

FETAL SKULL & MATERNAL PELVIS

1) Fetal skull :

• Fetal skull is some extent compressible & made of thin pliable tabular (flat) bones forming the vault.

→ Areas of skull :

i) Vertex :

- It is quadrangular area bounded & anteriorly by bregma & coronal sutures behind by line lambda & lambdoid sutures & laterally by lines passing through parietal eminences.

ii) Brow :

- It is an area bounded on one side by anterior fontanelle & coronal sutures & on other side of root of nose & supra-orbital ridges of either side.

iii) Face :

- Bounded on one side by root of nose & supra-orbital ridges & on other by junction of floor of mouth with neck.

- Sinciput is the area lying in front of anterior fontanelle & corresponding to area of brow & occiput.

→ Sutures :

i) Sagittal or longitudinal sutures :

- These lies b/w 2 parietal bones

ii) coronal suture :

- These run ~~parallel~~ b/w parietal & frontal bones on either side

iii) Frontal suture :

- These between 2 frontal bones

iv) Lambdoid sutures :

- These separate the occipital bone & 2 parietal bones.

→ Fontanelles :

- wide gap in suture line is called fontanelles

Anterior fontanelle
or
bregma

posterior fontanelle
or
lambda.

i) Anterior fontanelle :

- It is formed by joining of four sutures in midline.

- The shape is like a diamond.

- The floor is formed by a membrane & it becomes ossified 18 month after birth.

ii) Posterior fontanelle :

- It is formed by junction of 3 suture lines.
- It is triangular in shape ~~& measures~~
- Its floor is membranous but becomes bony at term.

iii) Sagittal suture :

- Inconsistent in its presence
- when present, it is situated on sagittal suture at junction of anterior.
- It has no clinical importance.

→ Diameters of skulls : (Anterio-posterior diameters)

1) Suboccipito - bregmati° : 9.5cm
 (extends from the nape of neck to centre of bregma)

2) sub-occipito - frontal° : 10cm
 (extends from the nape of neck to anterior end of the anterior fontanelle or centre of \odot sinciput)

3) occipito - frontal° : 11.5cm
 (extends from the occipital eminence to root of nose)

4) Mento - vertical° : 14cm
 (extends from mid point of chin to sagittal suture)

5) Submento-vertical \approx 11.5cm
(extends from junction of floor of mouth & neck to highest point on sagittal suture)

6) Submento-bregmatic \approx 9.5cm
(extends from junction of floor of mouth & neck to centre of bregma)

→ Diameters of skull \approx (Transverse diameters)

1) Biparietal diameter \approx 9.5cm
(extends b/w 2 parietal eminences)

2) supra subparietal \approx 8.5cm
(extends from a point placed below one parietal eminence to a point parietal eminence of opposite side)

3) Bitemporal diameter \approx 8cm
(It is distance between antero-inferior ends of coronal sutures)

4) Bimastoid diameter \approx 7.5cm
(It is distance b/w the tips of mastoid processes)

→ Moulding :

It is an alteration of shape of foetal head while passing through resistant birth passage during labour.

- Moulding disappears within few hours after birth.

2) Maternal Pelvis :

- An articulated pelvis is composed of four bones :

- Two innominate bones
- Sacrum
- Coccyx

- Joints :
- 2 sacroiliac joints
 - sacro-coccygeal joints
 - Symphysis pubis

→ False Pelvis :

- False pelvis is formed by iliac portions of the innominate bones & is limited above of by iliac crests

→ True Pelvis :

- It forms a canal through which the fetus has to pass.

- It is divided :



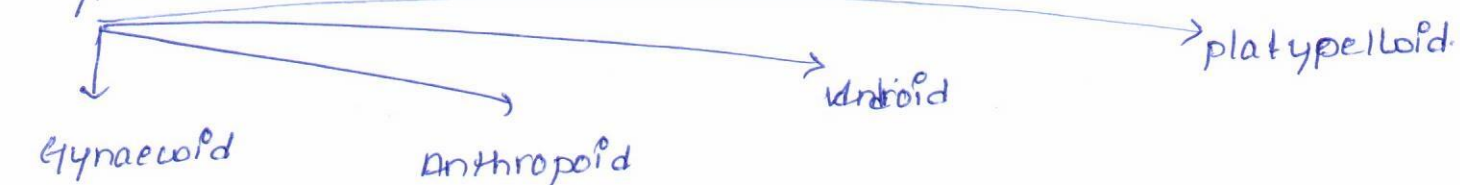
→ Inlet :

As the inlet is brim of pelvis, circumference of inlet is formed by bony landmarks.

i) shape :

- It is almost round with antero-posterior diameter.

- Types :



ii) Diameter :

a) Antero-posterior (true conjugate, anatomical conjugate, conjugate vera) :

- It is the distance between the mid point of sacral promontory to inner margin of upper border of symphysis pubis.

- It is 11cm.

b) Obstetric conjugate :

- It is distance between the midpoint of sacral promontory to prominent bony projection in midline on inner surface of symphysis pubis.

- It measures 10cm.

c) Diagonal conjugate :

- It is the distance between the lower border of symphysis pubis to midpoint on sacral promontory

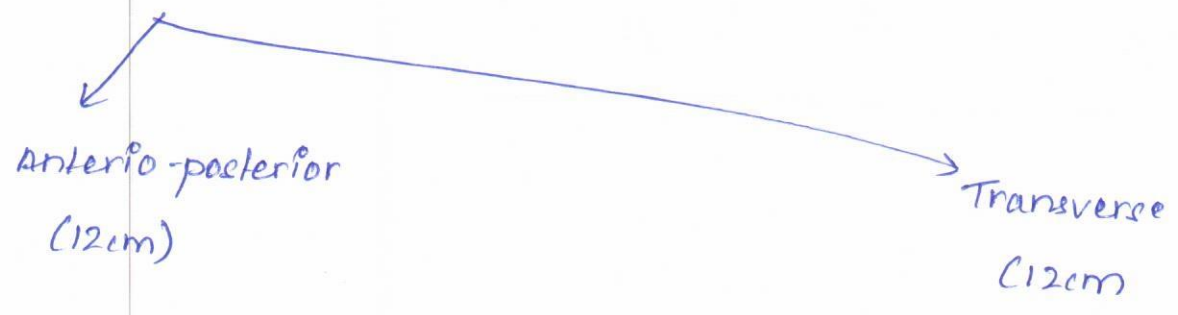
- It measures 12cm.

- d) Transverse diameter: 13cm
- e) oblique diameter : 12cm
- f) sacro-cotyloid : 9.5cm

ii) Cavity :

- It is the segment of pelvis bounded above by inlet & below plane of least pelvic dimensions.

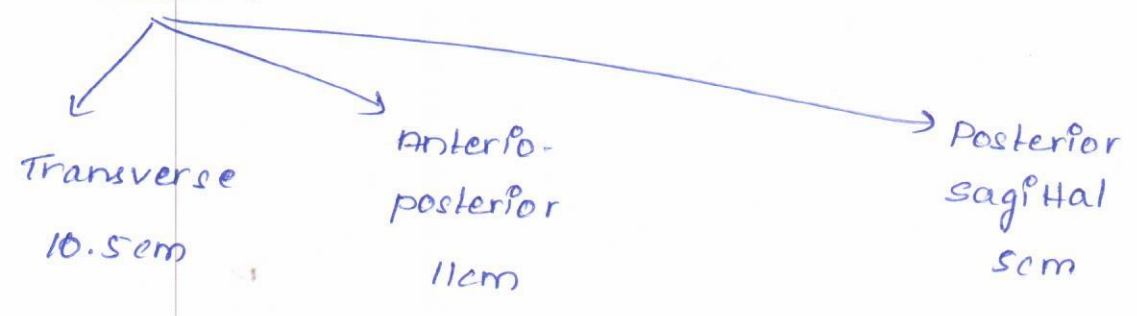
- Diameters :



iii) Outlet

- It is a segment of pelvis bounded by plane of least pelvic diameters

- Diameters :



→ Diameters of inlet, cavity, outlet:

	Brim	cavity	outlet
Anterior-posterior	11	12	13
oblique	12	12	-
Transverse	13	12	11

→ Landmarks of pelvis:

- 1) Symphysis pubis
- 2) pubic crest
- 3) pubic tubercle
- 4) pectineal line
- 5) ilio-pubic eminence
- 6) ilio-pectineal line
- 7) sacro-iliac articulation
- 8) ~~anterior~~ ala of sacrum
- 9) sacral promontory