anteriorly: by the inner surface of the frontal bone

In the midline: a **crest galli** for the attachment of the falx cerebri.

Posteriorly: the **lesser wing** of the sphenoid bone

Note: The medial end of the lesser wing of the sphenoid forms

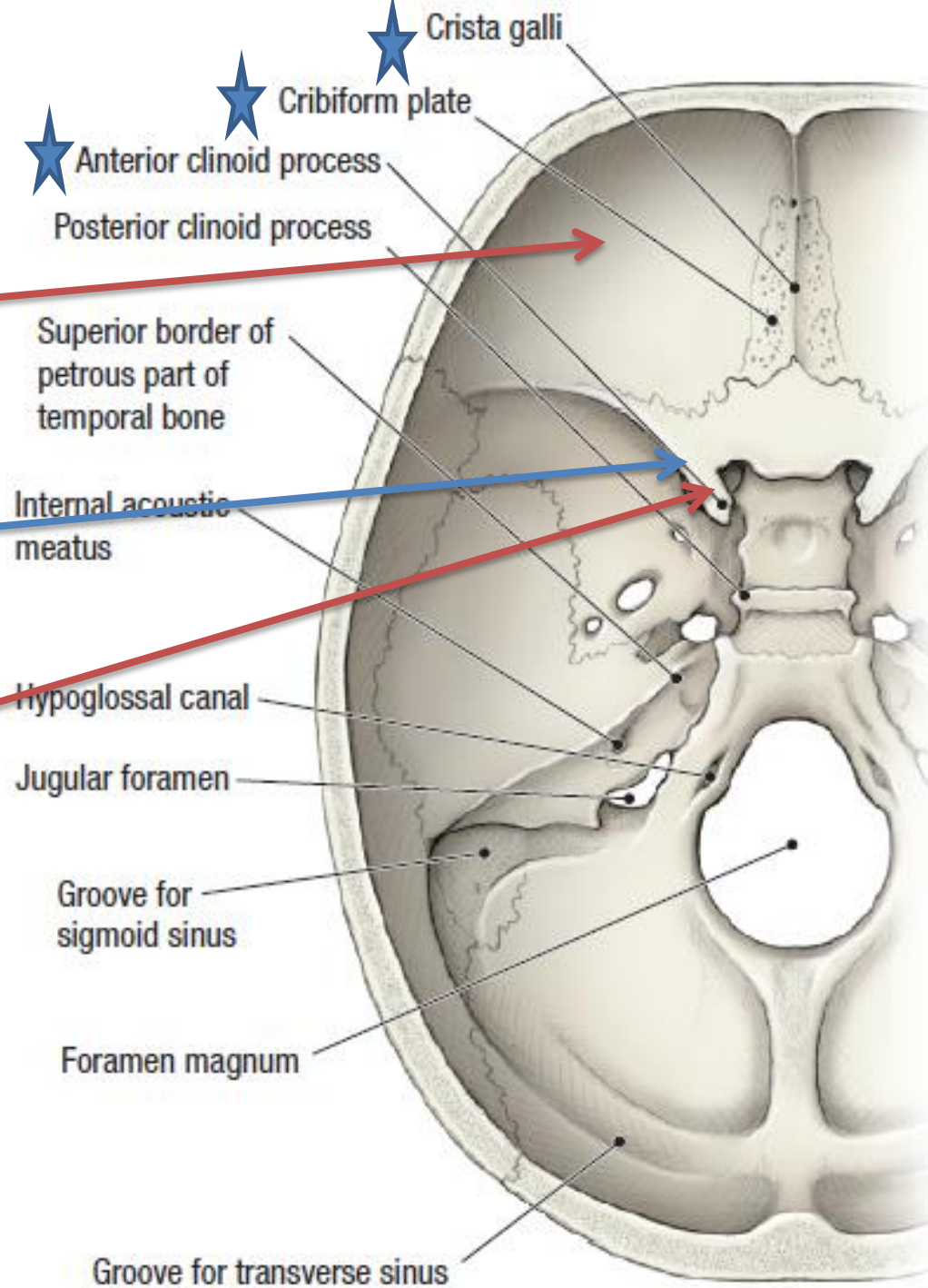
The anterior clinoid process gives attachment to the **Tentorium cerebelli**.

❖ The floor of the fossa is formed by:

Laterally: orbital plates of the frontal bone

Medially: by the cribriform plate of the ethmoid

The crista galli is a sharp upward projection of the ethmoid bone in the midline for the attachment of **The falx cerebri**.



Middle Cranial Fossa

formed by:

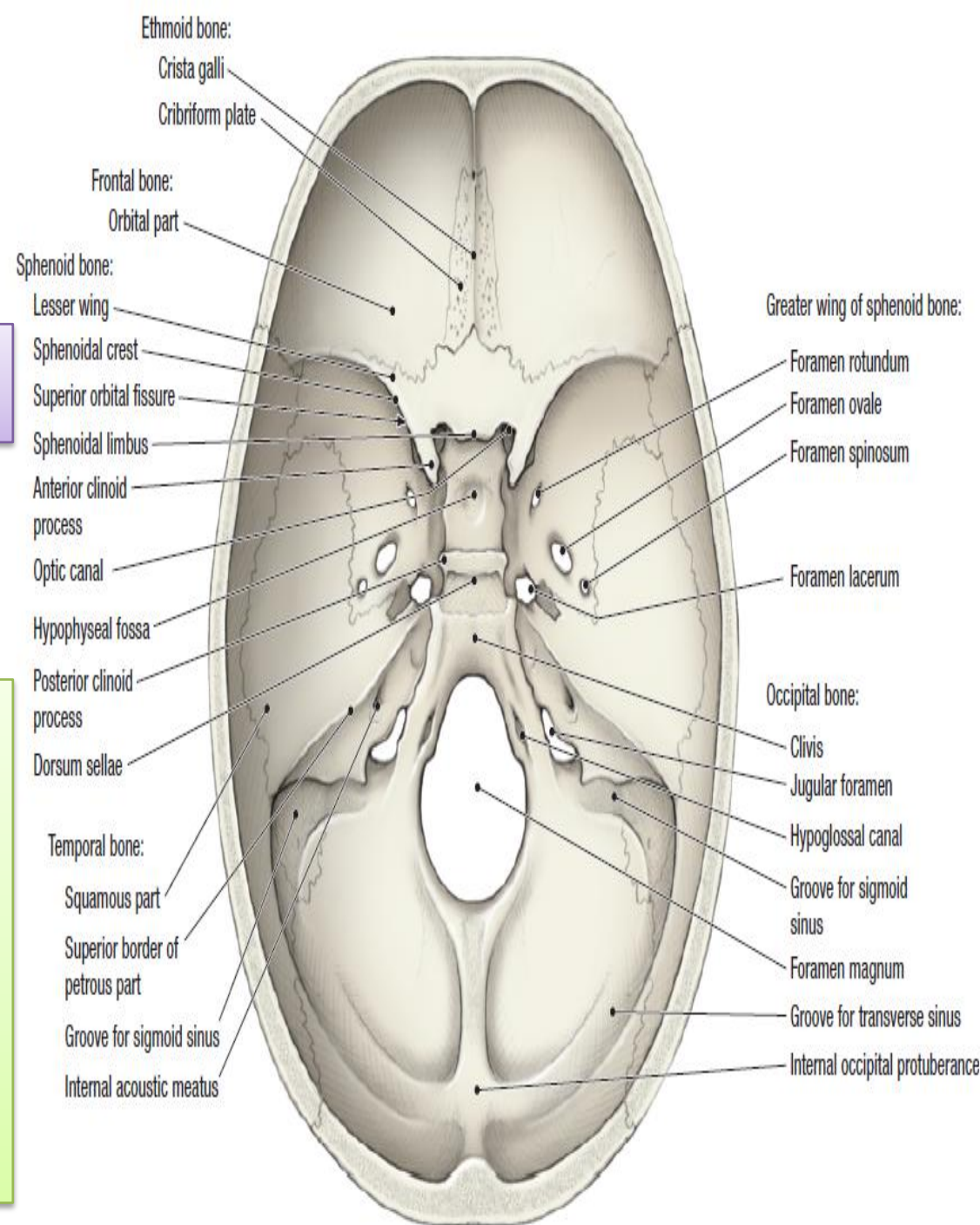
the body of the sphenoid

It is bounded

Anteriorly by: the lesser wings of the sphenoid

Posteriorly by :the superior borders of the petrous parts of the temporal bones

Laterally :
the squamous parts of the temporal bones, the greater wings of the sphenoid, and the parietal bones.
The floor of each lateral part of the middle cranial fossa is formed by the greater wing of the sphenoid and the squamous and petrous parts of the temporal bone.



The sphenoid bone

resembles a bat having a centrally placed body with greater and lesser wings that are outstretched on each side

1-The body of the sphenoid :contains the **sphenoid air sinuses**

2-The ***optic canal*** transmits

A- The optic nerve

B-The ophthalmic artery

3-The superior orbital fissure

is a slitlike opening between the **lesser and greater** wings of the sphenoid transmits:

Lacrimal

Frontal

Trochlear

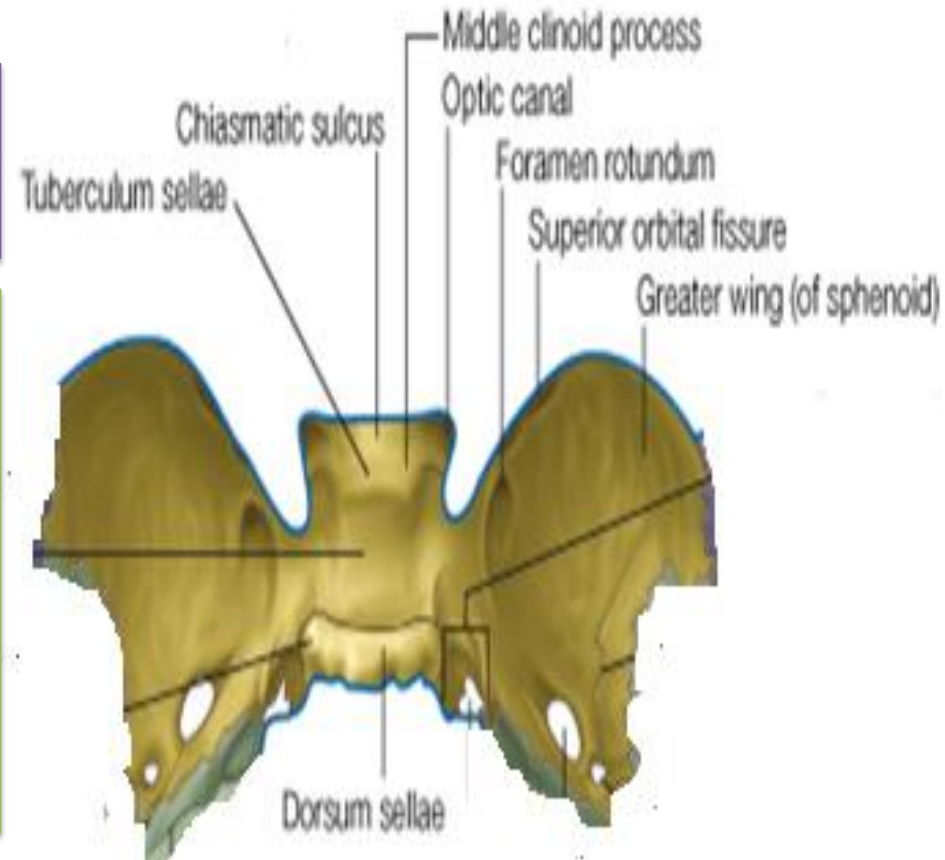
Superior division of Oculomotor nerve

Nasociliary

Inferior division of oculomotor nerve

Abducent nerves

together with the superior ophthalmic vein.



**Live
Free
To
See
No
Insult
At all**

4-The foramen rotundum

situated behind the medial end of the superior orbital fissure

Transmits the maxillary nerve.

5-The foramen ovale

lies posterolateral to the foramen rotundum

**Transmits the mandibular nerve
the lesser petrosal nerve**

6-The small foramen spinosum

lies posterolateral to the foramen ovale

The foramen transmits

The middle meningeal artery

7-Foramen lacerum

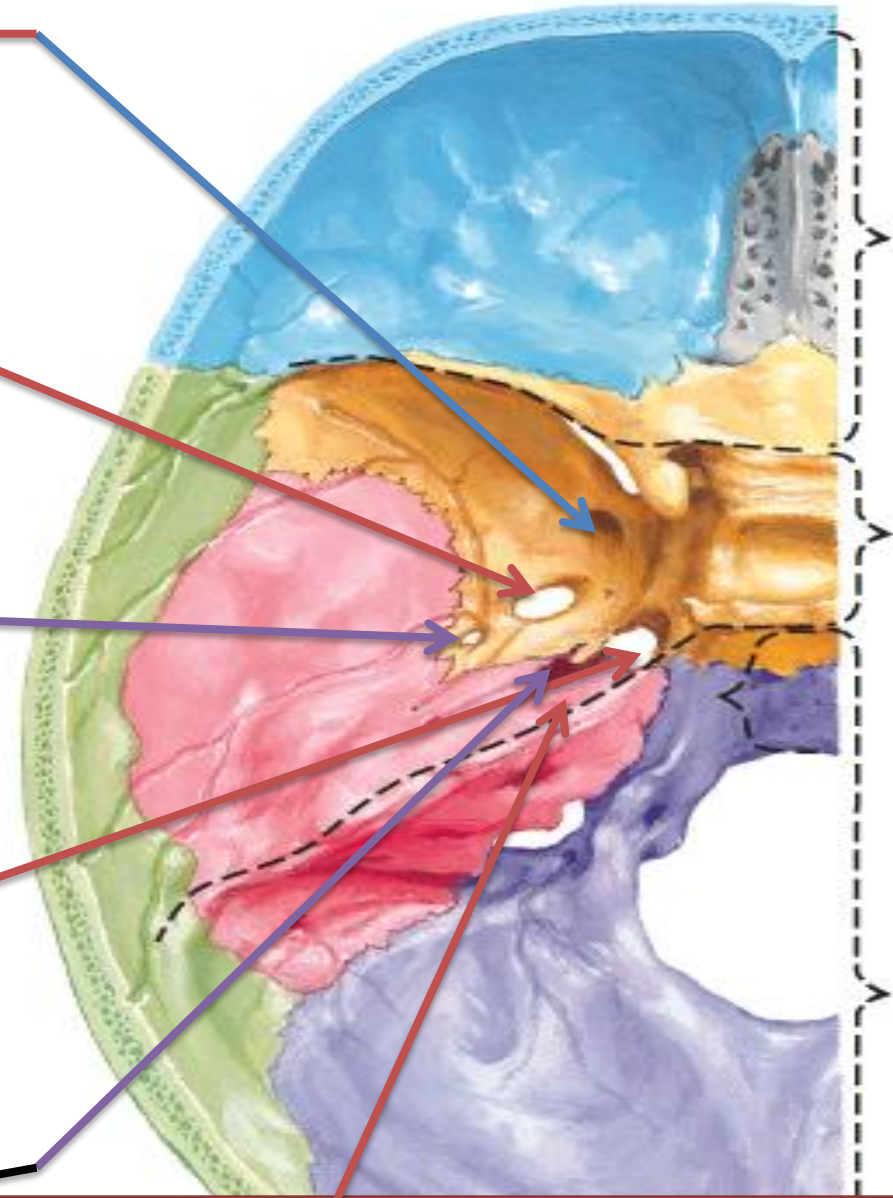
lies between the apex of the petrous part of the temporal bone and the sphenoid bone
in life is **filled by cartilage and fibrous tissue**,
and only small blood vessels pass through this tissue from the cranial cavity to the neck.

8-The carotid canal

Transmits: The internal carotid artery

9- Meckl's cave:

impression on the apex of the petrous part of the temporal bone for the trigeminal ganglion



10-The median part of the middle cranial fossa is formed by:

the body of the sphenoid bone

In front of it is

The sulcus chiasmatis

which is related to the optic chiasma and leads laterally

To

THE OPTIC CANAL

On the superior aspect of the body is a depression called

The sella turcica

which CONTAIN

THE PITUITARY GLAND

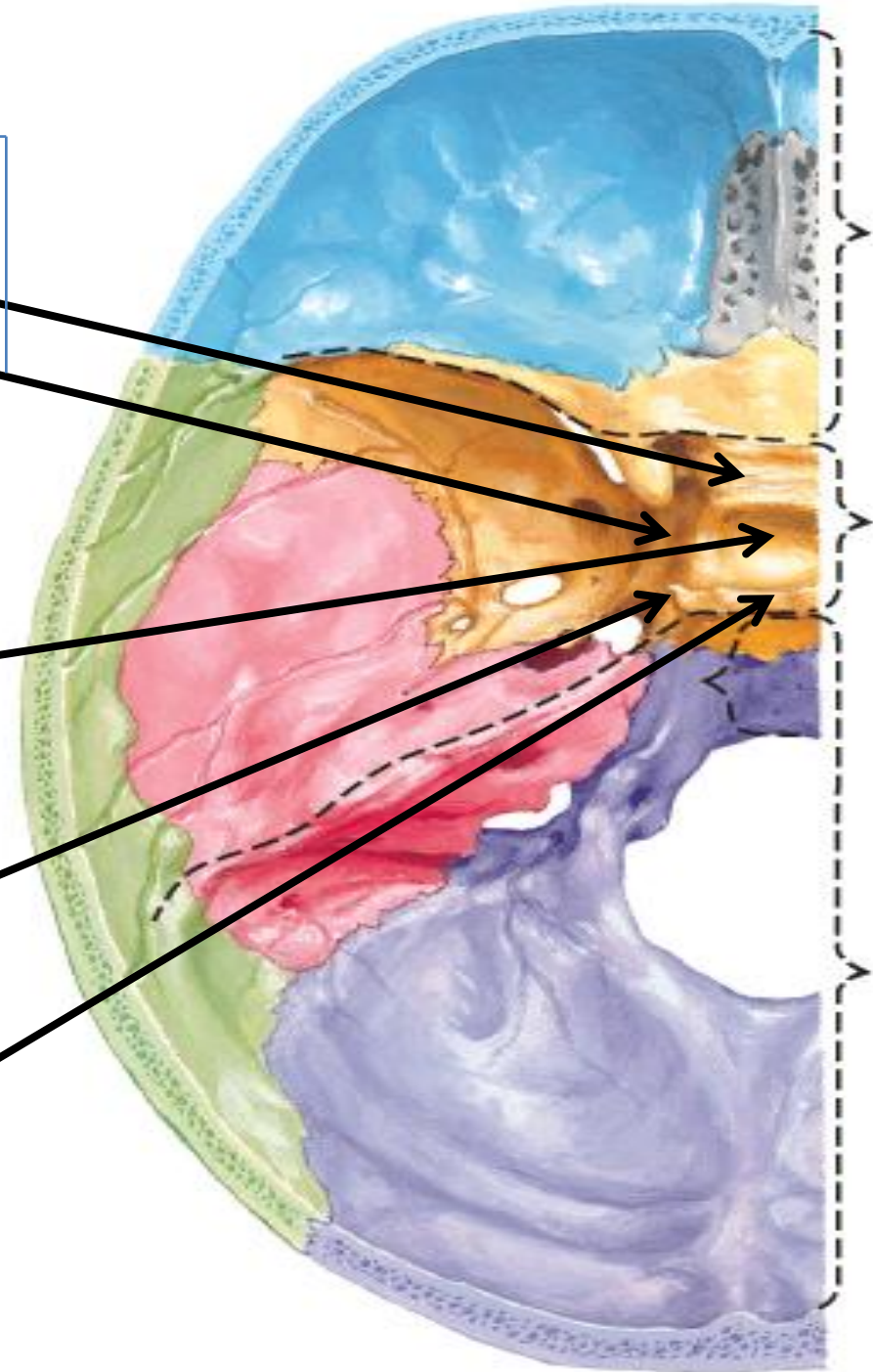
The sella turcica is bounded posteriorly by a square plate of bone called

THE DORSUM SELLAE

The superior angles of the dorsum sellae have **two tubercles** called

The posterior clinoid processes

which give attachment to the fixed margin of **The tentorium cerebelli.**



Posterior Cranial Fossa

Contains the parts of the
hindbrain:

The cerebellum, Pons, and
Medulla oblongata

Is bounded by:

Anteriorly: the petrous part of the
temporal bone

Posteriorly : the internal surface of the
squamous part of the
occipital bone

The floor is formed by: Parts of the
occipital bone

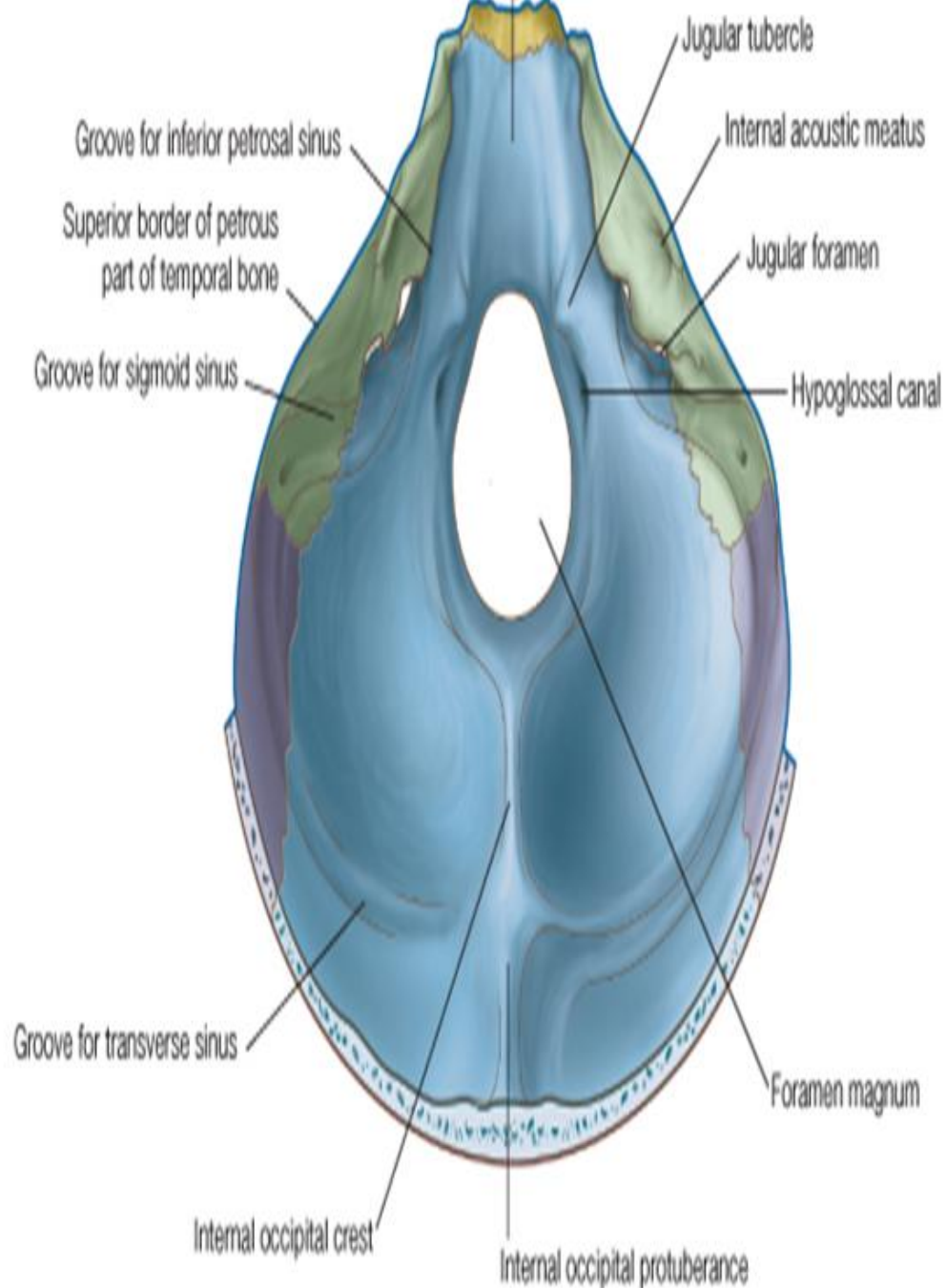
The mastoid part of the temporal bone

The roof is formed by:

a fold of dura

THE TENTORIUM CEREBELLI

which intervenes between the
cerebellum below And
the occipital lobes of the cerebral
hemispheres above



1-The internal acoustic meatus

pierces the posterior surface of the petrous part of the temporal bone.

It transmits:

A- THE VESTIBULOCOCHLEAR NERVE

B- THE FACIAL NERVE.

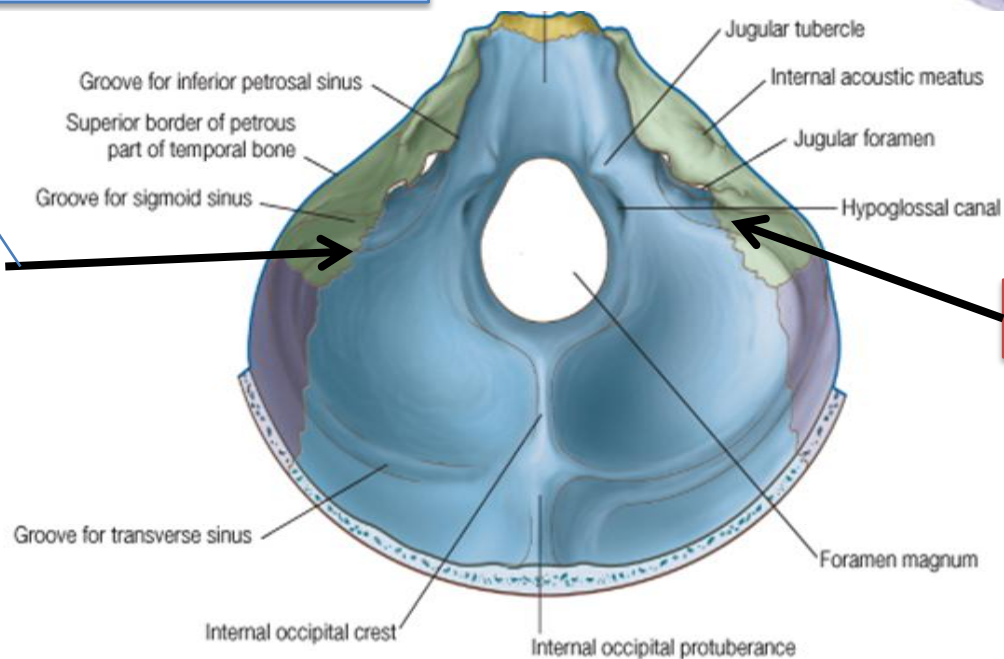
2-The internal occipital protuberance

attached to it the small falx cerebelli

3- Groove for the transverse sinus:

On each side of the internal occipital protuberance

4-the sigmoid sinus



4-the sigmoid sinus

5-The foramen magnum

occupies the central area of the floor

Transmits

A- The medulla oblongata and its surrounding meninges

B- The ascending spinal parts of the accessory nerves

C- The two vertebral arteries

6-The hypoglossal canal

is situated above the anterolateral boundary of the foramen magnum

Transmits the hypoglossal nerve

7-The jugular foramen

It transmits the following structures:
from before backward:

A-The inferior petrosal sinus

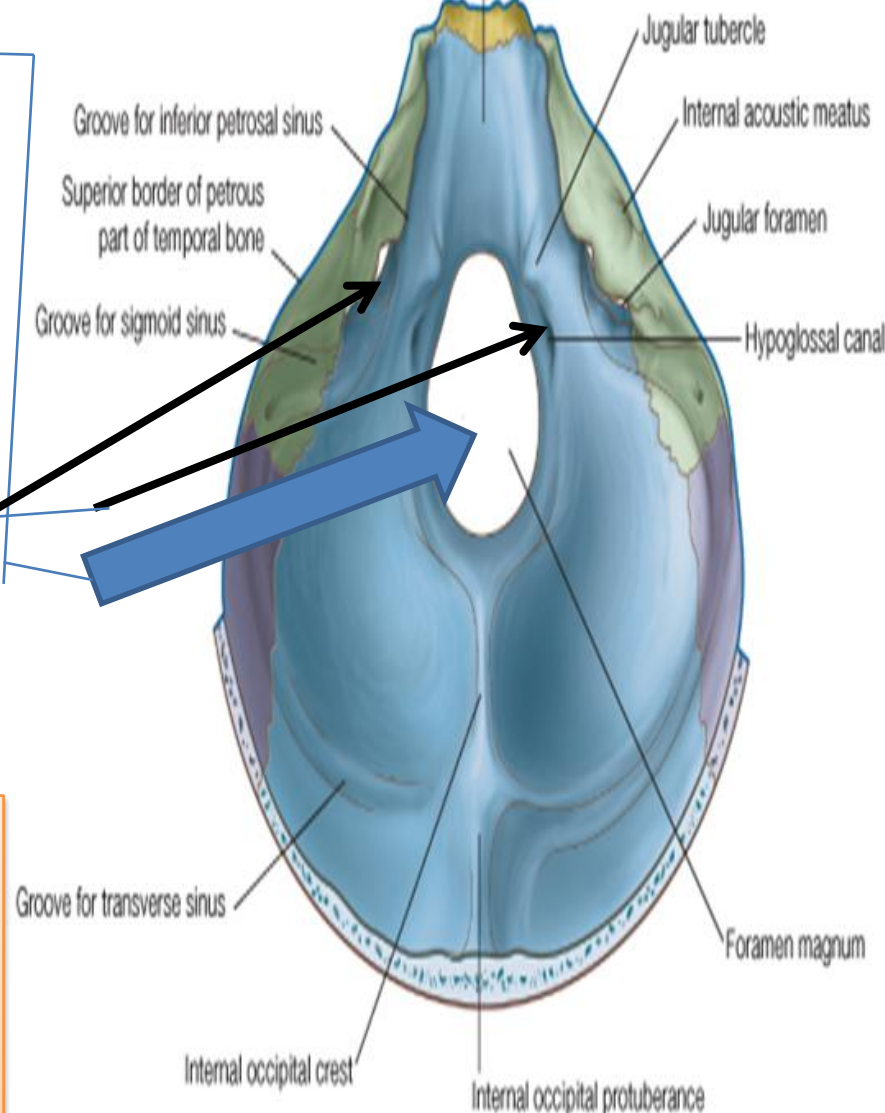
B-The 9th, 10th, and 11th cranial nerves

C- The large sigmoid sinus

D-The inferior petrosal sinus

E-The sigmoid sinus turns down through the foramen

to become the internal jugular vein



Inferior View of the Skull

1-The hard palate which is made of:

A-The palatal processes of the maxillae

B-The horizontal plates of the palatine bones

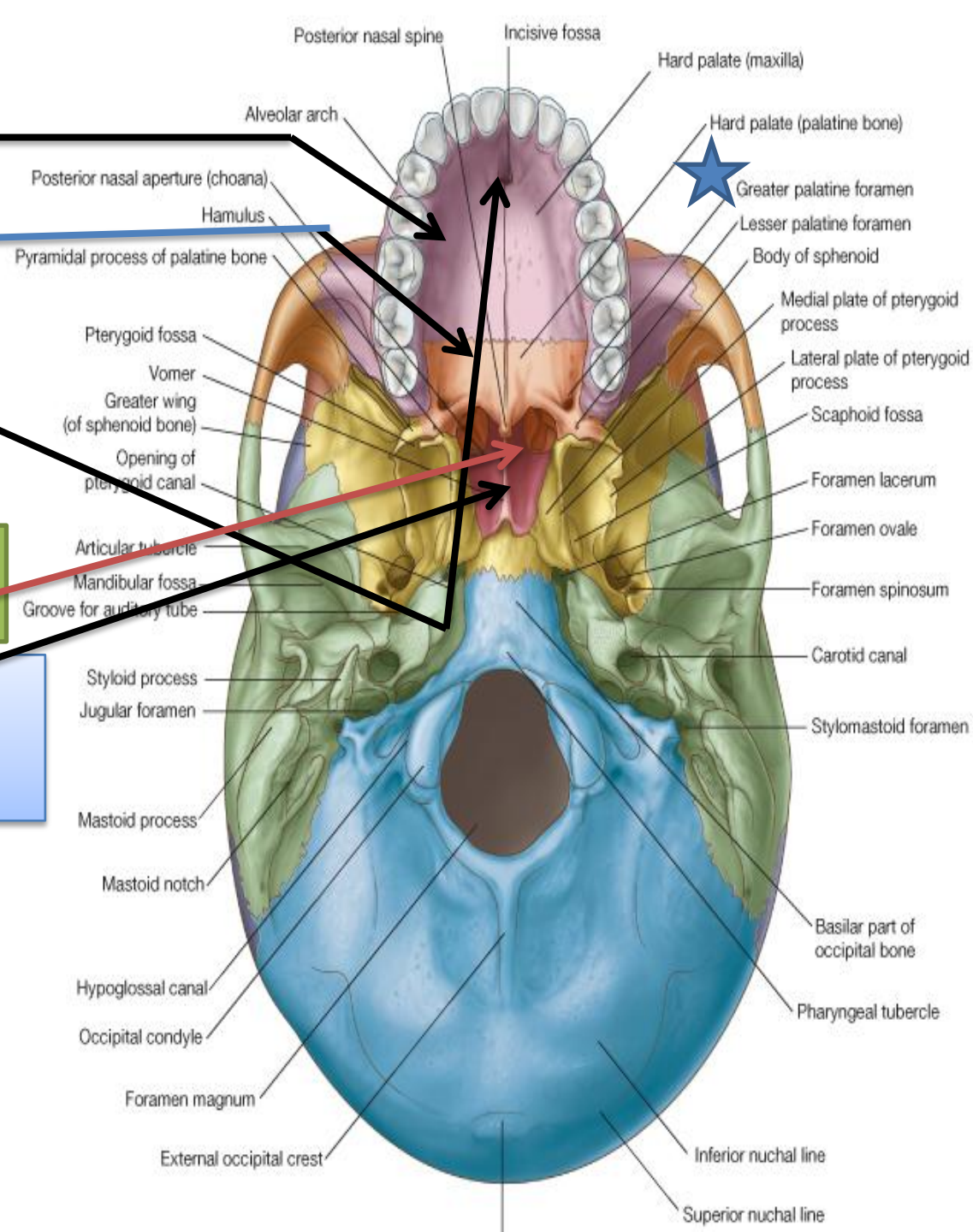
2-Incise fossa and foramen

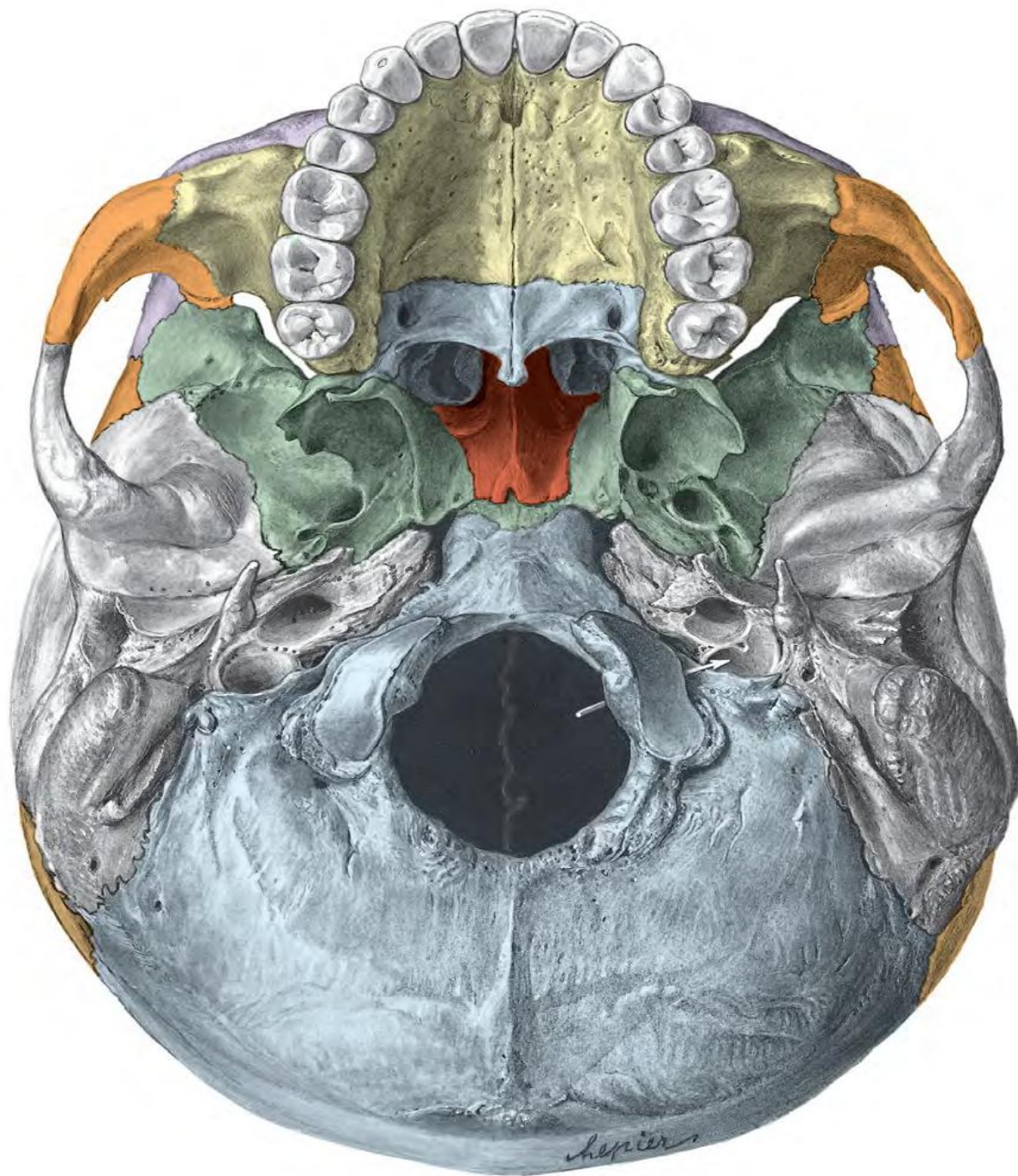
3-The greater and lesser palatine foramina

4-The choanae (posterior nasal apertures).

5-The vomer

6-Medial and lateral pterygoid plates of the sphenoid bone





Cranial Base Inferior View

The greater wing of the sphenoid is pierced by the large
7-foramen ovale
8-foramen spinosum

9-The spine of the sphenoid
LOCATED Posterolateral to
the foramen spinosum is

10-The mandibular fossa of the temporal bone
and the articular tubercle form the upper
articular surfaces for the temporomandibular
joint.

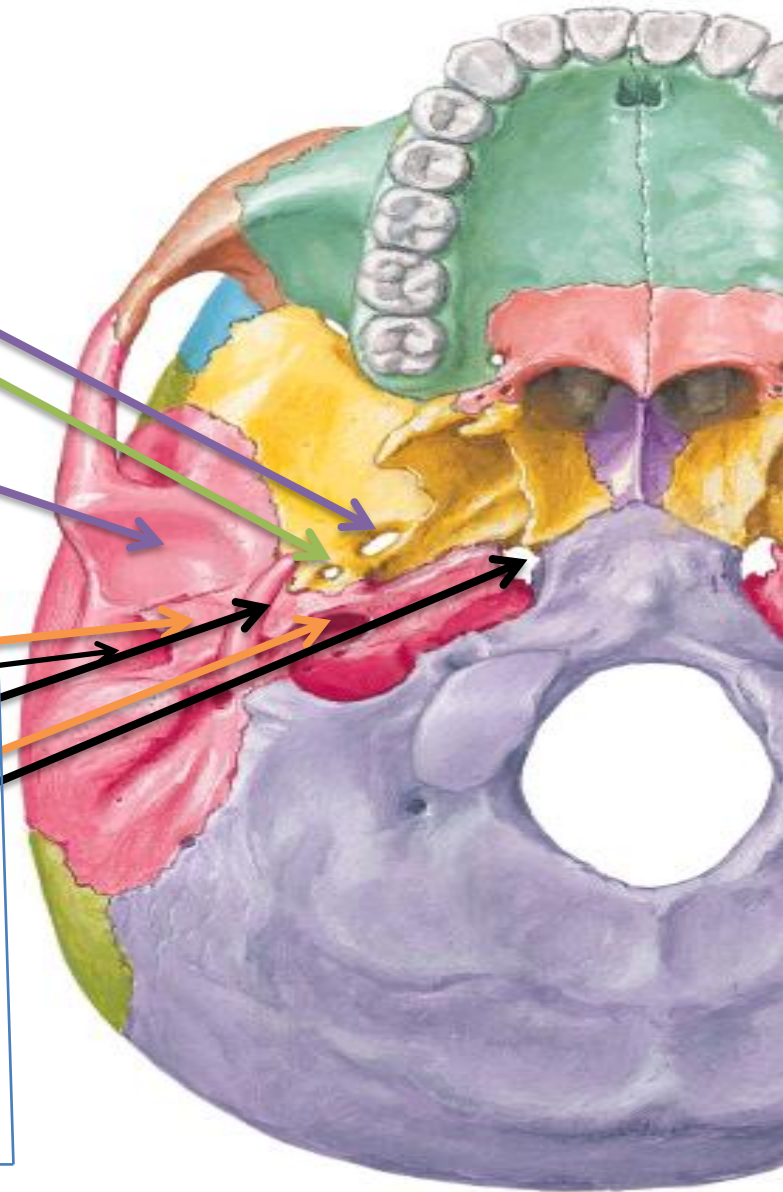
11-Tympanic plate of the temporal bone

12-The styloid process of the temporal bone

13-The opening of the carotid canal

14- Foramen lacerum

15-the external auditory meatus



16- The stylomastoid foramen

In the interval between the styloid and mastoid processes

Cranial Base
Inferior View

17-jugular foramen

18-Hypoglossal canal

Superior to the occipital condyle for transmission of the hypoglossal nerve

19-The basilar part of the occipital bone

20-The occipital condyles

21-The external occipital protuberance.

22- The superior nuchal lines :posterior to the foramen magnum in the midline

