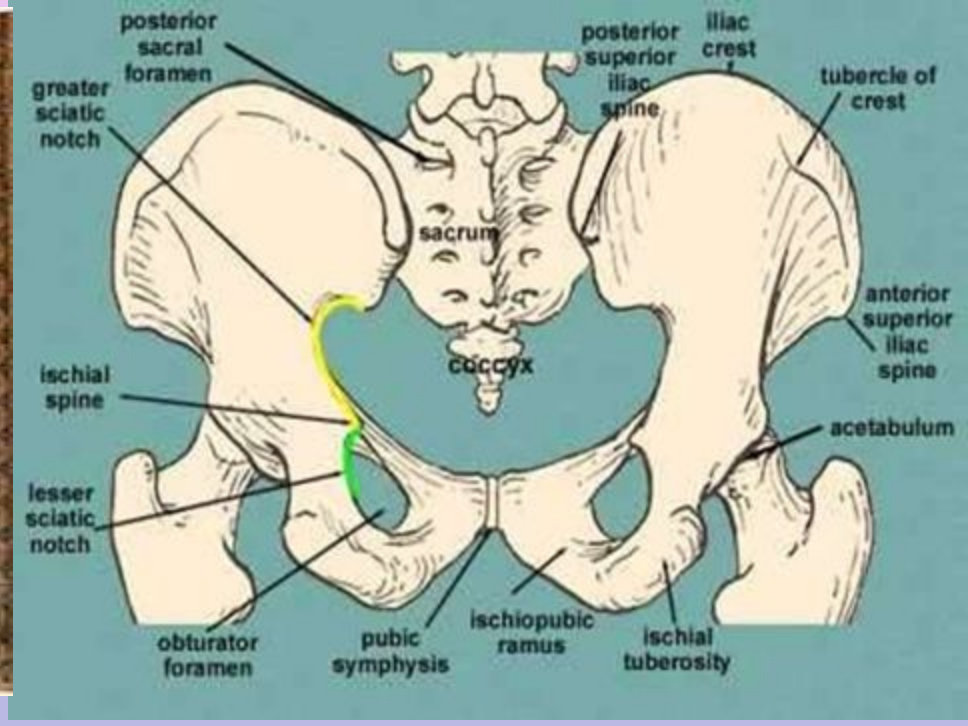


ABNORMALITIES OF BONY PELVIS

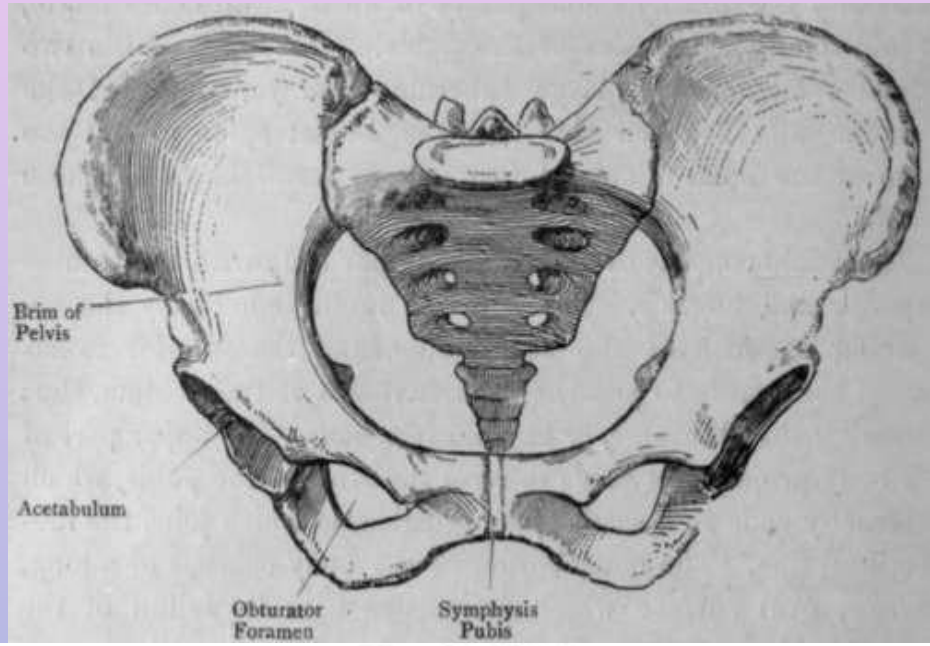
TEACHER NAME: IRINA KAMILOVA
STUDENT NAME: SACHIN PANDEY
GROUP NO. 163-B- LA-1

INTRODUCTION

Derived from latin word means Basin

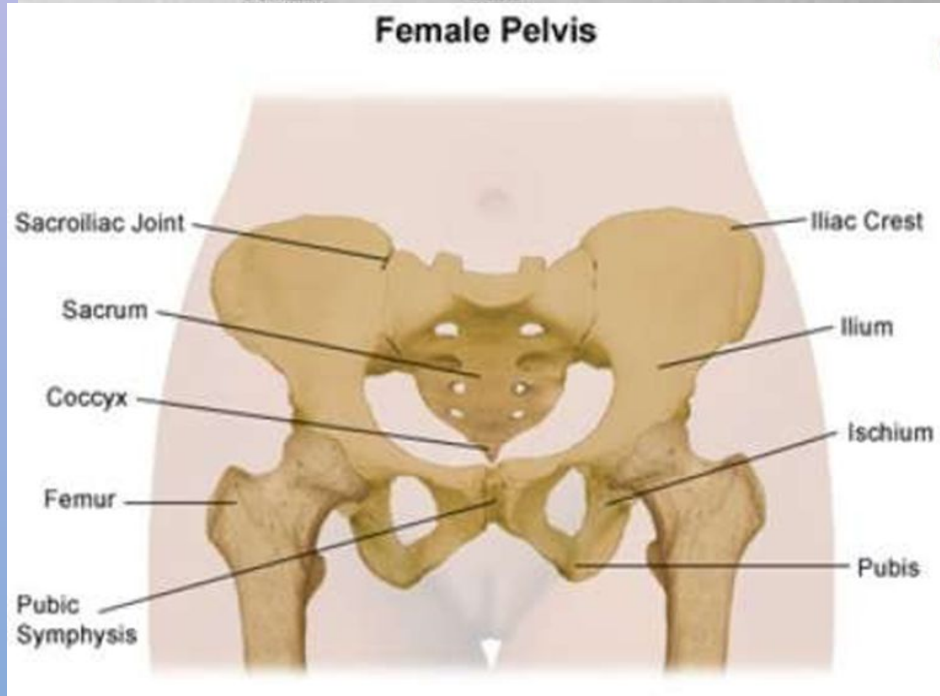
Ring of bone:
Two hip bone
Sacro-coccygeal part of vertebral column

The pubic part of hip bone connected by pubic Symphysis.



Pelvic bone is made up of various sections:

For obstetrical purposes, the pelvis is divided by the pelvic brim into two parts:
– The False Pelvis
– The True Pelvis



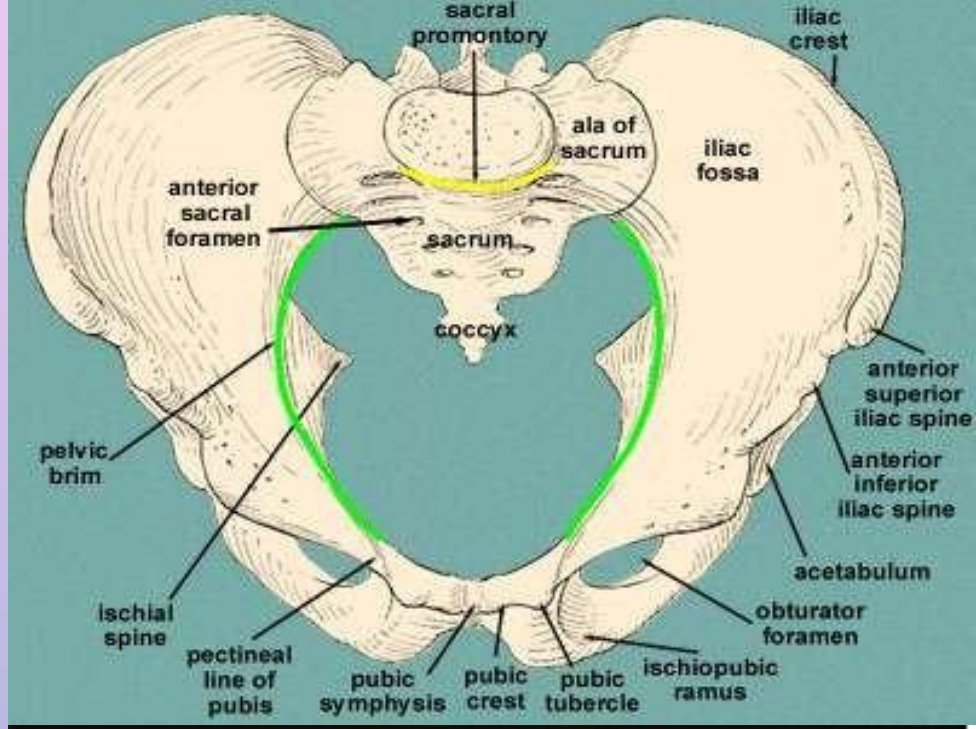
FALSE PELVIS

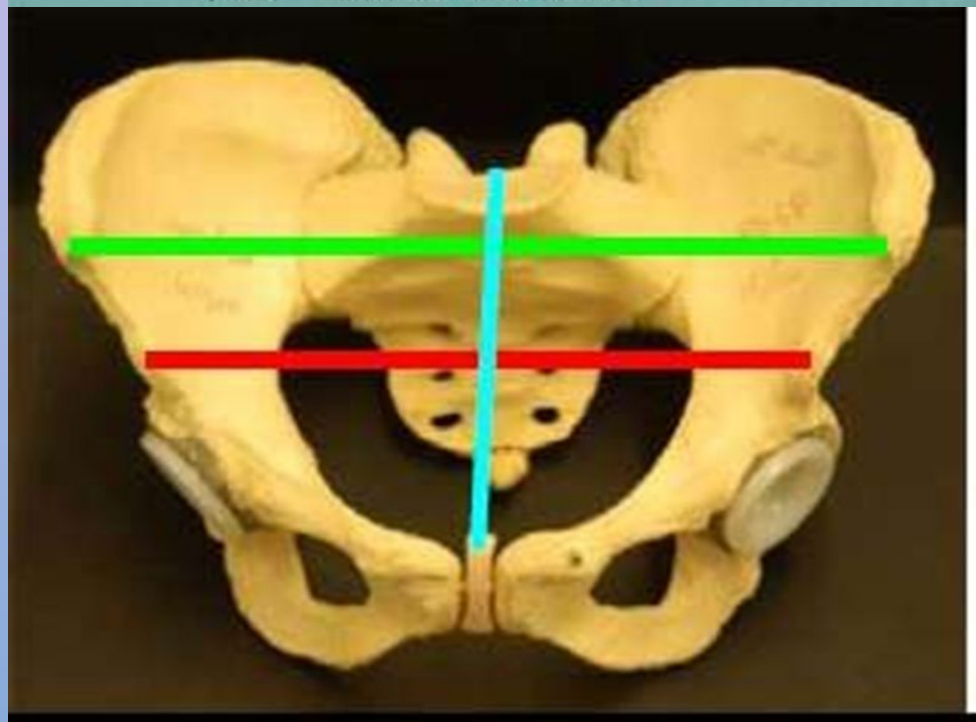
The False Pelvis is that portion above the pelvic brim. It does not take part in the mechanism of delivery and is of no obstetric interest.

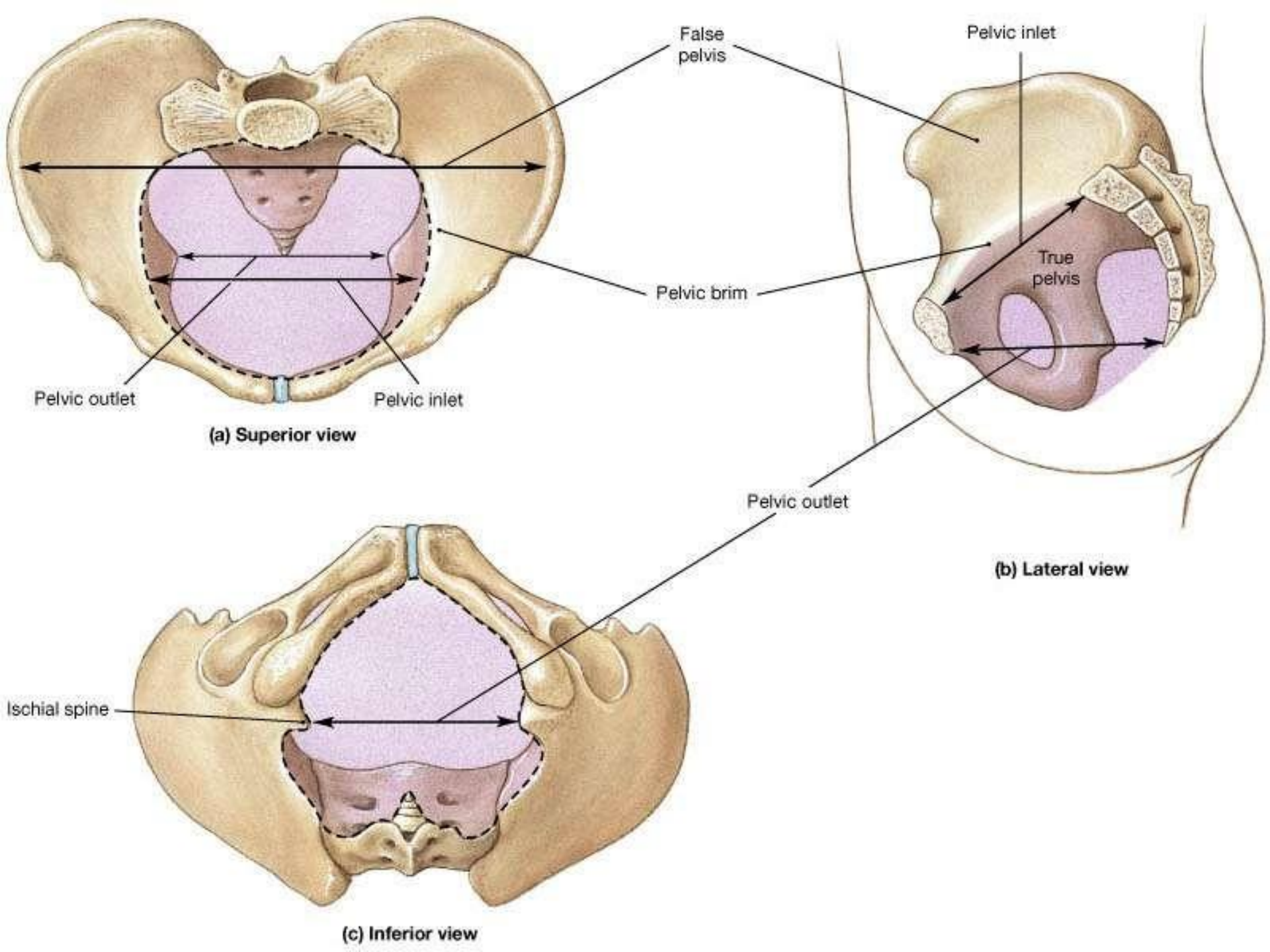
Intercristal diameter [IC ~29 cm]: widest point on lateral aspect of iliac crest

Interspinous diameter [IS ~26 cm]: distance between the lateral tips of the anterior superior iliac spines

External conjugate [AP] diameter [EC ~20 cm]: distance between apex of spine of 5th lumbar vertebra and centre of the superior border of symphysis pubis.



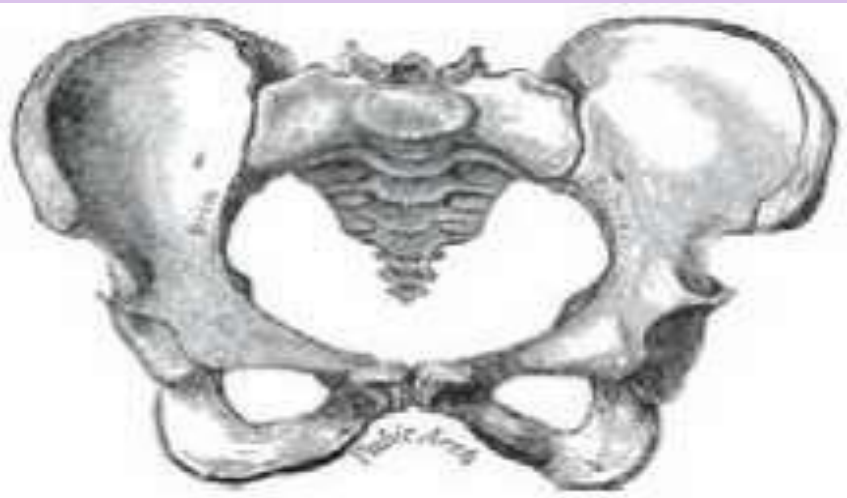



False pelvis
Pelvic inlet
Pelvic brim
True pelvis
Pelvic outlet
Pelvic inlet
(a) Superior view
Pelvic outlet
(b) Lateral view
Ischial spine
(c) Inferior view

TRUE PELVIS

The True Pelvis is that portion below the pelvic brim. It determines the size and shape of the birth canal.

Pelvic Brim or Pelvic inlet: formed by the upper margins of pubic bones, the ilio-pectineal lines and the anterior upper margin of the sacrum.



Cavity: formed by the pubic bones, ischium, ilium, and sacrum

Outlet: diamond-shaped made up of the pubic bones, ischium, ischial tuberosities, sacrotuberous ligament, and 5th segment of sacrum

PELVIC INLET

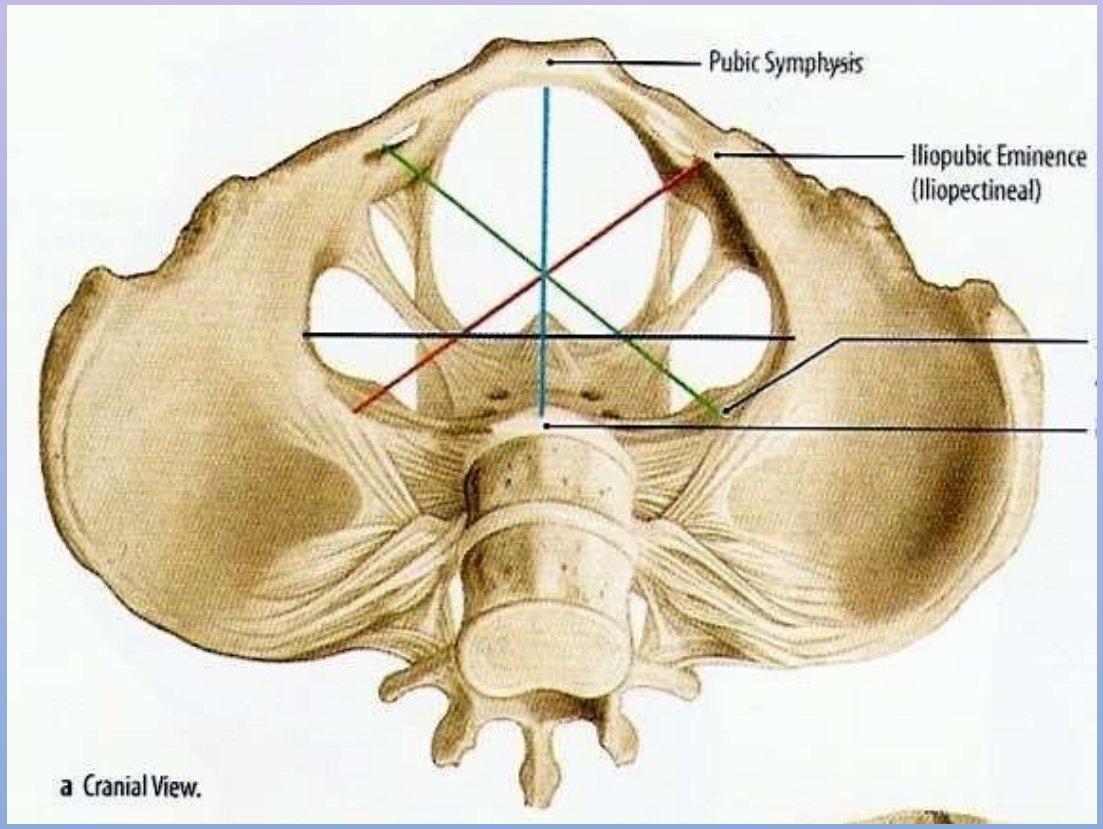
Pelvic inlet is formed from behind forward by

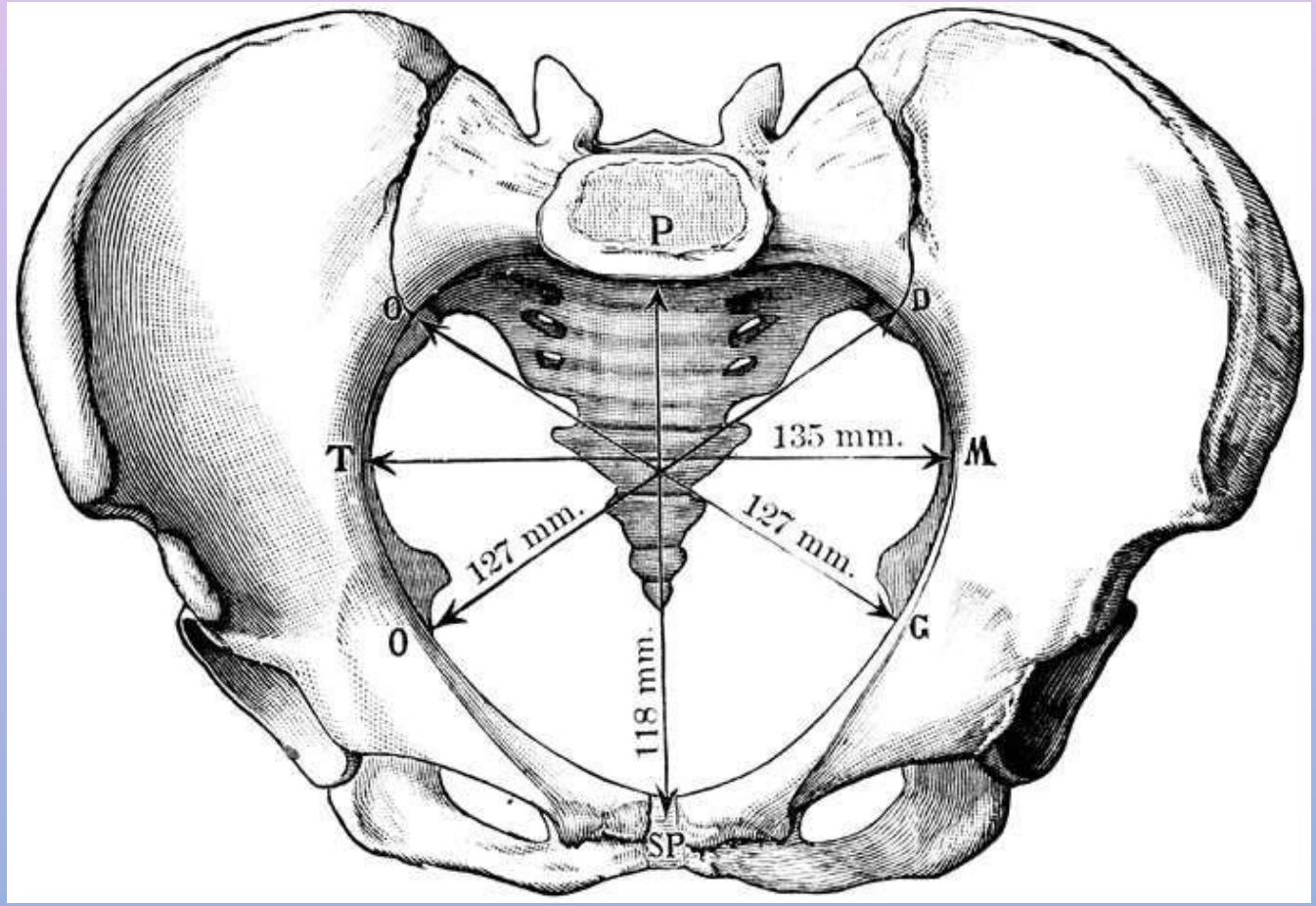
a. Sacral promontory

b. Anterior margins of ala of the sacrum

c. Linea terminalis

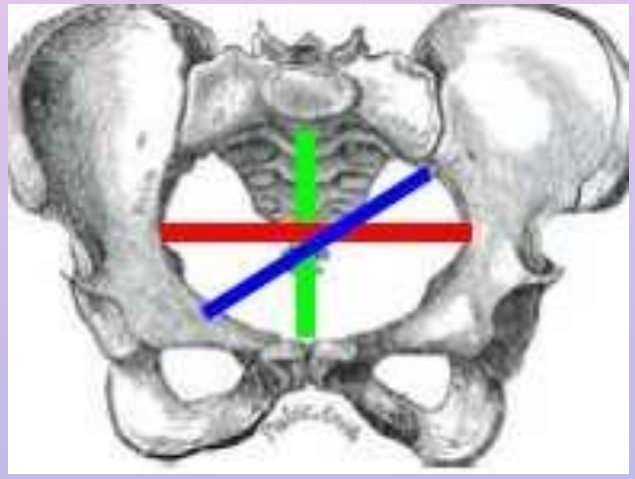
d. Upper end of symphysis pubis.




P
O
D
T
135 mm.
M
127 mm.
127 mm.
O
C
118 mm.
SP

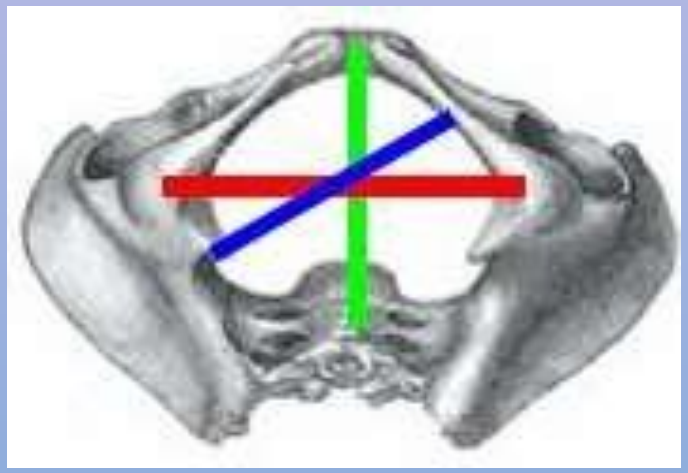
PELVIC INLET

A-P diameter or anatomical conjugate
Extends from middle of sacral promontory
To the upper margin of symphysis pubis.



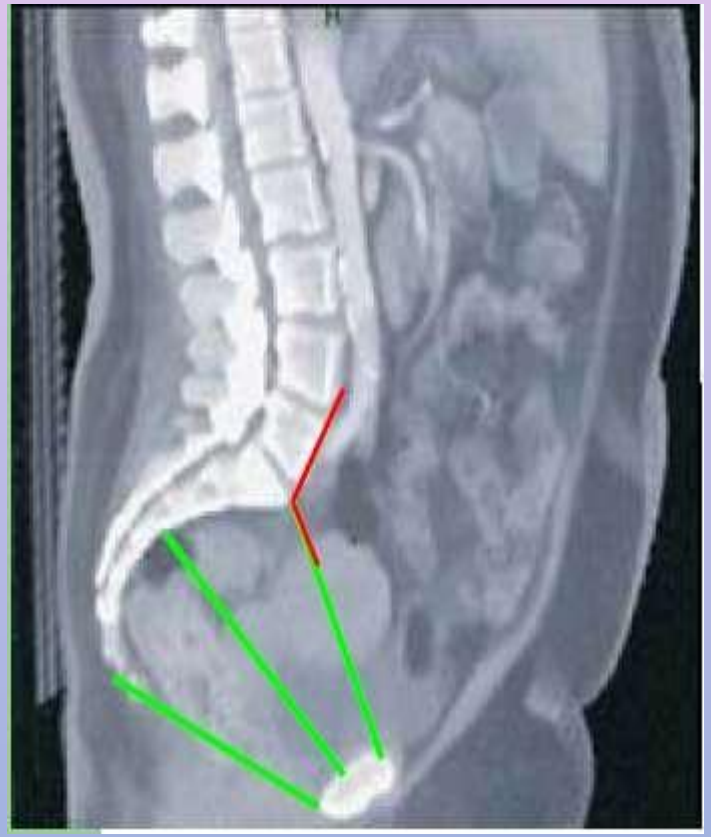
Oblique diameter:
Sacroiliac joint of one side to the iliopubic
Eminence of other side.

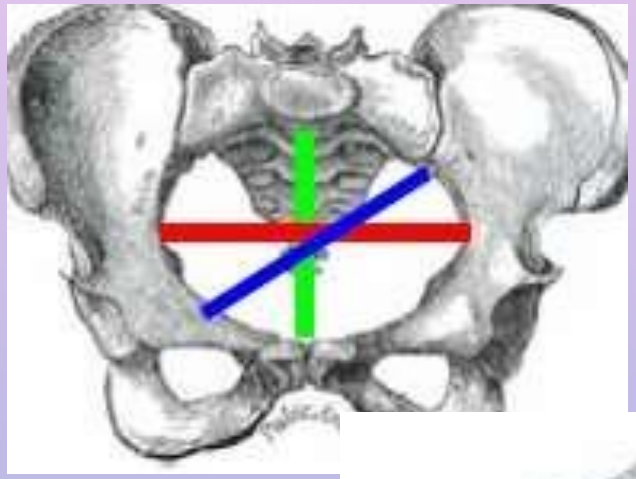
Transverse diameter:
Widest of all the diameters.



	Brim	Cavity	Outlet
Transverse	13.1	12.5	11.8
Oblique	12.5	13.1	11.8
Anteroposterior	11.3	13.1	12.5

- Inclination of the Pelvic brim: ~120⁰





	Brim	Cavity	Outlet
Transverse	13.1	12.5	11.8
Oblique	12.5	13.1	11.8
Anteroposterior	11.3	13.1	12.5

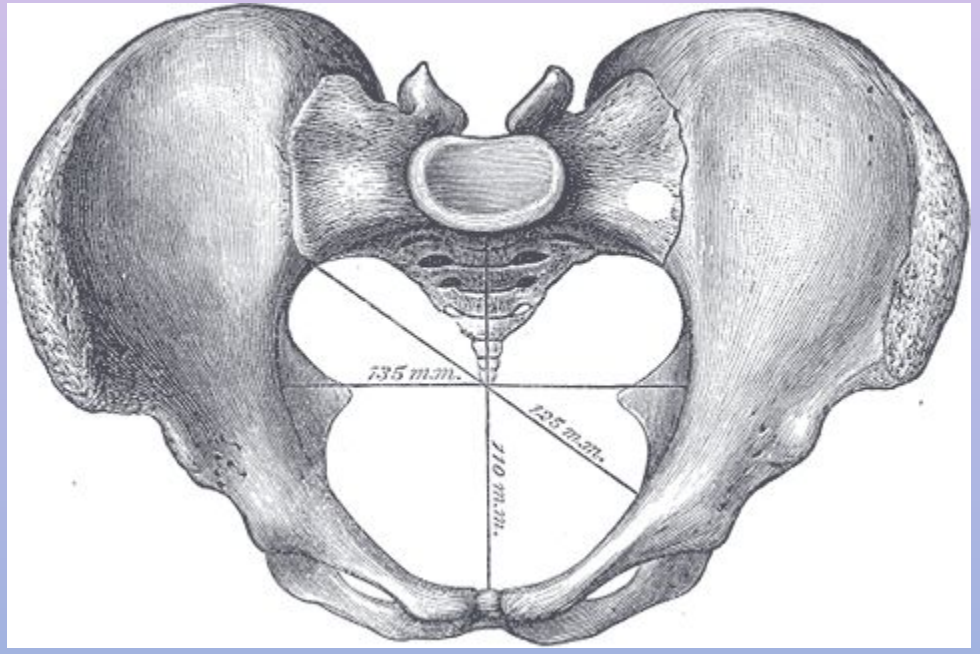
- Inclination of the Pelvic brim: ~120^0

PELVIC CAVITY

Extends downwards and backwards from pelvic inlet,intervenes between inlet and outlet.

Posterior wall of the cavity longer than anterior wall.

Boundaries



Anteriorly

By symphysis pubis and body of the pubis with its rami

Posteriorly

Concave pelvic surface of sacrum and coccyx.

On each side

Quadrangular area formed by pelvic

PELVIC CAVITY

Anterior posterior diameter:
From middle of the back of symphysis pubis to the pelvic surface of third sacral vertebrae.

Oblique diameter:
Lower end of sacroiliac joint to the centre of obturator membrane.

Transverse diameter:
Across the lateral bony walls of pelvic cavity.

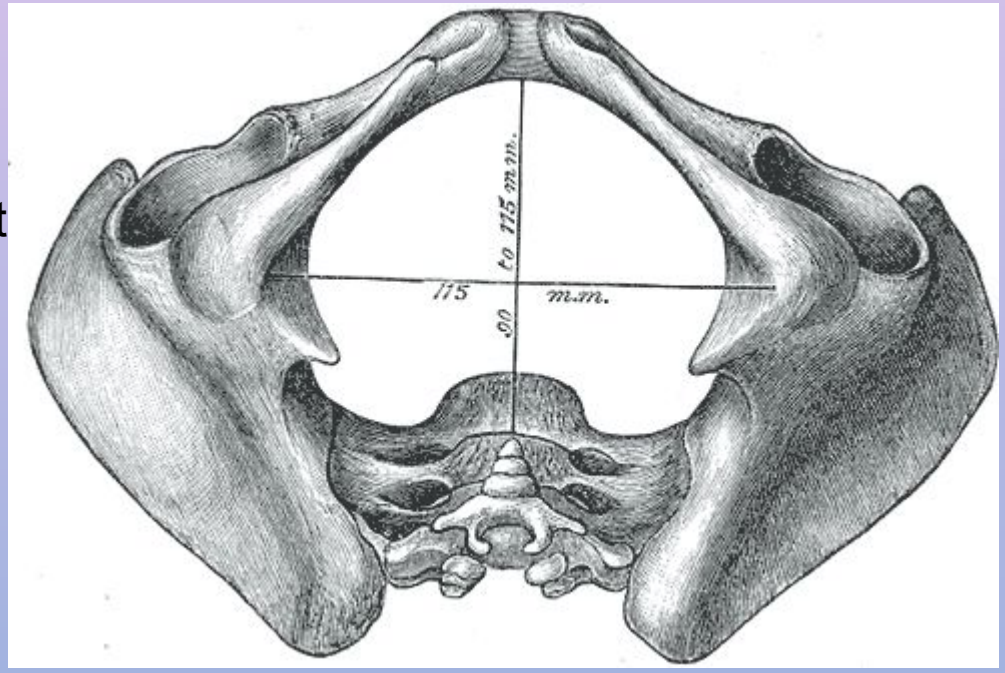
	Brim	Cavity	Outlet
Transverse	13.1	12.5	11.8
Oblique	12.5	13.1	11.8
Anteroposterior	11.3	13.1	12.5

- Inclination of the Pelvic brim: ~120⁰

Pelvic outlet

It is diamond shaped and wider in female.

Boundaries



In front

Lower margin of symphysis pubis connected by arcuate pubic ligament

Behind

Tip of the coccyx

Anterolaterally

Conjoint ischiopubic rami.

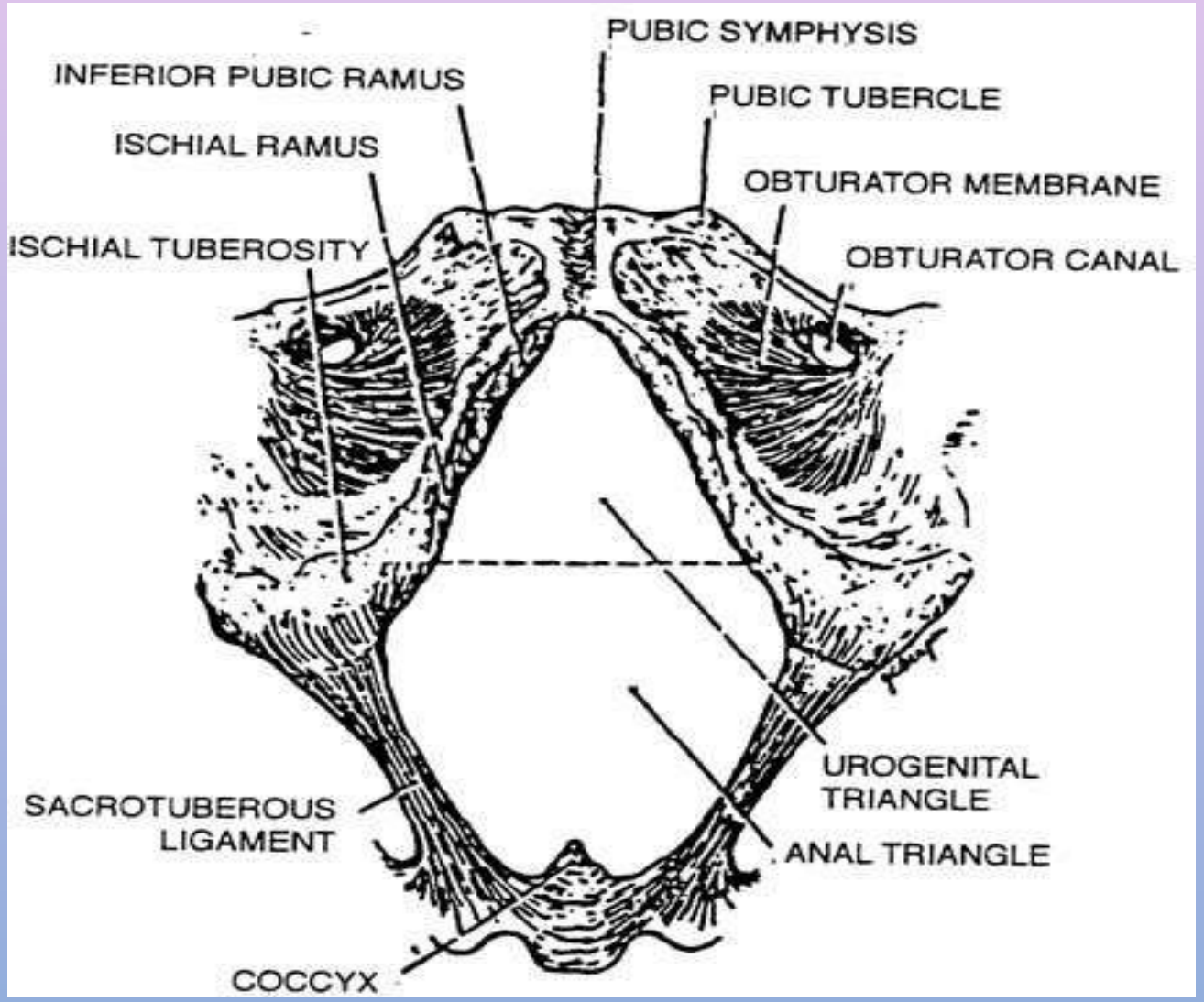
Laterally

Ischial tuberosities.

Posterolaterally

The sacrotuberous ligament.

Pelvic outlet (inferior view)



PELVIC OUTLET

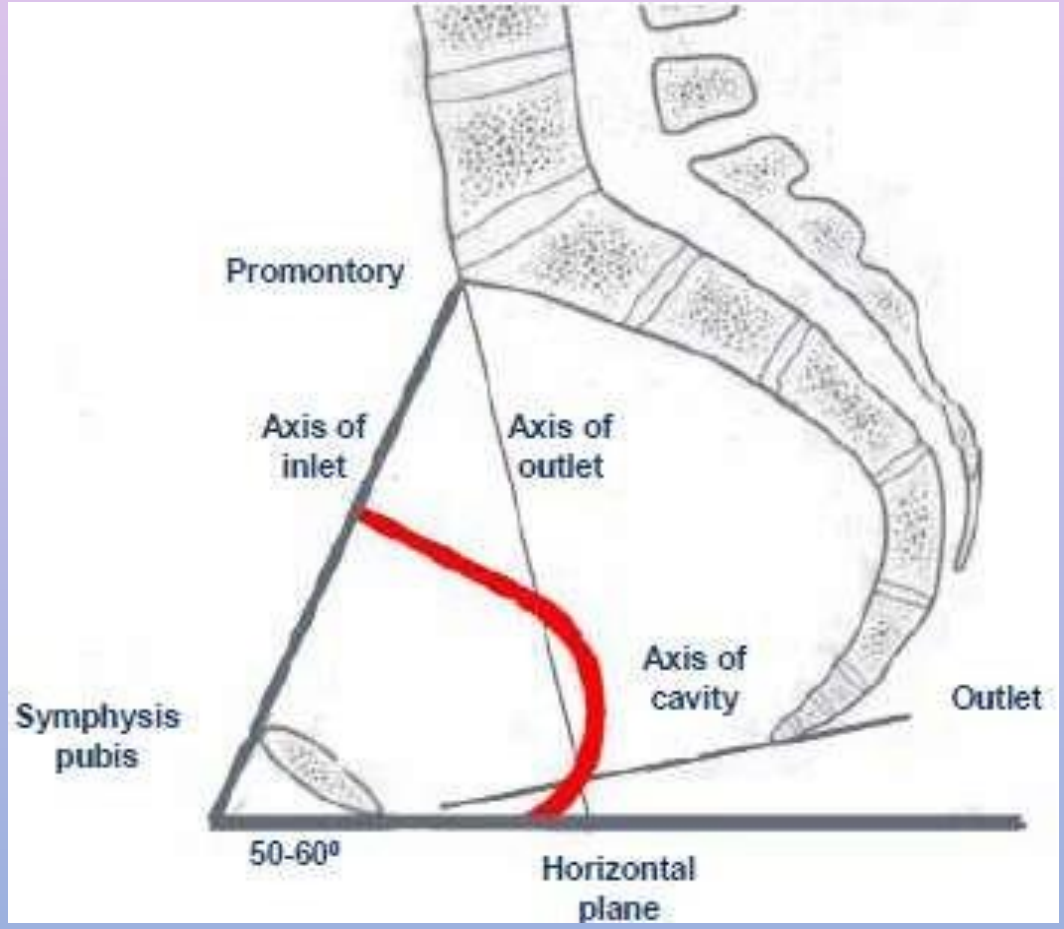
Anterior –posterior diameter:
from lower border of symphysis pubis
to tip of the coccyx.

Oblique diameter:
Between the junction of ischio-pubic ramus
of one side and middle of the sacrotuberous
ligament of the opposite side.

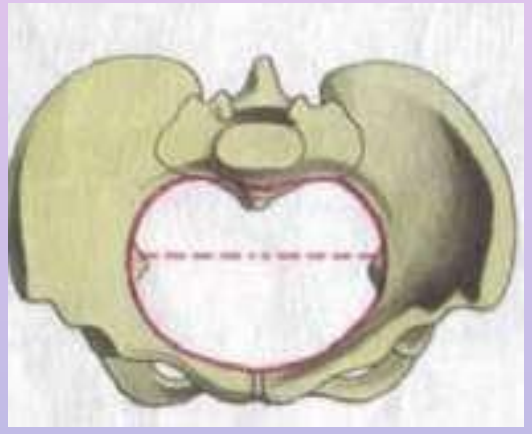
Transverse diameter:
between the medial surfaces of the lower ends
of ischial tuberosities.

	Brim	Cavity	Outlet
Transverse	13.1	12.5	11.8
Oblique	12.5	13.1	11.8
Anteroposterior	11.3	13.1	12.5

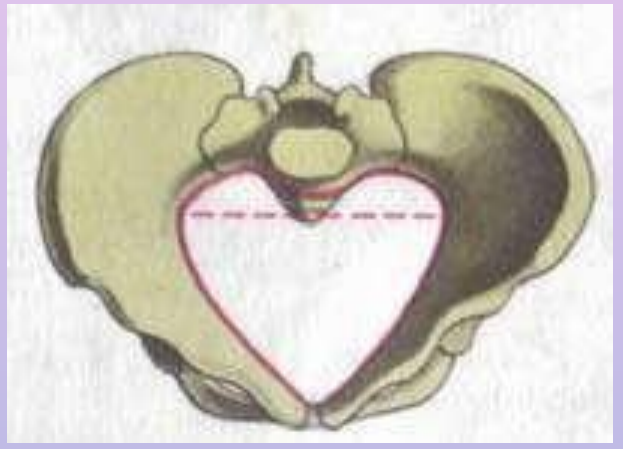
- Inclination of the Pelvic brim: ~120^0


Promontory
Axis of inlet
Axis of outlet
Axis of cavity
Outlet
Symphysis pubis
50-60º
Horizontal plane

Types of pelvises

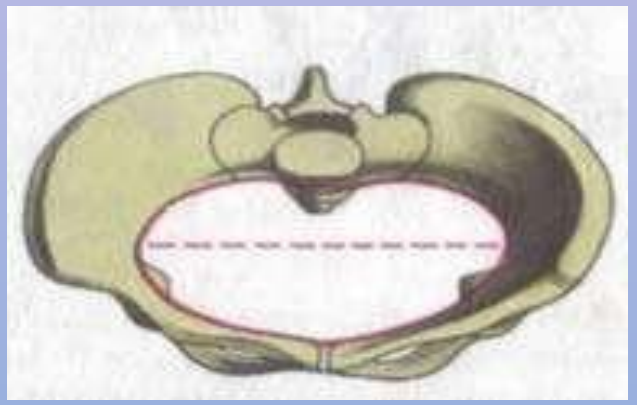


Gynaecoid



Android

Anthrapoid



Platypelloid

GYNAECOID PELVIS

Ideal pelvis favouring a normal delivery;
50.6% of women

Brim slightly ovaltransversely but almost Rounded.

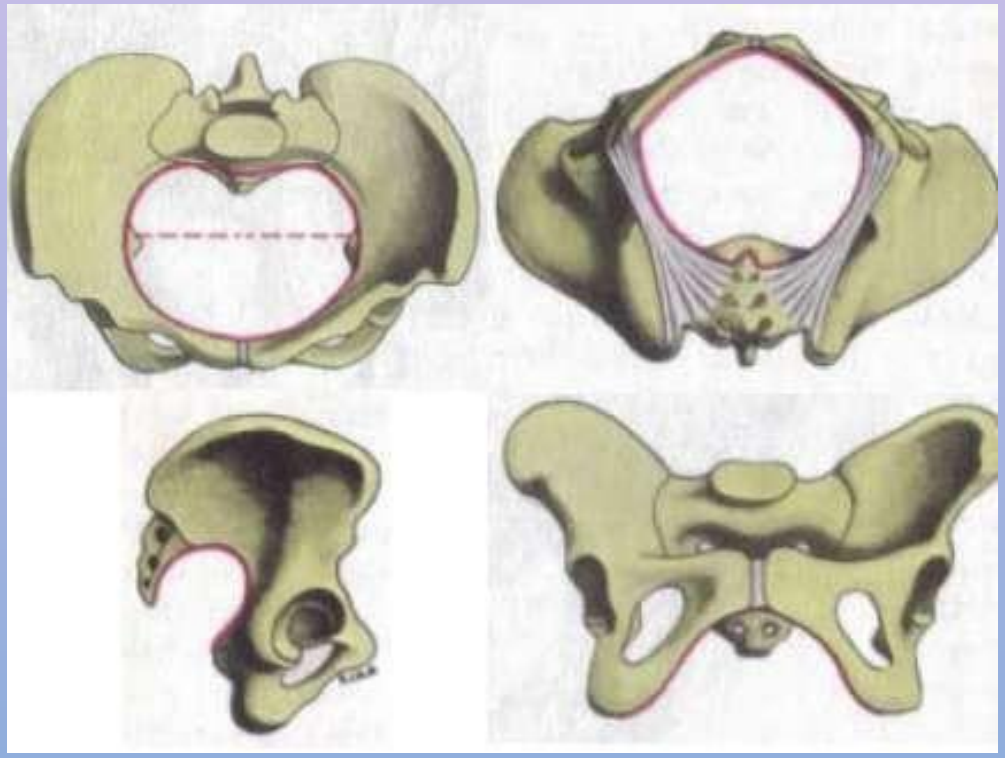
Sacrum curved Ischial spines not prominent

Short-cone pelvis

Obtuse greater sciatic notch

Triangular obturator foramen

Sub-pubic arch rounded [Roman arch] angle at least 900



ANDROID PELVIS

Male-type pelvis favouring OP positions and apt to cause deep transverse arrest of head; 22.4% of women.

Brim heart-shaped

Sacrum curved

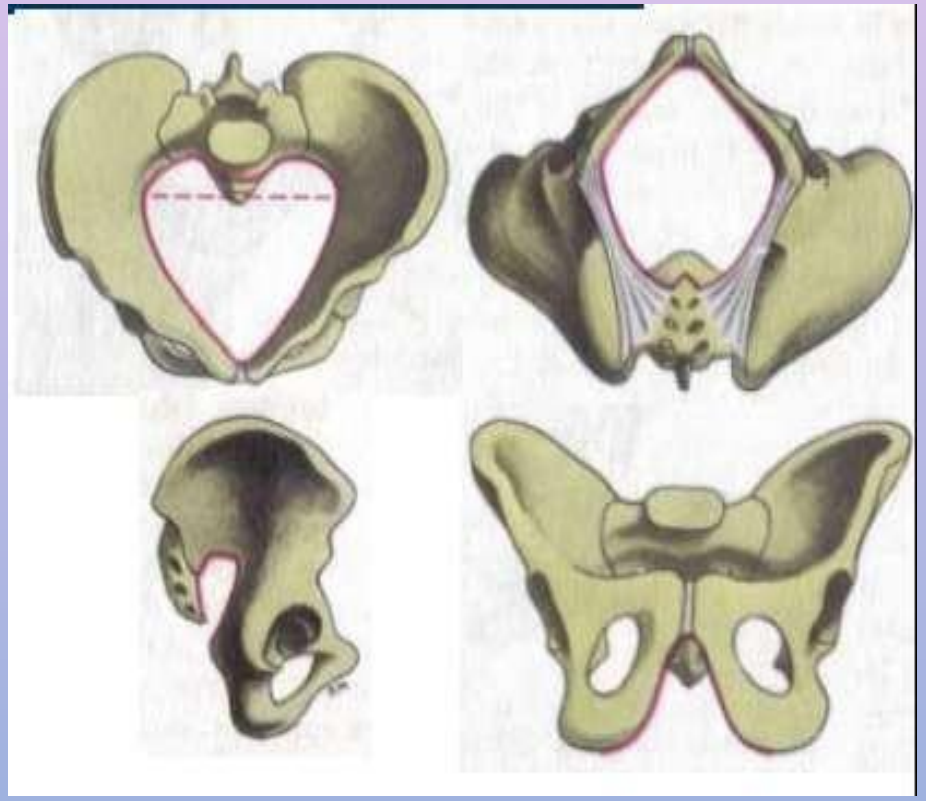
Ischial spines prominent

Long-cone funnel pelvis

Acute greater sciatic notch

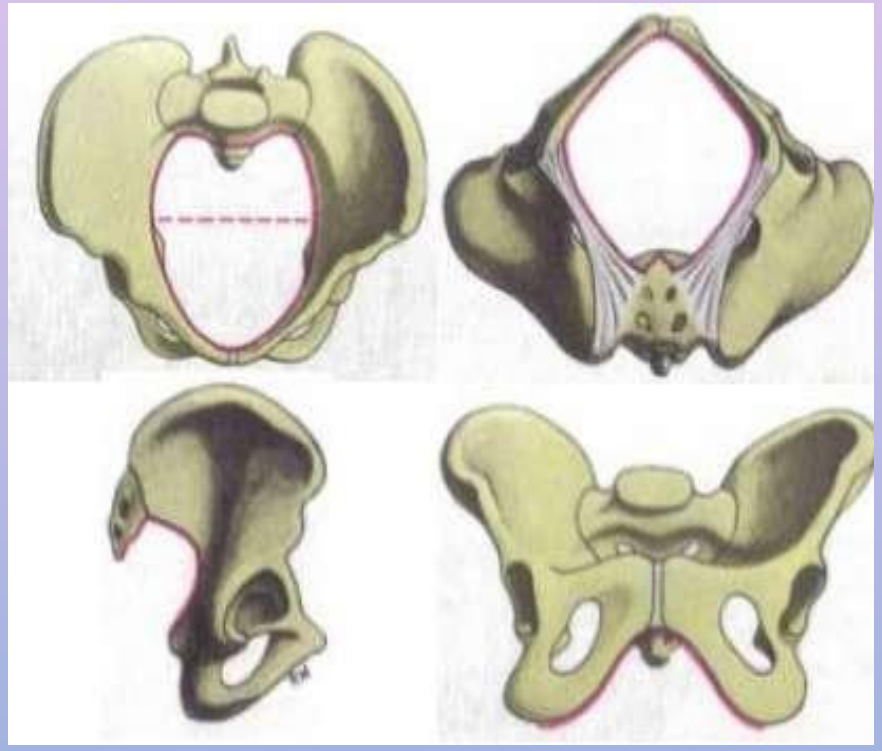
Oval obturator foramen

Sub-pubic arch very narrow [Gothic arch]



ANTHRAPOID PELVIS

Ape-like pelvis favouring OP positions often requiring operative vaginal deliveries; 22.7% of women.



Brim AP oval
Sacrum very slightly curved

Ischial spines prominent

Long-cone funnel pelvis with straight sidewalls

Obtuse greater sciatic notch

Oval obturator foramen
Sub-pubic arch narrow

PLATYPELLOID PELVIS

Leads to cephalo-pelvic disproportion;
4.4% of women.

Brim oval transversely

Sacrum very slightly curved

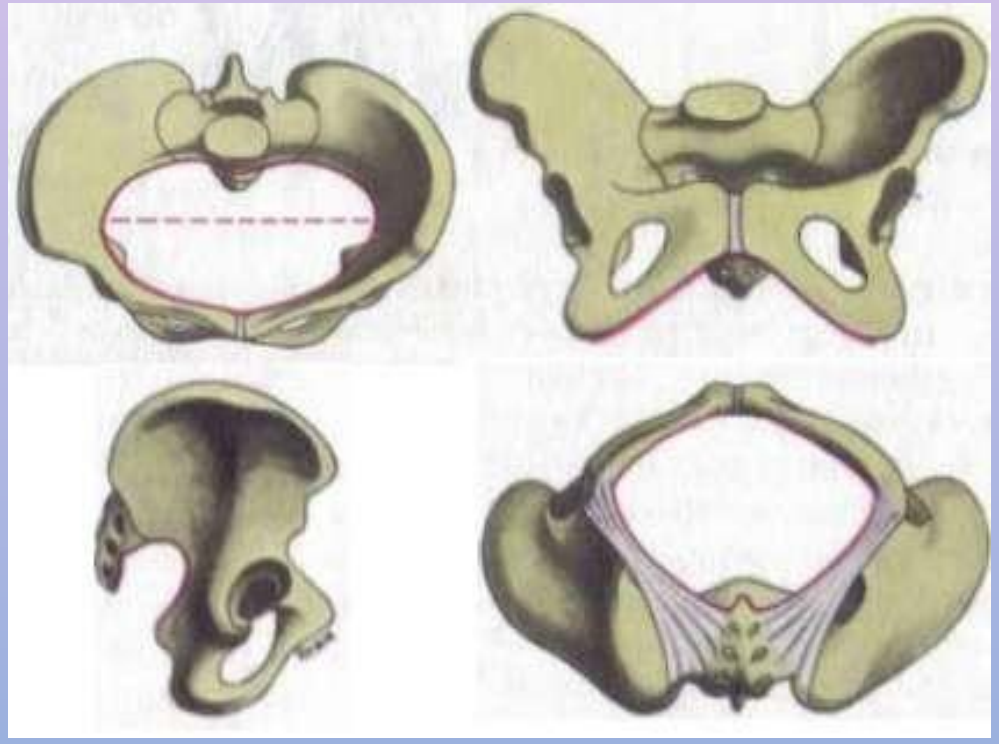
Ischial spines prominent

Short-cone shallow pelvis

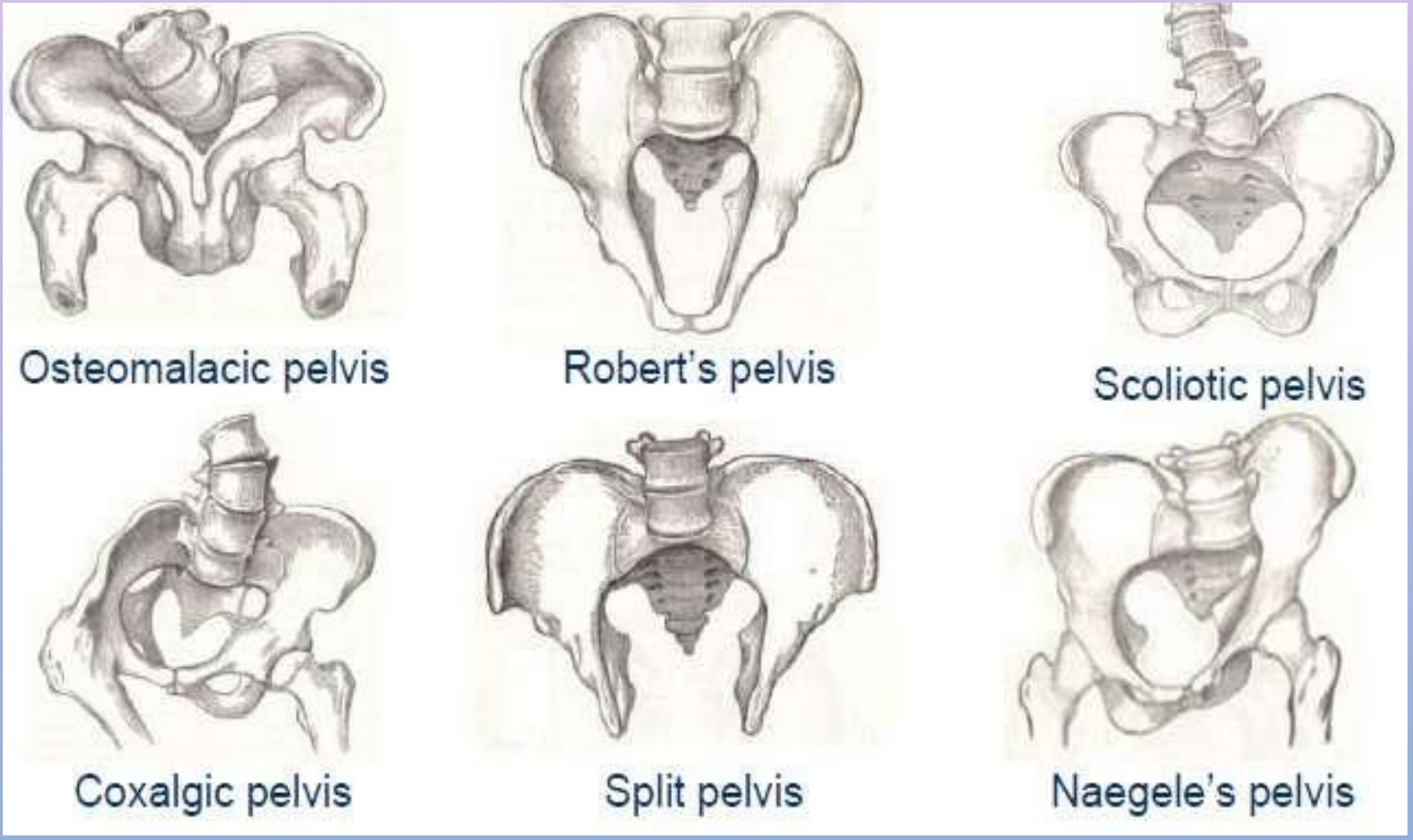
Acute greater sciatic notch

Triangular obturator foramen

Wide arch narrow

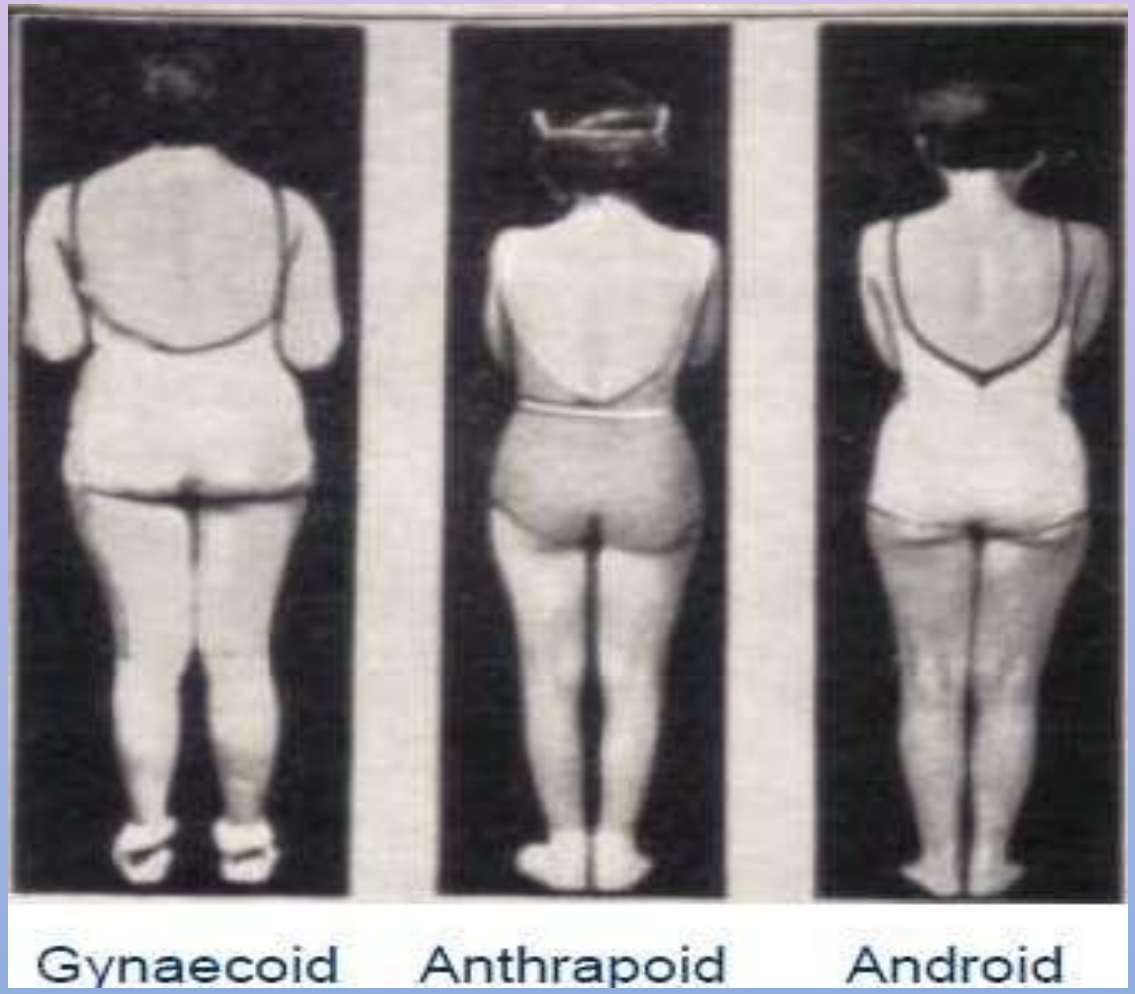


Asymmetrical pelvises



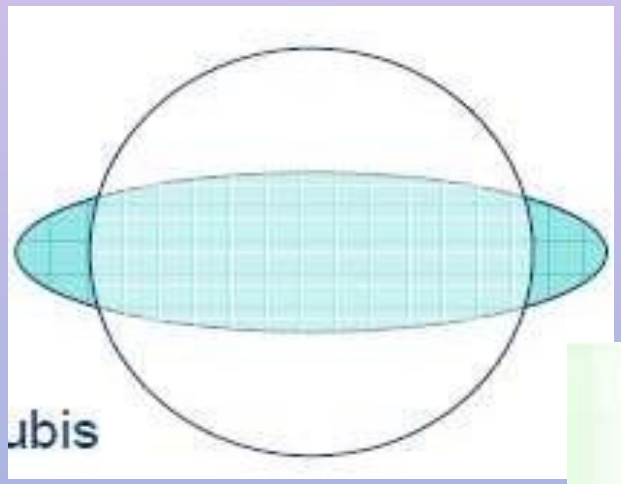
MALE	FEMALE
Bone are taller, heavier, and thicker	Bones are lighter and less dense
Illiac fossa is more concave and the anterior superior iliac spine is inturned.	Illiac fossa is shallow and anterior superior illiac spine is straight forward.
Acetabular cavity is large.	Acetabualr cavity is shallow.
Obturator foramen is large and oval.	Obturator foeamen is small and triangular.
Pelvic inlet is heart shaped	Round in shaped and diameters are longer than male.
Pelvic cavity longer and more conical	Pelvic cavity shorter and more conical.
Symphysis pubis and body of the pubis are elongated.	Symphysis pubis and body are short.
Pelvic outlet is small and 1” lesser the the diameters of female.	Pelvic outlet is wide and anterior posterior diameter is longest.
Sub-pubic angle is narrow and measures 50◌ 60 ◌	Sub-pubic angle is wide and measures about 80◌90 ◌
Angle and depth of greater sciatic notch are narrow.	Angle and greater sciatic notch are wide.
Ischial spine are inturned	Ischial spines are out turned.
Curvature of the pelvic surface of sacrom is uniformly concave.	The upper part is more flat and lower part is abruptly concave.

Clinical Assessment Body build



CLINICAL ASSESSMENT FOETAL HEAD AS PELVIMETER

Engagement defined as the point when the engaging diameter [BPD(biparietal diameter = ~10 cm] goes past the pelvic brim.
Five fingers = 10 cm.



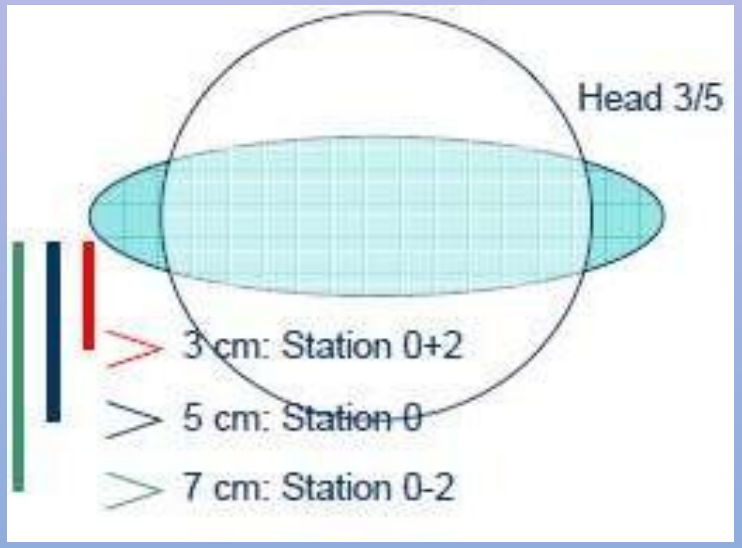
Fifths palpable above symphysis pubis

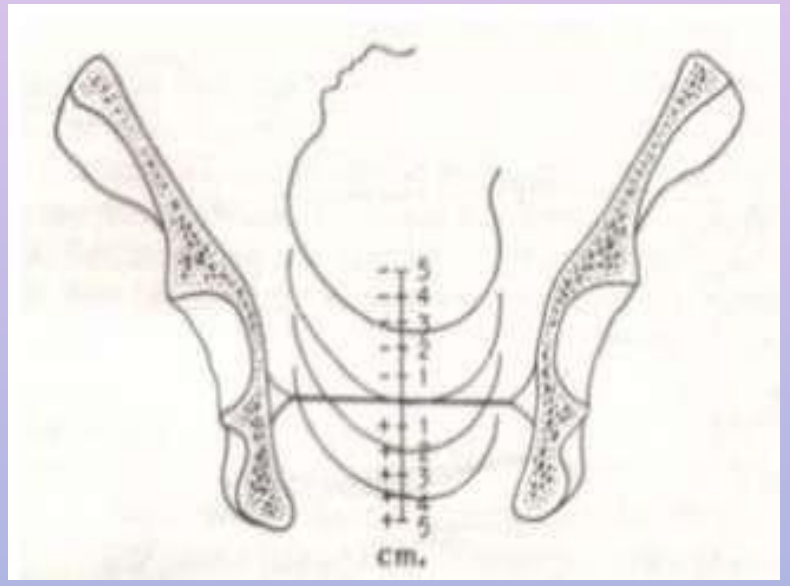
CLINICAL ASSESSMENT FOETAL HEAD AS PELVIMETER

In Gynaecoid & Android pelvis distance between ischial spine to brim is ~5 cm.

In Anthropoid pelvis distance is ~7 cm

In Platypelloid pelvis distance is ~3 cm



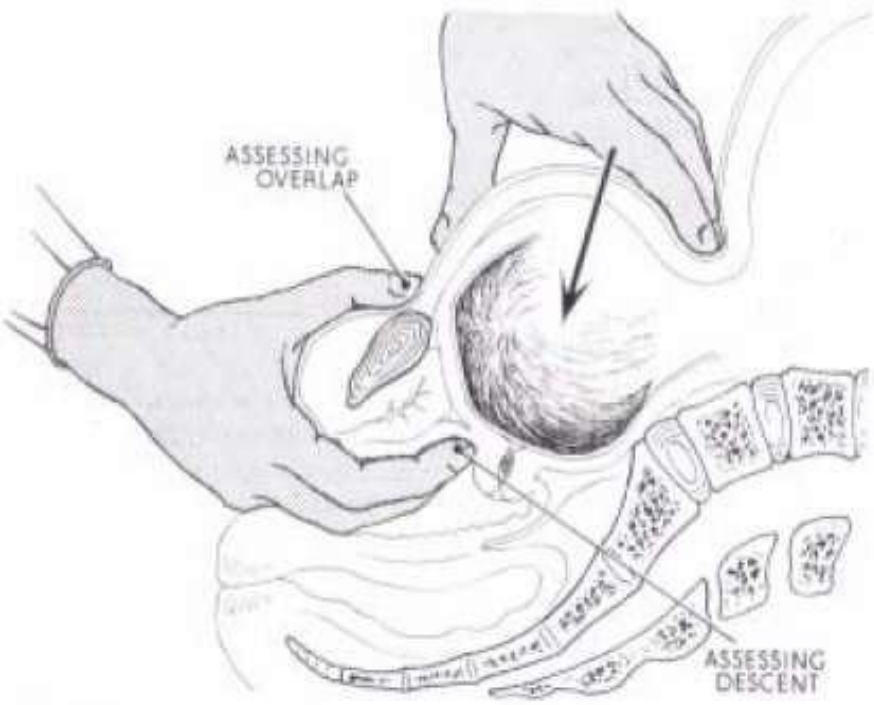


Station of the head in relation to ischial spines

vaginal examination

Measurement of AP conjugates

- Diagonal conjugate ~12.0 cm
- True conjugate ~11.0 cm
- AP outlet ~12.5 cm

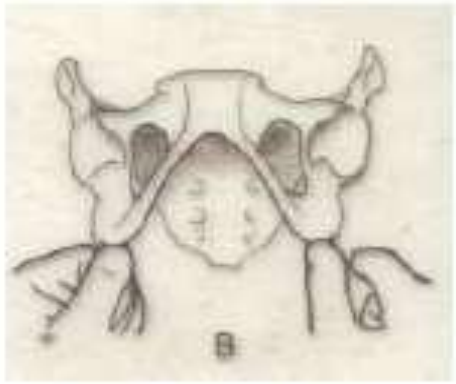


Munro Kerr's method of assessing for engagement

Clinical Assessment vaginal examination

Assess mobility of sacro-coccygeal joint

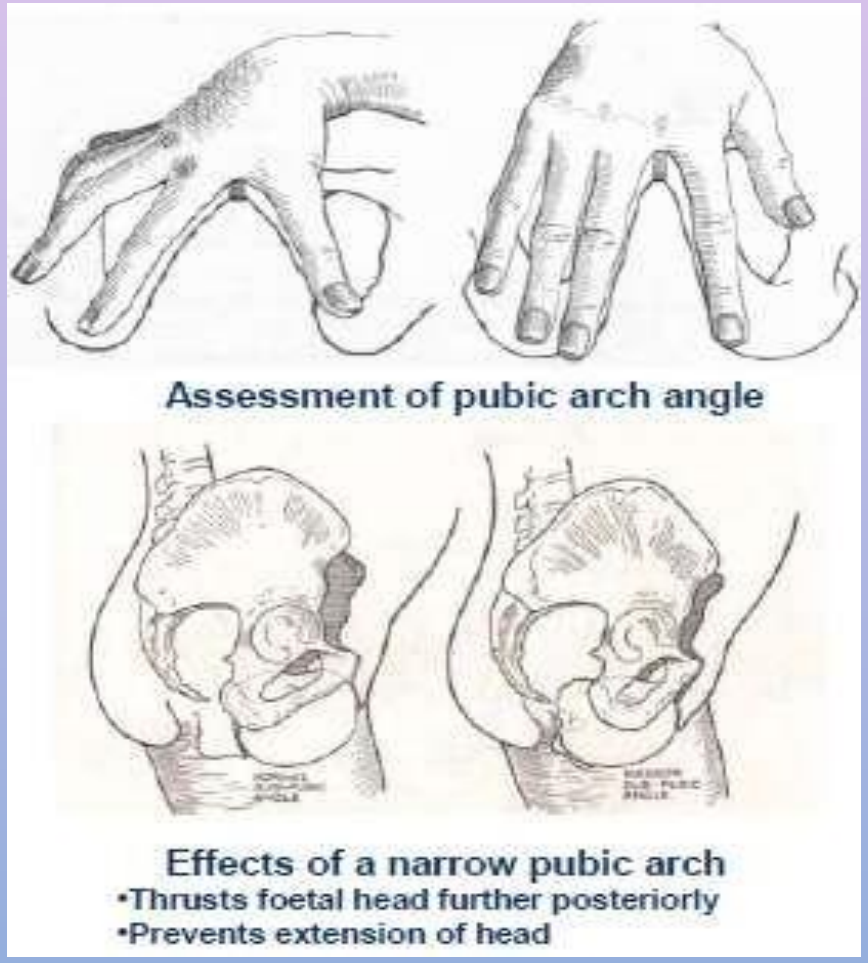
Assess interspinous diameter ~12.0 cm



Assess intertuberous diameter ~11.8 cm

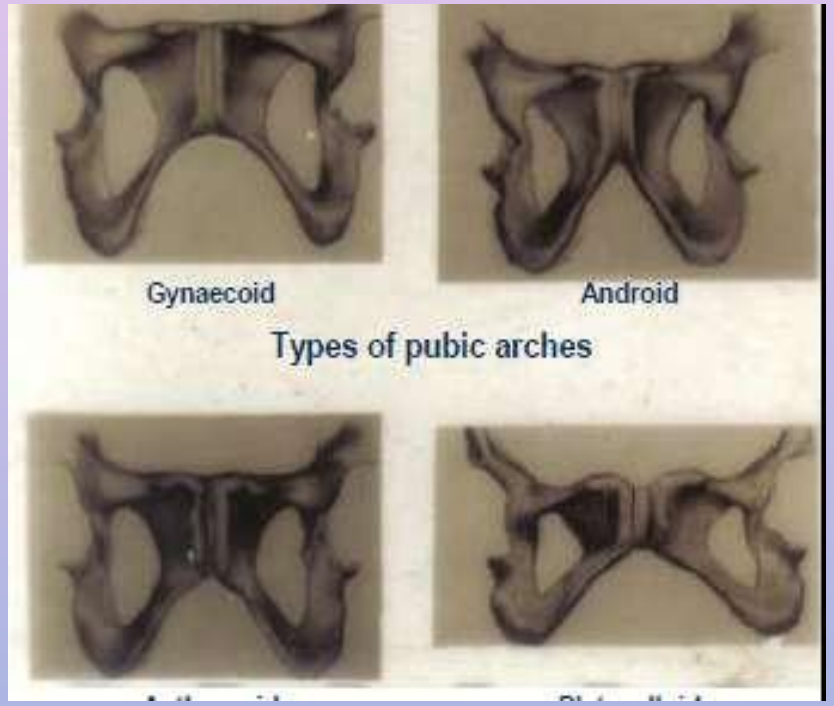
Assess spino-tuberous distance ~4.5 cm

vaginal examination

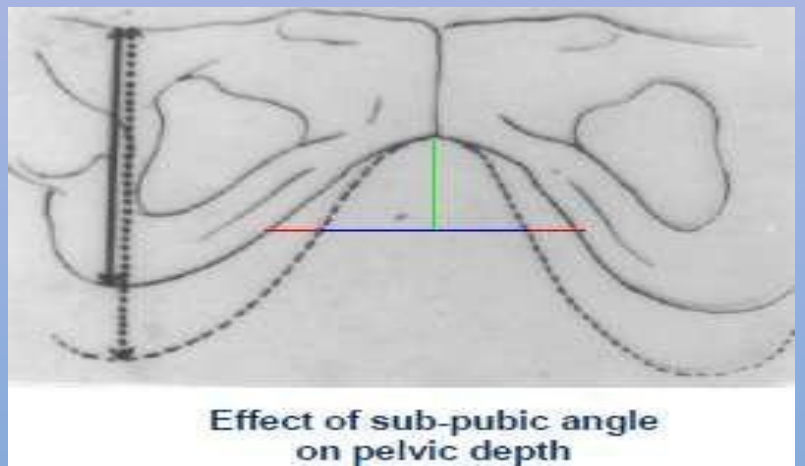


Assessment of pubic arch angle

Effects of a narrow pubic arch
- Thrusts foetal head further posteriorly
- Prevents extension of head

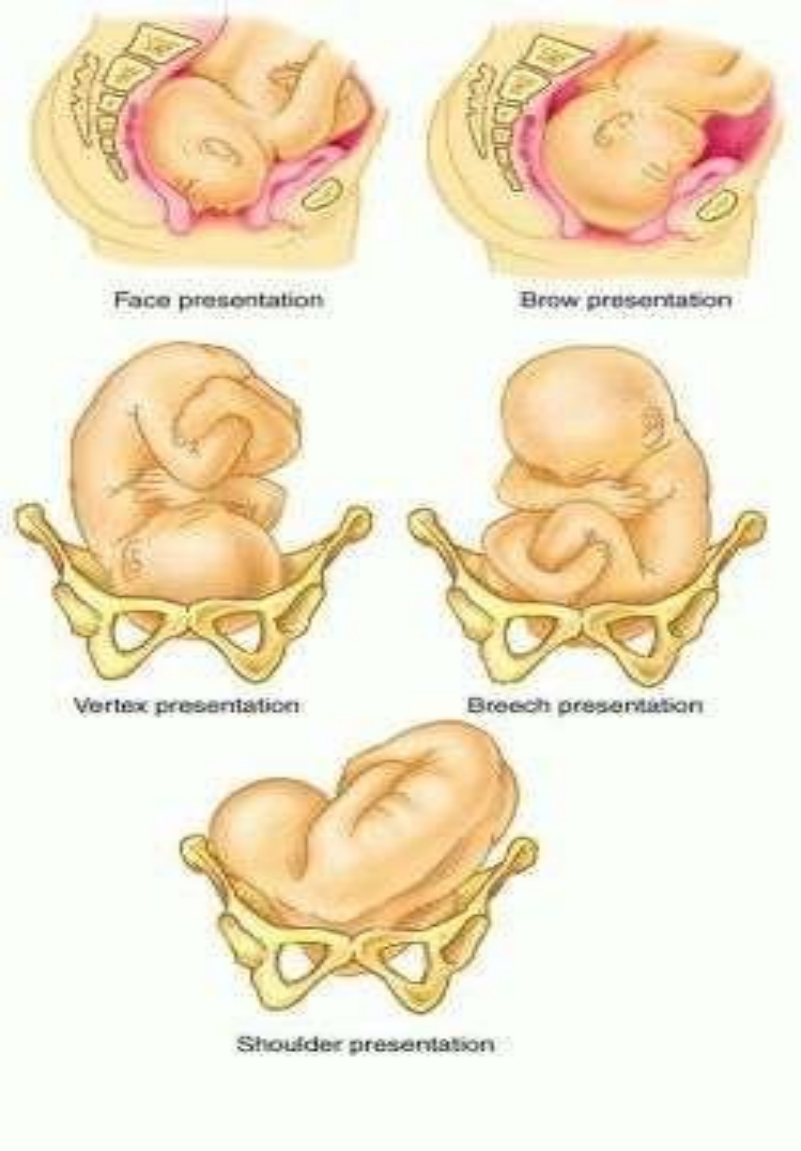


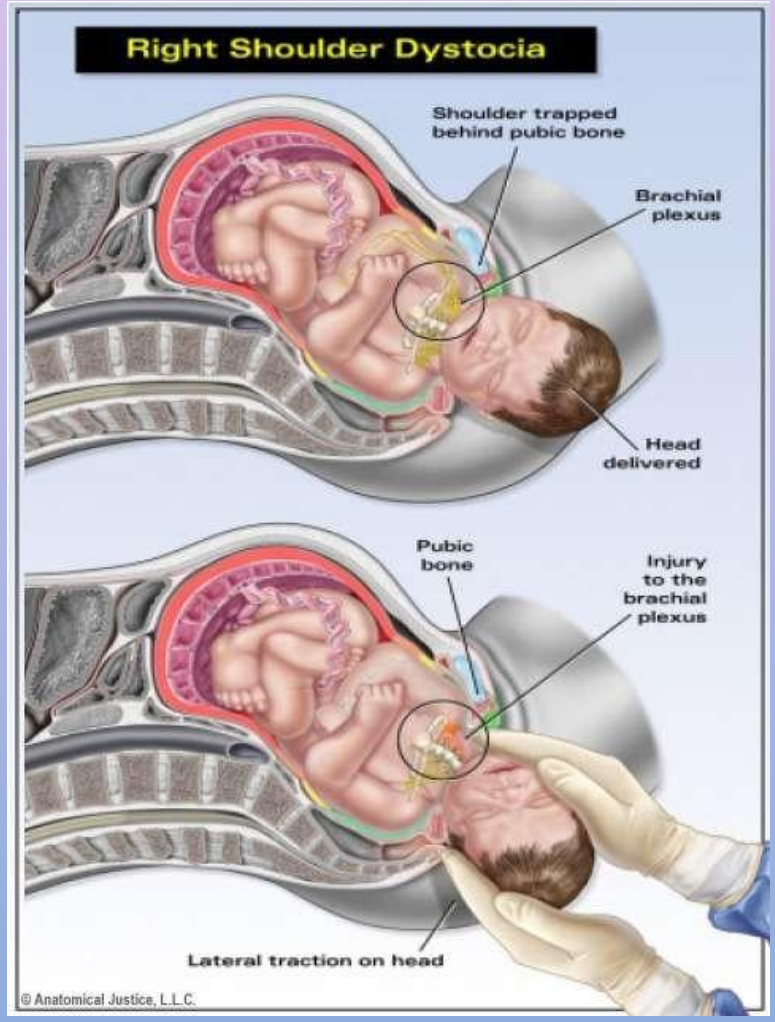
Types of pubic arches



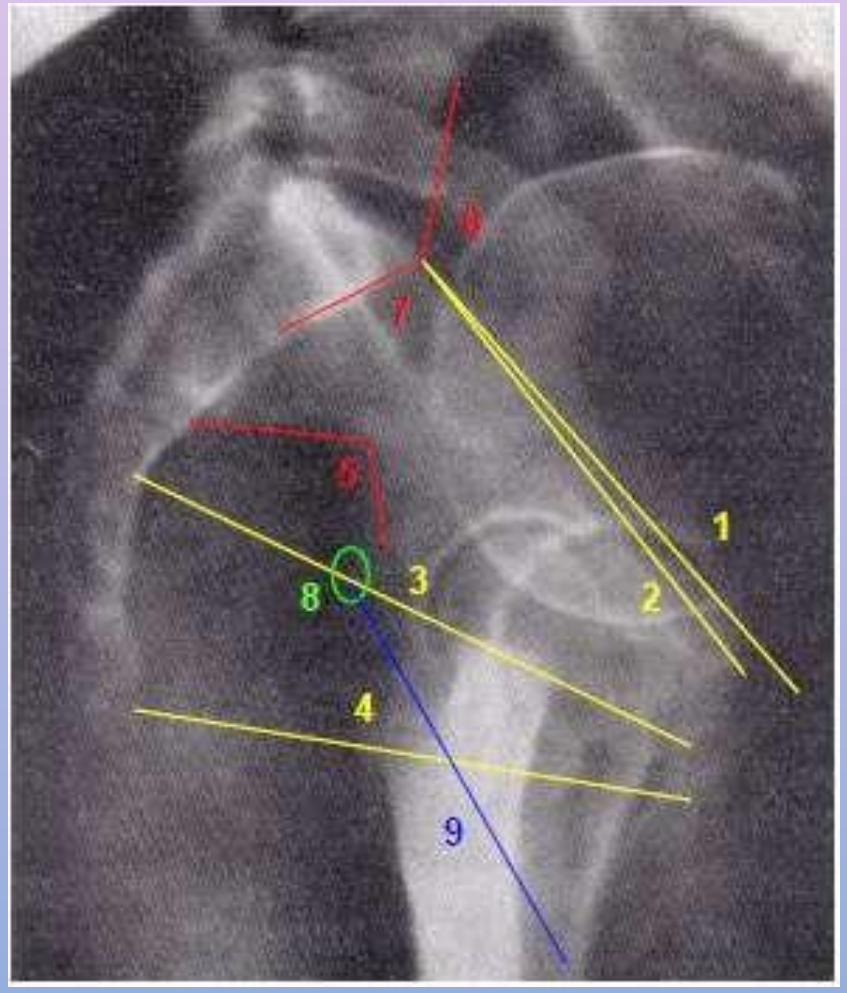
Effect of sub-pubic angle on pelvic depth

Presentation of the fetus at the time of delivery





CLINICAL ASSESSMENT RADIOLOGICAL EXAMINATION



1. TRUE AP CONJUGATE
2. OBSTETRIC CONJUGATE
3. MID-CAVITY AP CONJUGATE
4. OUTLET AP CONJUGATE
5. ANGLE GREATER SCIATIC NOTCH
6. ANGLE OF INCLINATION OF PELVIC BRIM
7. ANGLE OF INCLINATION OF SACRUM
8. ISCHIAL SPINE
9. ISCHIO-TUBEROUS DISTANCE
10. FOETAL HEAD

- LIE, POSITION, ENGAGEMENT

THANK YOU