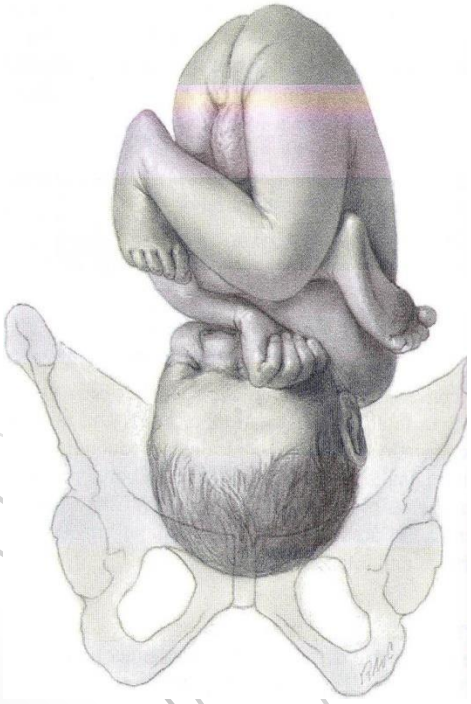
# MALPOSITIONS



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# Mal-positions

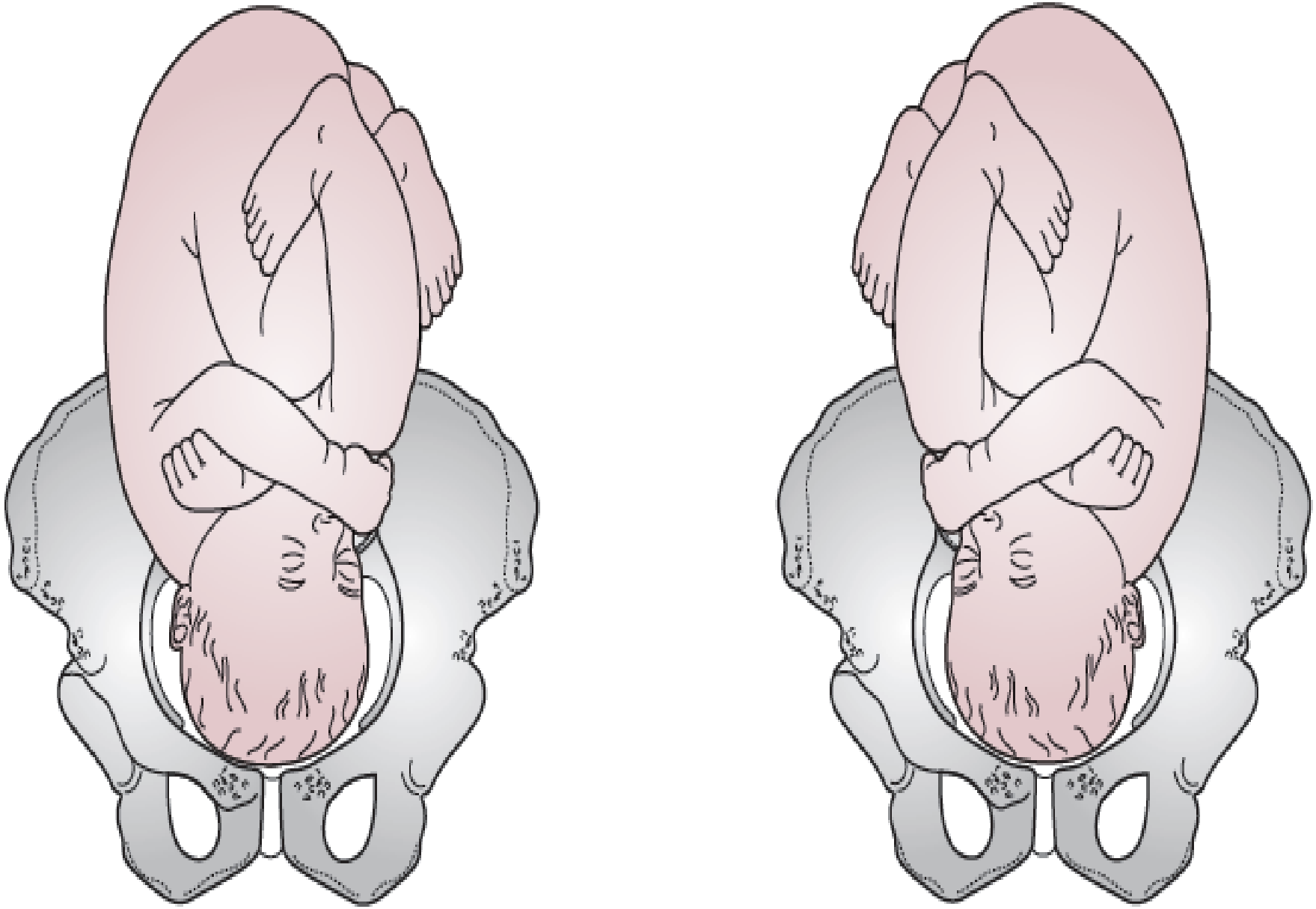
- It is the vertex position where the occiput is placed posteriorly over the sacro-ilical joint or directly over the sacrum, it is called an occipito-posterior position.

- When the occiput is placed over the right sacroiliac joint, the position is called right occipito posterior (R.O.P) position and when placed over the left sacro-iliac joint, is called left occipito posterior (L.O.P) position.

- When it points towards the sacrum it is called direct occipito posterior position.

# Occipito-posterior position

- Occipito-posterior position is an abnormal position of the vertex rather than an abnormal presentation.
- Occurs in approximately 10% of labours.
- A persistent occipito-posterior position results from a failure of internal rotation prior to birth.
- Occurs in 5% of the births.
- ROP is five times more common than LOP

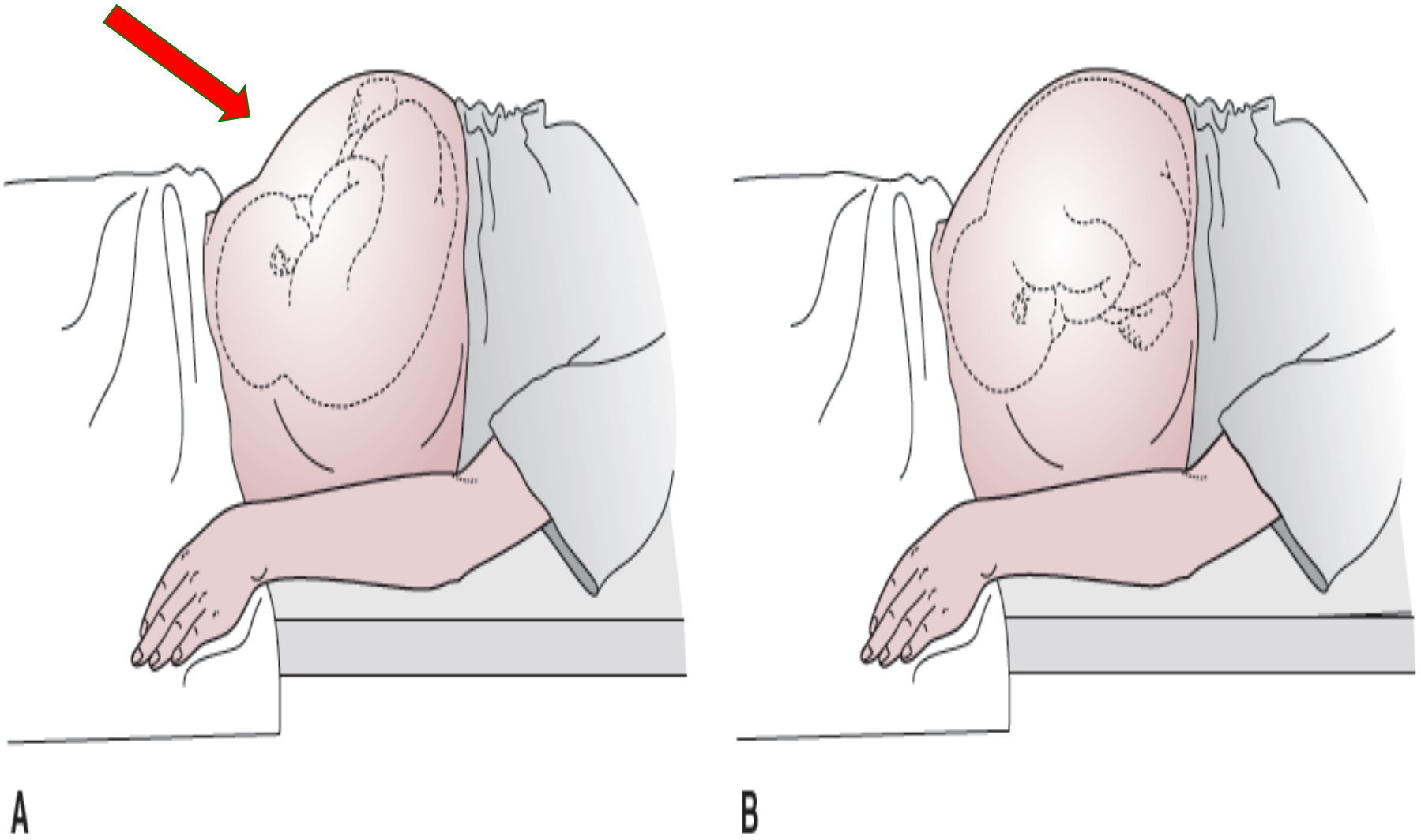


**A** Right occipitoposterior position

**B** Left occipitoposterior position

# Causes

- The direct cause is often unknown. But the following are the responsible factors:
  - ***Shape of the pelvic inlet***: associated with either an anthropoid or android pelvis.
  - ***Fetal factors***: Marked deflexion of fetal head.
  - ***Uterine factors:*** Abnormal uterine contraction




**Comparison of abdominal contour in (A) posterior and (B) anterior positions of the occiput**

# Abdominal examination

*Listen to the mother:* Complain of backache and she may feel that her baby's bottom is very high up against her ribs.

*Inspection:*

- Abdomen looks flat, below the umbilicus.
- Presence of saucer shaped depression.
- The outline created by high, unengaged head can look like a full bladder

*Palpation:*

- Fetal limbs are felt more easily near midline on either side.
- Fetal back is felt far away from midline on flank.
- Anterior shoulder lies far away from midline.
- Head is not engaged.
- Cephalic prominence is not felt so much prominent

Most common cause of non engagement in a primigravida at term.

# Examination cont…

*Auscultation*

• The fetal back is not well flexed so chest is thrust forward, therefore the fetal heart can be heard in the midline.

• Heart rate may be heard more easily at the flank on the same side as the back.

*Vaginal examination*

• Elongated bag of membranes

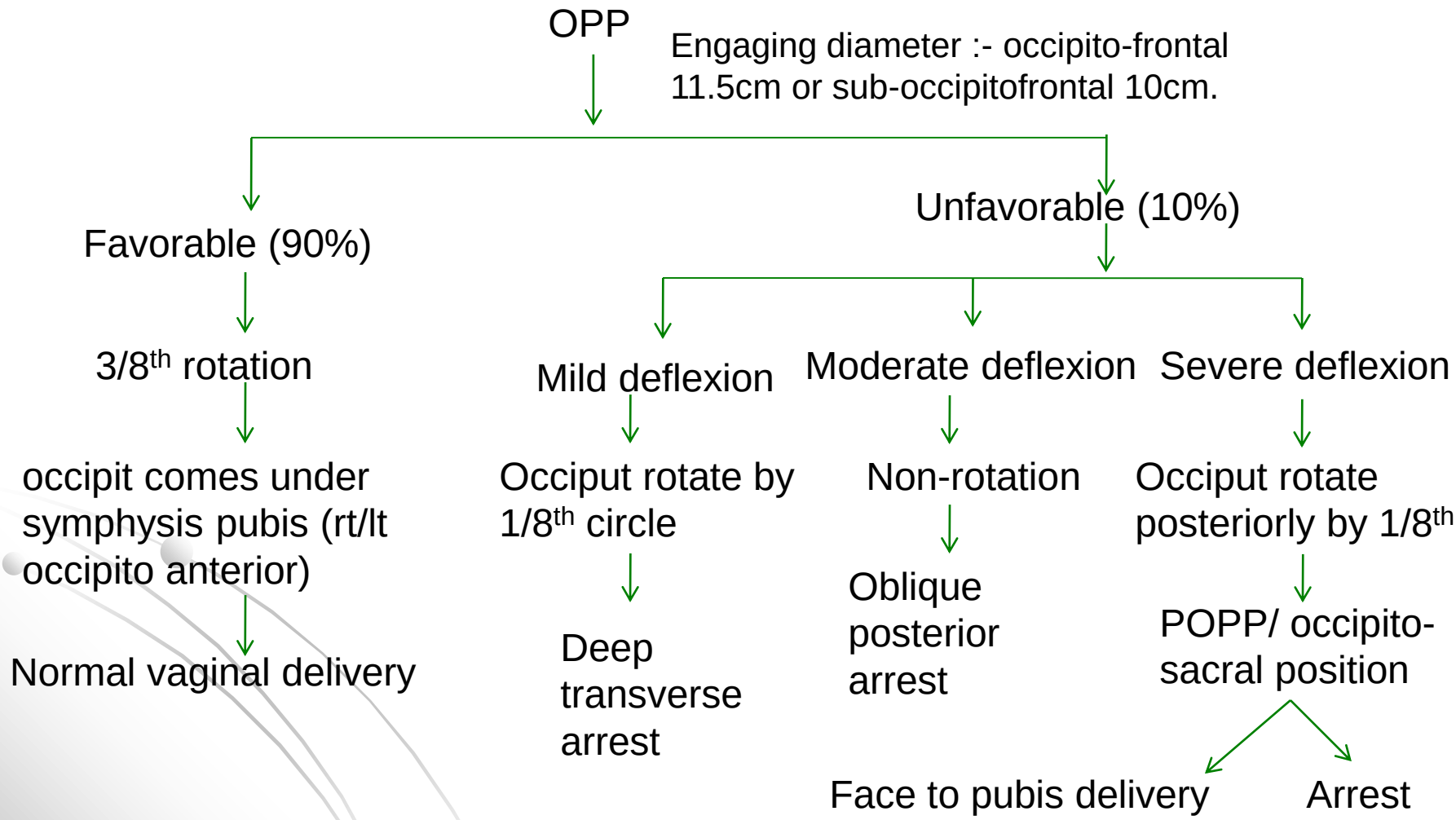
•Sagittal suture occupies any of the oblique diameters of pelvis.

• Posterior fontanelle is felt near the sacro-iliac joint

• Anterior fontanelle is felt more easily

- In late labour, the diagnosis is often difficult because of caput formation.
- In such cases, the ear is to be located and the unfolded pinna points towards the occiput.

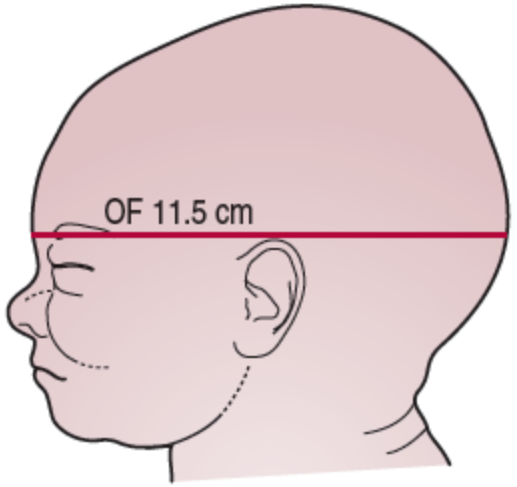
# Fate of OPP


OPP
Engaging diameter :- occipito-frontal 11.5cm or sub-occipitofrontal 10cm.
Favorable (90%)
Unfavorable (10%)
3/8th rotation
Mild deflexion
Moderate deflexion
Severe deflexion
occipit comes under symphysis pubis (rt/lt occipito anterior)
Occiput rotate by 1/8th circle
Non-rotation
Occiput rotate posteriorly by 1/8th
Normal vaginal delivery
Deep transverse arrest
Oblique posterior arrest
POPP/ occipito-sacral position
Face to pubis delivery
Arrest

# Mechanism of labour

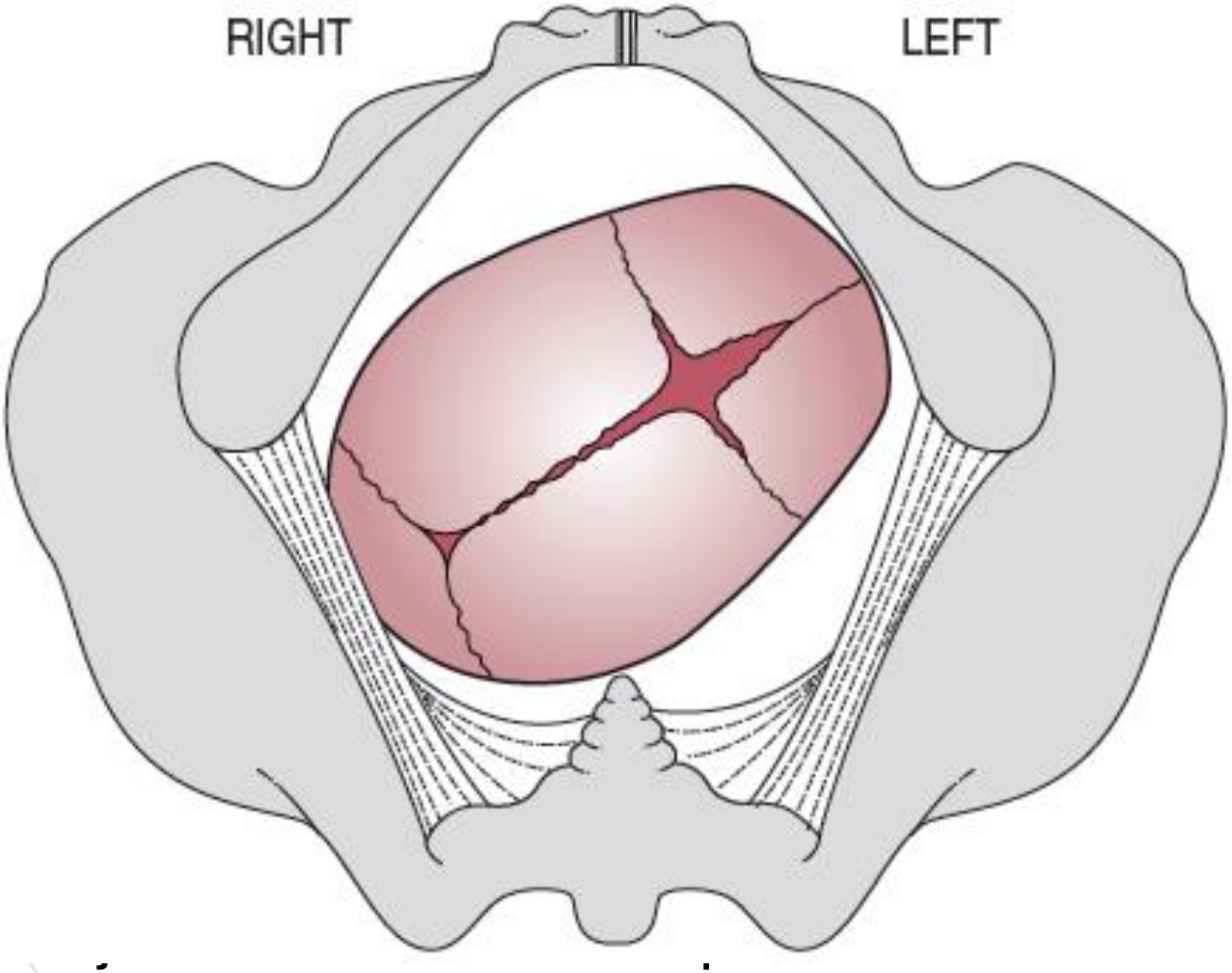
- Head engages through right oblique diameter in ROP and left oblique diameter in LOP.

- The engaging transverse diameter of head is biparietal (9.5 cm) and that of AP diameter is either SOF (10 cm) or OF (11.5 cm).




- Because of deflexion engagement is delayed.

# Mechanism of labour cont…




- Lie: longitu
- The attitude
- Presentatio
- Position: Ri
- Denominat
- Presenting bone

- The OF diam diameter of th right sacroilia iliopectineal eminence.

# Mechanism of labour cont…

- *Flexion:* Descent takes place with increasing flexion. The occiput becomes the leading part.

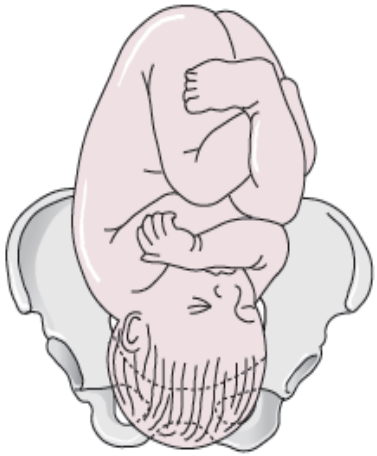
- *Internal rotation of head:* Occiput reaches pelvic floor first and rotates forwards 3/8$^{th}$ of a circle along a right side of pelvis to lie under the symphysis pubis. The shoulders follow, turning 2/8$^{th}$ of a circle from left to right oblique diameter.

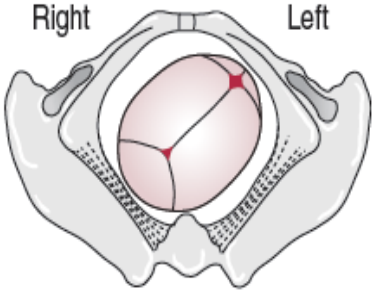
- *Crowning:* Occiput escapes under the symphysis pubis and the head is crowned.

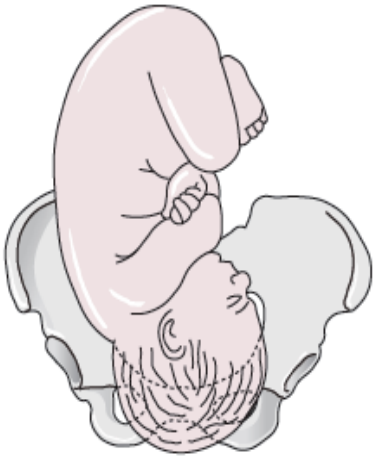
- *Extension:* Sinciput, face and chin sweep perineum and head is born by a movement of extension.

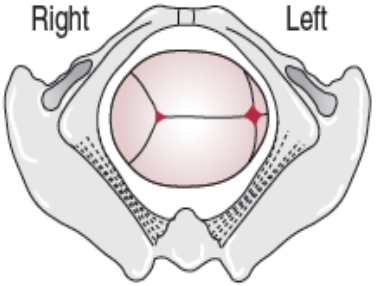
# Mechanism of labour cont…

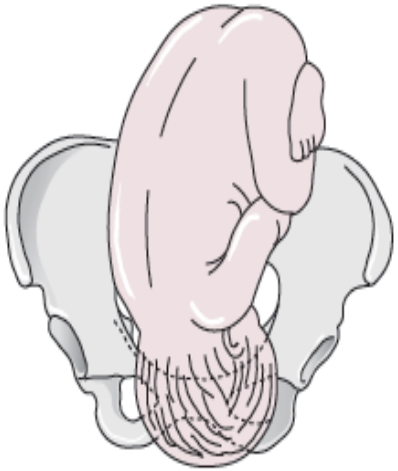
- *Restitution:* Occiput turns 1/8$^{th}$ of circle to the right.
- *Internal rotation of shoulders:* Shoulders enter the pelvis in right oblique diameter; anterior shoulder reaches pelvic floor first and rotates forwards 1/8$^{th}$ of circle to lie under the symphysis pubis.
- *External rotation of head:* Occiput turns a further 1/8 of a circle to the right.
- *Lateral flexion:* Anterior shoulder escapes under the symphysis pubis, posterior shoulder sweeps perineum and body is born by a movement of lateral flexion.

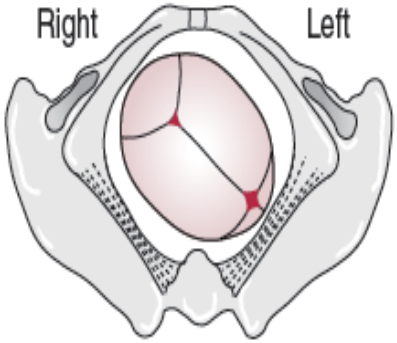


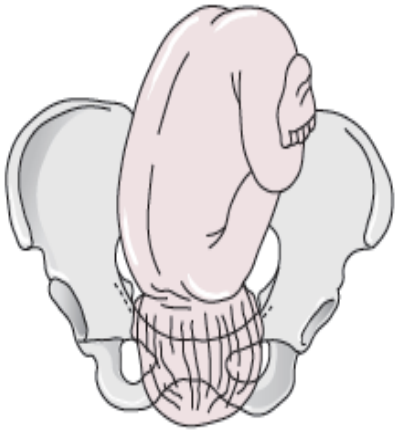


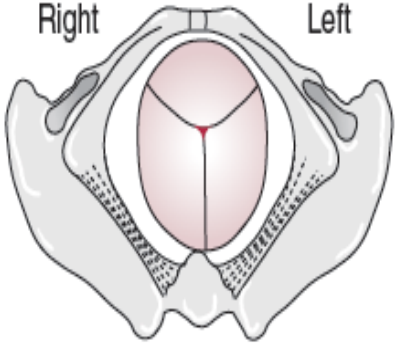










# Mechanism of labour in right occipito posterior diameter

# Persistent Occipito posterior

- It is an abnormal mechanism of the occipito posterior position where there is malrotation of the occiput posteriorly towards the sacral hollow.

- Delivery may occur spontaneously as face to pubis but arrest may occur in this position and is called occipito sacral arrest

- **Cause:** Failure of flexion

# Deep transverse arrest

- The head is deep into the cavity, the sagittal suture is placed in the transverse bipsinous diameter and there is no prognosis in descent of the head even after ½ -1 hour following full dilatation of cervix.

- May be end result of incomplete anterior rotation of the oblique OPP, or it may be due to non rotation of the commonly primary occipito transverse position of normal mechanism of labour.

# Deep transverse arrest cont…

Causes:

- Faulty pelvic architecture
- Prominent ischial spine,
- Flat sacrum and convergent side walls,
- Deflexion of head,
- Weak uterine contraction,
- Laxity of the pelvic floor muscles.

Diagnosis

- Head is engaged
- Sagittal suture lies in transverse bispinous diameter,
- Anterior fontanelle is palpable,
- Faulty pelvic architecture may be detected.

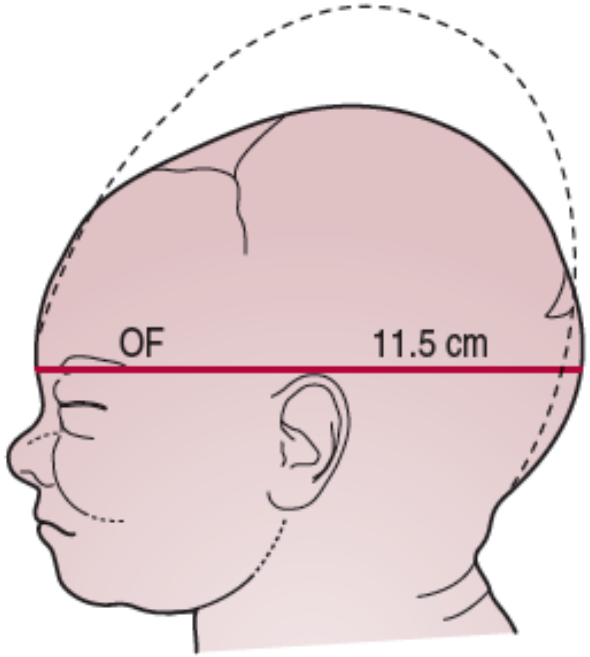
# Deep transverse arrest cont…

*Management:*

- Vaginal delivery is found safe.
  - Ventouse
  - Manual rotation and application of forceps
  - Forceps rotation and delivery with Keilland in hands of an expert.
- If Vaginal delivery is not safe: caesarean section.
- Craniotomy in dead fetus.

# Mode of delivery

- *Long anterior rotation of the occiput:* Spontaneous or aided vaginal delivery usually occurs (90%)
- *Short posterior rotation:* Spontaneous or aided vaginal delivery may occur as face to pubis.
- *Non-rotation or short anterior rotation:* Spontaneous vaginal delivery is unlikely except in favourable circumstances.
- *Moulding:* The characteristic moulding of head occurs in face to pubis delivery. There is compression of the occipito-frontal diameter with elongation of the vault at right angle to it. The frontal bones are displaced beneath the parietal bones.




**Upward moulding (dotted line) following persistent occipito posterior position**

# Management of labour

- Diagnosis and evaluation: Fetal back on the flank with FHS not being easily located, early rupture of membranes should arouse the suspicion. Internal examination is confirmatory.

- Pelvic assessment: Inclination of pelvis, configuration of inlet, sacrum, ischial spines and the side walls are to be noted.

- Early caesarean section: Pelvic inadequacy or its unfavourable configuration, along with obstetric complications like, preeclampsia, post caesarean pregnancy, big baby.

# Management of labour cont..

*First stage:* In uncomplicated cases, the labour is allowed to proceed in a manner similar to normal labour.

- Intravenous infusion is started.
- Progress of labour is judged
- Weak pain, persistence of deflexion and nonrotation of the occiput are the triad too often coexistent. In such situation, oxytocin infusion is started for augmentation of labour.
- Indication of caesarean section: arrest of labour, incoordinate uterine action, fetal distress.

# Management of labour cont..

*Second stage:* In majority anterior rotation of the occiput is completed and the delivery is either spontaneous or can be accomplished by low forceps or ventouse.

- In minority: watchful expectancy for anterior rotation of the occiput and descent of the head.
- In occipito-sacral position, spontaneous delivery of face to pubis may occur.

*Third stage:*

- Tendency of PPH can be prevented by prophylactic IV ergometrine 0.25 mg with the delivery of anterior shoulder.
- Following vaginal delivery meticulous inspection of the cervix and lower genital tract should be made to detect any injury.

# Care in labour

***First stage of labour***

- Continuous support
- Provide physical support: Back massage and other comfort measures and suggest changes of posture and position.
- Prevent the mother from being dehydrated or ketotic.
- Oxytocin infusion
- Change in position and the use of breathing techniques or inhalational analgesia to enhance relaxation.
- Suggest the women the alternative method of pain relief.

# Care in labour cont…

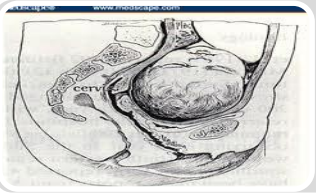
***Second stage of labour***

- Confirm full dilatation of cervix by vaginal examination. If the head is not visible at the onset of second stage of labour encourage the women to remain in upright position.

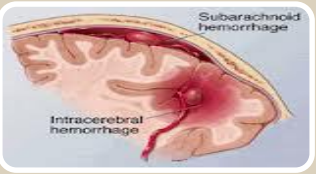
- Closely monitor the maternal and fetal conditions throughout the second stage.

- The length of second stage is generally increased when the occiput is posterior and there is increased likelihood of operative delivery.

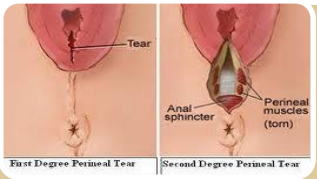
# Complications



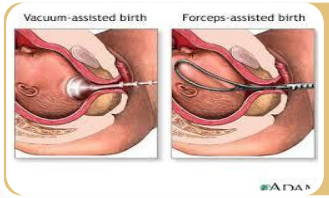
Obstructed labour



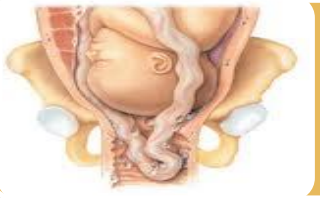

Cerebral hemorrhage




Maternal trauma




Neonatal trauma



Cord prolapse

# THANK YOU