

READING HOSPITAL SCHOOL OF HEALTH  
SCIENCES  
MEDICAL IMAGING PROGRAM

MI 263 Clin Sem V

Skull Anatomy

Merrill's Volume 2, Chapter 11, p. 7-15

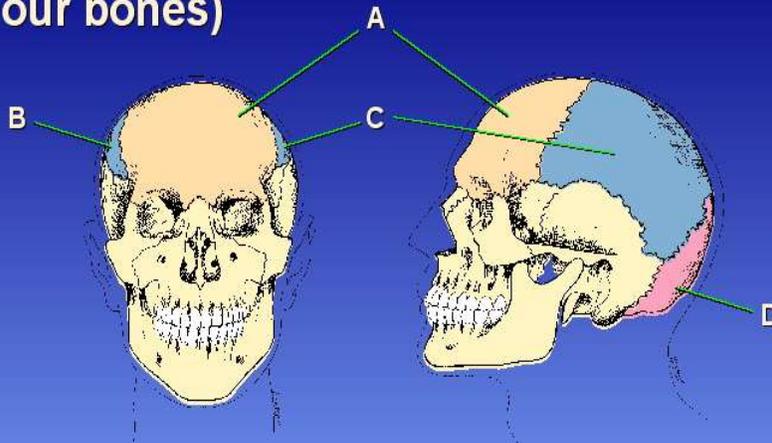
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# Cranial Bones

- Total of 8 cranial bones
  - Calvarium (4)
    - Frontal
    - Right parietal
    - Left Parietal
    - Occipital
  - Floor of Cranium (4)
    - Ethmoid
    - Sphenoid
    - Right temporal
    - Left temporal

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## Calvarium (Four bones)



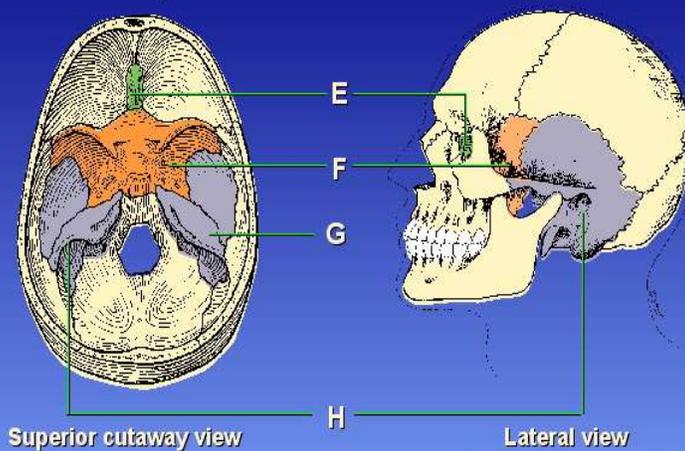
A. Frontal  
B. Right parietal

C. Left parietal  
D. Occipital

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## Floor of Cranium (Four bones)



Superior cutaway view

E. Ethmoid  
F. Sphenoid

Lateral view

G. Right temporal  
H. Left temporal

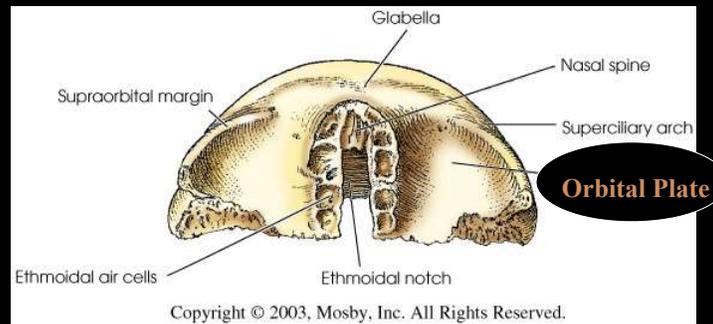
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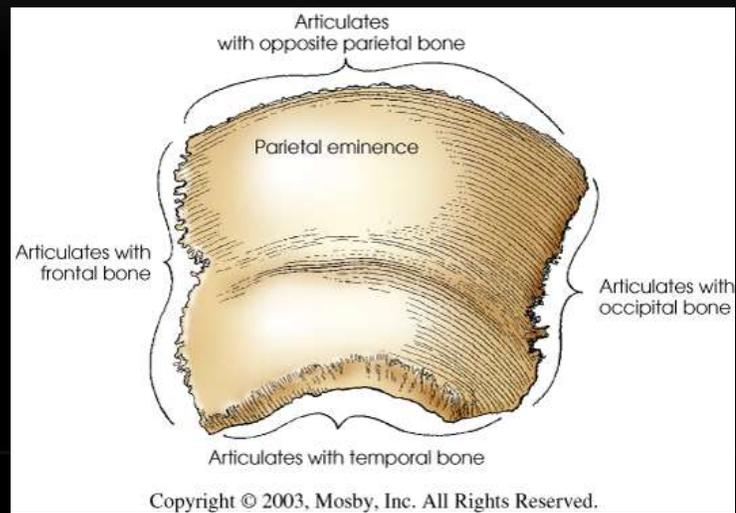
# Frontal Bone

## HORIZONTAL PORTION



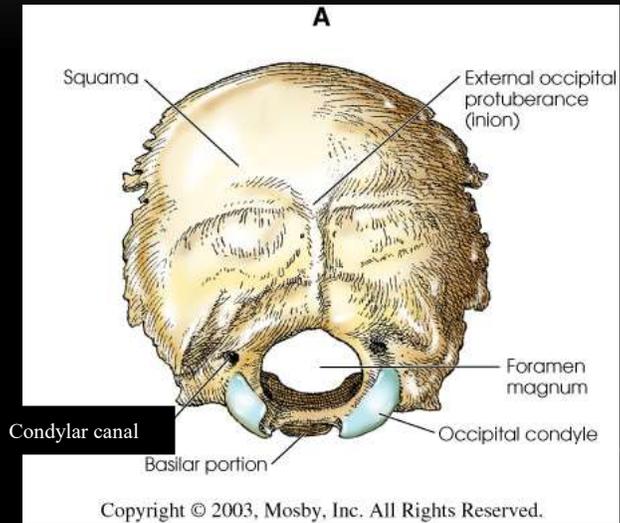
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# Parietal Bone



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# Occipital Bone



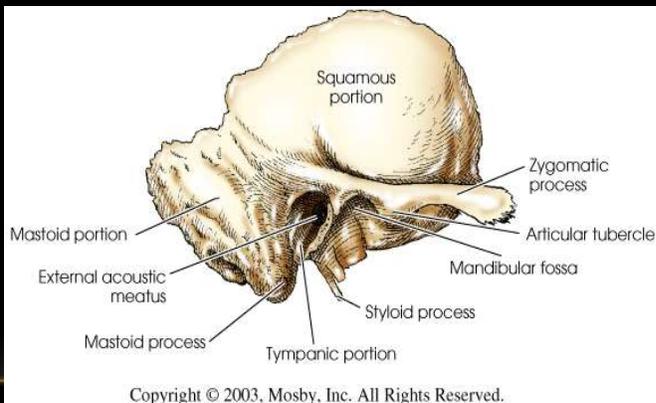
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# Temporal Bone

Lateral view

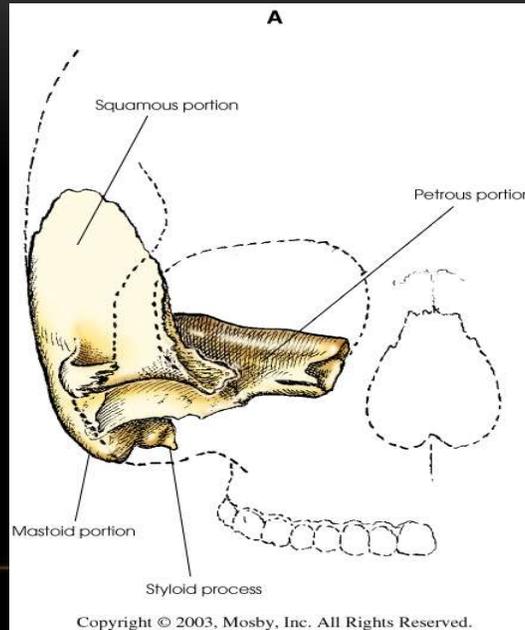
**3 Portions:**

1. Squamous
2. Mastoid
3. Petrous



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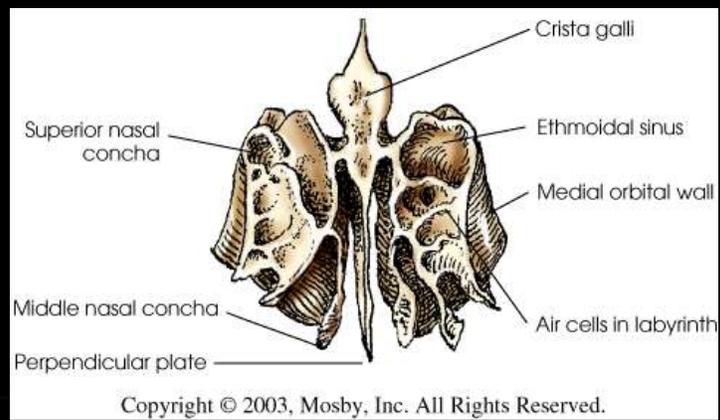
Petrous  
Portion at  
level of TEA



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## Ethmoid Bone

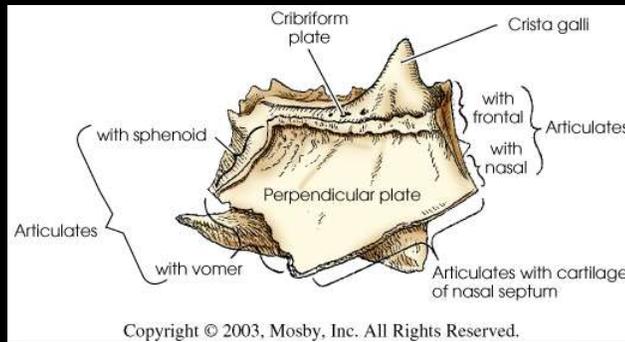
### FRONTAL VIEW



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# Ethmoid Bone

## LATERAL VIEW

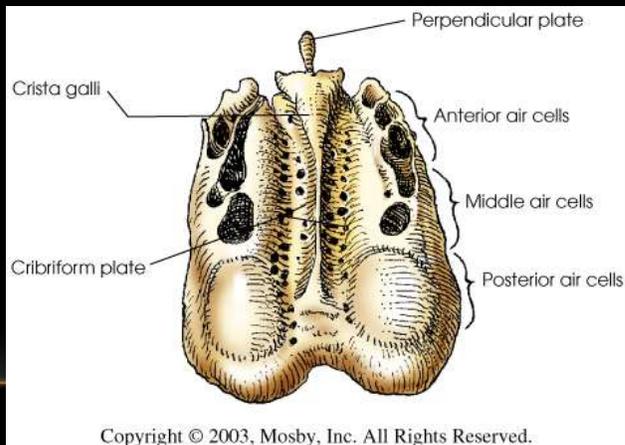


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# Ethmoid

## SUPERIOR VIEW

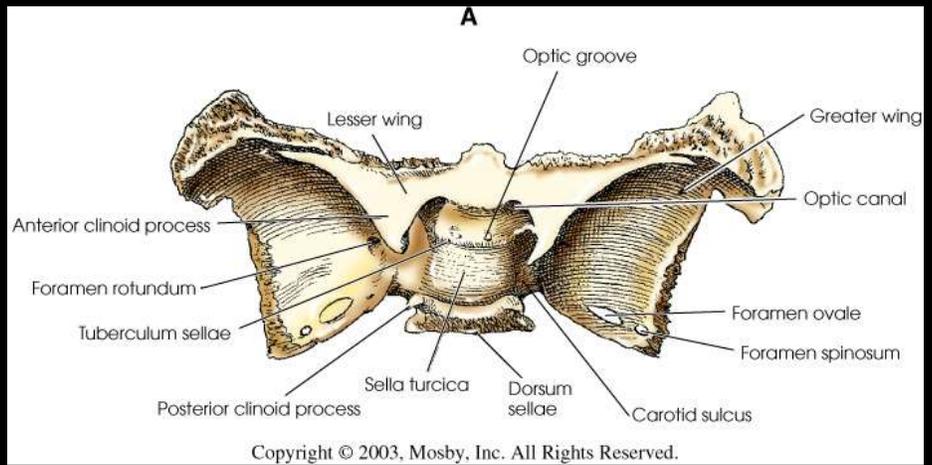
- Sits primarily below the floor of the cranium



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# Sphenoid Bone

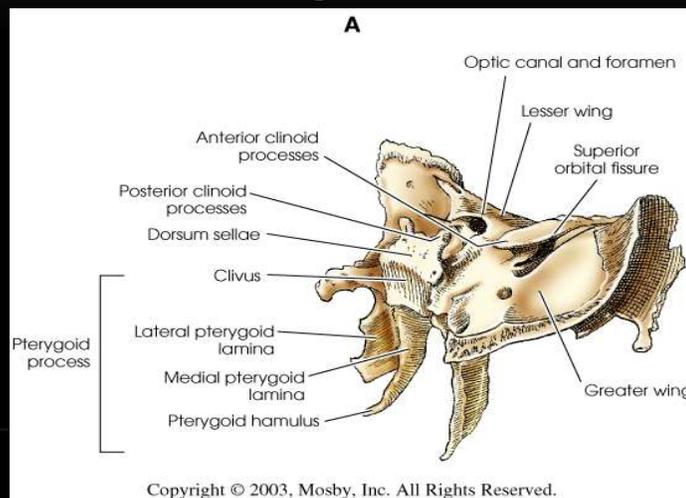
## SUPERIOR VIEW



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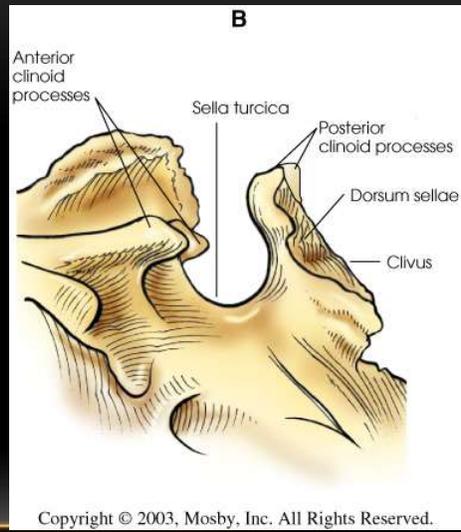
# Sphenoid Bone

## OBLIQUE VIEW



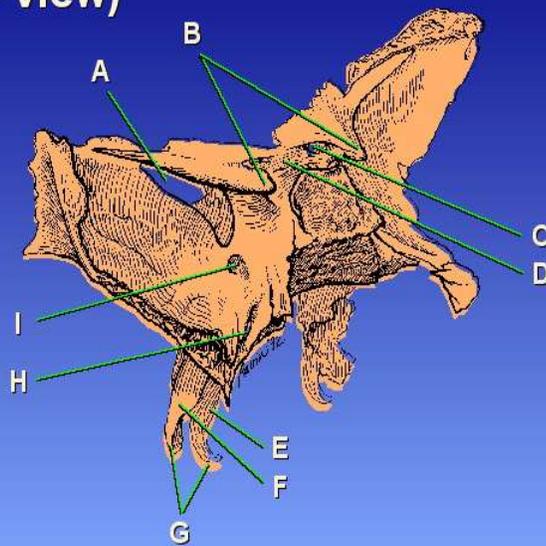
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- Sella turcica contains the pituitary gland.
- Located  $\frac{3}{4}$  inch superior and anterior to the EAM



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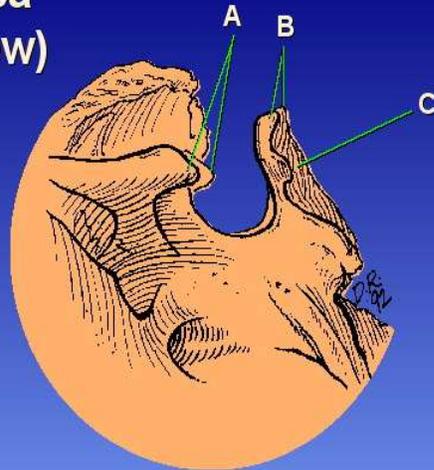
## Sphenoid Bone (Oblique View)



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## Sella Turcica (Lateral View)

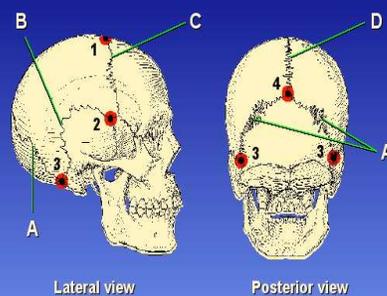


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## Cranial Sutures and Junction Points

- Cranial sutures
  - Coronal
  - Lambdoidal
  - Squamosal
  - Sagittal

- Junction points
  - Asterion
  - Bregma
  - Lambda
  - Pterion



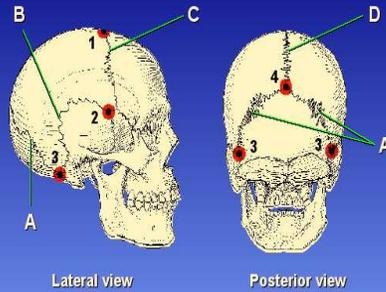
The bones of the skull are joined by fibrous joints called sutures.

- A- The lambdoidal suture: between the occipital and parietal bones.
- B- The squamosal suture: between temporal and parietal bones.
- C- The coronal suture: between the frontal and parietal bones.
- D- The sagittal suture: between the 2 parietal bones on top of the head.

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## Cranial Sutures and Junction Points

- Cranial sutures
  - Coronal
  - Lambdoidal
  - Squamosal
  - Sagittal
- Junction points
  - Asterion
  - Bregma
  - Lambda
  - Pterion



There are junction points located in the skull:

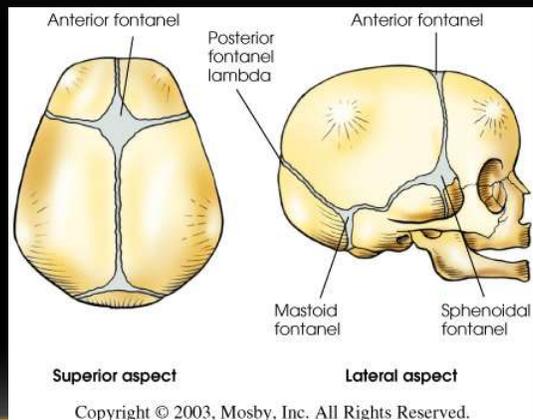
- 1- Bregma- coronal and sagittal sutures
- 2- Pterion- parietal, squamosal suture and greater wing
- 3- Asterion- parietal and temporal
- 4- Lambda- lambdoidal and sagittal sutures

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## Fontanels

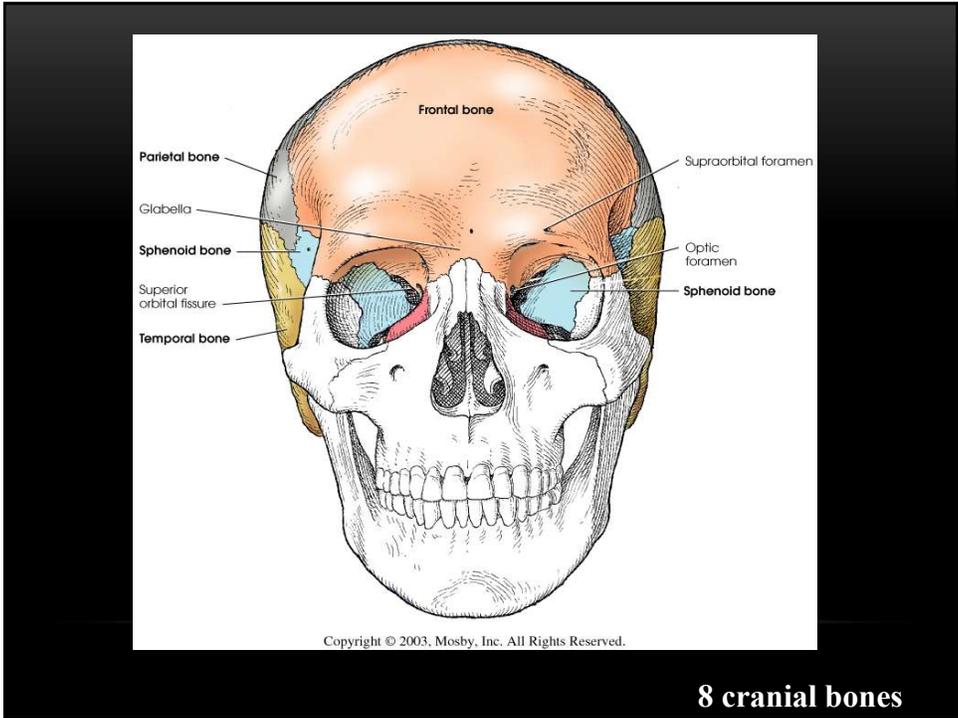
6 fontanels

- Anterior fontanel
- Posterior fontanel
- Mastoid fontanels (2)
- Sphenoidal fontanels (2)

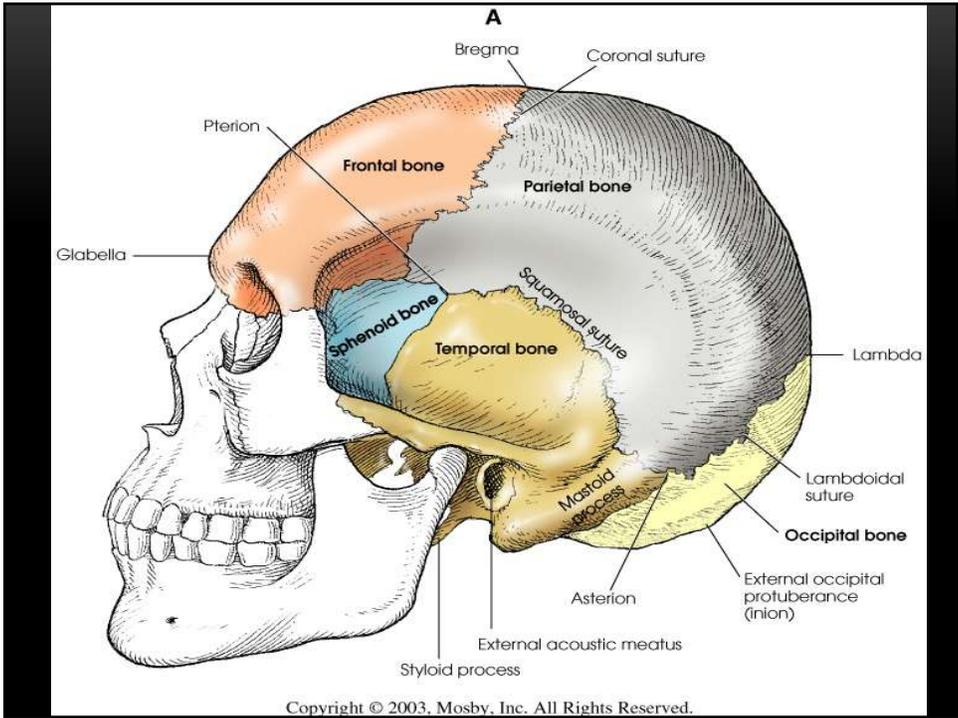


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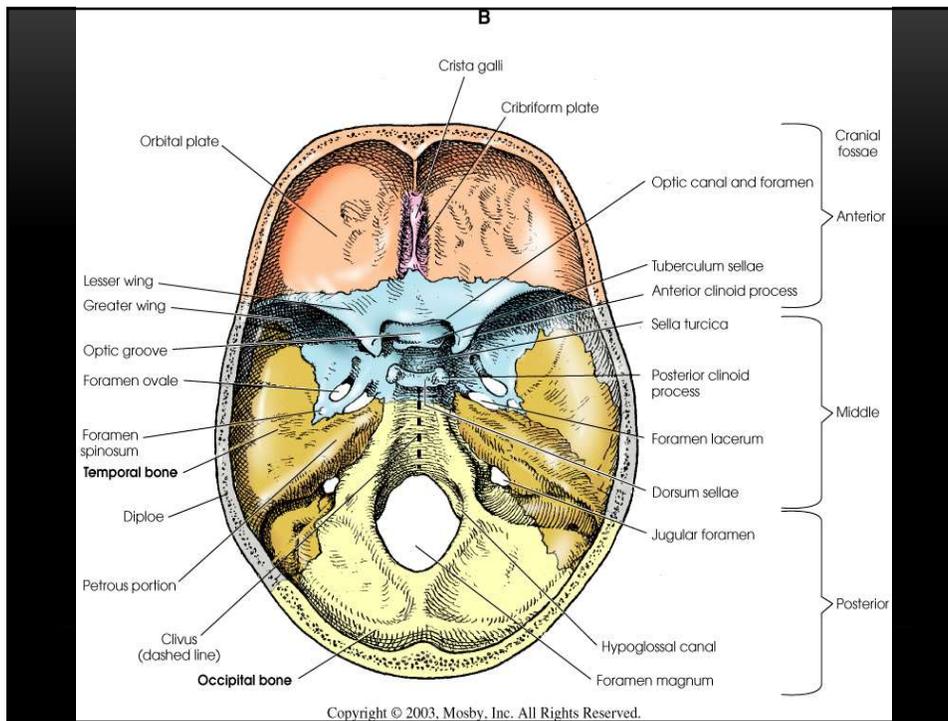
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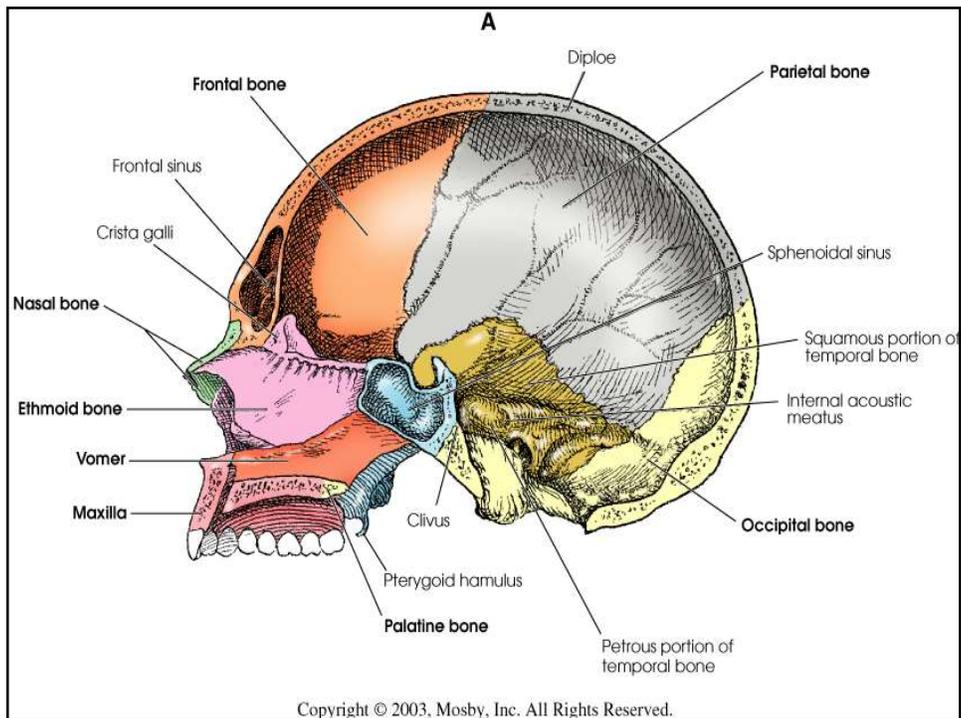
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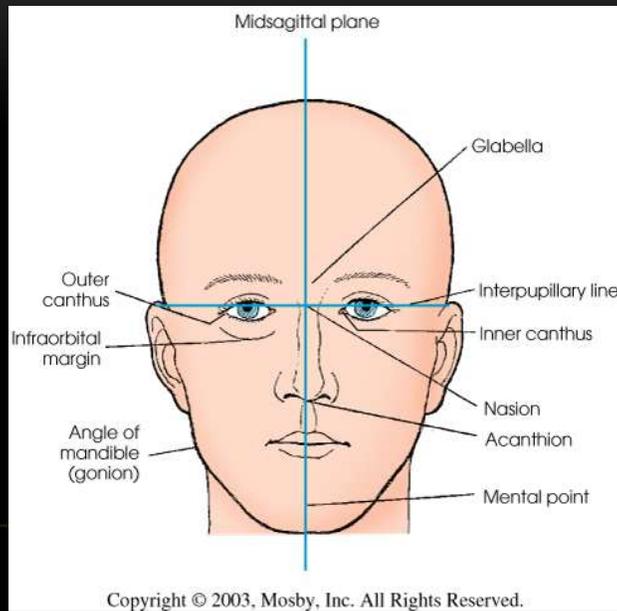


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# Skull Topography

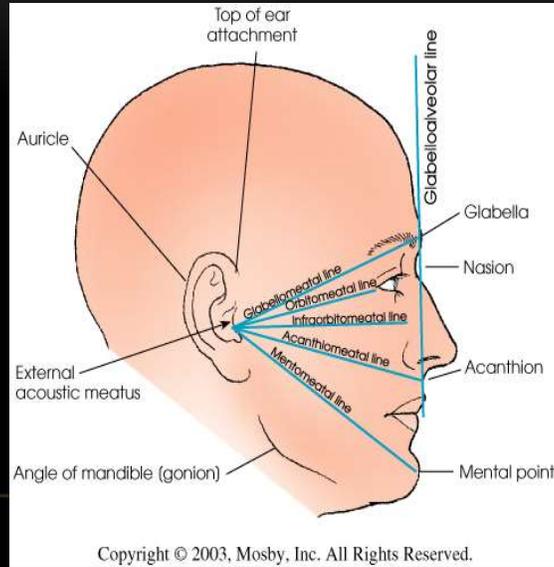
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## Landmarks



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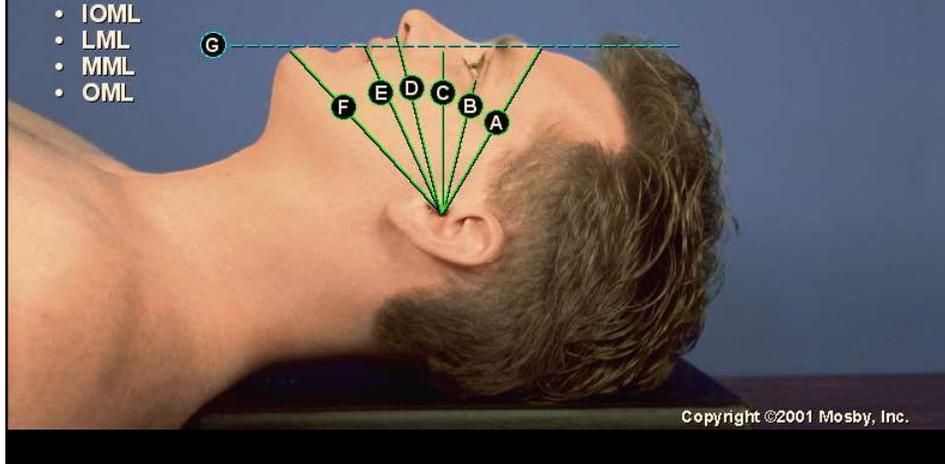
# More Landmarks



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## Skull Positioning Lines

- AML
- EAM
- GAL
- GML
- IOML
- LML
- MML
- OML



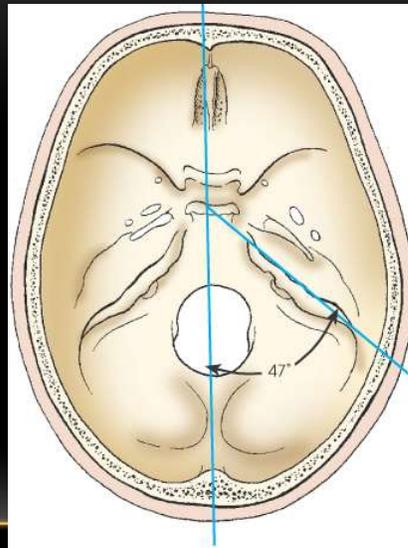
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# Skull Morphology

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## Mesocephalic Skull

- Typically shaped head
- Petrous pyramids project anteriorly and medially at an angle of 47 degrees from the MSP.

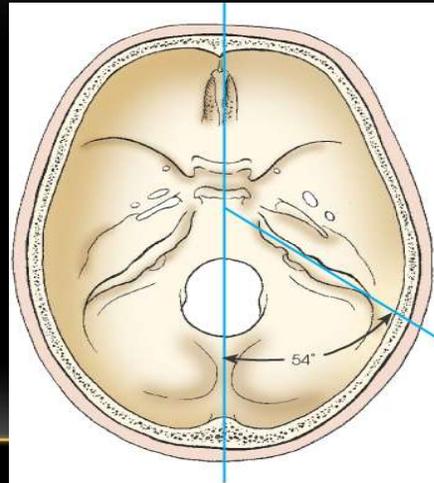


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## Brachycephalic Skull

- Short from front to back, broad from side to side, and shallow from vertex to base
- Petrous pyramids lie at an angle of 54 degrees from the MSP

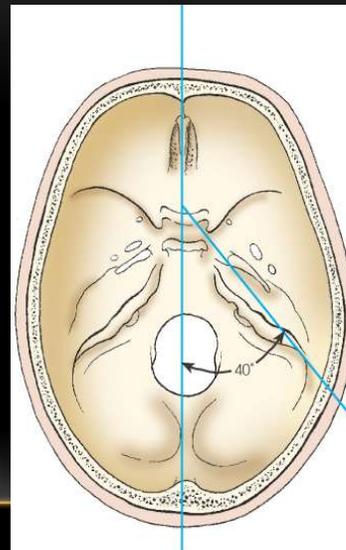


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## Dolichocephalic Skull

- Long from front to back, narrow from side to side, and deep from vertex to base.
- Petrous pyramids project from the MSP at an angle of 40 degrees



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