MALPRESENTATIONS
OCCIPUT POSTERIOR POSITION

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MANSOURA OBSTETRICS

UNDERGRADUATES

The purpose of these lectures is to deliver the basic obstetrical, and gynecological knowledge to the undergraduate medical student, without sophistications or unnecessary details.

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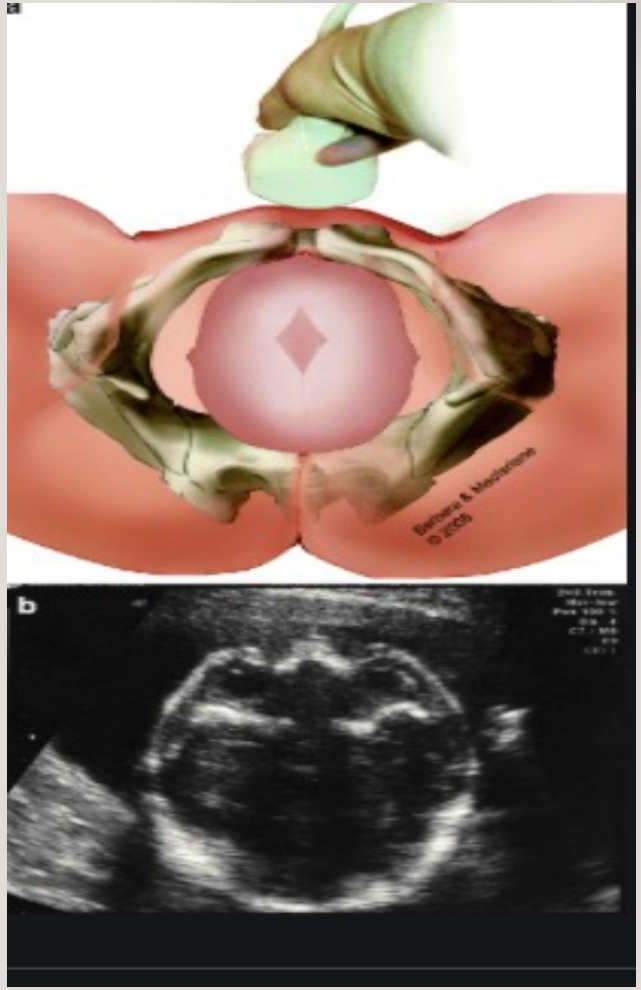
ان الغرض من وراء هذه المحاضرات هو تقديم المعلومات الأساسية في علم التوليد و أمراض النساء دون تفاصيل لا تفيد طالب البكالوريوس. والله من وراء القصد.

Osama M Warda MD

OCCIPITO-POSTERIOR POSITION

- **Definition:** Malposition of head (*not malpresentation*) in which presenting part is vertex, denominator is occiput which is directed posteriorly & head shows deflexion attitude.



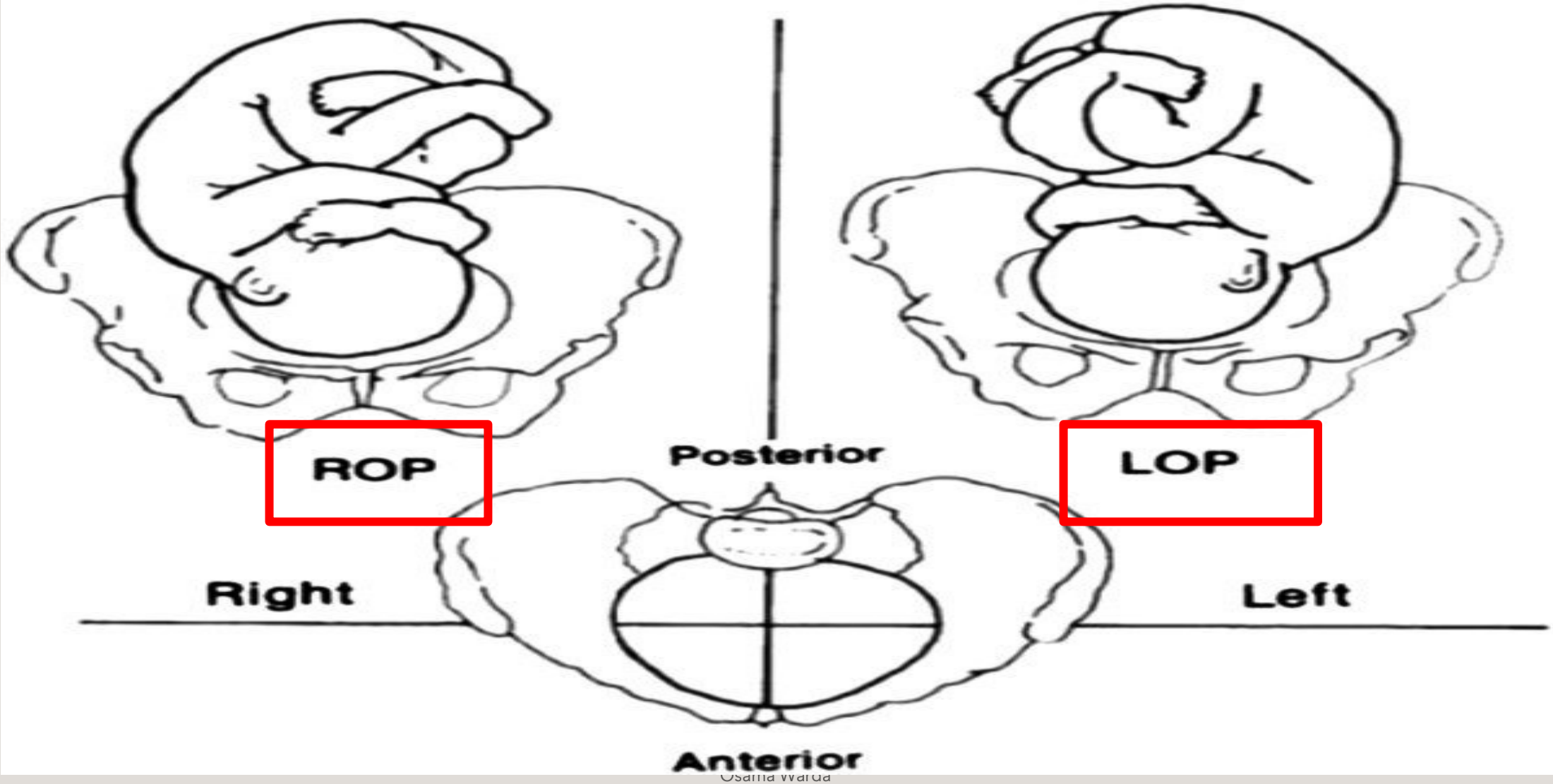
OCCIPITO-POSTERIOR POSITION

Incidence: 30-40% during last weeks of pregnancy & 20% at onset of labor

Positions: There are 2 positions: ROP & LOP. ROP is more common than LOP because:

1) In ROP, head engages in Right oblique diameter of pelvic inlet which is slightly longer than the Left one.
2) Uterus is dextro-rotated in most cases (sigmoid colon is on the left)

OCCIPITO-POSTERIOR POSITION



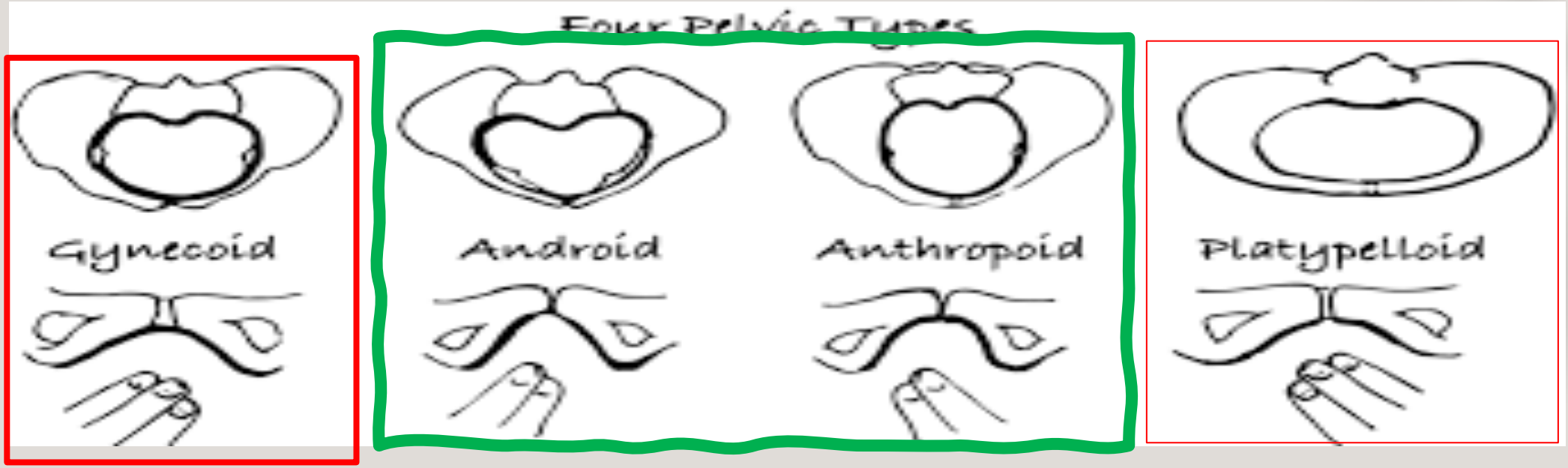
OCCIPITO-POSTERIOR POSITION

Types: *occurs in pelvis with narrow fore-pelvis & wide hind-pelvis.*

A) 1ry OP: Occurs late in pregnancy before onset of labor (it occurs in association with anthropoid pelvis).

B) 2ry OP: Develops during labor (it occurs in association with android pelvis).

OCCIPITO-POSTERIOR POSITION



*Note that both **android**, and **anthropoid** pelves have narrow fore-pelvis, so they favour the occiput posterior malposition (the bulkier occiput occupy the wider hind-pelvis)*

OCCIPITO-POSTERIOR POSITION-Etiology

1- Abnormal shape of pelvis: Commonest cause (85%).

- Any pelvis with narrow fore-pelvis (as android pelvis & anthropoid pelvis).
- In these types, the best way for head to engage is occiput posteriorly.

2- Minor degree of maternal kyphosis: Fetal back is accommodated in concavity of lumbar kyphosis.

3- Anterior insertion of placenta.

4- Other general causes: See before.

5- Idiopathic: In 10-30% of cases.

OCCIPITO-POSTERIOR POSITION
Mechanism of Labor

Certain degree of **deflexion** is present in all cases of OP position due to:

1) *Apposition of 2 convexities of fetal & maternal spines*: Leads to loss of flexion of fetal spines which is transmitted to head resulting in *deflexion*.

2) *Easy descent of sinciput with delayed descent of occiput:* Because the wide BPD (9.5 cm) enters pelvis in the narrow sacro-cotyloid diameter (9.5 cm) while the smaller bitemporal diameter (8 cm) enters pelvis in the wider oblique diameter (12 cm).

OCCIPITO-POSTERIOR POSITION
Mechanism of Labor

According to the degree of ***deflexion*** *the mechanism differs:*

1) Mild deflexion: Occiput is at lower level than sinciput.
2) Moderate deflexion: Both occiput & sinciput are felt at the same level.
3) Marked deflexion: Sinciput is at lower level than occiput.

A) Descent: Delayed.

B) Engagement: Delayed because:

1) Engaging longitudinal diameter is SOF (10 cm) or OF (11.5 cm).
2) BPD (9.5 cm) enters pelvis in sacro-cotyloid diameter (9.5 cm).

OCCIPITO-POSTERIOR POSITION
Mechanism of Labor

C) Internal rotation: *Depends on degree of deflexion, efficiency of uterine contractions & pelvic configuration.*

1) Normal mechanism (long anterior rotation): [90%].

In favorable conditions [minimal degree of deflexion + efficient uterine contractions] → correction of deflexion into complete flexion → occiput reaches pelvic floor 1st → rotates anteriorly 3/8 circle → becomes DOA → delivered (as OA) by extension.

Restitution occurs (its degree depends on how shoulders follow head during internal rotation) then external rotation then delivery of shoulders, trunk & the rest of body.

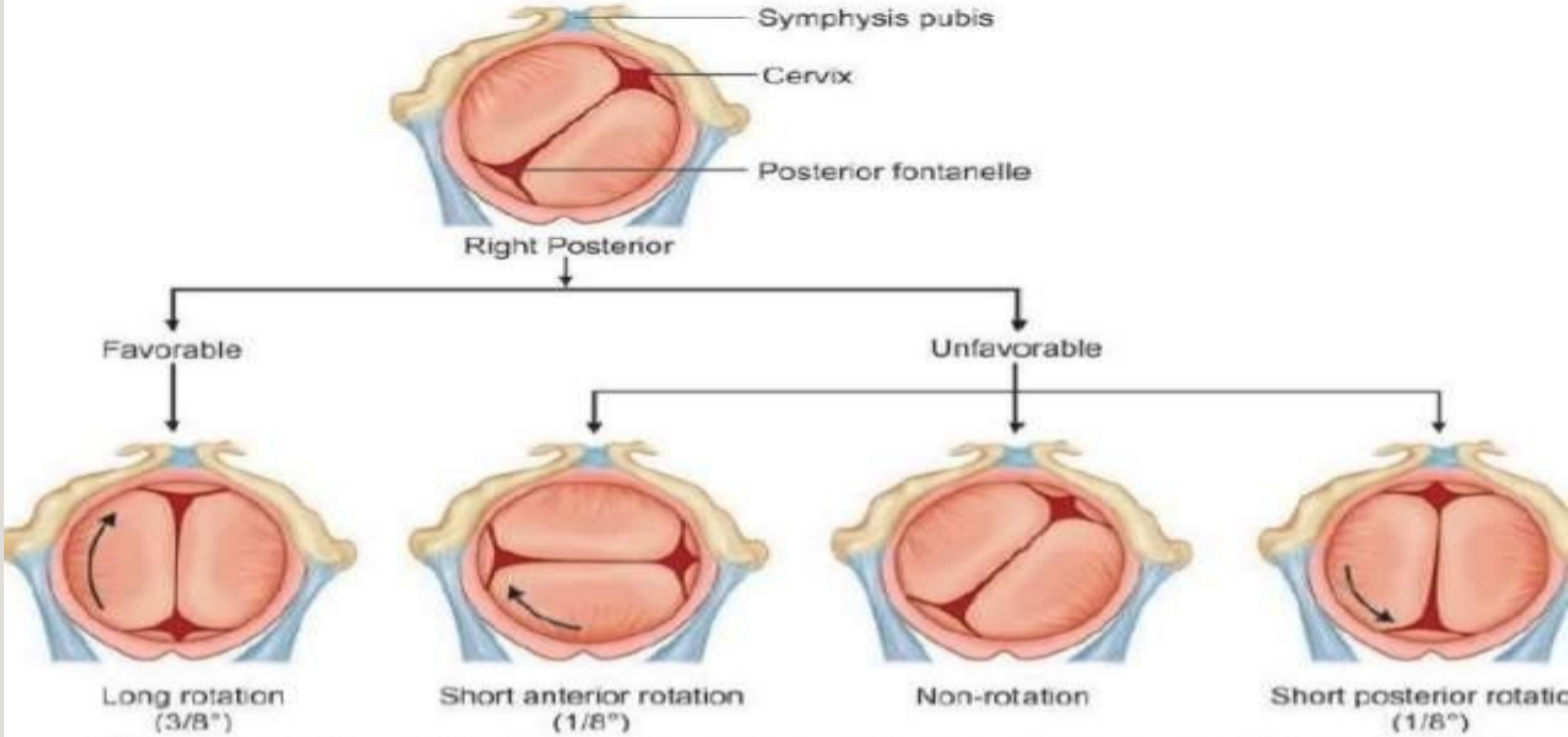
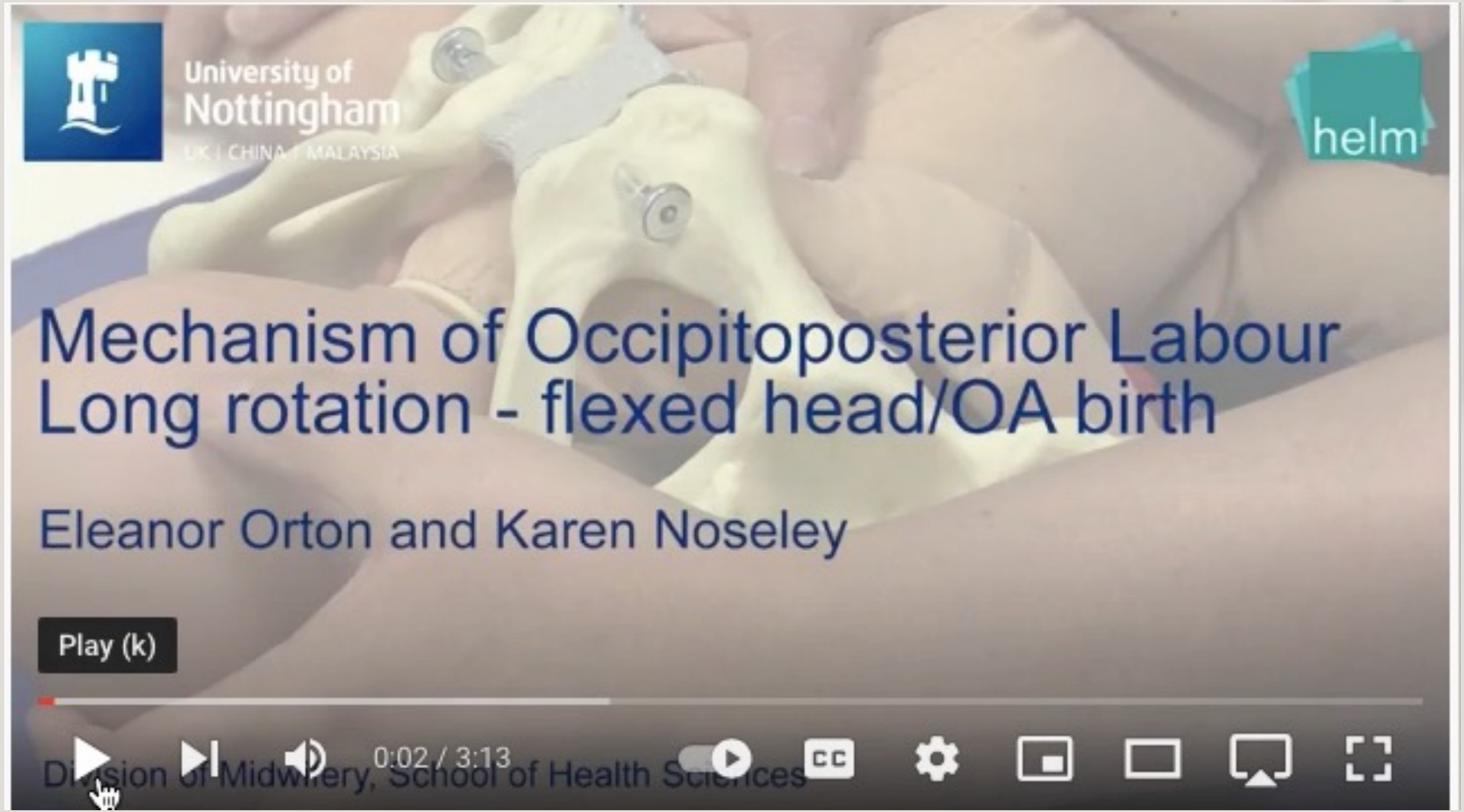


Fig. 25.5: Diagrammatic representation showing favorable and unfavorable rotation of occipitoposterior position


University of
Nottingham
UK | CHINA | MALAYSIA
helm
Mechanism of Occipitoposterior Labour
Long rotation - flexed head/OA birth
Eleanor Orton and Karen Noseley
Play (k)
0:02 / 3:13
Division of Midwifery, School of Health Sciences

OCCIPITO-POSTERIOR POSITION
Mechanism of Labor

2) Abnormal mechanism (failed long anterior rotation): 10%.

a) Short anterior rotation: 1%.

- In mild deflexion (uncorrected) → occiput reaches pelvic floor 1st → rotates anteriorly 1/8 circle → becomes DOT → arrest of rotation → **deep transverse arrest (DTA)**.
- In this condition, head can't be delivered spontaneously (undeliverable presentation) because longitudinal diameter of head isn't in A-P diameter of pelvic outlet.

OCCIPITO-POSTERIOR POSITION
Mechanism of Labor

b) No rotation: 3%.

- In moderate deflexion → occiput & sinciput reach pelvic floor simultaneously → no rotation → **persistent oblique OP**.
- In this condition, head can't be delivered spontaneously (undeliverable presentation) because longitudinal diameter of head isn't in A-P diameter of pelvic outlet.

c) Posterior rotation: 6%.

- In marked deflexion → sinciput reaches pelvic floor 1st → rotates anteriorly 1/8 circle → occiput rotates posteriorly 1/8 circle → becomes **DOP (face to pubis)**. Head is delivered by flexion

Fate of OPP

Engaging diameter :- occipito-frontal 11.5cm or sub-occipitofrontal 10cm.

OPP

- Favorable (90%)
  - 3/8th rotation
    - occiput comes under symphysis pubis (rt/lt occipito anterior)
      - Normal vaginal delivery
- Unfavorable (10%)
  - Mild deflexion
    - Occiput rotate by 1/8th circle
      - Deep transverse arrest
  - Moderate deflexion
    - Non-rotation
      - Oblique posterior arrest
  - Severe deflexion
    - Occiput rotate posteriorly by 1/8th
      - POPP/ occipito-sacral position
        - Face to pubis delivery
        - Arrest

Long rotation
(Anterior)

A
The uterus and fetal axis move forward, and the head flexes as it is forced down into the pelvis

B
Early second stage. The occiput has reached the pelvic floor. Anterior rotation now begins and the head flexes still more

C
Anterior rotation is occurring through 135∞

D
Anterior rotation is complete and the remainder of the delivery is as for an occipitoanterior position

Short rotation
(Posterior)

E
The uterus and fetal axis move forward and the head enters the pelvis

F
The head fails to flex and descends into the pelvis in the posterior position

G
The occiput rotating backwards through 45∞ when it reaches the pelvic floor to lie in the hollow of the sacrum

H
Birth of the head occurs by further flexion to permit the occiput to crown and escape over the perineum. Then by extension, the brow, nose, face and chin appear from behind the symphysis

	Factors helping long anterior rotation (Good omens of OP)	Causes of failure of long anterior rotation (Bad omens of OP)
Power	Good efficient uterine contractions	Weak uterine contractions
Passages	Roomy pelvis & no cavity or outlet contraction	Abnormal shape of pelvic brim & narrow transverse diameter of outlet
	Good pelvic floor è proper tonicity (neither rigid nor weak)	Relaxed or weak pelvic floor
		Full bladder & rectum, placenta previa & pelvic tumors
Passengers	Well flexed average sized head	Persistent marked deflexion of head (commonest cause)
	Anterior shoulder isn't far away from midline	Anterior shoulder is far away from midline
	No PROM	Early ROM
	Early engagement	Delayed engagement

OCCIPITO-POSTERIOR POSITION
Course of Labor

A). First stage

- It is prolonged due to delayed engagement & inefficient uterine contractions.
- Cervical dilation & effacement proceed slowly (head isn't fitted well against LUS & cervix).

OCCIPITO-POSTERIOR POSITION
Course of Labor

B). 2nd stage

Occiput remain posterior till head is well engaged & reaches pelvic floor then one of the followings occur:

1) Long anterior rotation & delivery as OA: In 90% of cases.
2) Deep transverse arrest (DTA): In 1% of cases.
3) Persistent oblique OP position: In 3% of cases.
4) DOP (face to pubis): In 6% of cases.

OCCIPITO-POSTERIOR POSITION
Diagnosis

A) During pregnancy:

1) History: Fetal movements are painful & felt on both sides of abdomen.

2) Abdominal examination:

a) Inspection:

1- Abdomen looks flattened & falls abruptly below umbilicus.

2- Sub-umbilical groove may be seen corresponding to fetal neck.

OCCIPITO-POSTERIOR POSITION
Diagnosis

b) Palpation:

1- Fundal level: Corresponds to period of amenorrhea.

2- Fundal grip: Buttocks are felt.

3- Umbilical grip:

- Back is difficult to palpate & its edge is felt away from midline.
- Anterior shoulder is felt away from midline.
- Limbs are felt on one side near midline or on both sides.

OCCIPITO-POSTERIOR POSITION

Diagnosis

4- 1st pelvic grip:

Head is felt smaller (we feel the smaller sinciput instead of the larger occiput).

Head is usually not engaged (due to deflexion) & tends to recede from palpating fingers.

5- 2nd pelvic grip: Head is usually deflexed (occiput & sinciput are felt at the same level).

c) Auscultation: FHS is heard in flanks (back is away from midline) however, in marked deflexion, it may be heard in midline being conducted through fetal chest.

3) Ultrasound: To confirm diagnosis.

OCCIPITO-POSTERIOR POSITION
Diagnosis

B) During labor:

1) **History & abdominal examination:** As during pregnancy.
2) **Vaginal examination:**

a) Confirmation of diagnosis:

1- Sagittal suture is in oblique diameter (Rt diameter in ROP & Lt diameter in LOP).

2- Posterior fontanelle is directed posteriorly & anterior fontanelle is directed anteriorly.

3- Late in labor, sutures & fontanelles may be masked by caput however, palpation of ear may help in diagnosis (tragus or ear pinna is directed towards occiput).

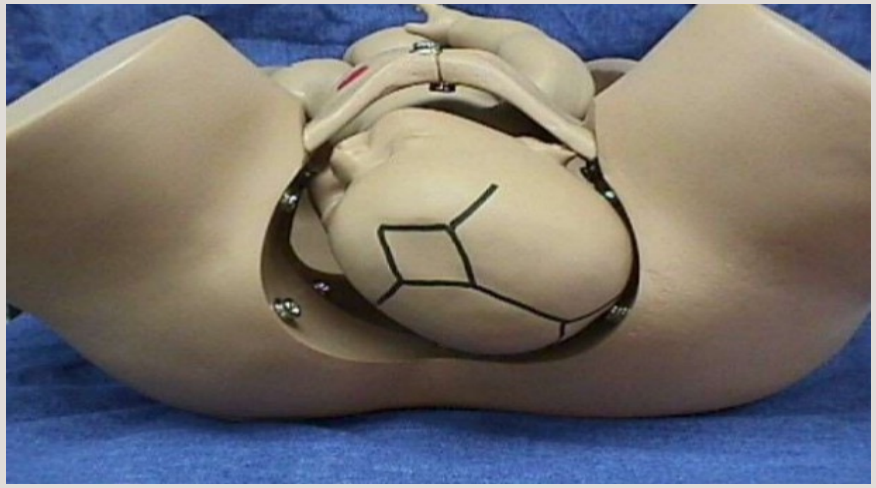
OCCIPITO-POSTERIOR POSITION

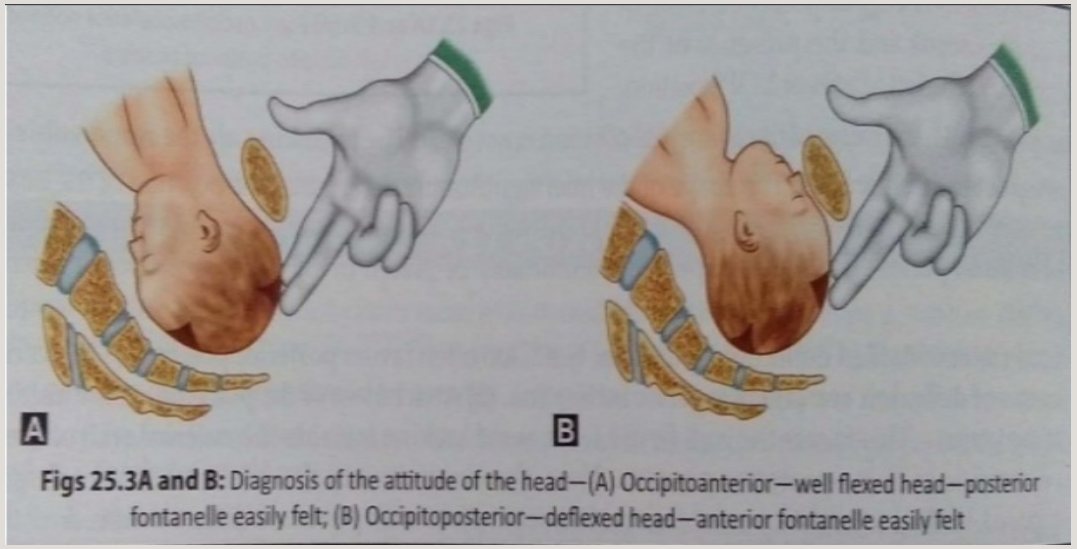
Diagnosis

b) Determination of degree of deflexion.

c) Assessment of pelvis: It must be done because OP is commonly associated è abnormal pelvic configuration.

3) Ultrasound: To confirm diagnosis.





Figs 25.3A and B: Diagnosis of the attitude of the head—(A) Occipitoanterior—well flexed head—posterior fontanelle easily felt; (B) Occipitoposterior—deflexed head—anterior fontanelle easily felt

OCCIPITO-POSTERIOR POSITION

Management

A) During pregnancy: Exaggerated Lt lateral position hoping for correction into OA (of little value).

B) During labor:

[1] 1st stage:

1) Exclude contracted pelvis, cord presentation or prolapse.
2) Guard against ROM: Rest, no bearing down & minimize vaginal examination.
3) Guard against infection: Asepsis & antibiotics after ROM.
4) Guard against inertia: Frequent evacuation of bladder & rectum, adequate nutrition, IV fluids & sedation.
5) Monitoring of labor.

OCCIPITO-POSTERIOR POSITION

Management

[2] 2nd stage:

Wait for 2 hours + observe mother & fetus + give oxytocin drip to correct inertia (if there are no contraindications).

a) If long anterior rotation occurred: The rest of management is as OA.

b) If posterior rotation occurred (face to pubis): Delivery is by one of the following methods:

1- Spontaneous vaginal delivery + deep episiotomy.
2- Outlet forceps (or vacuum) extraction + deep episiotomy.

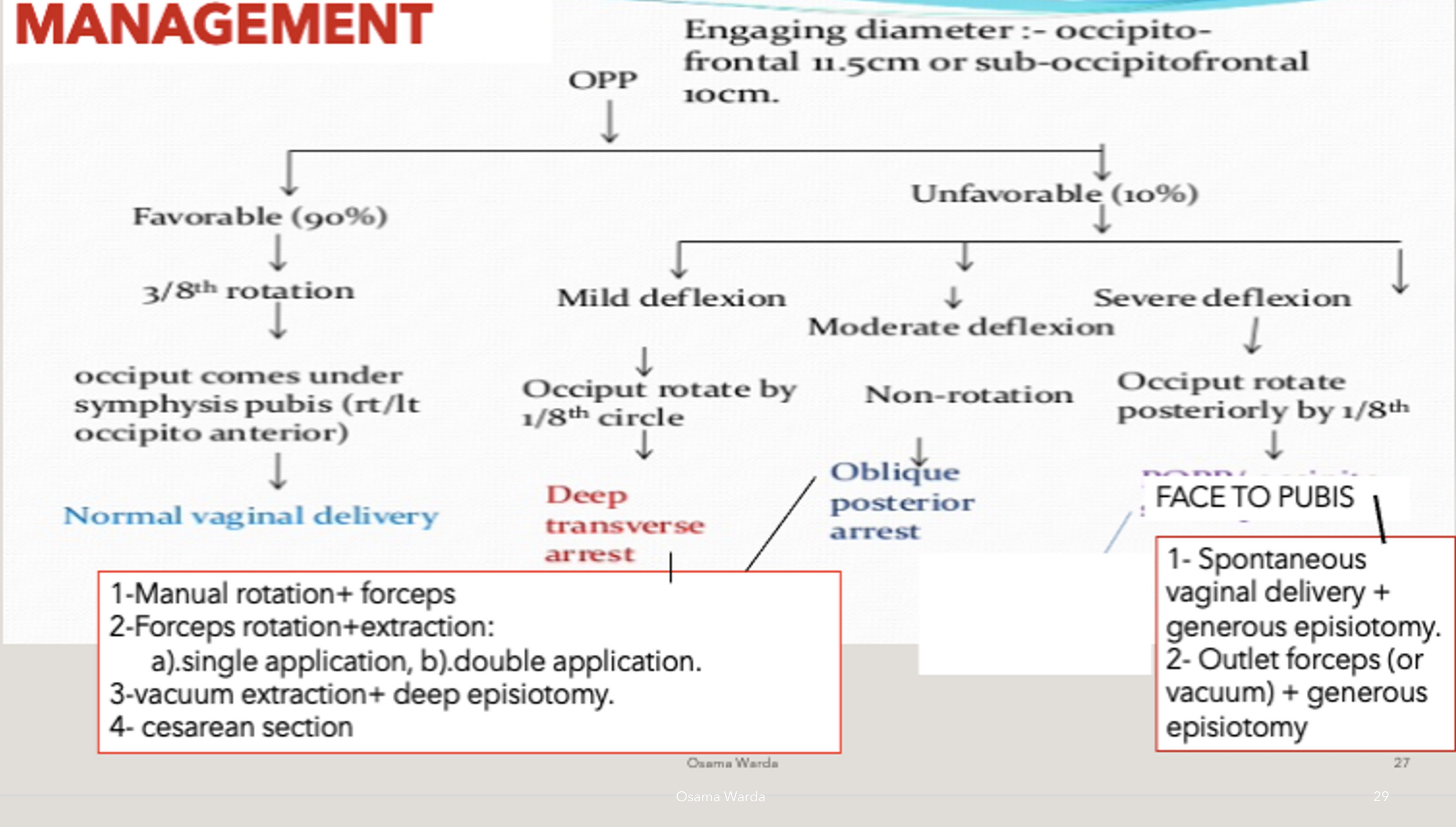
OCCIPITO-POSTERIOR POSITION
Management

[2]- 2nd stage. (cont.)

c) If DTA or persistent oblique OP occurred: Head can't be delivered spontaneously & they can be dealt è by one of the following methods depending on fetal size, pelvic configuration, general condition of mother & fetus & skills of obstetrician:

1. Manual rotation+ forceps extraction
2. Forceps rotation + extraction (either single or double application)
3. Vacuum extraction+ generous episiotomy
4. Cesarean section.

MANAGEMENT


OPP
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Favorable (90%)
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Mild deflexion
Occiput rotate by 1/8th circle
Deep transverse arrest
Moderate deflexion
Non-rotation
Oblique posterior arrest
Severe deflexion
Occiput rotate posteriorly by 1/8th
FACE TO PUBIS
1-Manual rotation+ forceps
2-Forceps rotation+extraction:
a).single application, b).double application.
3-vacuum extraction+ deep episiotomy.
4- cesarean section
1- Spontaneous vaginal delivery + generous episiotomy.
2- Outlet forceps (or vacuum) + generous episiotomy

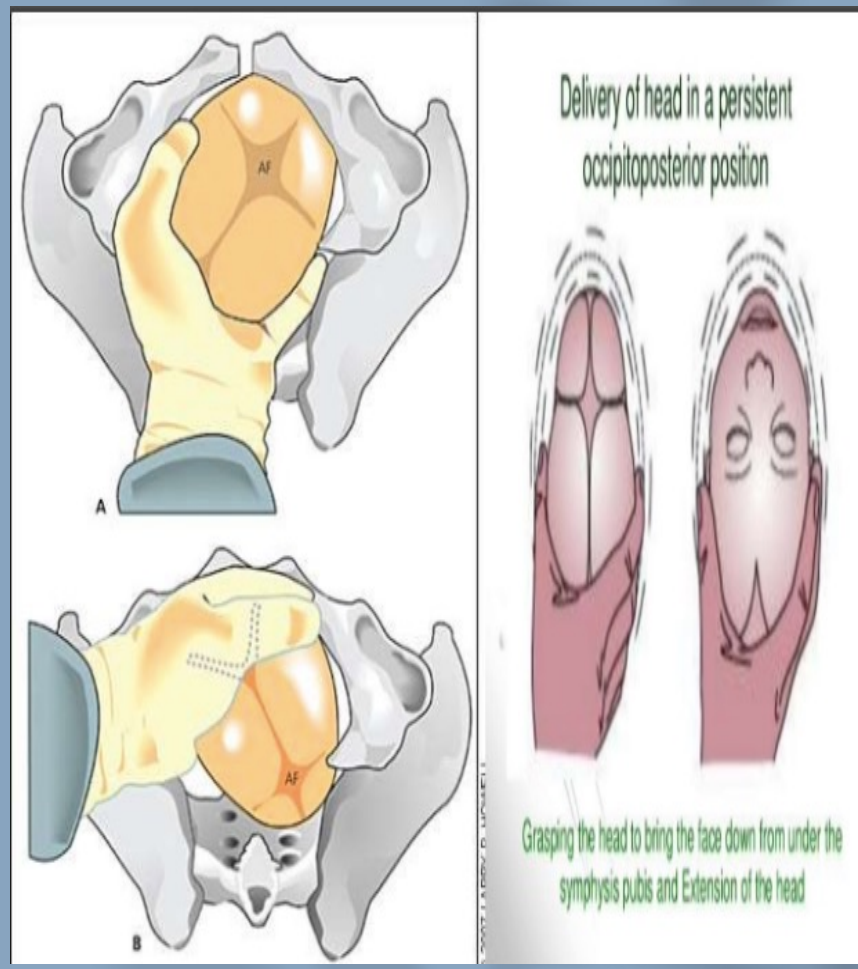
1. Manual Rotation & Forceps Extraction

If occiput is to Left→ Right hand is used but if occiput is to Right → Left hand is used because it is easier to pronate than to supinate hand. Head is rotated under anesthesia by the following 4 movements:

a). Dis-impaction (not disengagement). b) Increasing flexion. c). Anterior rotation of occiput.

d)- External rotation of anterior shoulder by abdominal hand.

When occiput reaches anteriorly, assistant fixes it then apply forceps to extract head. In ROP, Rt blade must be applied 1st (the only exception) to prevent return of occiput.



2- Forceps rotation & extraction: 2methods

a- Single application of Kielland's forceps	*b- Double application of ordinary forceps (Scanzoni method)*
Blades of Kielland's forceps are applied either using: (1).Wandering method over sinciput. or (2). Original Kielland's method **Advantages**: It may be the ideal due to minimal pelvic curve & sliding lock on shank (allows locking in cases of asynclitism). Disadvantages: Used only in some centers by efficient obstetrician who is experienced in using it.	One application for rotation & the other for traction. Not used in modem obstetrics due to excessive trauma to maternal tissues & risk of fetal ICH

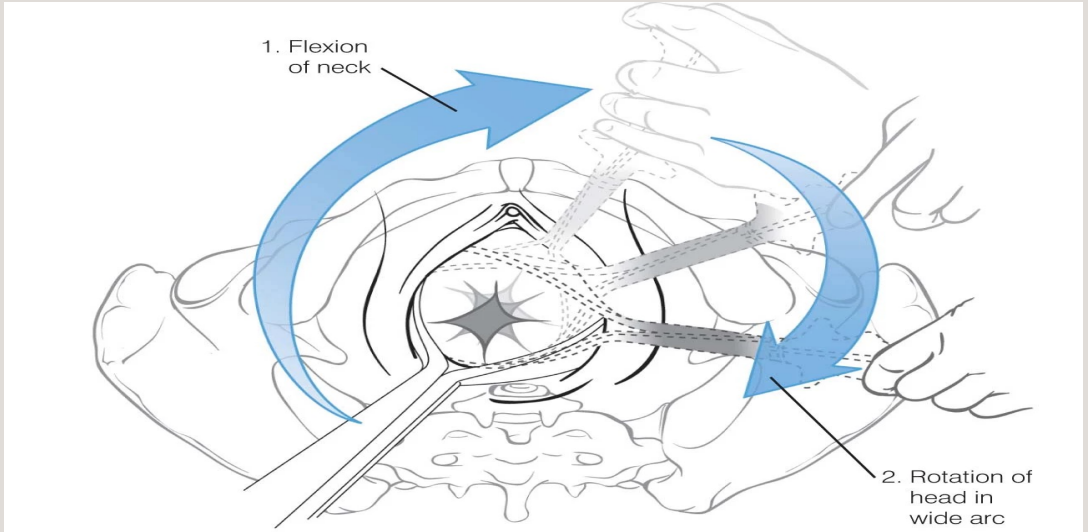
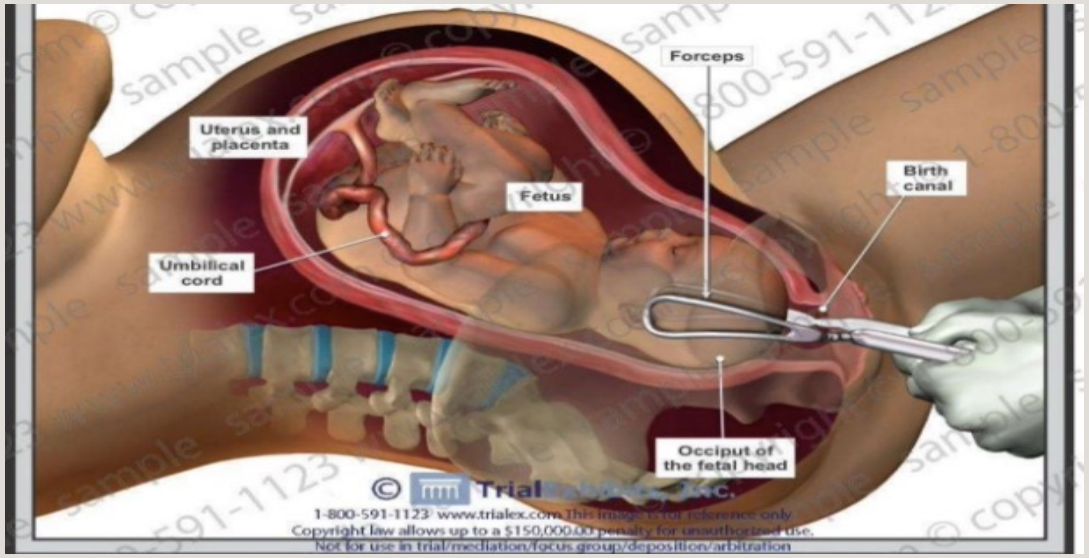
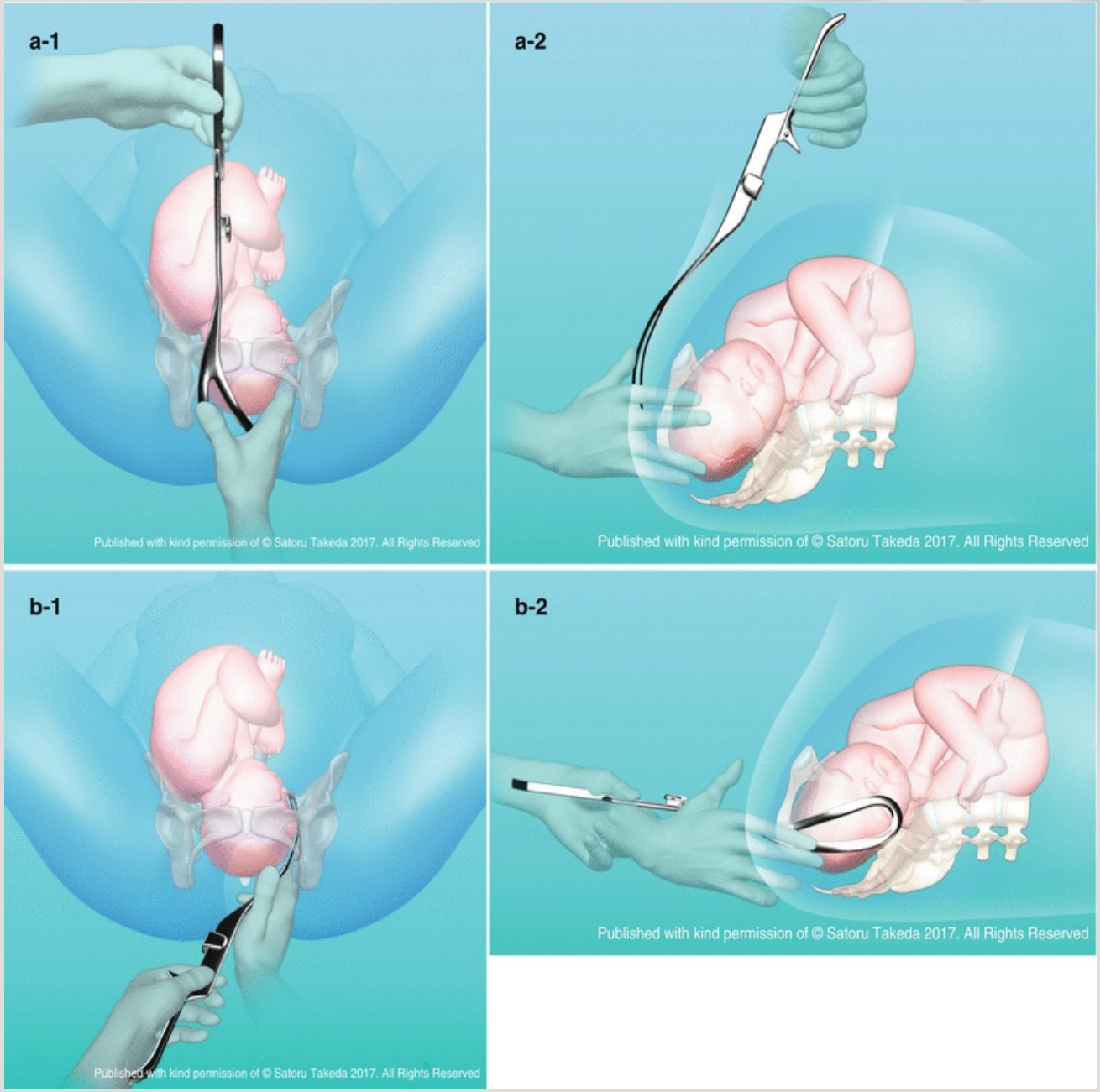


FIGURE 2B After correction of asynclitism (depicted by solid outline forceps), the head is flexed by angling the forceps until parallel to the maternal left thigh and then rotated in a wide arc until the head is in occiput anterior position (shown as progressively darker dotted outline).





3- Vacuum extraction & deep episiotomy

Advantages are:

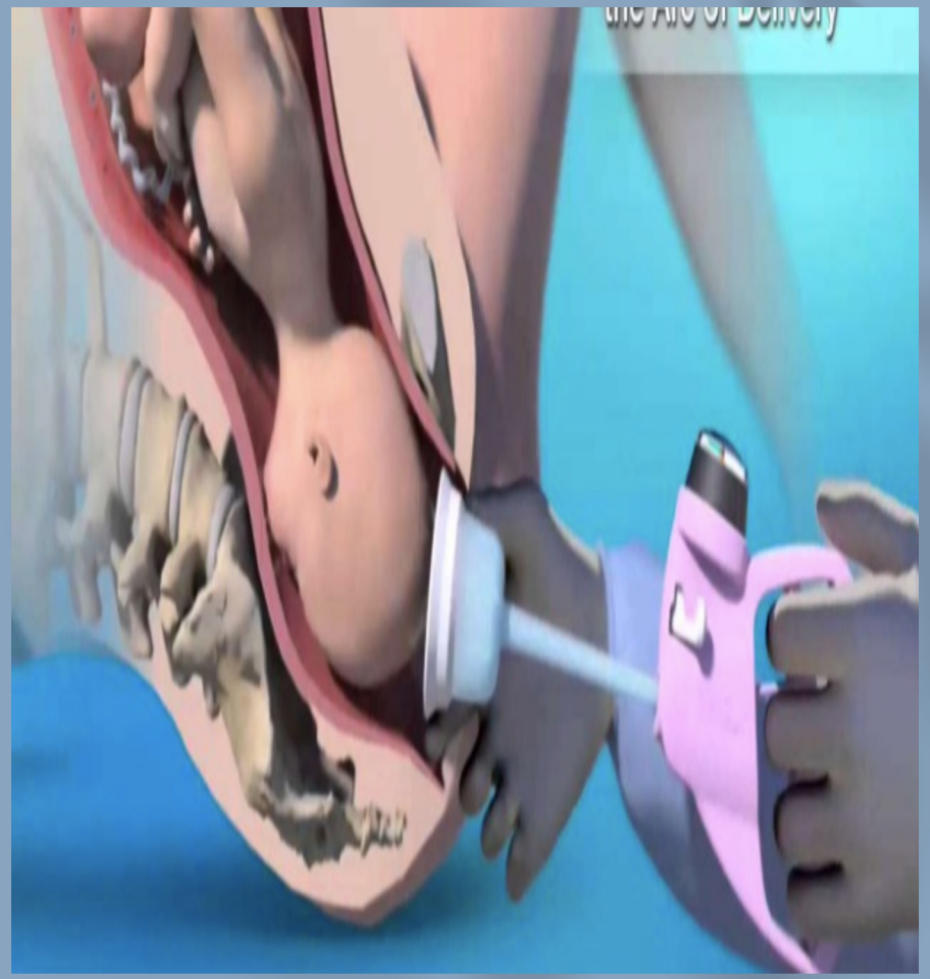
a- It encourages flexion of head.

b- It allows head to rotate in direction most suitable for delivery.

c- It takes no space necessary for rotation.

d- It can be used under pudendal block or perineal infiltration.

e- Degree of skills & training required for Kielland's forceps isn't required here.



4- Cesarean section

The best method & it is indicated in the following conditions:

a- Head isn't engaged. b- Contracted outlet.

c- If manual rotation or forceps can't be done or considered dangerous.

d- Other indications for CS.

OCCIPITO-POSTERIOR POSITION
Management

[3]- The 3rd Stage

a) Exploration of birth canal.

b) Guard against PPH.

c) Guard against puerperal sepsis.

COMPLICATIONS OF OP

General complications of malpresentations (see before) specially *Triad of OP* which is:

***1) Prolonged labor*:** Due to long anterior rotation & abnormal uterine action.

2) PROM: Due to ovoid plane of engagement of fetal head.

***3) Perineal & vaginal lacerations & tears*:** More common in face to pubis delivery due to:

A) Distension of perineum by large occiput instead of the smaller sinciput.

B) Distension of vulva by large OF diameter (11.5 cm) instead of the smaller SOB diameter (9.5 cm).

C) Over distension of upper part of vagina as shoulders enter vagina before escaping of head.


thank you
tusind tak
谢谢
dakujem vám
ngiyabonga
dziękuję
merci
ありがとう
suksema
danke
baie dankie
धन्यवाद
molte grazie
gracias
obrigada
takk
obrigado
teşekkür ederim
شكرا
gràcies
tänan
tack så mycket
dank u
teşekkür ederim
mahalo