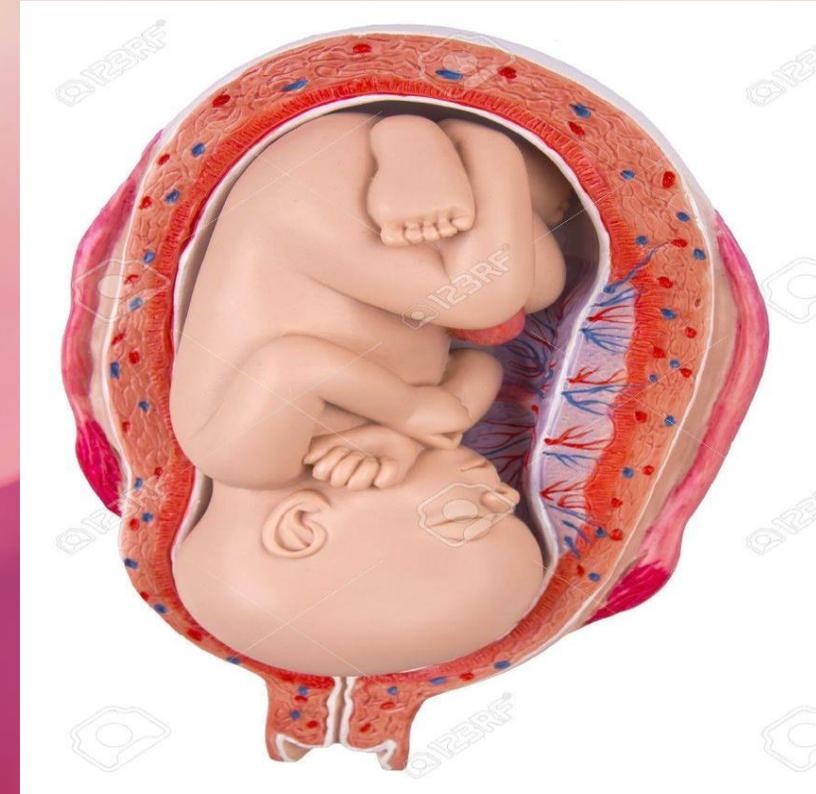


The Fetus-in-Utero



Presented By
Dr. Rakhi Gaur



INTRODUCTION

The fetus lies inside the uterus in a closed sac filled with liquor amnii. It has enough freedom of movement until the later months of pregnancy, when it becomes relatively fixed. Till then, periodic examination is essential to note its lie, presentation, position and attitude.

- LIE: The lie refers to the relationship of the long axis of the fetus to the long axis of the centralized uterus or maternal spine, the most common lie being longitudinal (99.5%). The lie may be transverse or oblique.



Longitudinal lie
Vertex presentation

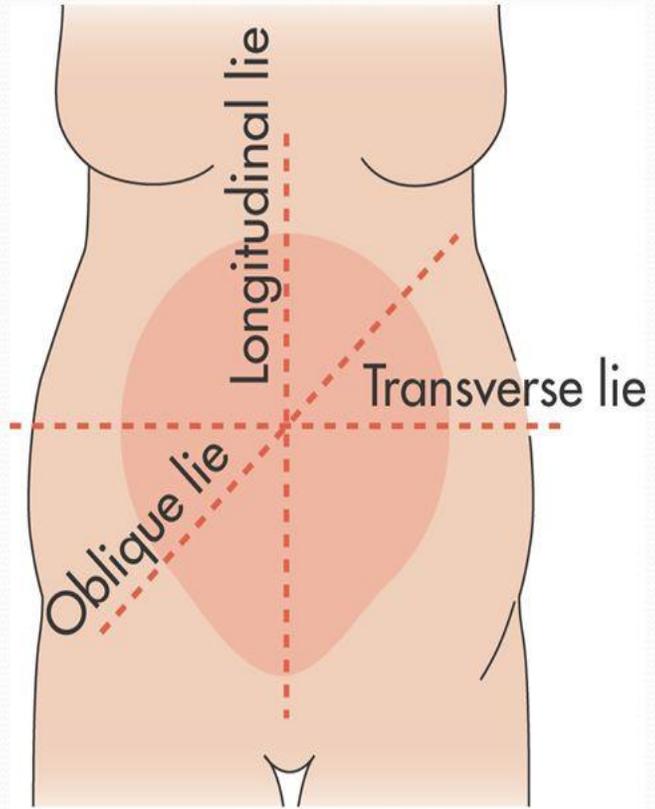


Longitudinal lie
Breech presentation



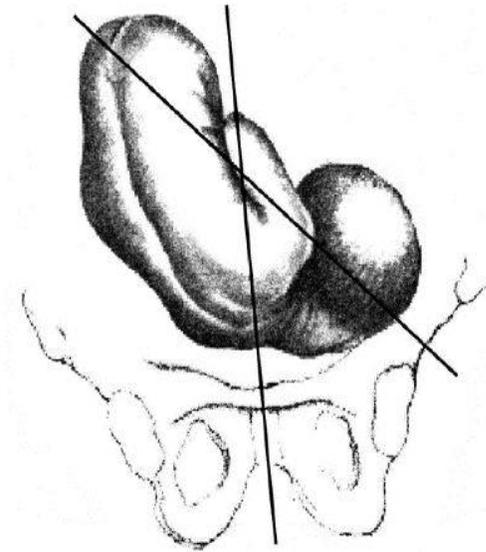
Transverse lie
shoulder presentation

Fetal Lie

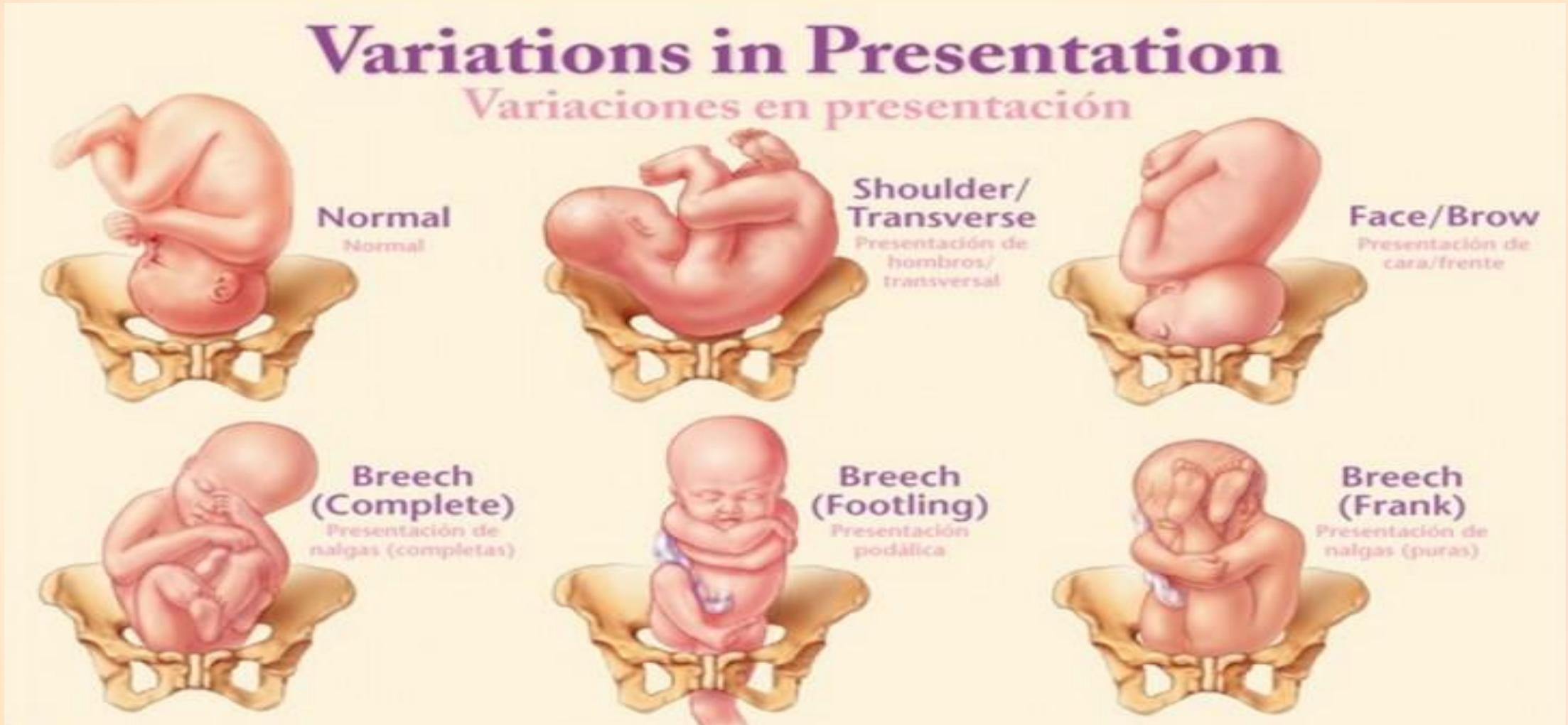


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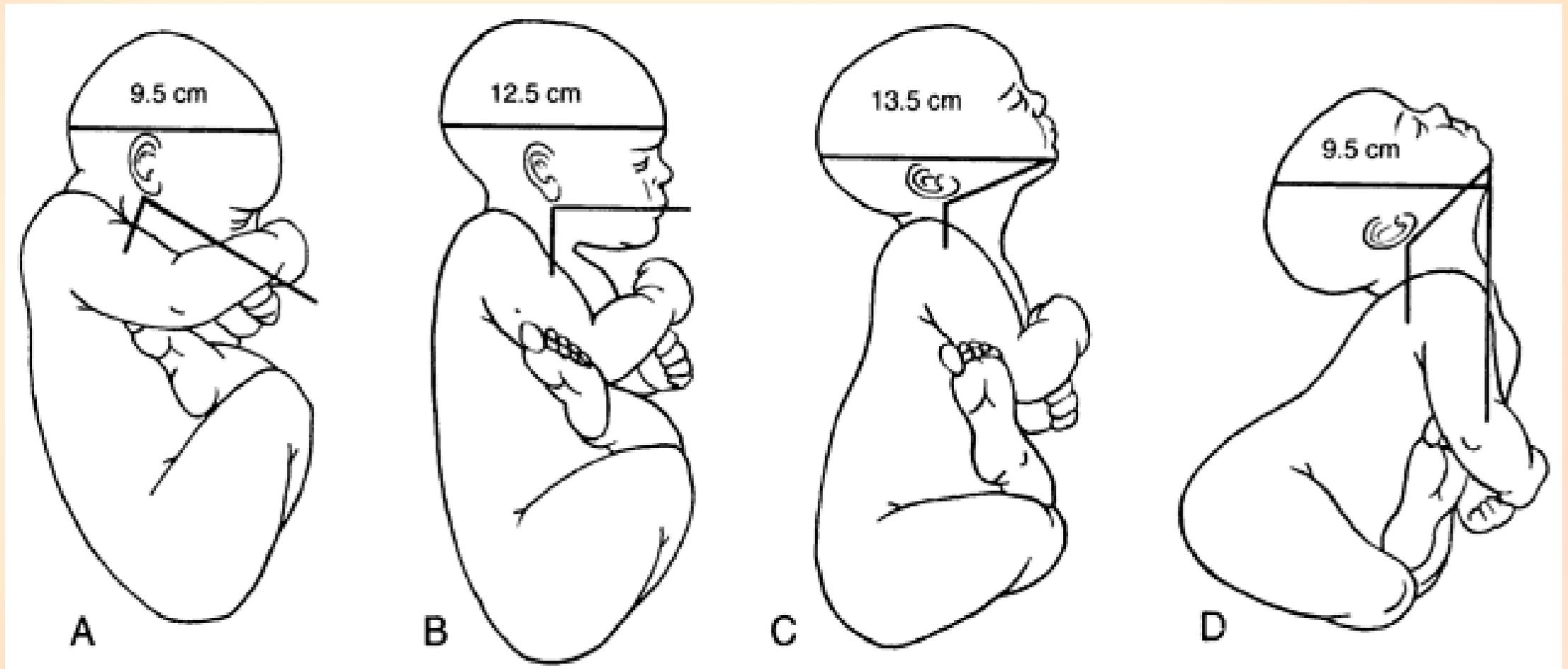
Oblique lie



PRESENTATION: The part of the fetus which occupies the lower pole of the uterus (pelvic brim) is called the presentation of the fetus. Accordingly, the presentation may be cephalic (96.5%), podalic (3%) or shoulder and other (0.5%). When more than one part of the fetus present, it is called compound presentation.



PRESENTING PART: The presenting part is defined as the part of the presentation which overlies the internal os and is felt by the examining finger through the cervical opening. Thus, in cephalic presentation, the presenting part may be vertex (most common), brow or face, depending upon the degree of flexion of the head.

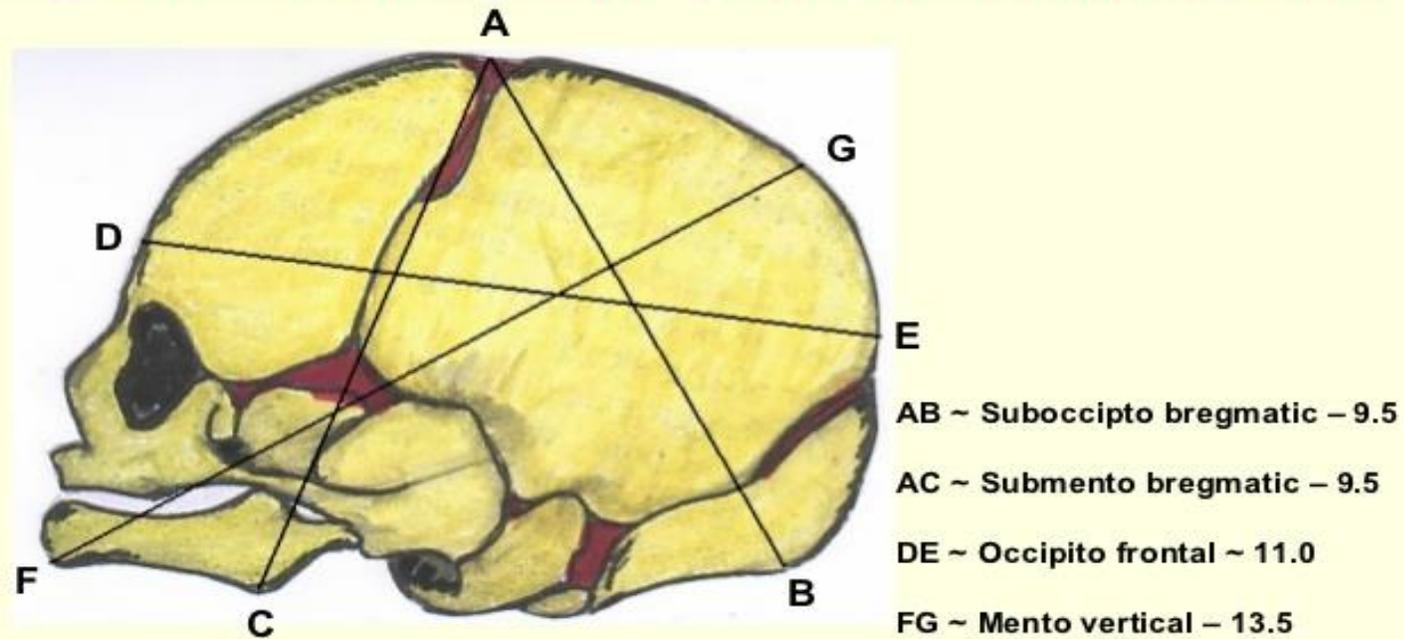


Skull diameter

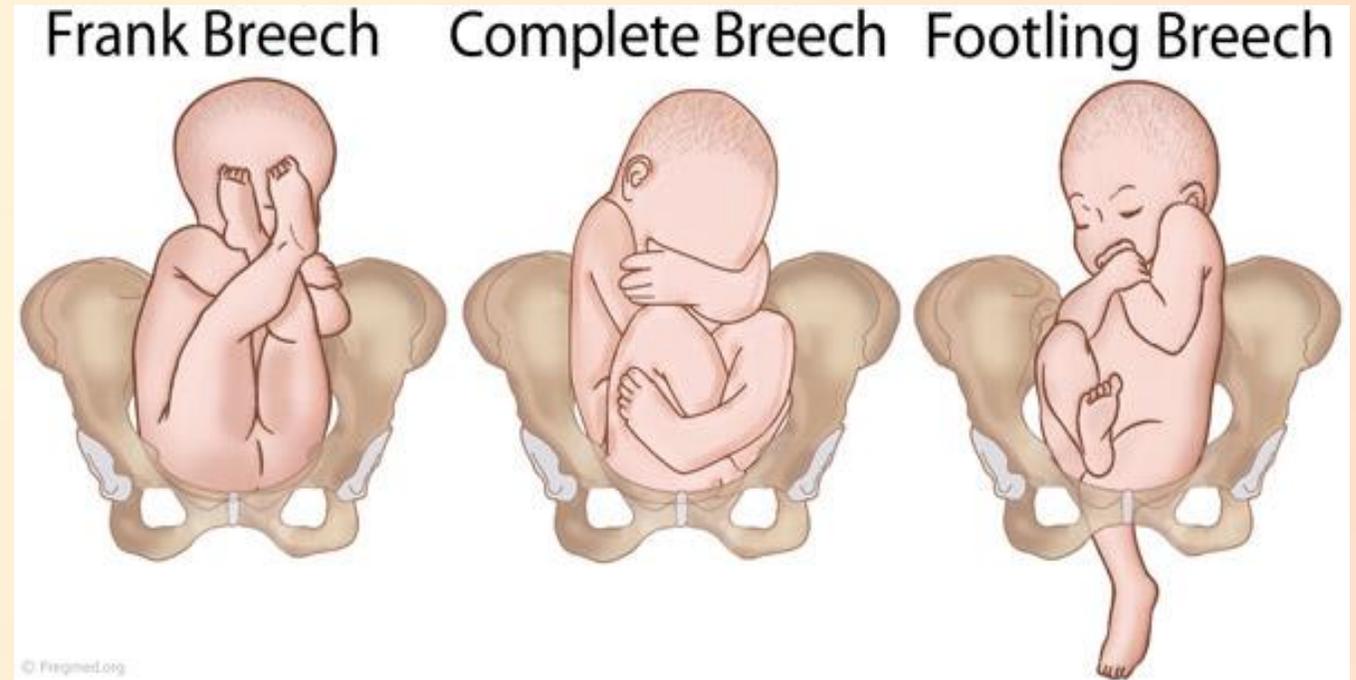
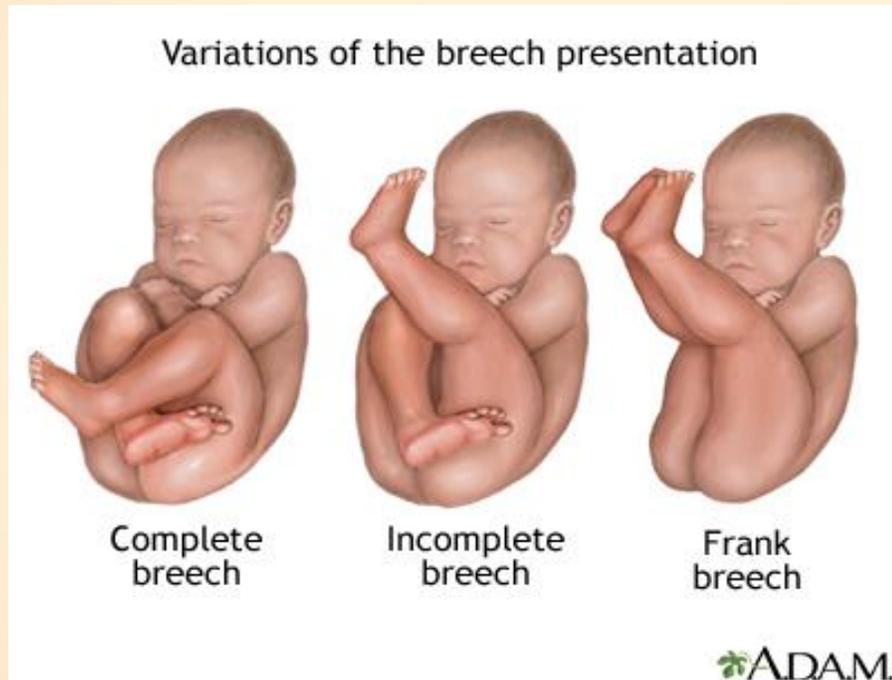
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THE FETAL SKULL

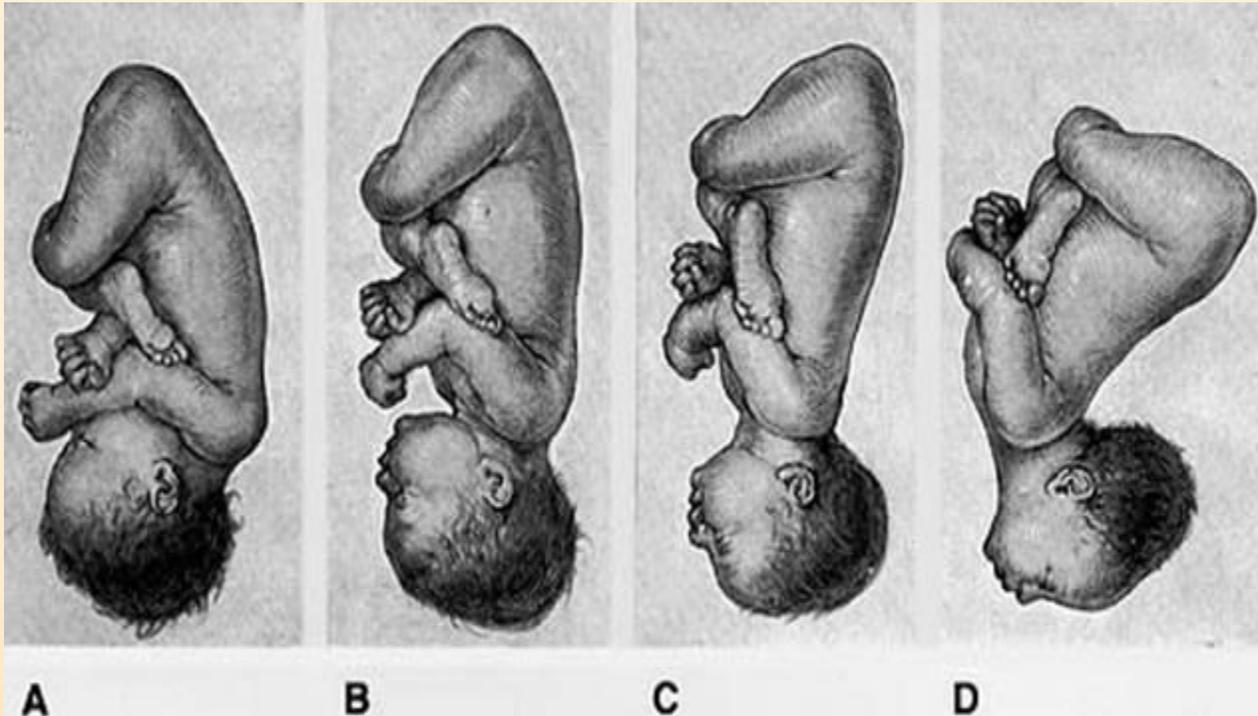
Diameters of the fetal skull – anterior posterior diameters



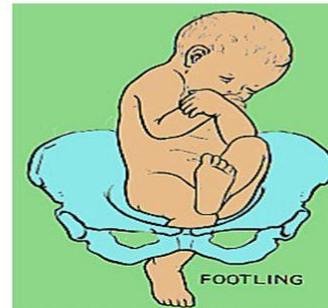
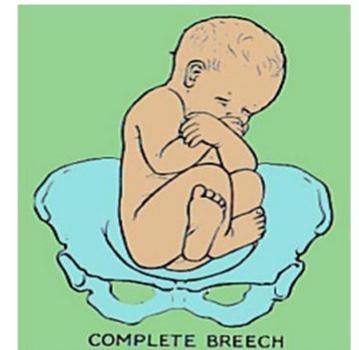
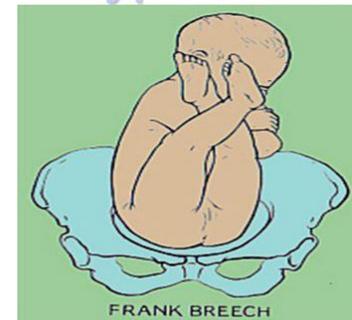
fetal legs in a breech presentation may be flexed (complete breech), extended (frank breech) or a foot may be present (footling). However, the term presentation and presenting part are often used synonymously.



ATTITUDE: The relation of the different parts of the fetus to one another is called attitude of the fetus. The universal attitude is that of flexion. During the later months, the head, trunk and limbs of the fetus maintain the attitude of flexion on all joints and form an ovoid mass that corresponds approximately to the shape of uterine ovoid. There may be exceptions to this universal attitude and extension of the head may occur (deflexed vertex, brow or face presentation, according to the degree of extension), or the legs may become extended in breech.



Types of breech presentation

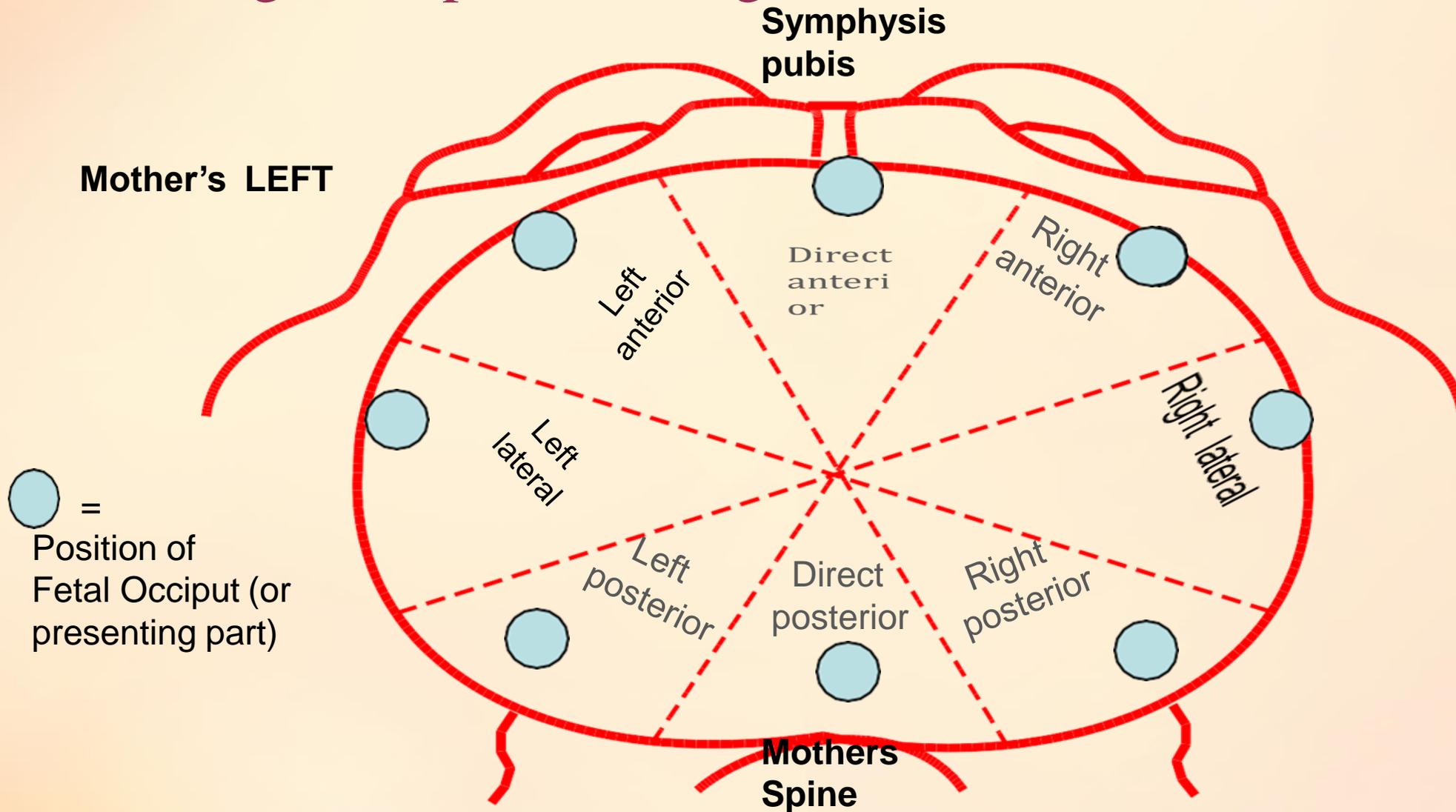


DENOMINATOR: It is an arbitrary bony fixed point on the presenting part which comes in relation with the various quadrants of the maternal pelvis. The following are the denominators of the different presentations—occiput in vertex, mentum (chin) in face, frontal eminence in brow, sacrum in breech and acromion in shoulder.



POSITION

Imagine the mother is lying supine and you are looking through her pelvis facing her feet

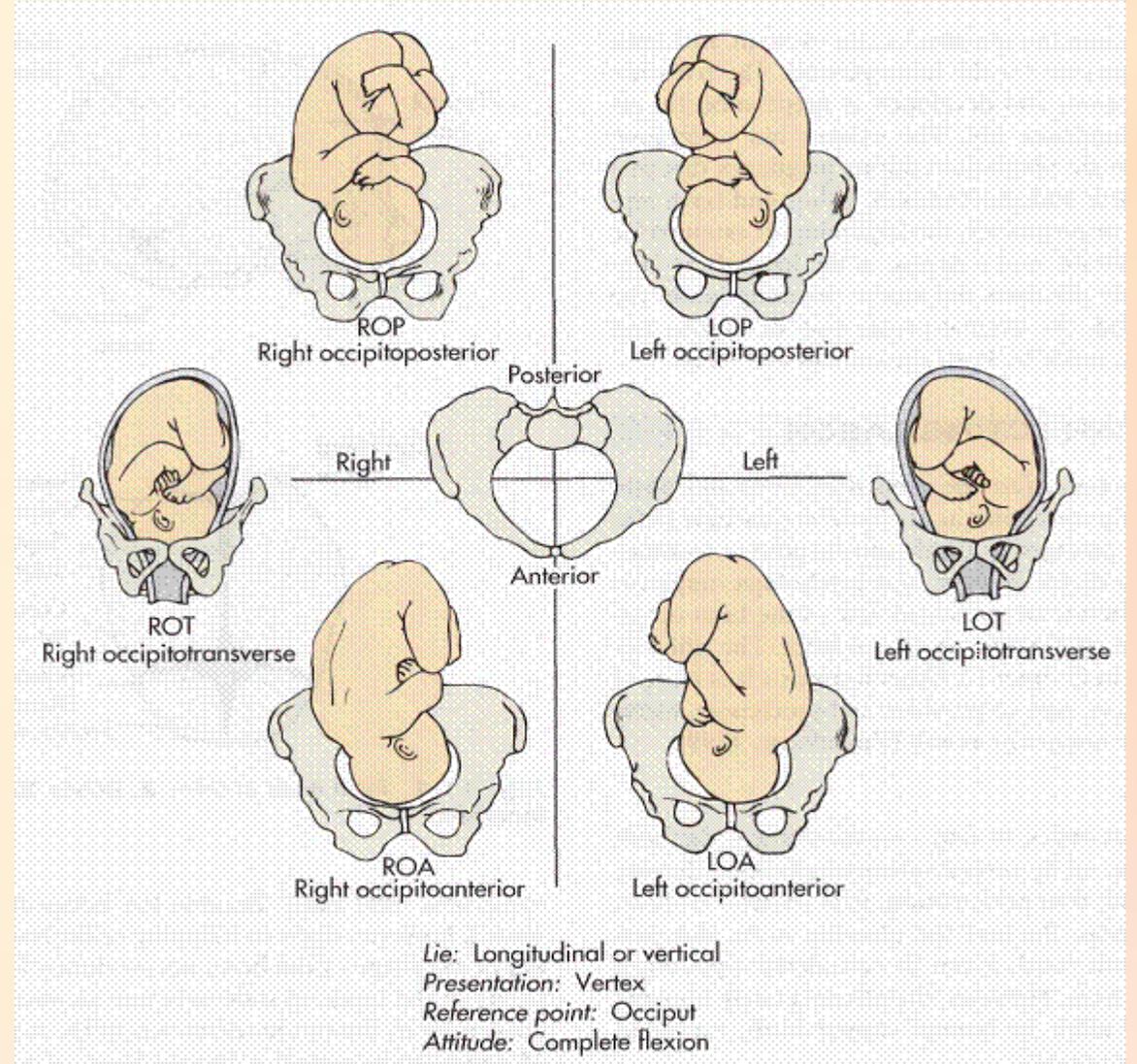
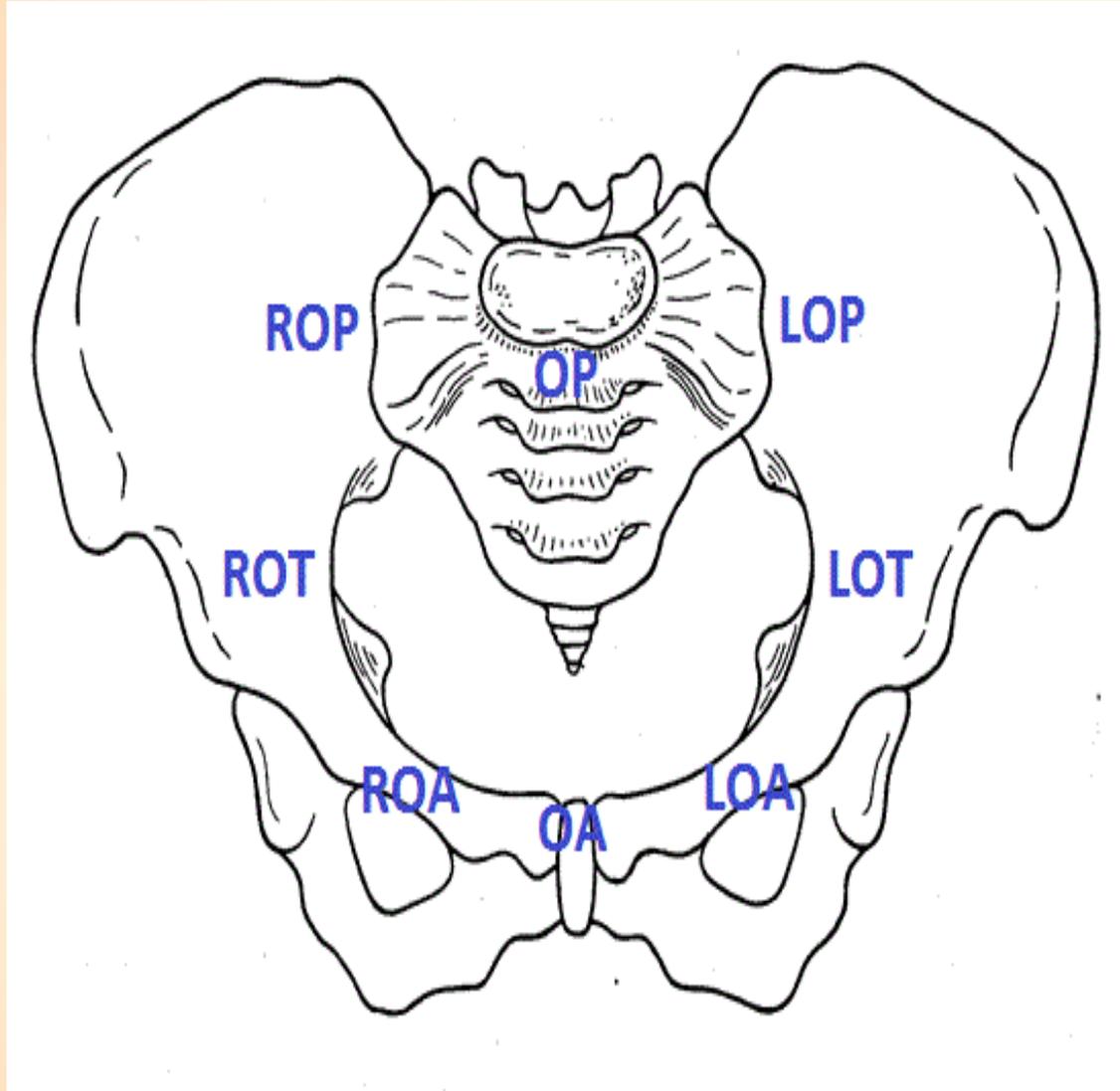


POSITION: It is the relation of the denominator to the different quadrants of the pelvis. For descriptive purpose, the pelvis is divided into equal segments of 45° to place the denominator in each segment. Thus, theoretically, there are 8 positions with each presenting part.

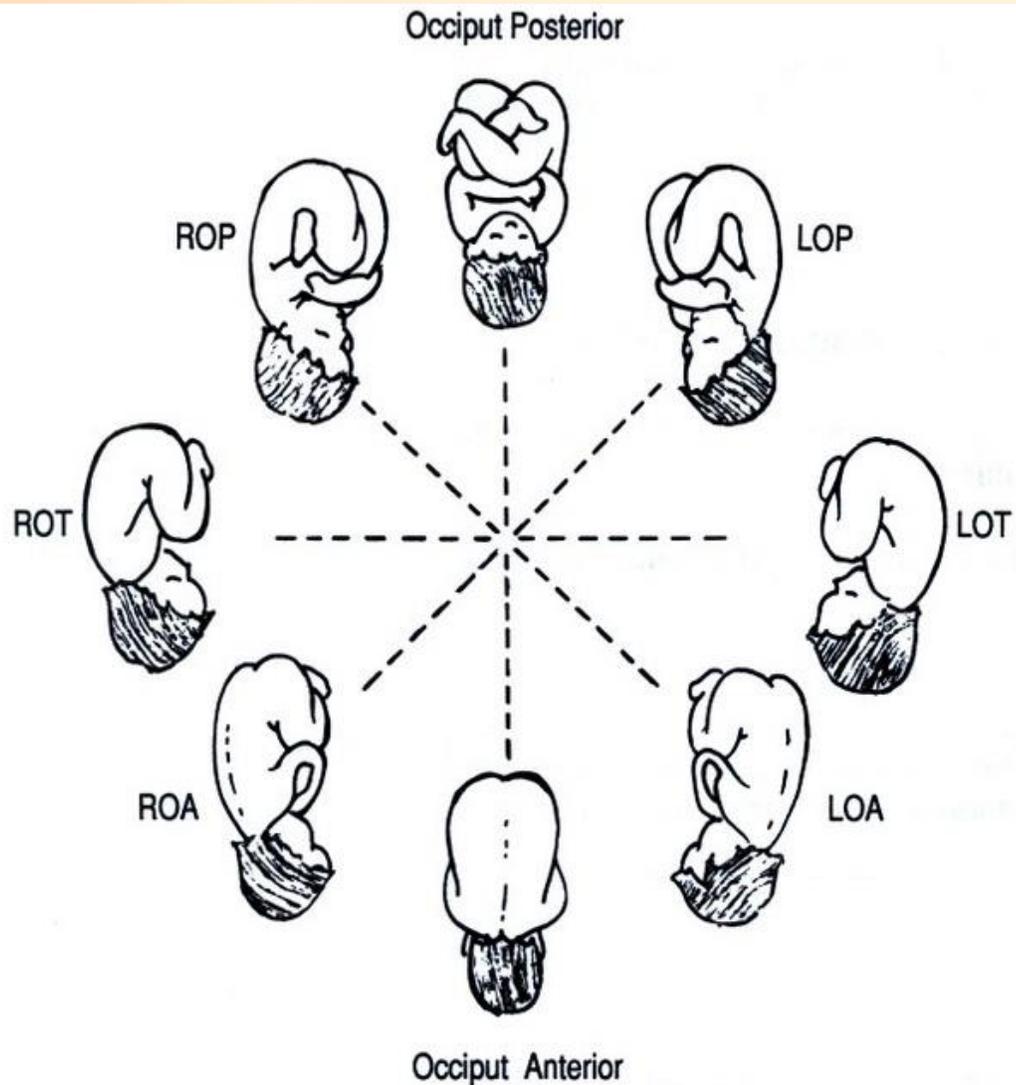
Anterior, posterior, right or left position is referred in relation to the maternal pelvis, with the mother in erect position.

Vertex occupying the left anterior quadrant of the pelvis is the most common one and is called left occipitoanterior (LOA). This is the first vertex position. Similarly, right occipitoanterior (ROA) is the second vertex; right occipitoposterior (ROP) third vertex and left occipitoposterior (LOP) is the fourth vertex position.

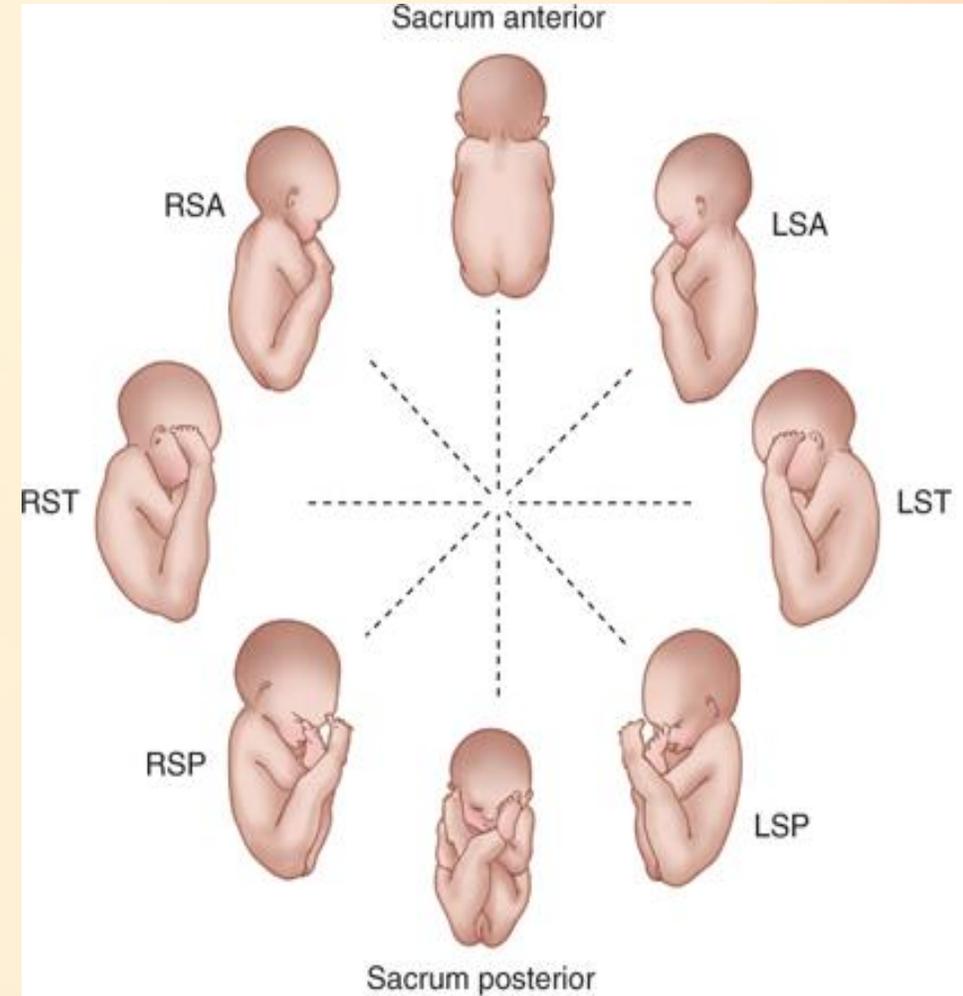
FETAL POSITIONS



POSITION IN VERTEX



POSITION IN BREECH



Source: G. D. Posner, Jessica DY, A. Black, G. D. Jones: Human Labor & Birth, 6th Edition
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CAUSES OF PREPONDERANCE OF LONGITUDINAL LIE AND CEPHALIC PRESENTATION

The fetus in the attitude of flexion assumes a shape of an ovoid with its long verticopodal axis measuring about 25 cm (10") at term.

The fetus accommodates comfortably along the long axis of the ovoid shape of the uterine cavity at term. Hence, there is preponderance of longitudinal lie.

The cephalic presentation, being the absolute majority amongst the longitudinal lie, can be explained by: (1) Gravitation—the head being heavier comes down to the bottom. (2) Adaptation — the smallest circumference of the flexed head is about 27.5 cm (11") and the circumference of the breech with both thighs flexed is about 32.5 cm (13"). Thus the cephalic and the podalic poles can be comfortably accommodated in the narrow lower pole and the wider fundal area of the uterus respectively.

DIAMETERS

- V-P—Vertico-podalic diameter (25 cm)
- A-A—Bisacromial diameter (12 cm)
- T-T—Bitrochanteric diameter (10 cm)
- P-P—Biparietal diameter (9.5 cm)



Thank you.

