

UNIT-2 FETAL SKULL (BSCN3004)

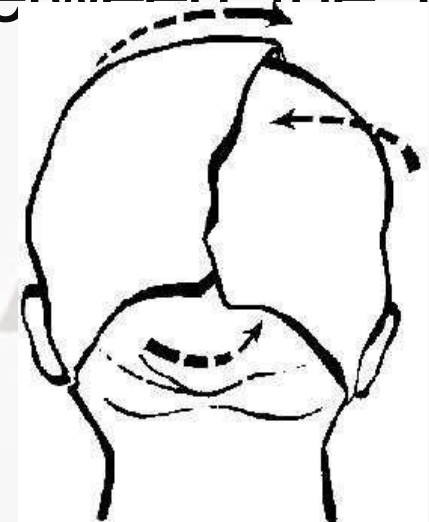
BY: MRS. SHILPA KATOCH
ASST. PROFESSOR
GSON

FETAL SKULL

- ❖ The fetal skull contains the delicate brain which may be subjected to great pressure as the head passes through the birth canal.
- ❖ It is large in comparison with the true pelvis and some adaptation between the skull and pelvis must take place during labor.
- ❖ The head is the most difficult part to deliver whether it comes first or last.

IMPORTANCE OF FETAL SKULL

The **fetal head**, from an obstetrical viewpoint, and in particular its size, is important because an essential feature of labor is the adaptation between the fetal head and the maternal bony pelvis.



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REGIONS & LANDMARKS OF FETAL SKULL

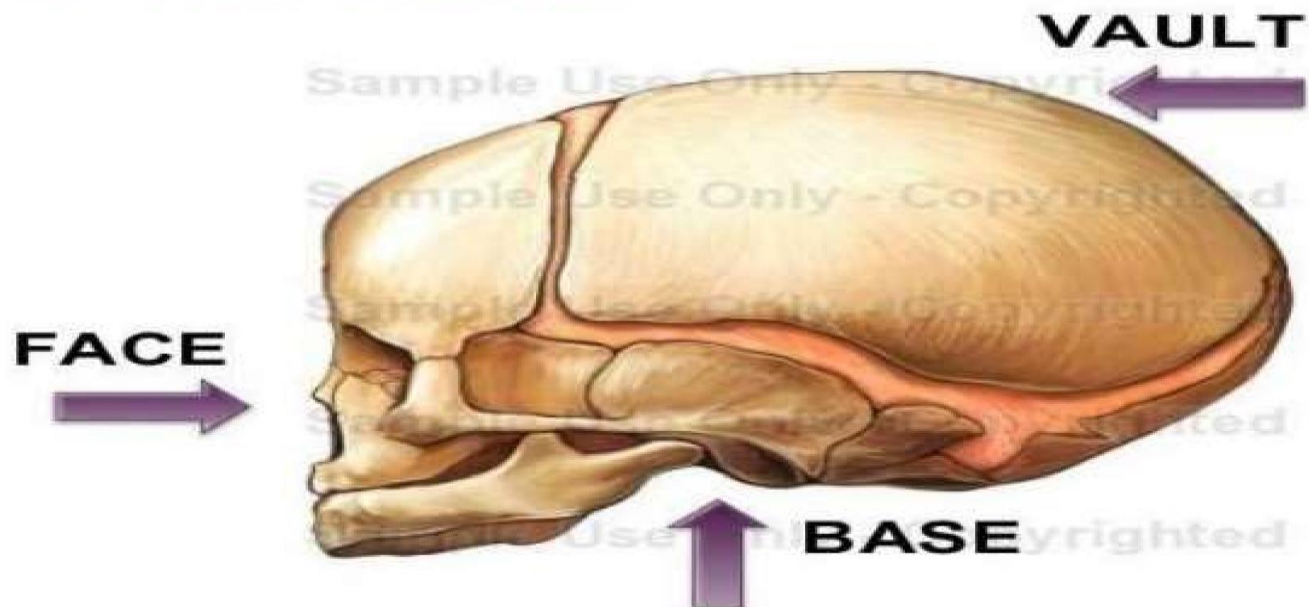
The skull is divided into vault, base and face.

- ❖ Vault is large, dome shaped part above the imaginary line drawn between orbital ridges and nape of neck.
- ❖ The base is comprised of bone that firmly united to protect the vital centre in medulla.
- ❖ Face is composed of the small bones.

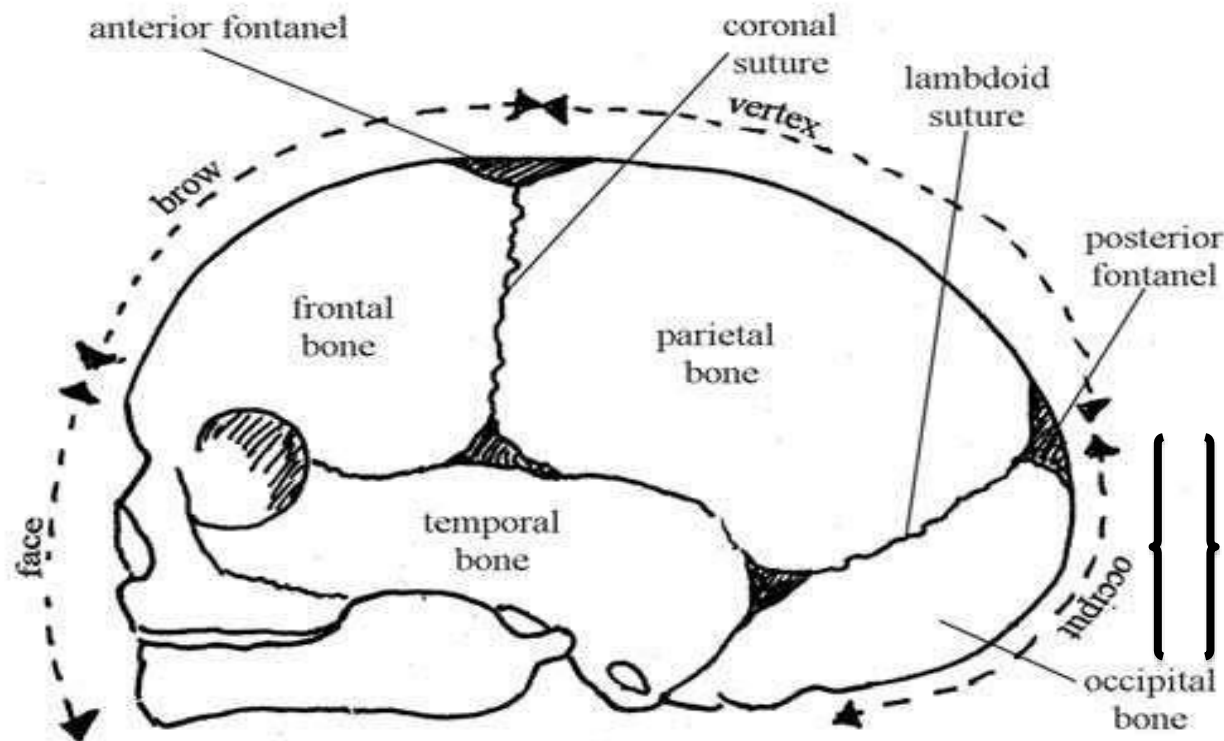
AREAS OF FETAL SKULL

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FETAL SKULL



A) The Occiput – Region between the foramen magnum and the posterior fontanelle. The part below occipital protuberance is suboccipital region.



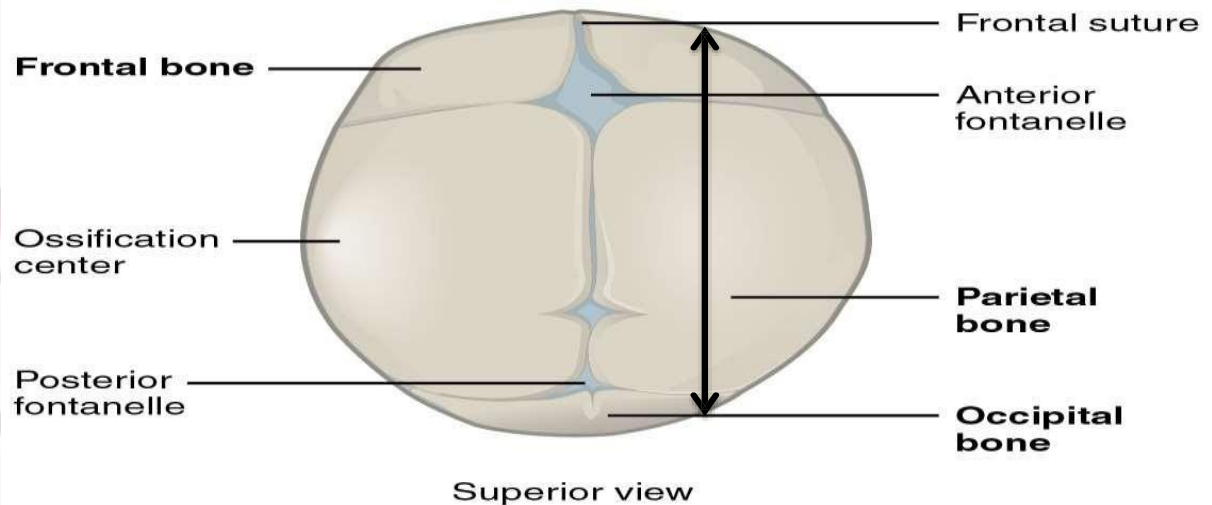
School of Nursing

Course Code : BSCN3004

Course Name: Midwifery & Obstetrical Nursing

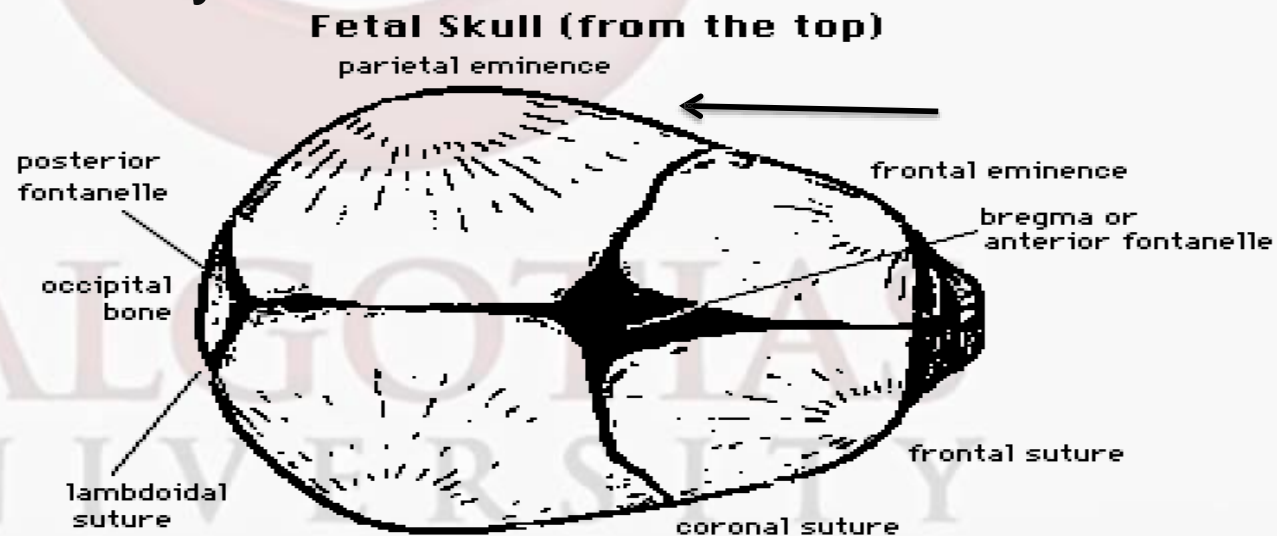
B) Vertex:- This bounded by posterior fontanelle, 2 parital eminences & by the anterior fontanelle.

- ❖ When the head is flexed well, suboccipito-bregmatic & the biparietal diameter present.
- ❖ As both are of same length 9.5 cm. The presenting area is circular.



C) Brow/Sinciput:— This extends from the anterior fontanelle & the coronal suture to the orbital ridges.

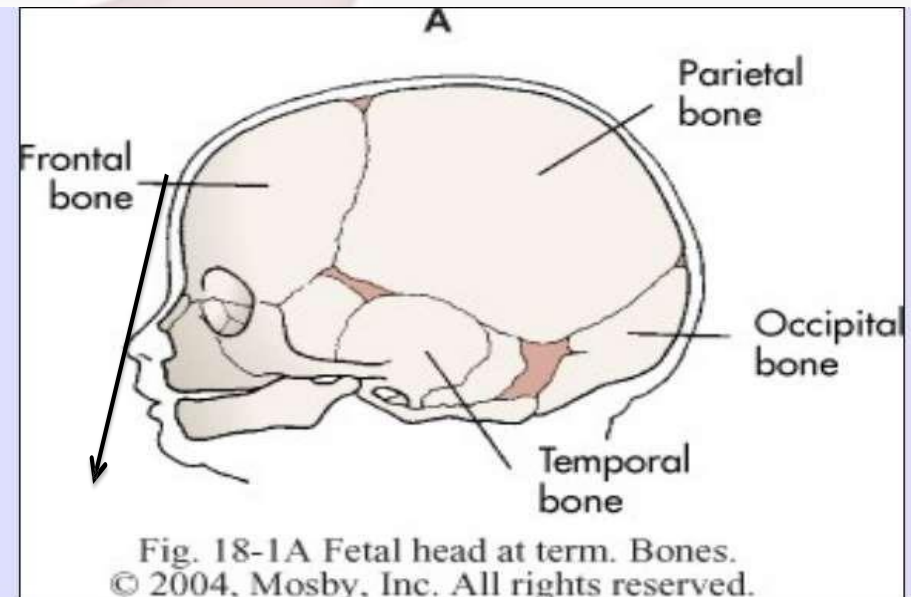
- ❖ When the head is partially extended, there will be mento-vertical diameter(13.5cm.) & if this presentation persist, vaginal delivery unlikely.



After Garrey et al. 1974 : 66

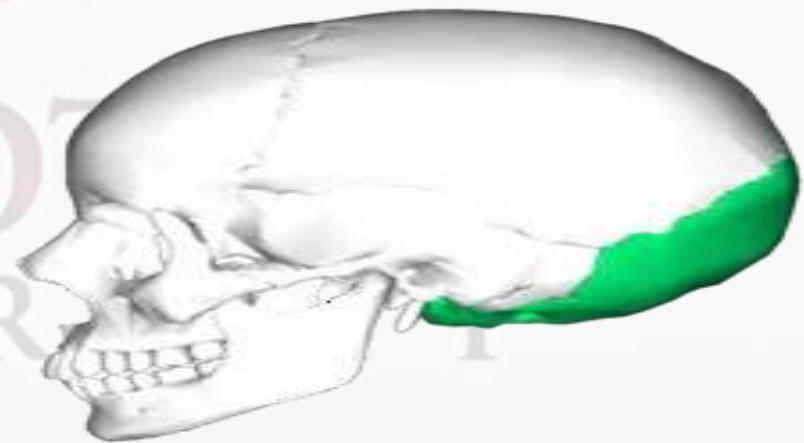
D) Face (presentation):— The face is small in the new born baby.

It extends from the orbital ridges & root of the nose to the junction of chin & the neck. The point between the eyebrows known as glabella. The chin termed as mentum.



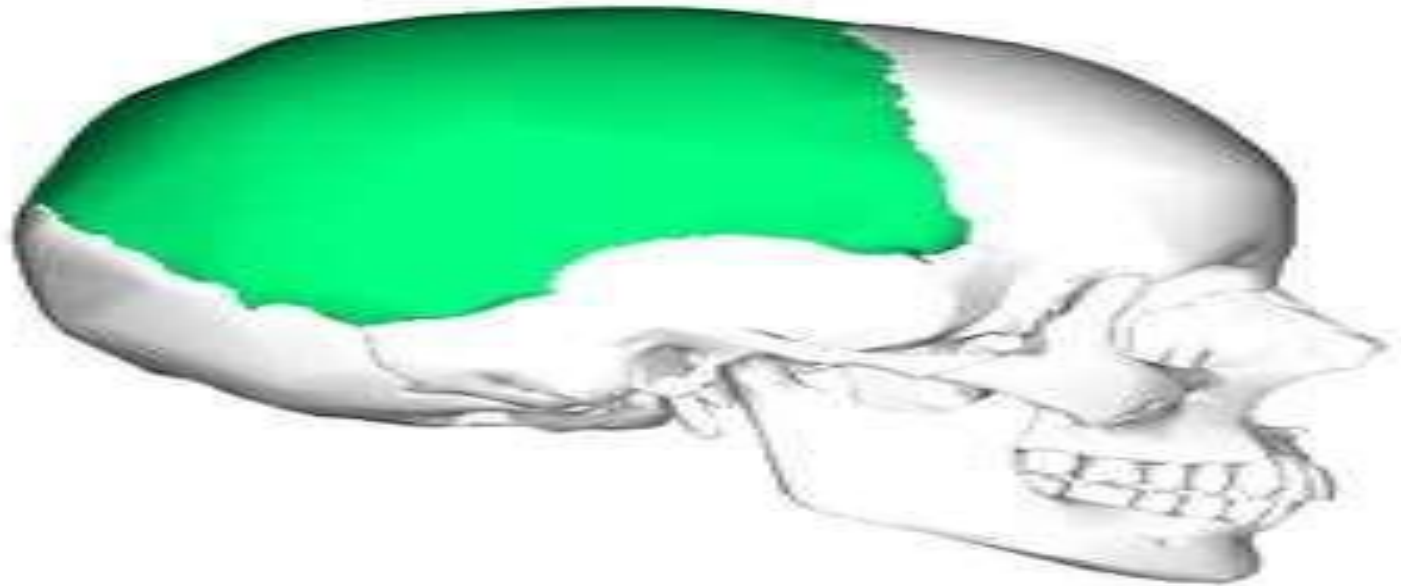
BONES OF VAULT:-

1. **OCCIPITAL:-** Lies at the back of head & forms the region of occiput.
 - ❖ Part of it contributes to the base of skull, as it contain foramen magnum, which protect the spinal cord as it leaves the skull.
 - ❖ At the centre is occipital protuberance.



BONES OF VAULT:-

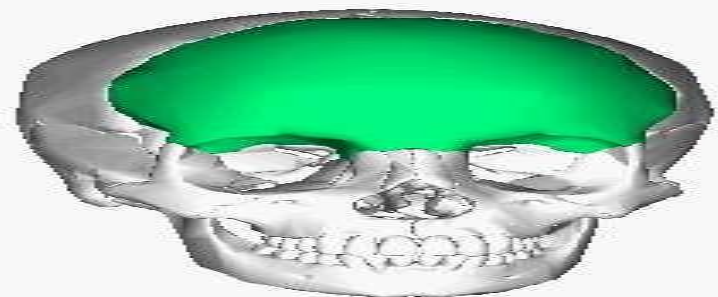
PARIETAL BONE(2):- Lies on either side of skull. Each has an ossification centre of each called the parietal eminence.



BONES OF VAULT:-

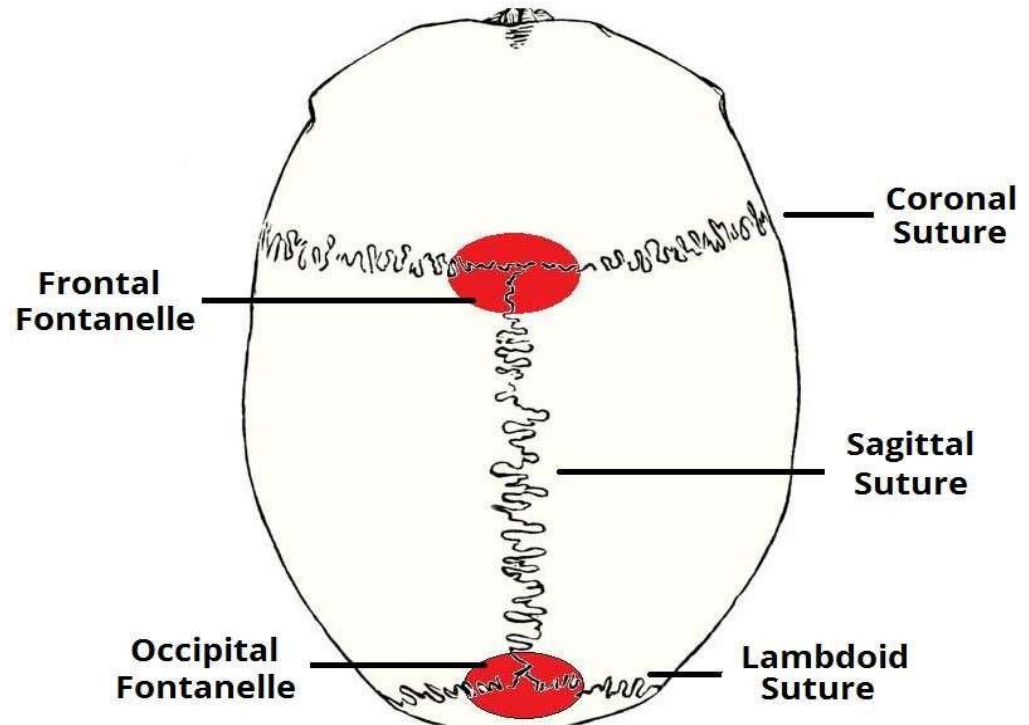
FRONTAL BONE(2):- These forms the forehead or sinciput.

- ❖ At the centre of each in the frontal eminence. It fuse into single by 8 yrs. of age.
- ❖ In addition to these 5 the upper part of temporal bone is also flat to form small part of vault.



SUTURES & FONTANELLES:-

Sutures are cranial joint & formed where 2 bone adjoin where 2 or more sutures meet, a fontanelle is formed.



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Lambdoidal suture This separates the 2 parietal bone from the occiput bone.

Sagital suture Lies between 2 parietal bone.

Coronal suture This separates the frontal bone from the parietal bone passing from one temple to other.

Frontal suture This runs between the 2 halves of the frontal bone.

Anterior Fontanelle/Bregma

- This is found at the junction of sagittal, coronal and frontal sutures.
- It is broad kite/diamond shaped and it measures 3-4 cm long and 1.5-2 cm wide and normally closes by 18 month.

Posterior Fontanelle/Lambda a (shape like λ)

- This is situated at the junction of the lambdoidal and sagittal sutures.
- It is small triangular in shape. It closes by 6 weeks.

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**Biparietal
diameter**

**The diameter
between the 2
parietal eminence.**

9.5 Cm

**Bitemporal
diameter**

**The diameter between
the furthest point of
coronal suture at the
temples.**

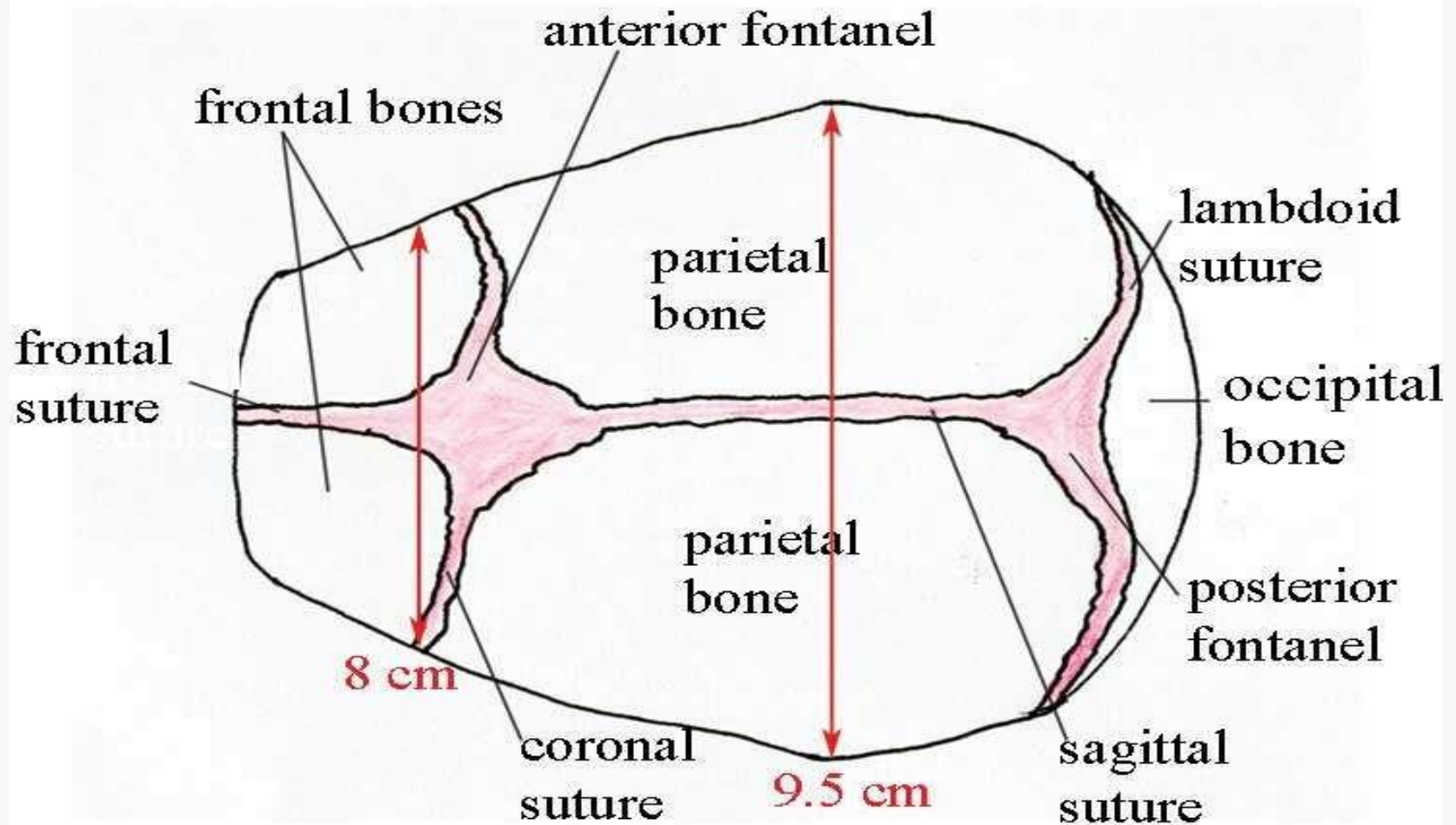
8.2 Cm

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Sub-occipito bregmatic	The diameter from below the occiput protuberance to the centre of anterior fontanelle or bregma.	9.5 Cm
Suboccipito frontal	This is from below the occiput protuberance to the centre of frontal suture.	10 Cm
Occipitofrontal	The diameter from the occipital protuberance to glabella.	11 Cm
Mentovertical	The diameter from the point of the chin to the highest point of vertex.	14 cm

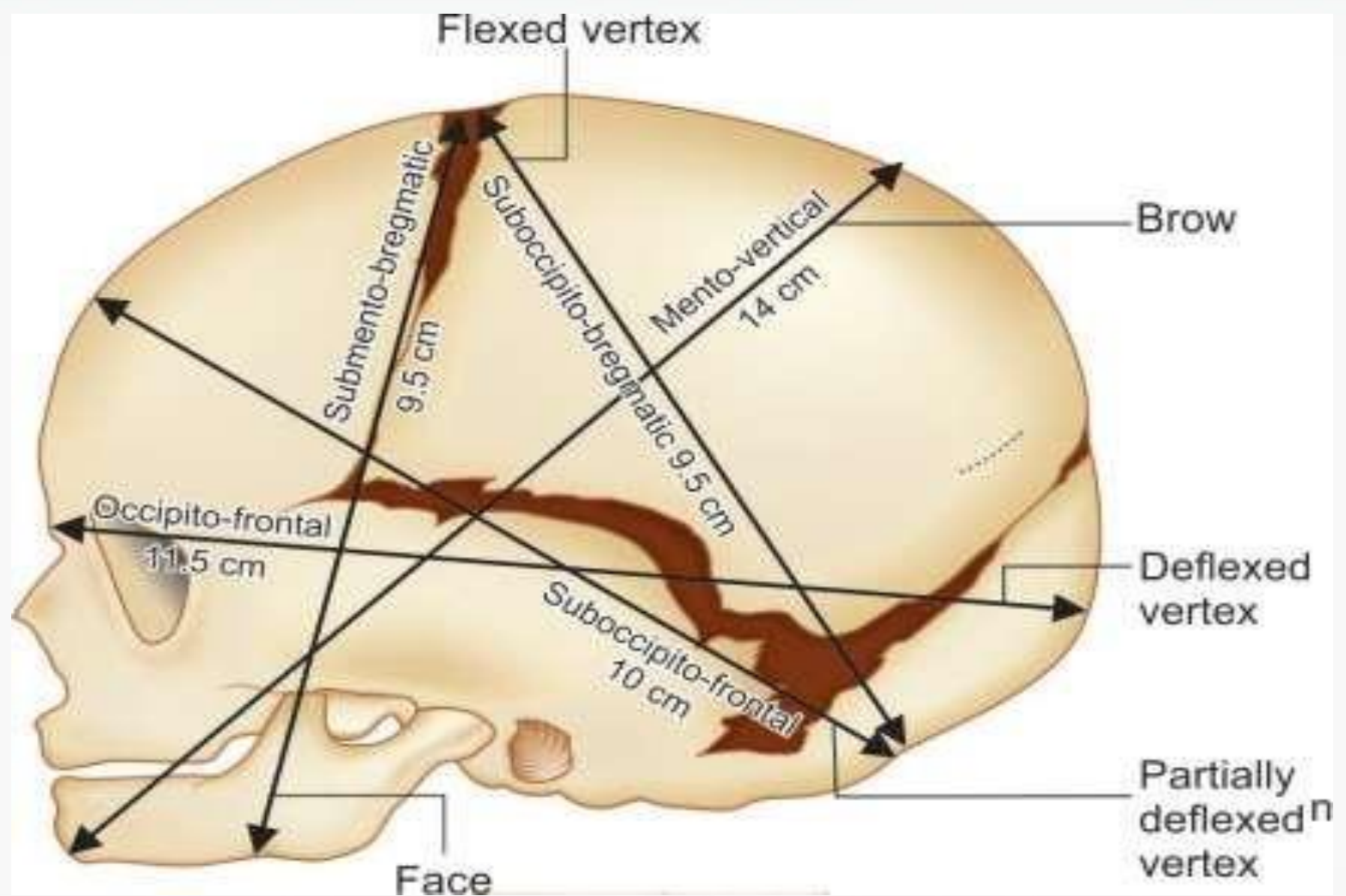
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**Sub
mentovertical**

**The diameter from
the point where the
chin joins the neck
to the highest point
of vertex.**

11.5 Cm

**Sub
mentobregmatic**

**The diameter from
the point where the
chin joins the neck
to the centre of the
bregma**

9.5 Cm

References

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- 4) Jacob Annamma. A comprehensive textbook of midwifery. 3rd ed. New Delhi: Jaypee Brothers Publications; 2008.