4

MALPRESENTATIONS (BREECH PRESENTATION)

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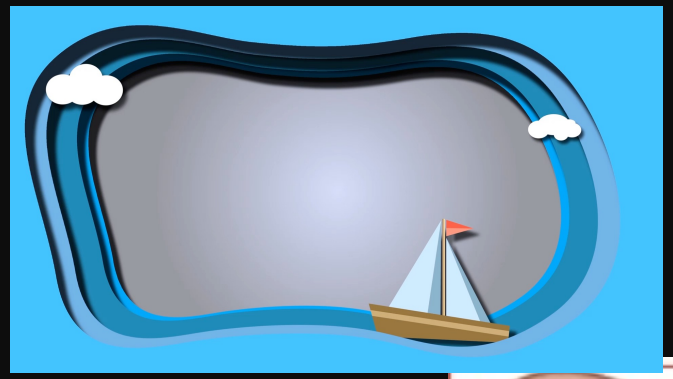

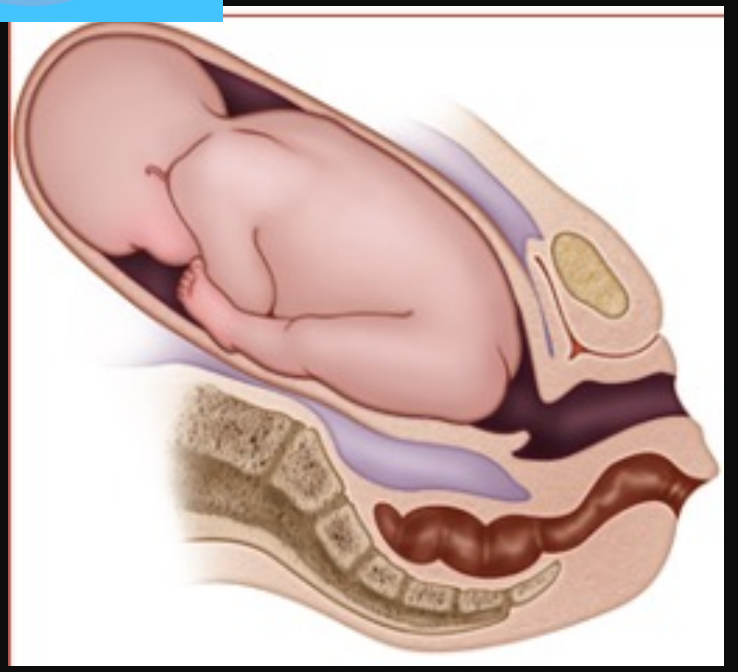

MANSOURA OBSTETRICS

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

Breech presentation

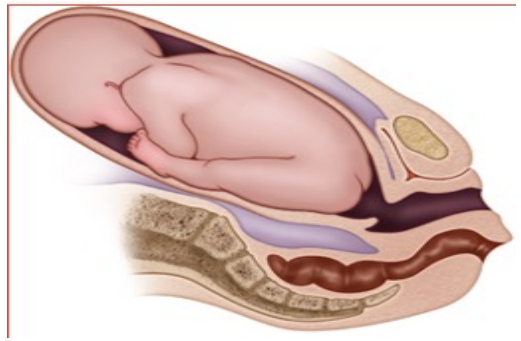
Definition: Malpresentation in which presenting part is podalic pole (buttocks ± lower limbs) & the denominator is the sacrum.

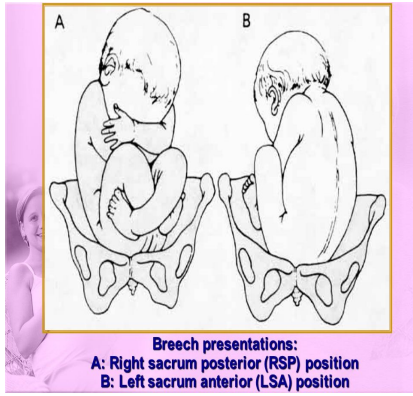
Incidence:

At 28 weeks: 35%.

At term: 3.5% (including case who failed to turn spontaneously, failed to turn by external version, reversed after external version & unrecognized during pregnancy).

Positions:

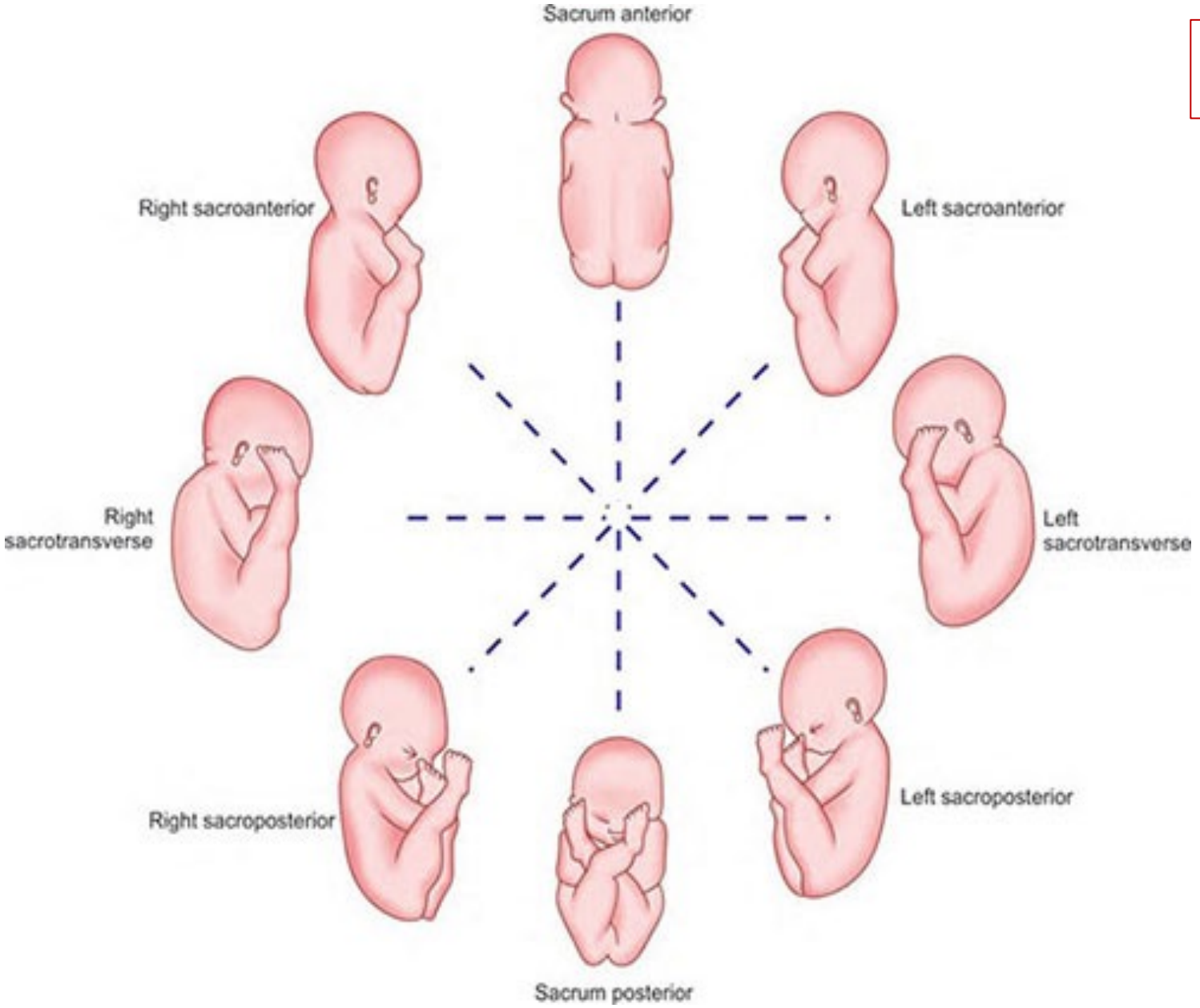




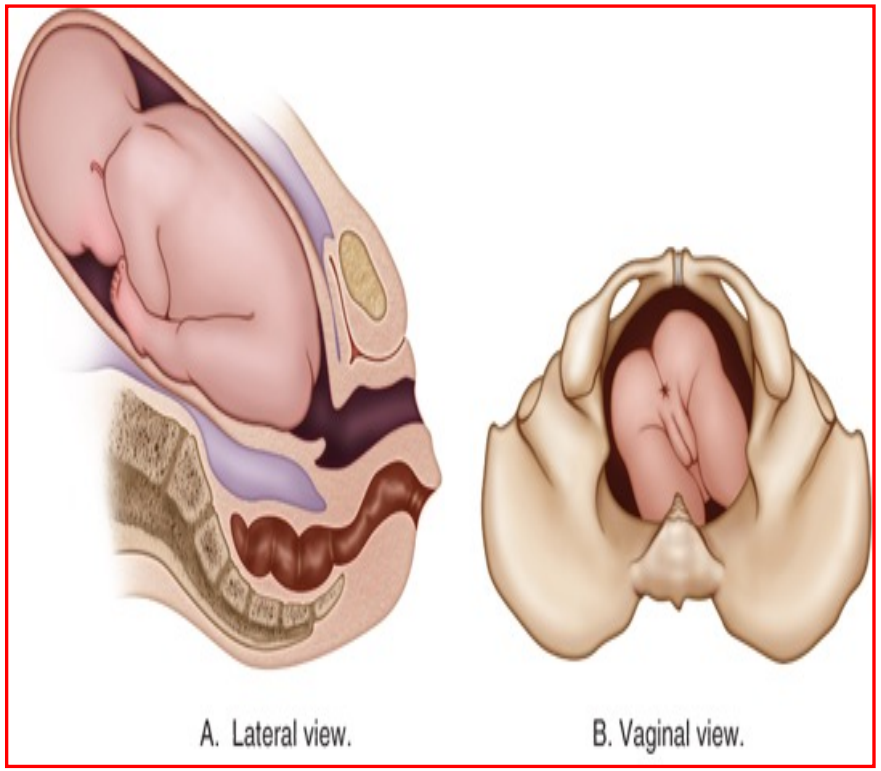
There are 4 classical positions:

1) **Lt sacroanterior (LSA):** ← 1st position (back is Lt anterior).
2) **Rt sacroanterior (RSA):** ←2nd position (back is Rt anterior).
3) **Rt sacroposterior (RSP):** ← 3rd position (back is Rt. posterior).
4) **Lt sacroposterior (LSP):** ← 4th position (back is Lt posterior).

Sacroanterior positions are more common than sacro-posterior positions because concavity at front of fetus (due to flexion) fits into convexity of vertebral column at back of mother (lumbar lordosis).



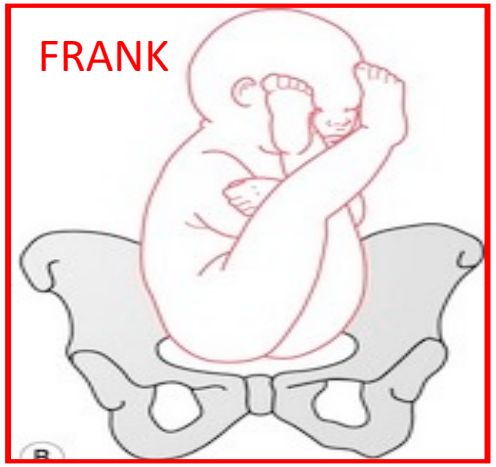
POSITIONS



LSA

TYPES

	Complete breech	Incomplete breech		
		Frank breech	Footling presentation	Knee presentation
Incidence	10%	65%	25%	
Presenting part	Buttocks + 2 feet	Buttocks only	One or both feet only (single or double footling)	One or both knees only (single or double kneeling)
Hips	Flexed	Flexed	Extended (one or both)	Extended (one or both)
Knees	Flexed	Extended	Extended (one or both)	Flexed (one or both)



TYPES

Best type is **frank breech** (*regular presenting part → easy cervical dilatation & ↓ incidence of PROM & cord prolapse).*

Worst type is **footling presentation** (*irregular presenting part → slow cervical dilatation & ↑ incidence of PROM & cord prolapse).*

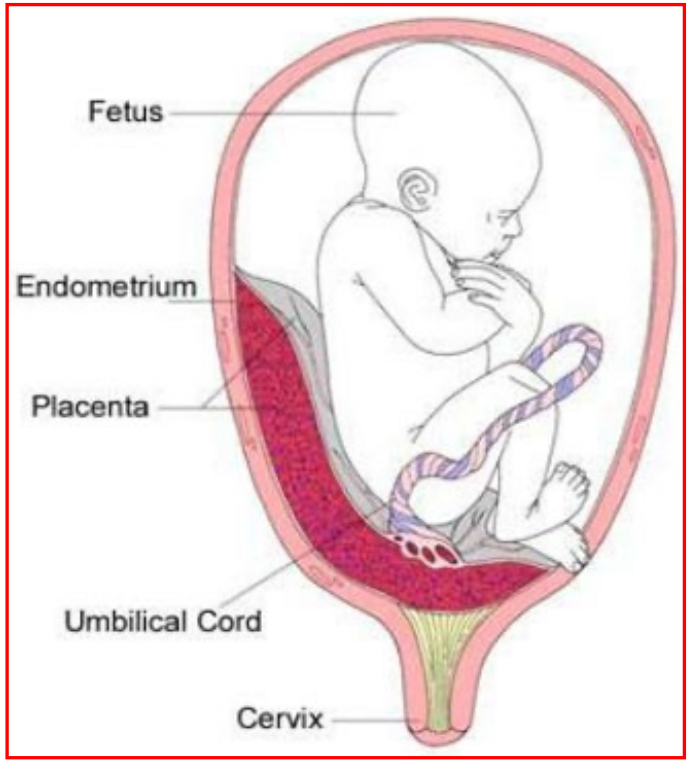
BREECH PRESENTATION- ETIOLOGY

A) Faults in power: Abdominal muscles laxity (allows free fetal movements).

B) Faults in passages:

1) **Bony pelvis:** Contracted pelvis.

2) **Soft tissue passages:** Uterine anomalies & fundal fibroid.



BREECH PRESENTATION- ETIOLOGY

C) Faults in passengers:

1) Fetus:

a) Prematurity: Commonest cause (50%) & it causes breech due free fetal movement as a result of small fetal size, excess AF volume & non engagement of presenting part.

b) Congenital anomalies: In 6% of cases (as hydrocephalus & anencephaly).

c) Multifetal pregnancy: 25% in 1st twin & 50% in 2nd twin.

d) Dead fetus: Absence of fetal movements prevents spontaneous version.

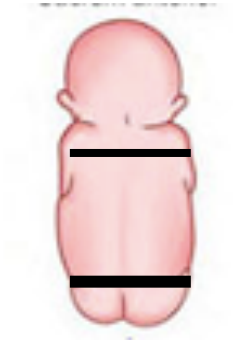
2) Placenta: Placenta previa interferes with spontaneous version.

3) Amniotic fluid: Polyhydramnios & oligohydramnios.

D) Idiopathic: In 20% of cases.

BREECH PRESENTATION- Mechanism of Labor

A) Delivery of buttocks, LLs & trunk:



1) **Descent:** Slow.

2) **Engagement:** Engaging diameter is bi-trochanteric diameter (10 cm) that enters pelvis in oblique diameter of inlet (in RSA, it enters in Rt oblique diameter).

3) **Increased flexion (Compaction):** Every part of fetus is approximated to each other (it corresponds to ↑↑ flexion in vertex presentation).

BREECH PRESENTATION- Mechanism of Labor

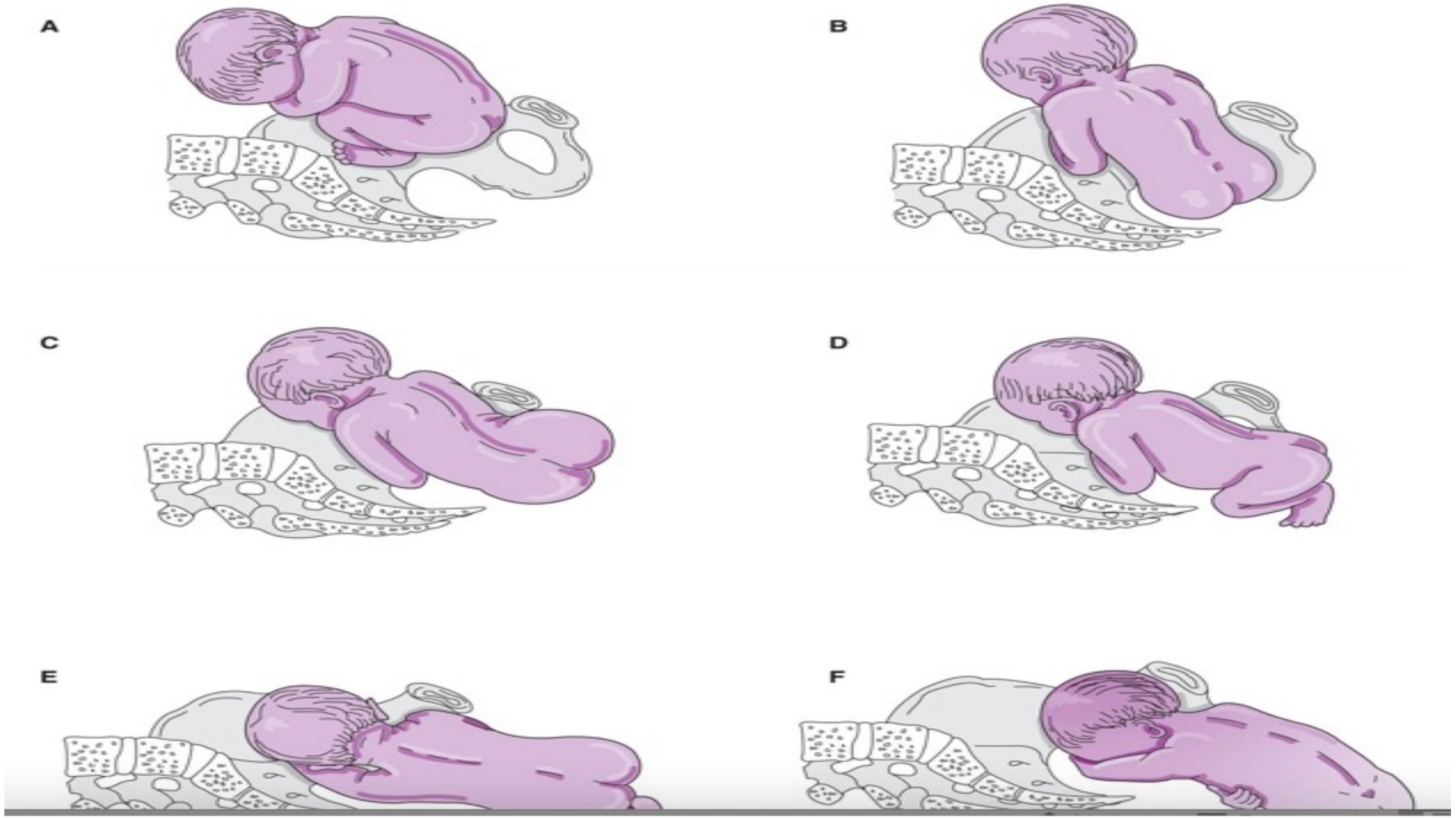
4) Internal rotation: Anterior buttock reaches pelvic floor 1st → rotates anteriorly 1/8 circle → bitrochanteric diameter becomes in A-P diameter of pelvic outlet.

5) Lateral flexion: Anterior buttock impinges under symphysis pubis → posterior buttock is delivered 1st by **lateral flexion of spines** (it corresponds to extension in vertex presentation).

6) Straightening of spines: To allow delivery of anterior buttock (it corresponds to restitution in vertex presentation).

7) External rotation: Sacrum becomes directed anteriorly (in sacroanterior positions) or posteriorly (in sacroposterior positions).

8) Delivery of LLs followed by trunk.


A
B
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BREECH PRESENTATION- Mechanism of Labor

B) Delivery of shoulders & arms:

1) **Descent.**

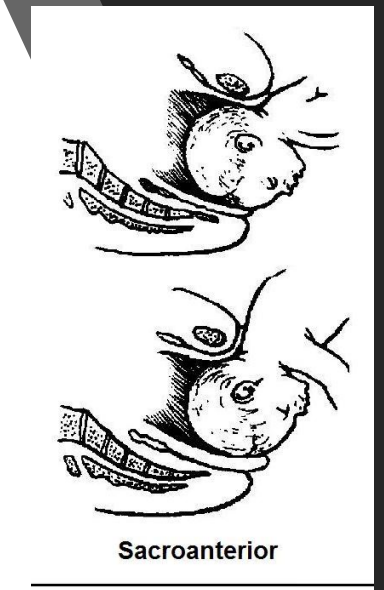
2) **Engagement:** Bis-acromial diameter (12 cm) enters pelvis in the same oblique diameter of inlet that traversed by bi-trochanteric diameter.

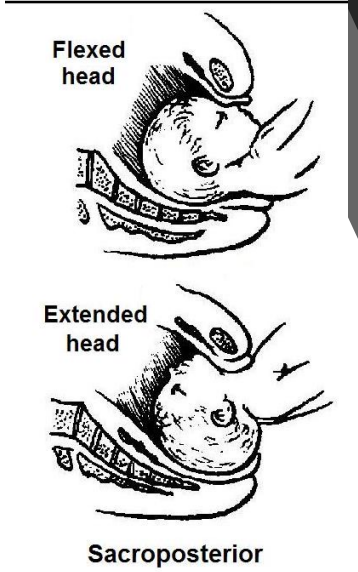
3) **Internal rotation:** Anterior shoulder reaches pelvic floor 1st → rotates anteriorly 1/8 circle → bis-acromial diameter becomes in A-P diameter of pelvic outlet.

4) **Lateral flexion:** Posterior shoulder is delivered 1st by lateral flexion of spines followed by arm.

5) **Straightening of spines:** To allow delivery of anterior shoulder.

BREECH PRESENTATION- Mechanism of Labor





C) Delivery of after-coming head: More difficult than delivery of fore-coming head because longitudinal diameters of after-coming head are less compressible & there is no time for moulding.

1-DESCENT

2-ENGAGEMNT

3- INTERNAL ROTATION; ACCORDING TO POSITION

4- DELIVERY BY FLEXION

BREECH PRESENTATION- Mechanism of Labor

1) Descent.

2) Engagement:

- ***Engaging longitudinal diameter of fetal head:*** Usually SOF (10 cm) & may be OF (11.5 cm) due to deflexion.
- ***Diameter of engagement in pelvic inlet:*** Oblique diameter opposite to that traversed by buttocks & shoulders (perpendicular to each other).

BREECH PRESENTATION- Mechanism of Labor

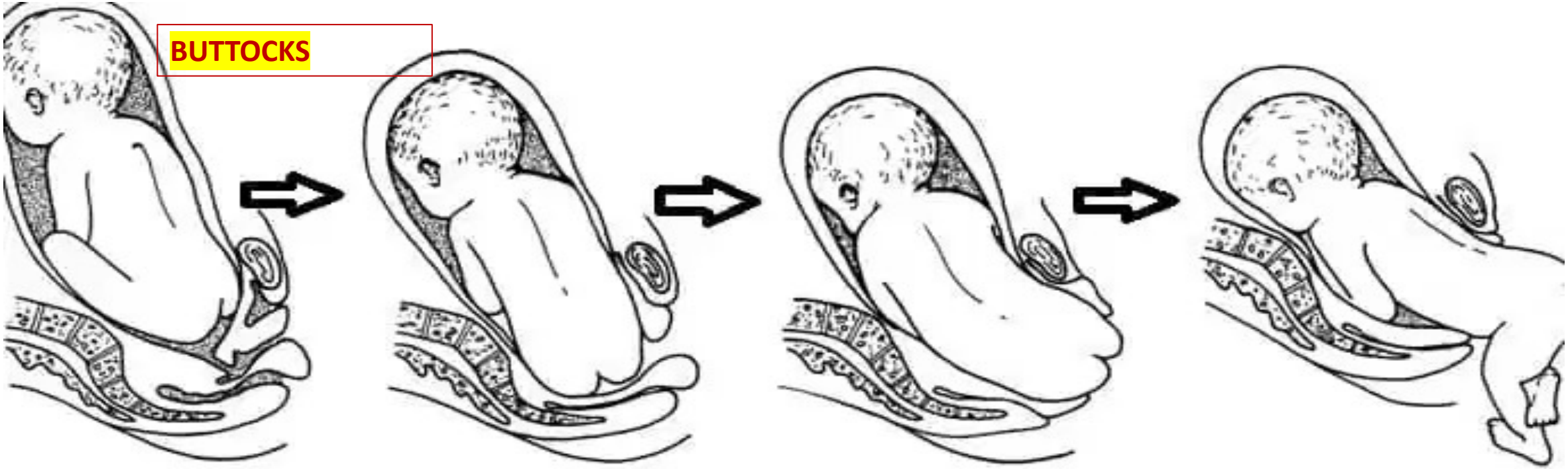
3) Internal rotation: Depends on position.

a) Sacro-anterior positions: Occiput rotates anteriorly 1/8 circle → longitudinal diameter of head becomes in A-P diameter of pelvic outlet → nape of neck pivots behind symphysis pubis & head is delivered by **flexion.**

b) Sacroposterior positions:

1- If occiput rotates anteriorly 3/8 circle: This occurs in most of cases & head is delivered as in sacro-anterior. 👆

BUTTOCKS



SHOULDERS & AFTERCOMING HEAD

BREECH PRESENTATION- Mechanism of Labor

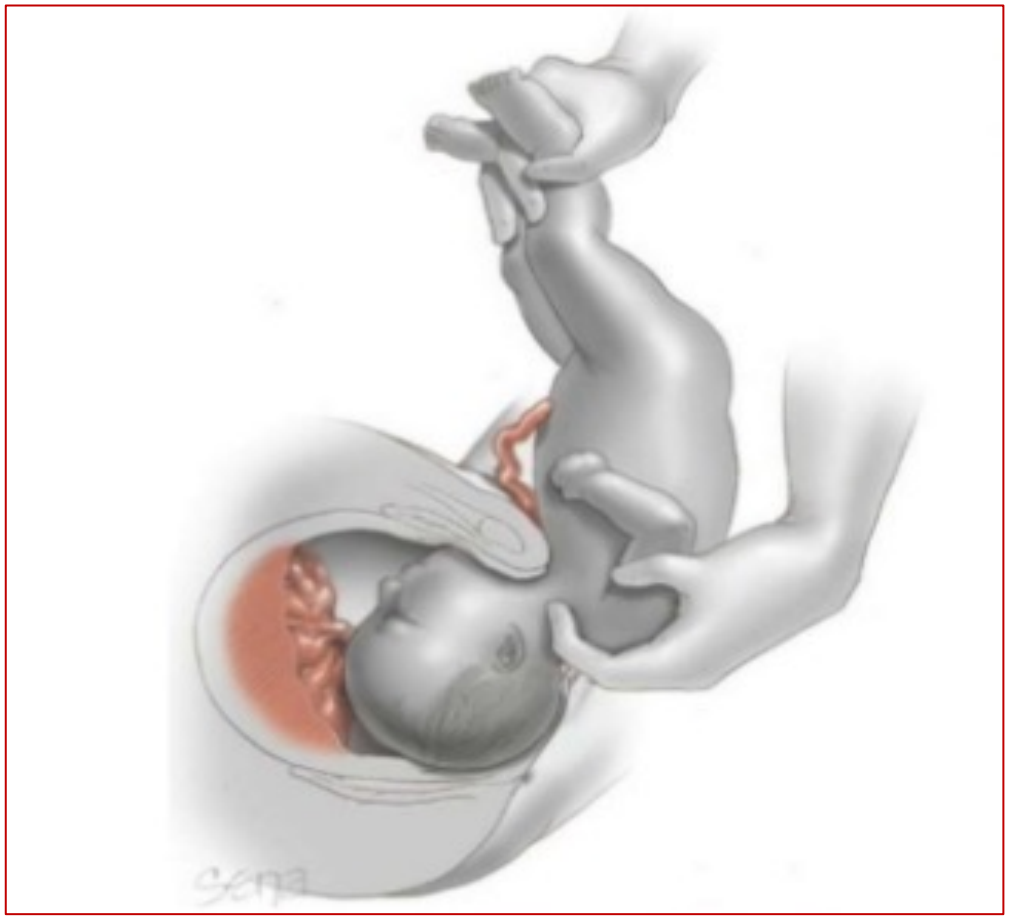
2- If occiput rotates posteriorly 1/8 circle: This is rare & must be prevented by the attendant by (ALWAYS KEEPING FETAL BACK ANTERIOR) but if this failed & occiput remains in posterior position, delivery of head from this position is difficult & depends on attitude of head: (see next slide)

a- Flexed head: Nose pivots in sub-pubic angle & nape of neck, occiput & vertex roll over perineum & face emerges from behind pubis (this method is helped by lifting up fetal body).

b- Extended head: Chin impinges behind pubis & sub-mental area pivots in subpubic angle (for delivery to take place → fetal body must be raised so that occiput, vertex & forehead can pass over perineum).

BREECH PRESENTATION- Mechanism of Labor

Modified Prague maneuver, consists of two fingers of one hand grasping the shoulders of the back-down fetus from below while the other hand draws the feet up and over the maternal abdomen.



BREECH PRESENTATION- Diagnosis

A) During pregnancy:

- **1) HISTORY:**

a) History of previous breech delivery.

b) Frank breech is common in primigravida while complete breech is common in multipara.

c) Hard & tender lump in epigastrium (head).

d) Fetal movements in suprapubic region & pelvis (in complete breech).

BREECH PRESENTATION- Diagnosis

2) Abdominal examination:

		Complete breech	Frank breech
Inspection		Supraumbilical groove (neck)	--
Palpation	**Fundal level**	= period of amenorrhea	< period of amenorrhea (early engagement)
	Fundal grip	Head only (small, regular, hard, tender & ballottable)	Head + 2 feet (bulky, irregular, softer, tender è restricted ballottement as extended legs act as a splint)
	Umbilical grip	Limbs are on opposite side of back	Deep groove on side of back
	1st pelvic grip	Breech is bulky, irregular, soft, not tender, not ballottable & usually not engaged	Breech is small, regular, more firm, not tender, not ballottable & usually engaged (mistaken è head)
	2nd pelvic grip	Not done in breech presentation	
Auscultation		FHS is heard above level of umbilicus	FHS is heard below level of umbilicus

BREECH PRESENTATION- Diagnosis

3) **Ultrasound:** Has the following values:

a) Confirmation of diagnosis & determination of type of breech.
b) Determination of fetal age, maturity & weight.
c) Detection if head is extended or not.
d) Exclusion of congenital anomalies or IUFD.
e) Diagnosis of unexpected twins.
f) Localization of placenta.
g) Assessment of AF volume.

BREECH PRESENTATION- Diagnosis

B) During labor:

1) **History & abdominal examination:** As during pregnancy.
2) **Vaginal examination:**
   a) Confirmation of diagnosis:

1- Palpation of 3 bony prominence (2 ischial tuberosities & tip of sacrum).
2- Palpation of spines of sacrum (rosary sign).
3- Presence of anus with passage of meconium on examining fingers.
4- Buttocks are soft, smooth, rounded, elevated & much smaller than head.
5- Palpation of feet beside buttocks (in complete breech).
6- Palpation of male external genitalia (in male fetus).

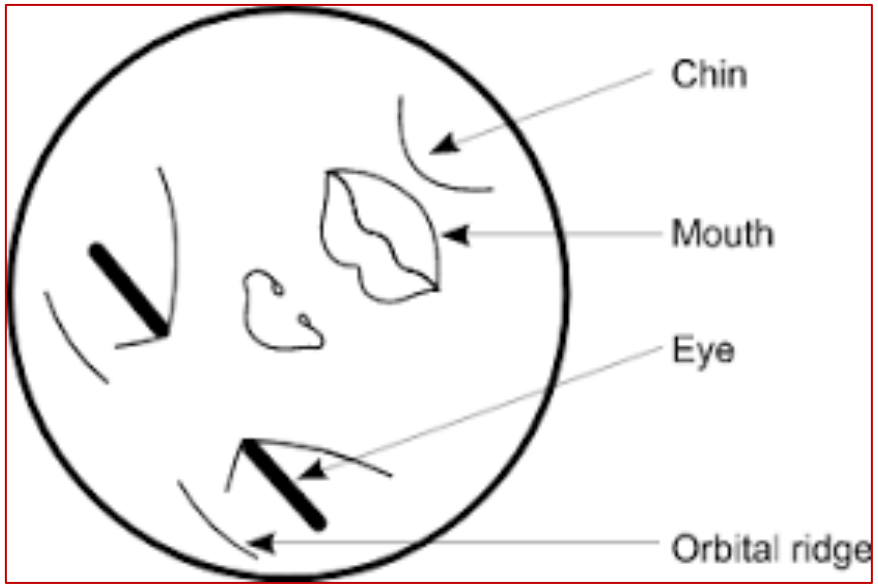
BREECH PRESENTATION- Diagnosis

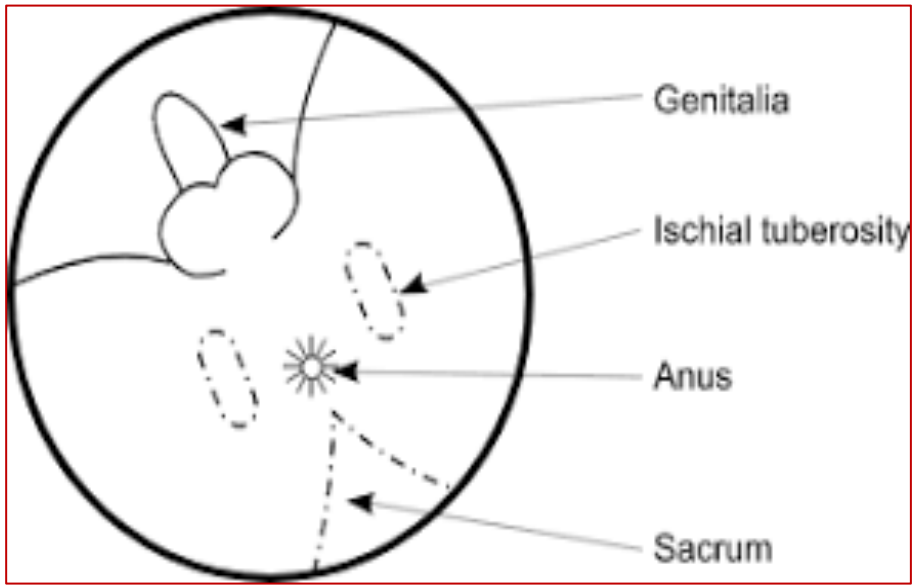
- Vaginal examination

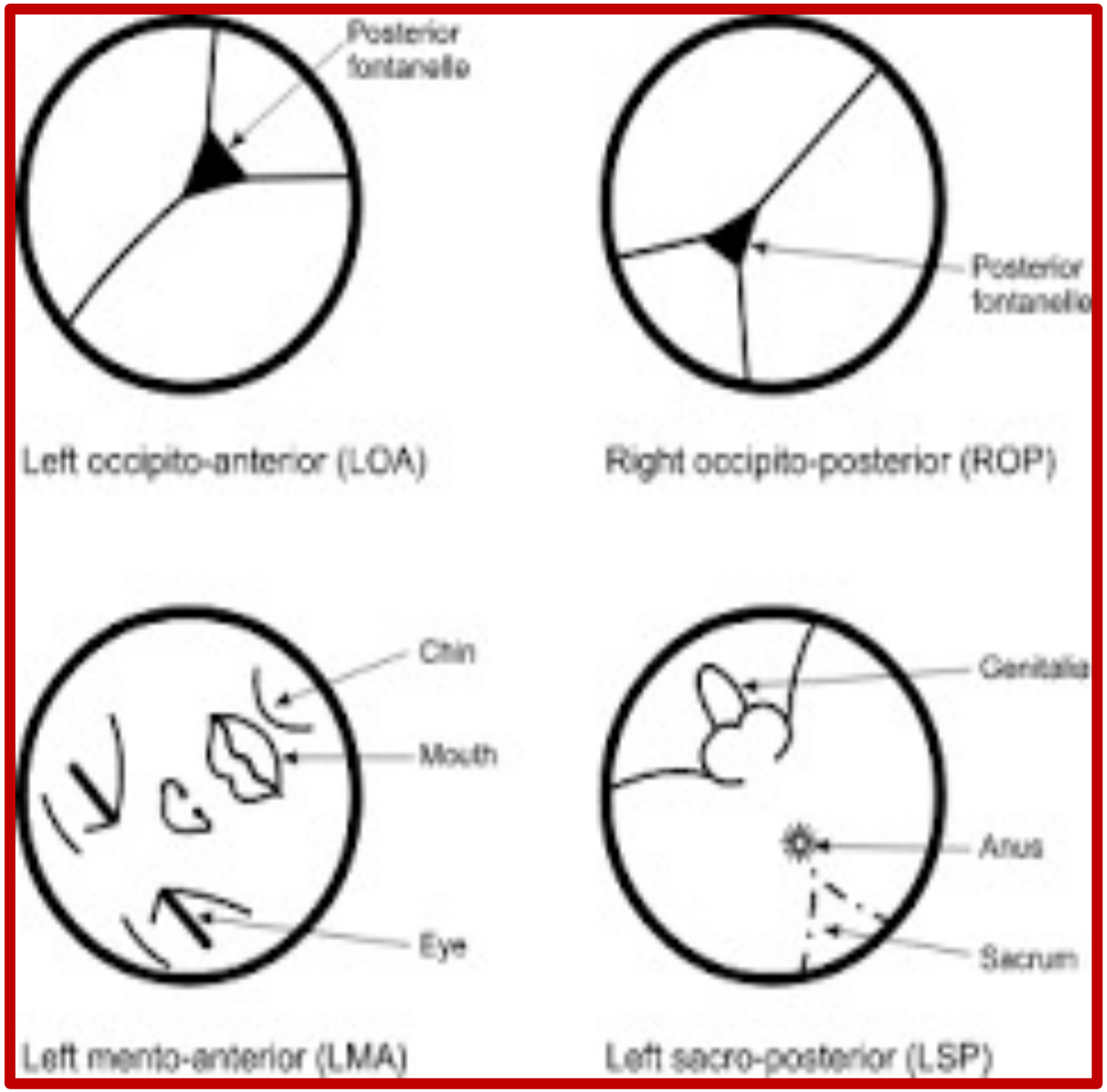
	Breech	Cephalic
Frank Breech	Ischial tuberosity, sacrum, anus, external genetalia	Fetal sutures & fontanels
	Muscular resistance of the anus ± meconium	Less yielding jaws
	Straight line: Ischial tuberosity & anus	Triangular: Malar eminences & Mouth
Complete breech	Feet along side the buttocks	
Footling	One or both feet inferior to the buttocks	

Face

VAGINAL EXAMINATION IN BREECH-DD







BREECH PRESENTATION- Diagnosis

b) Differentiation of frank breech from face:

Each of them is characterized by presence of opening & 3 bony prominences:

BRRECH	FACE
1- Spines of sacrum (rosary sign) are felt. 2- Male external genitalia is felt in male fetus. 3- Anus & 2 ischial tuberosities are felt along straight line. 4- Passage of meconium on examining fingers.	1- Presence of supraorbital ridge, ala nasi, alveolar margins & chin. 2- Sutures & fontanelles may be felt. 3- Mouth & 2 malar bones form triangle. 4- Suckling of examining fingers by mouth.

BREECH PRESENTATION- Diagnosis

c) Differentiation of foot (in complete breech presentation) from hand (in shoulder presentation):

Foot	Hand
1- Presence of heel (firm rounded knob).	1- Easy flexion & extension.
2- Toes are shorter than fingers.	2- Fingers are longer than toes.
3- Tips of toes form straight line.	3- Tips of fingers form curved line.
4- Big toe is shorter than thumb è limited mobility.	4- Thumb is longer than big toe è free mobility.
5- Prolapse of foot is diagnostic.	5- Prolapse of hand is diagnostic.

BREECH PRESENTATION- Diagnosis

d) Differentiation of knee (in knee presentation) from elbow (in shoulder presentation):

Knee	Elbow
1- Rounded. 2- Big & patella is felt.	1- Pointed. 2- Smaller & gradually ↑ in size.

BREECH PRESENTATION - MANAGEMENT

A. MANAGEMENT DURING PREGNANCY:

1- ASSESSMENT FOR RISK FACTORS

2- ULTRASOUND EVALUATION

3- EXTERNAL CEPHALIC VERSION

B. MANAGEMENT DURING DELIVERY:

1- SELECTION OF MODE OF DELIVERY:

a) indications of CS in breech

b) Favourable factors for vaginal delivery in breech

2- Vaginal delivery of uncomplicated breech

3- vaginal delivery of complicated breech

BREECH PRESENTATION- MANAGEMENT

A) During pregnancy:

1) Assessment for other risk factors: As elderly primigravida, precious baby, history of infertility, IUGR, postterm pregnancy, preeclampsia or DM.

2) Ultrasound: For its values (see before).

3) External Cephalic Version (ECV)

BREECH PRESENTATION-MANAGEMENT

3) External cephalic version (ECV):

- ***Definition:*** Procedure designed to replace one pole of fetus (breech or shoulder) by the other (head) by turning fetus externally through abdominal manipulations.
- ***Aims:***
  - a) To test for CPD specially in primigravidas.
  - b) Cephalic delivery is safer for mother & fetus.

BREECH PRESENTATION-MANAGEMENT

- ***Indications of ECV:***

  a) Breech presentation. b) Shoulder presentation.

Timing: Best done at 34-36 weeks, but may be done up to 1st stage of labor.

Before 34 weeks	After 36 weeks
a) Spontaneous cephalic version may occur. b) Recurrence may occur. c) Premature labor may occur.	a) Fetal size ↑↑. b) AF volume ↓↓. c) Uterus becomes more irritable & sensitive to manipulation

BREECH PRESENTATION- MANAGEMENT

Prerequisites for ECV:

1) Proper timing. 2) Non engaged breech. 3) No contraindications to ECV.
4) No contraindications to vaginal delivery. 5) Empty bladder & rectum.
6) Preliminary ultrasound (for determination of fetal age & size & exclusion of placenta previa, twins, congenital fetal anomalies & IUFD).
7) Done in well equipped center under ultrasound guidance.
8) Done by experienced obstetrician with 2 assisstants.

BREECH PRESENTATION- MANAGEMENT

Technique of ECV:

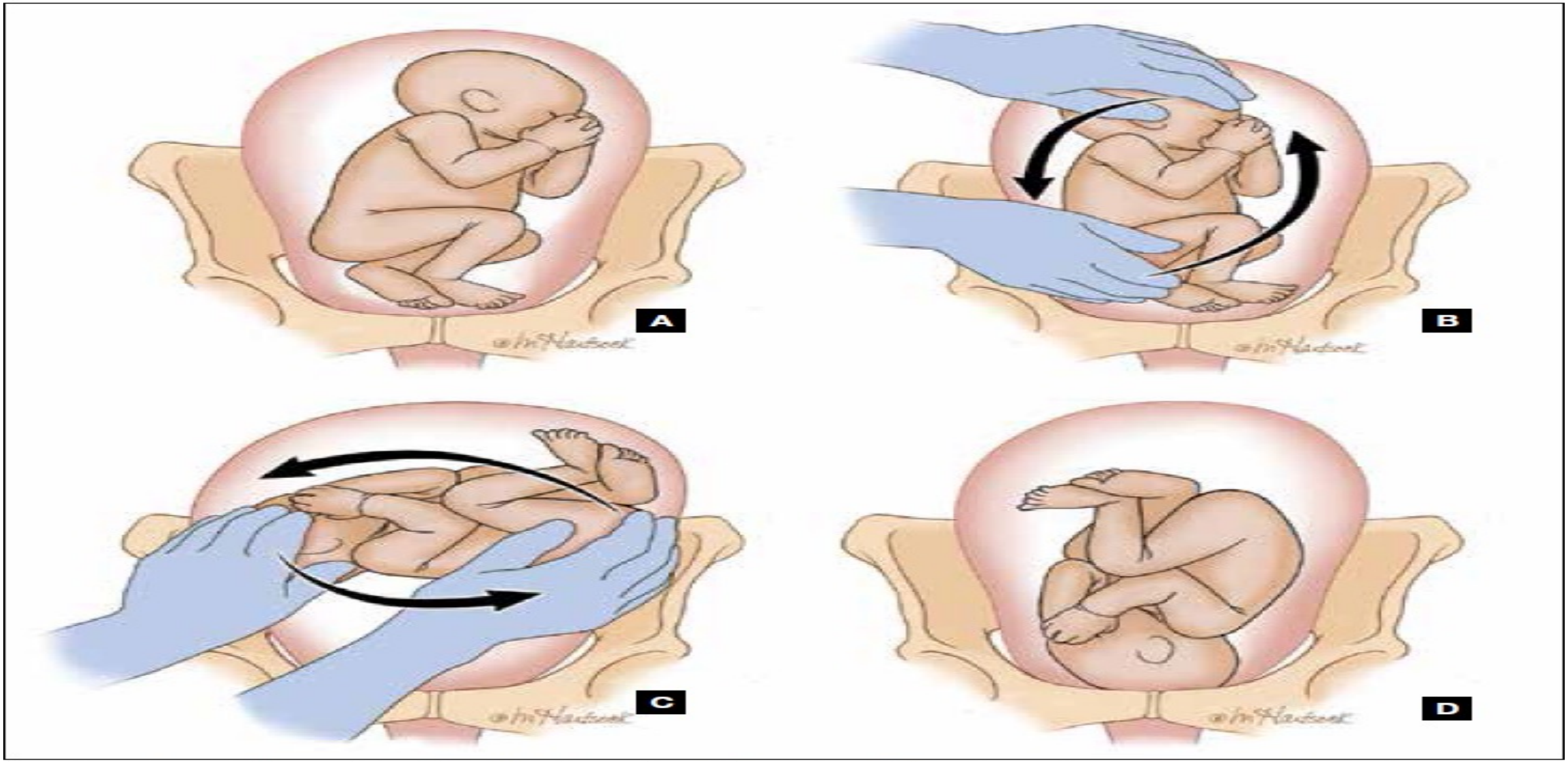
1. No anesthesia or analgesia (pain is safeguard against rough manipulations).
2. Position head down 20 ° with uncovered vulva (to detect any bleeding).
3. Position of fetal back is determined & FHS is auscultated by ultrasound.
4. Press over head downwards & push breech in opposite direction upwards in such way to maintain flexion of fetus.
5. Push head downwards into pelvis & auscultate FHS.
6. Apply abdominal binder, observe fetus & mother for 2 hours & examine patient after 3 days to be sure that head is still the presenting part.

BREECH PRESENTATION- MANAGEMENT

Contraindications for ECV:

1. Antepartum hemorrhage.
2. History of PROM or preterm labor.
3. Presence of uterine scar: It may rupture.
4. Rh incompatibility.
5. HTN: Placenta is liable to separation.
6. Precious baby.
7. Twins, large sized fetus, hydrocephalus or IUFD.
8. Marked contracted pelvis: CS will be done.
9. Presence of indication for CS.

FIGURE External cephalic version technique



In external cephalic version, the clinician externally rotates a breech- or transverse-lying fetus to a vertex position. The illustration shows a backflip rotation maneuver. The American College of Obstetricians and Gynecologists recommends a forward rotational maneuver be attempted first.

Source: Koutrouvelis GO; American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics. Practice Bulletin No. 161: External cephalic version. Obstet Gynecol. 2016;127(2):e54–e61.

BREECH PRESENTATION- MANAGEMENT

Complications of ECV:

1) Placental separation (leading to APH).
2) PROM.
3) Preterm labor.
4) Rupture uterus.
5) Rh isoimmunization: Due to feto-maternal transfusion in Rh –ve females (so, anti-D Ig should be given to Rh –ve females after procedure).
6) Cord presentation & prolapse & entanglement of cord around fetus.
7) Fetal injury, fetal shock & fetal mortality (2%).

BREECH PRESENTATION- MANAGEMENT

Results of ECV

Success: In 75% of primigravidas & 95% of multiparas.

Causes of failure of ECV:

1) Frank breech: Commonest cause (failure in 50% of cases) because legs act as a splint for trunk so, ECV is preferred to be performed earlier (at 32 weeks) in cases of frank breech.

2) Twins, large sized fetus or posterior fetal back.

3) Anterior insertion of placenta.

4) Short umbilical cord. 5) Abnormal AF volume (↑↑ or ↓↓).

6) Irritable uterus or uterine anomalies.

7) Rigid abdominal wall. 8) Obesity.

BREECH PRESENTATION-MANAGEMENT

Results of ECV (contd,)

Management of failed ECV:

- Procedure is repeated every week till 36 weeks.
- If failure persists, pelvic capacity is assessed carefully (specially in primigravidas) & vaginal breech delivery is allowed if no abnormality was detected.

BREECH PRESENTATION- MANAGEMENT:

Selection of mode of delivery:

It depends on certain factors as:

1) Parity , 2) Type of breech., 3) Fetal age & maturity, 4) Expected fetal weight. 5) Hyperextension of fetal head, 6) Pelvic capacity.7) Degree of cervical dilatation. 8) Station of buttocks in pelvis. 9) Previous breech delivery.

BREECH PRESENTATION- MANAGEMENT

Based on the above factors, different ***breech scoring systems*** have developed to help in decision making to decrease fetal & maternal risks of breech delivery however, these systems aren't commonly used due to the following **disadvantages**:

- 1) They don't include all variables.
- 2) They are somewhat difficult to apply & may not be practical.
- 3) High scores aren't guarantee of successful vaginal delivery.

BREECH PRESENTATION-MANAGEMENT

Indications of CS in breech:

80-90% of breech deliveries are by CS.

1) **Breech in primigravida: Specially frank breech (pelvis can't be guaranteed as head is the best pelvimeter).** **(2) Footling presentation.**

3) Premature viable fetus (due to risk of retained aftercoming head by incompletely dilated cervix).

4) Estimated fetal weight by ultrasound is > 3600 gm.

5) Hyperextension of head (star-gazing look): To avoid fracture of cervical spines during vaginal delivery.

BREECH PRESENTATION-MANAGEMENT

Indications of CS in breech

6) Contracted pelvis (any degree).

7) History of difficult delivery.

8) Low breech score.

9) Chronic fetal distress (as in IUGR).

10) Acute fetal distress è incompletely dilated cervix.

11) Prolapsed pulsating cord incompletely dilated cervix.

12) Complicated vaginal breech delivery: Arrest of buttocks at pelvic brim or at pelvic outlet è contracted pelvis or large sized fetus.

13) Other indications for CS.

BREECH PRESENTATION- MANAGEMENT

Vaginal Delivery	Caesarean Delivery
Frank breech presentation	Estimated fetal weight of ≥3500 g or <1500 g
Gestational age of 34 weeks or more	Contracted or borderline maternal pelvic measurements
Estimated fetal weight of 2000–3500 g	Deflexed or hyperextended fetal head
Flexed fetal head	Prolonged rupture of membranes
Adequate maternal pelvis as determined by x-ray pelvimetry (pelvic inlet with transverse diameter of 11.5 cm and anteroposterior diameter of 10.5 cm; midpelvis with transverse diameter of 10 cm and anteroposterior diameter of 11.5 cm)	Unengaged presenting part Dysfunctional labor Elderly primigravida Mother with infertility problems or poor obstetric history Premature fetus (gestational age of 25–34 weeks)
No maternal or fetal indications for caesarean section Previable fetus (gestational age <25 weeks and weight <700 g)	Most cases of complete or footling breech over 25 weeks' gestation without detectable lethal congenital malformations (to prevent umbilical cord prolapse)
Documented lethal fetal congenital anomalies	Fetus with variable heart rate decelerations on electronic monitoring
Presentation of mother in advanced labor with no fetal or maternal distress, even if caesarean delivery was originally planned (a carefully performed, controlled vaginal delivery is safer in such cases than is a hastily executed caesarean section)	Footling presentation

BREECH PRESENTATION- MANAGEMENT

Favorable factors for vaginal breech delivery:

1) Multiparity.
2) GA is 36-38 weeks.
3) Expected fetal weight is 2500-3100 gm.
4) Flexed fetal head.
5) Adequate pelvic capacity.
6) Favorable cervix.
7) Breech station in pelvis is ≥ – 1.
8) Previous successful vaginal breech delivery.

BREECH PRESENTATION-MANAGEMENT

Rules for vaginal breech delivery: 10 golden rules.

1. Must be at **hospital**.
2. Must be by trained **specialist** (senior staff).
3. **Three** personnel must be present (trained assistant, anesthesiologist & neonatologist).
4. **Wait** & see (no hurry in breech delivery).
5. Don't interfere **before full** cervical dilatation **in-between** uterine contractions.

BREECH PRESENTATION-MANAGEMENT

6. **Generous** episiotomy must be done: Aiming to:

- a) Avoid rapid compression & decompression of fetal head & so avoid ICH.
- b) Facilitate manipulations.
- c) Minimize perineal lacerations & tears.

7. Always keep **back anterior**: To prevent posterior position of occiput.

8. **Avoid pulling** down except with fundal pressure to avoid extension of head & arms.

9. **Forceps** must be **ready** for use (Piper's forceps).

10. Facilities for immediate **CS** must be available.

BREECH PRESENTATION-MANAGEMENT

Management of vaginal breech delivery includes:

1) Management of 1st stage: As in OP position.

2) Management of 2nd stage: It includes the following:

a) Management of uncomplicated breech delivery .

b) Management of complicated breech delivery .

3) Management of 3rd stage: As in OP position.

BREECH PRESENTATION-MANAGEMENT

Methods of Vaginal Delivery: General methods:

1. Spontaneous breech; no assistance at all (risky, not allowed)

2. Partial breech extraction (assisted breech when breech is allowed to be delivered spontaneously till umbilicus, the assisted)

3. Total breech extraction: (breech is assisted from the start)

Total breech extraction

Partial breech extraction

BREECH PRESENTATION- MANAGEMENT

Management of UNCOMPLICATED breech delivery: 2 Methods of breech delivery are: (Spontaneous BD and Assisted BD)

1) Spontaneous breech delivery: Not used nowadays & should be avoided due to increased fetal & maternal morbidity.

Definition: Spontaneous expulsion of entire fetus without any traction or manipulation other than support to avoid falling down.

Prerequisites →*Multipara + roomy pelvis + good uterine contractions + small sized fetus.*

Complications: →High incidence of perineal tears & ICH (due to rapid compression & decompression).

BREECH PRESENTATION- MANAGEMENT

2) **Assisted breech delivery**: Most commonly used method in which obstetrician *assists delivery of shoulders, arms & aftercoming head without anesthesia.*

a) Delivery of buttocks & trunk:

1- Ask patient to bear down with uterine contractions & when perineum is maximally distended → do episiotomy.

2- Leave buttocks & trunk to be delivered spontaneously till umbilicus.

3- Once umbilicus is delivered, loop of umbilical cord is pulled down to:

   a- Minimize cord compression between head & pelvic wall.

   b- Assess length of cord & assess fetal pulsations.

4- Cover fetal trunk with warm towel to avoid premature stimulation of respiration.


1


2


3


4

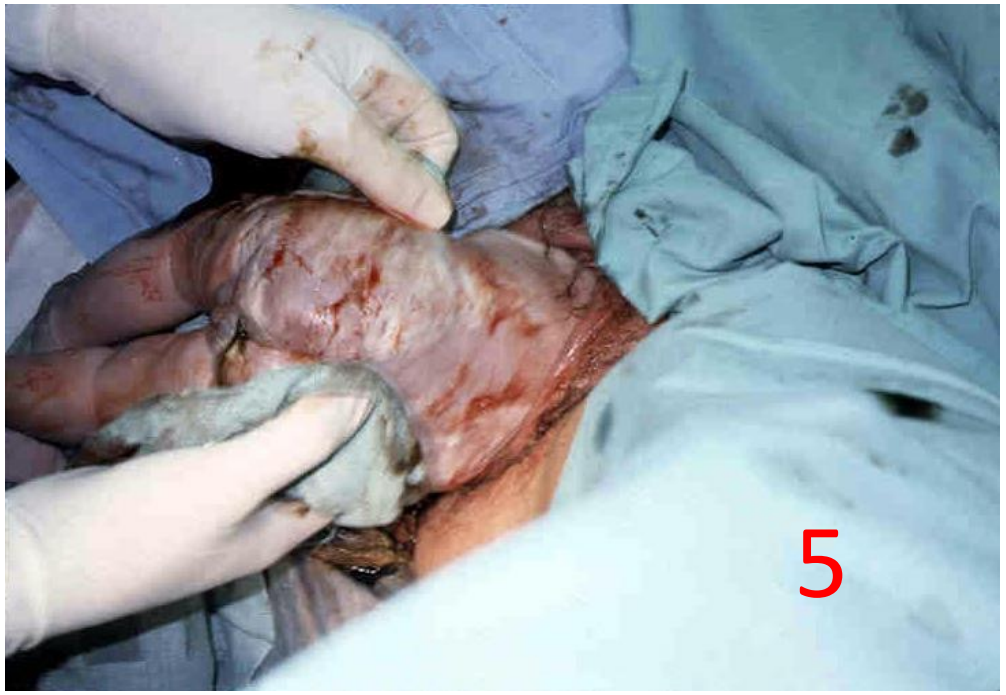
BREECH PRESENTATION- MANAGEMENT

b) Delivery of shoulders & arms:

1- Depress buttocks till inferior angle of anterior scapula appears under symphysis pubis.

2- Deliver anterior arm by passing hand along fetal back then over anterior shoulder then anterior arm is felt & delivered by hooking finger in bent of elbow & bringing arm from front of fetus (but without pull).

3- Fetus is raised so that posterior scapula & then posterior arm are born over perineum by the same maneuver.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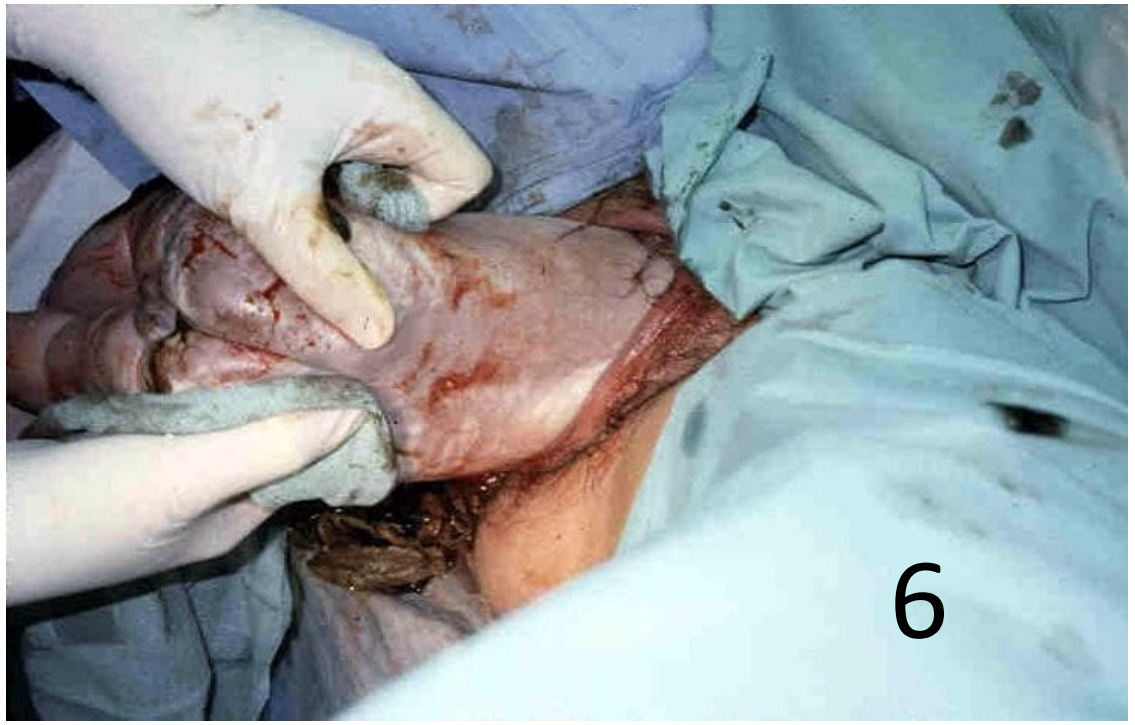
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BREECH PRESENTATION- MANAGEMENT

C) Delivery of aftercoming head: →Should be slow enough to prevent brain injury & sufficiently rapid to avoid asphyxia.

1- Always keep fetal **back anterior** (to avoid posterior occiput).

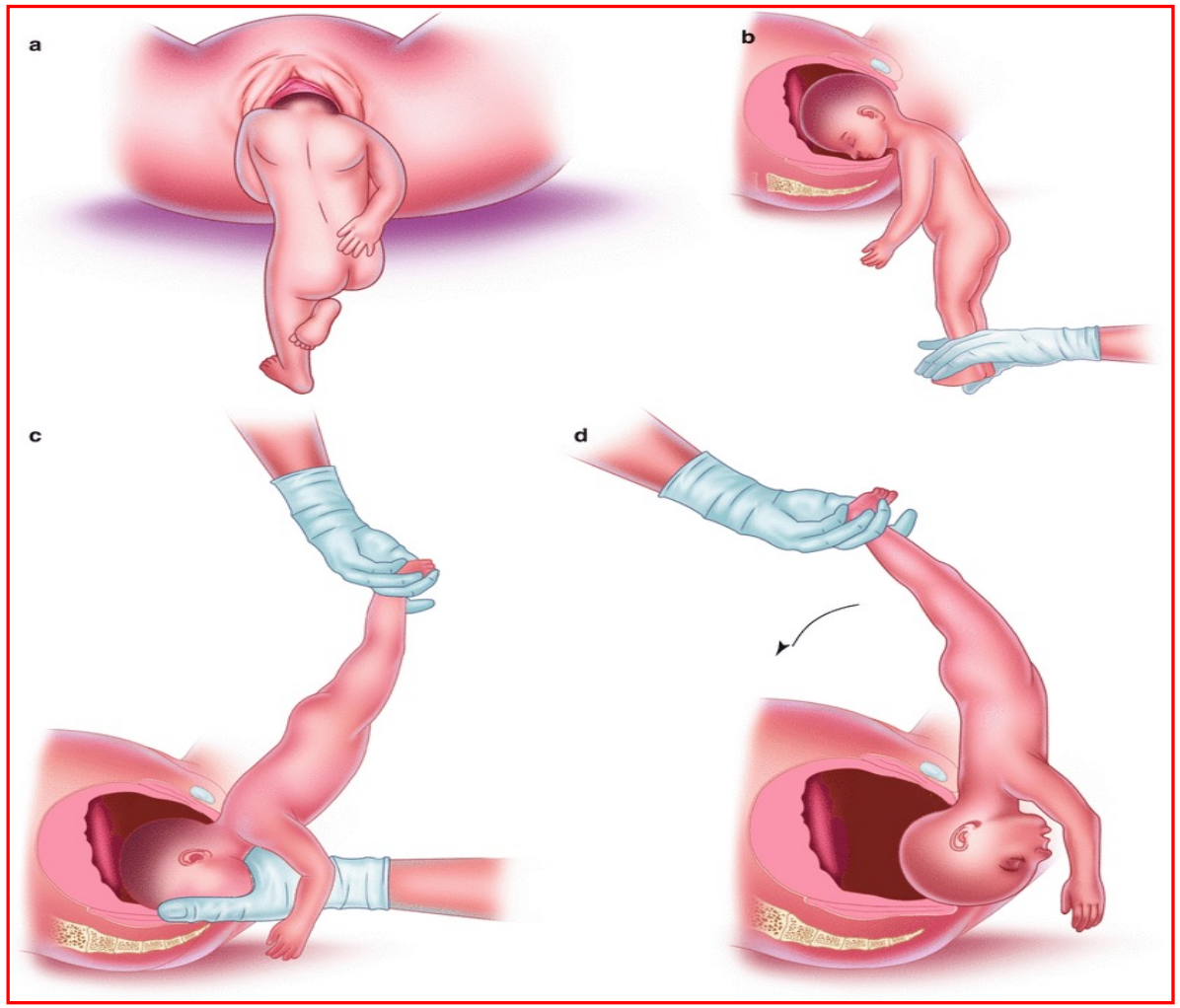
2- Apply suprapubic pressure during uterine contractions *(Kristeller's maneuver)* to guide head into pelvis & maintain its flexion.

3- Deliver head by one of the following methods:

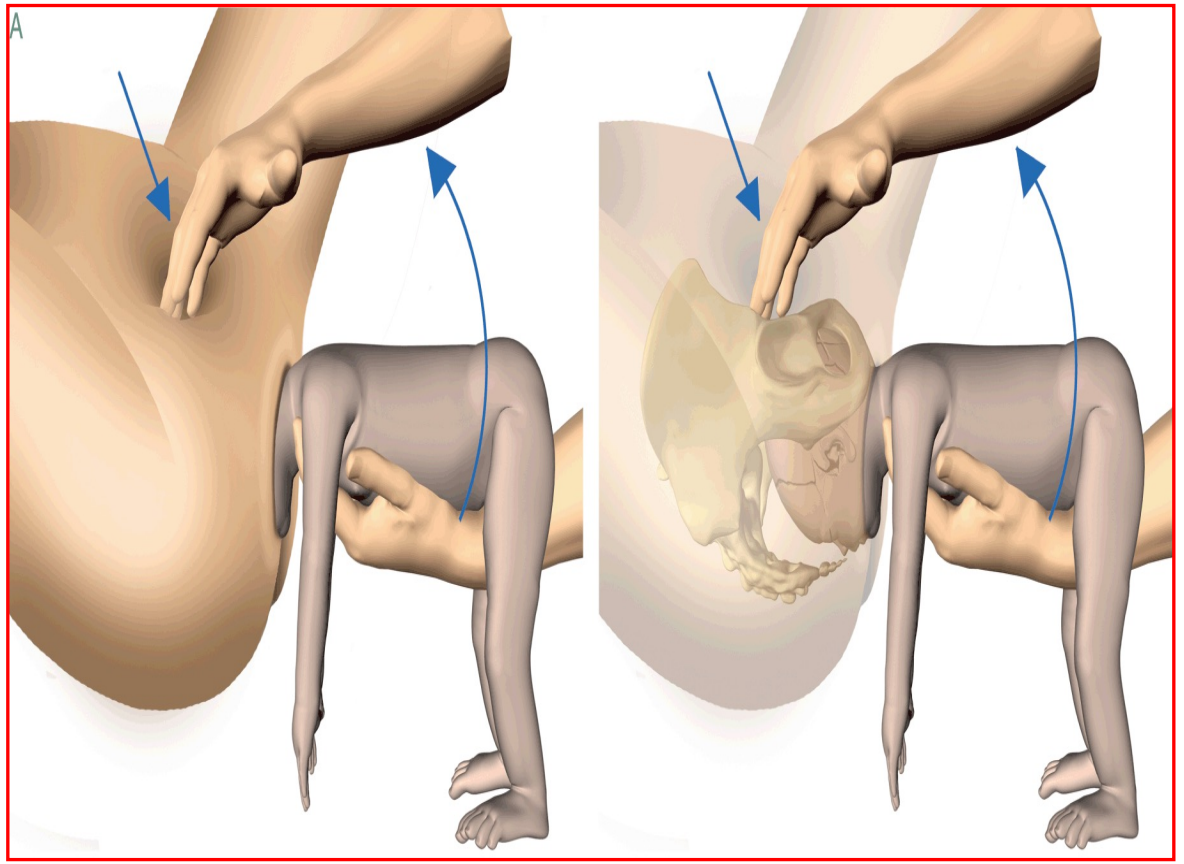
a- Burns Marshall's maneuver

b- Jaw flexion - shoulder traction (Mauriceau-Smellie-Viet maneuver)

c- Piper's forceps method: usually used under anesthesia



Burns-Marshall's method for assisting delivery of aftercoming head



Kristeller's maneuover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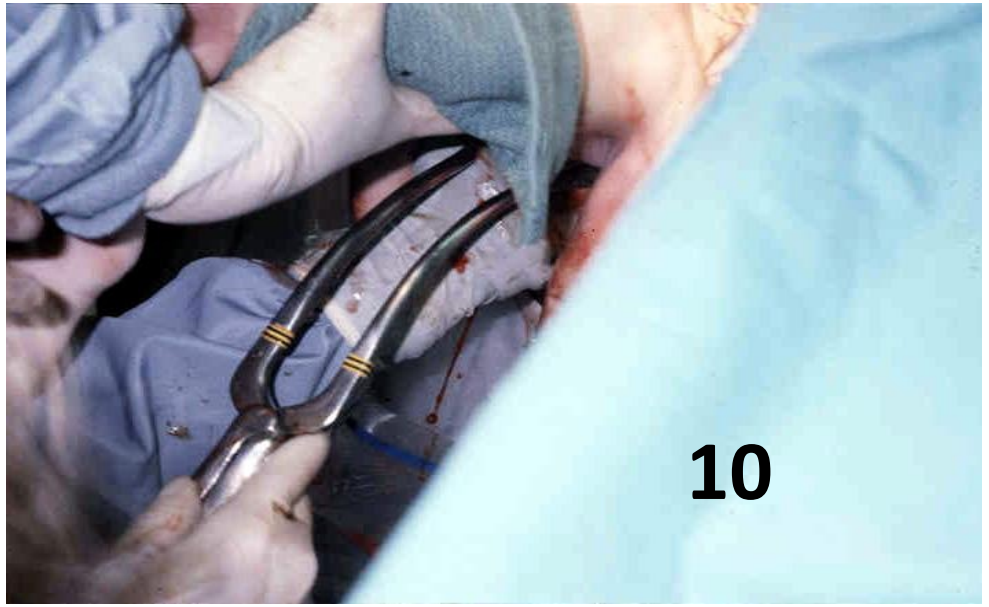
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BREECH PRESENTATION- MANAGEMENT

a- Burns Marshall's maneuver: (see image)

Technique: Leave fetus hanging down by its weight till occiput appears under symphysis pubis then grasp fetal feet & move fetal body in wide arc towards mother's abdomen → delivery of head.

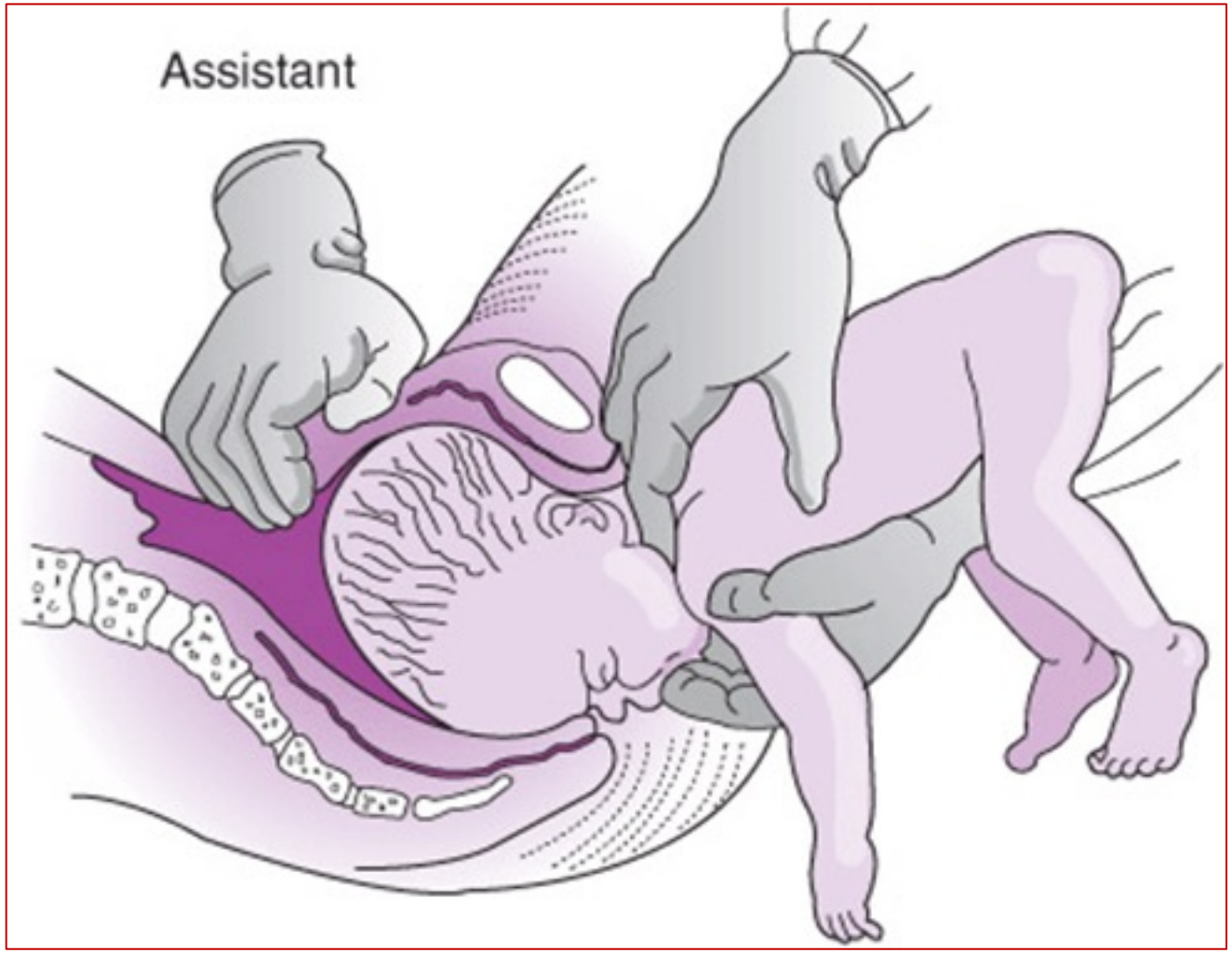
Advantage: Easy.

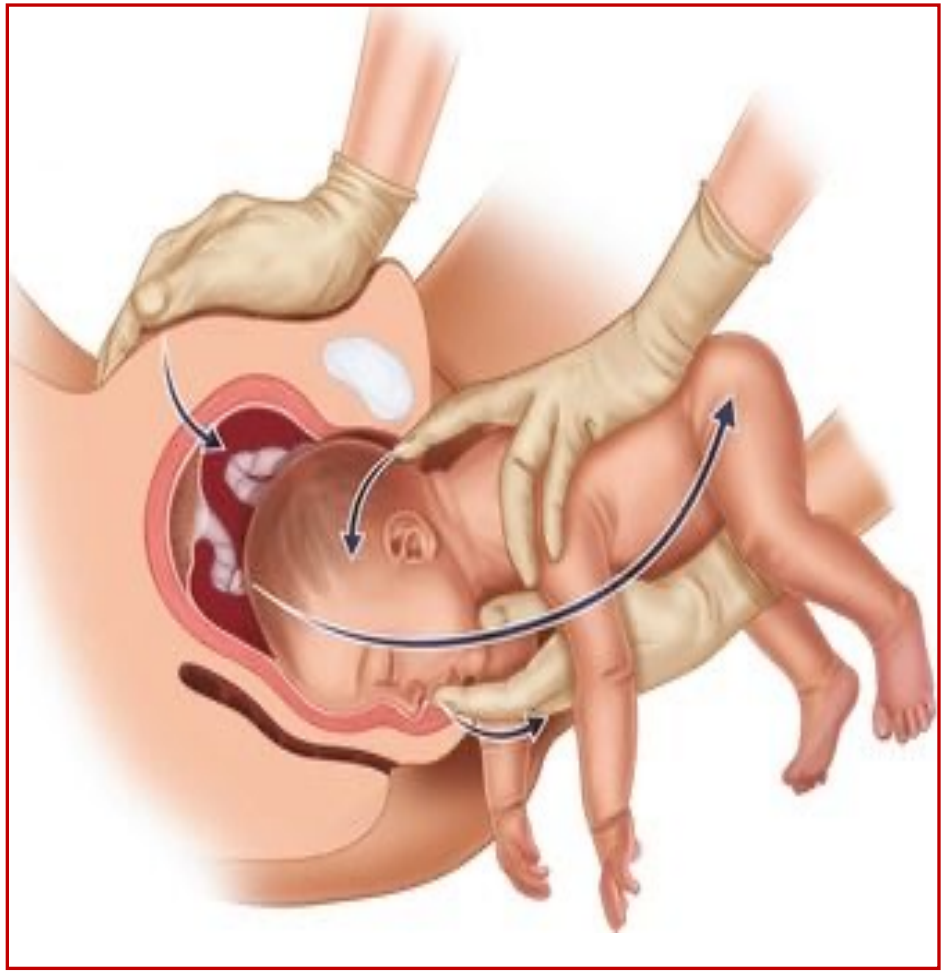
Disadvantage: Takes long time so, premature respiration may occur.

BREECH PRESENTATION- MANAGEMENT

b- Jaw flexion - shoulder traction (Mauriceau-Smellie-Viet maneuver):

Technique: Fetal body is supported astride Left forearm with introduction of 2 fingers in fetal mouth to press over lower jaw to produce flexion (it is preferable to put 2 fingers on maxillae to avoid jaw dislocation). → Put middle finger of Rt hand on occipital region (to promote flexion) & index & ring fingers are forked well over shoulders on each side of neck with fingertips beyond clavicles to exert traction.→ Fetus is 1st drawn downwards & backwards till nape of neck appears below pubic arch, after which direction of traction is upwards & forwards towards mother's abdomen to deliver head in flexion.





Jaw (or Malar)- Flexion-shoulder traction method

BREECH PRESENTATION-MANAGEMENT

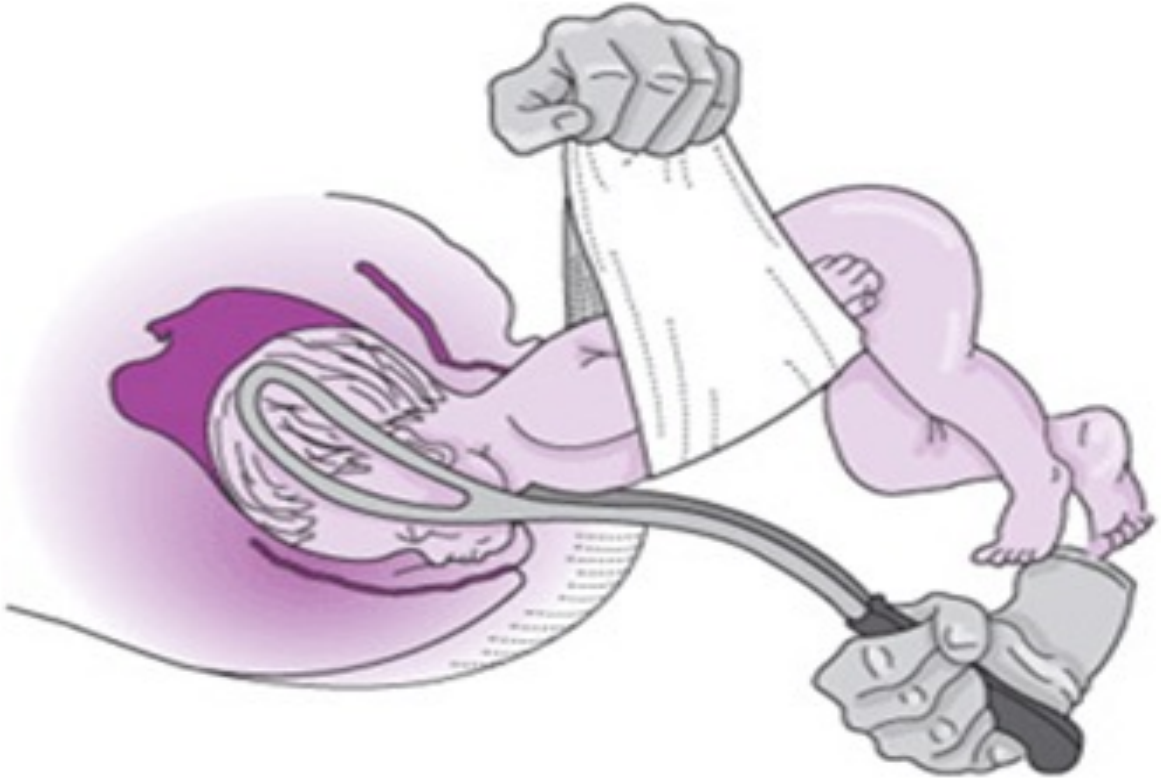
Jaw flexion - shoulder traction (Mauriceau-Smellie-Viet maneuver):

Advantages: Rapid & easy.

Disadvantages:

- 1- Flexion of head isn't maximum.
- 2- Excessive traction on shoulder may produce injury of brachial plexus leading to Erb's palsy.
- 3- Injury of mouth or eyes or mandible (fracture or dislocation).

C) Delivery of the aftercoming head by Piper's forceps



Application of Piper forceps, using towel sling support. The forceps are introduced from below, left blade first, aiming directly at intended positions on sides of the head. (Reproduced, with permission, from Pernoll ML. *Benson and Pernoll's Handbook of Obstetrics and Gynecology*. 10th ed. New York, NY: McGraw-Hill; 2001.)

BREECH PRESENTATION-MANAGEMENT

MANAGEMENT OF COMPLICATED BREECH:

1- Arrest of the buttocks

2- Arrest of shoulders

3- Arrest of the aftercoming head

Arrest of the Buttocks

[A]. ARREST AT PELVIC BRIM

CAUSES	MANAGEMENT
1- Uterine inertia.	Oxytocin drip (if not contraindicated).
2- Contracted pelvis.	CS.
3- Large sized fetus.	CS.

[B]. ARREST AT PELVIC CAVITY OR OUTLET

CAUSES	MANAGEMENT
1- Uterine inertia.	Oxytocin drip (if not contraindicated).
2- Contracted outlet.	CS.
3- Large sized fetus.	CS.
4- Rigid perineum.	Pudendal nerve block & episiotomy.
5- Frank breech (extension of legs): Commonest cause & it leads to arrest of buttocks because: a- Extended legs act as a splint that prevents lateral flexion of spines. b- Presence of feet beside head & shoulders forms large wedge that is too large to enter pelvic brim.	■ Bringing down legs: If buttocks aren't deeply impacted in pelvis. ■ Groin traction: If buttocks are deeply impacted in pelvis (breech has passed through fully dilated cervix & is held upon perineum). ■ CS: If attempts of bringing down legs have failed.

Bringing down legs (Pinard's maneuver)

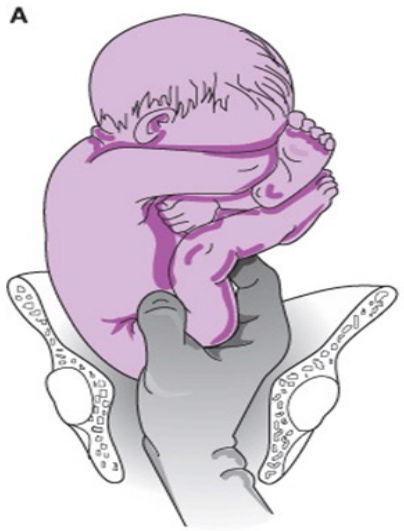
Technique:

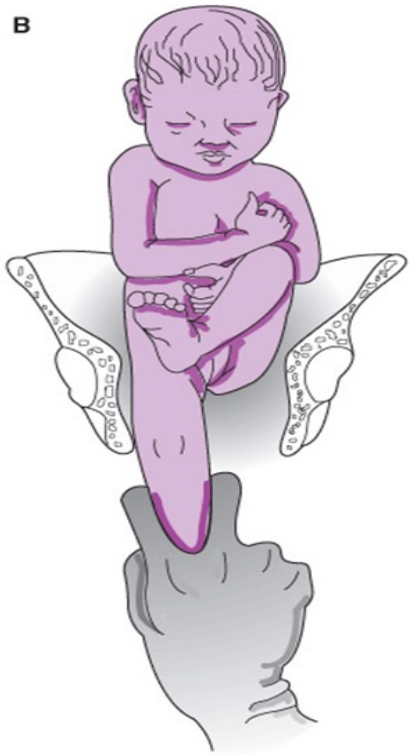
1- Give general anesthesia & do episiotomy.

2- Bring down anterior leg first (to avoid overriding of anterior buttock on symphysis pubis) by introduction of hand that corresponds to abdominal aspect of fetus into uterus along fetal thigh then press by fingertips against popliteal fossa → leg becomes partially flexed & foot comes lower → grasp foot & sweep leg down.

3- Bring down posterior leg by the same manner.

Precaution: done in-between uterine contractions.





Bringing down legs (Pinard's method)

Groin traction

Technique:

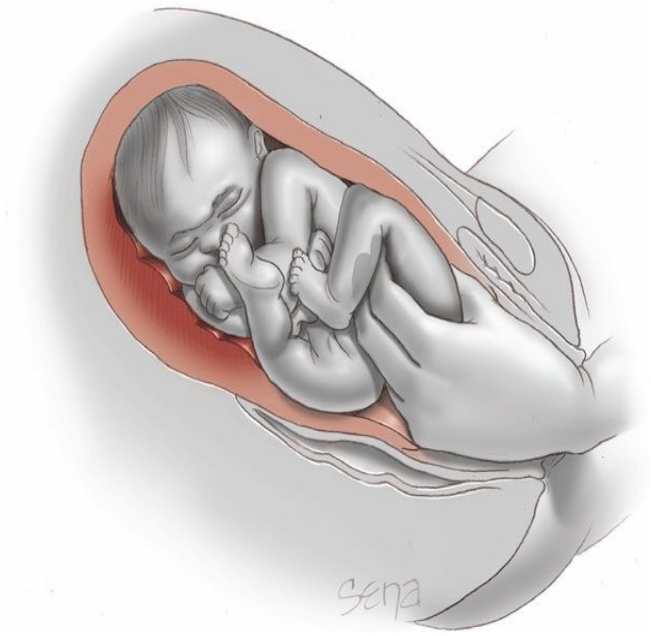
1- Give general anesthesia & do episiotomy.

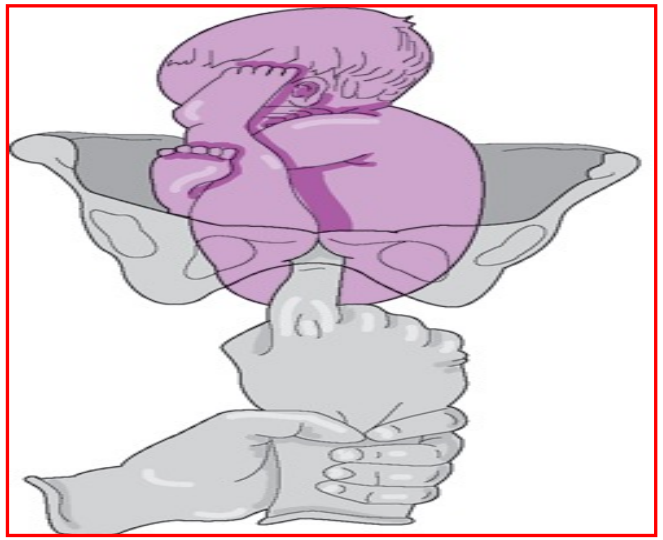
2- Put index finger in anterior groin then apply gentle traction towards trunk side (to avoid fracture of femur).

3- When posterior groin appears, apply traction by other index finger in it (combined traction).

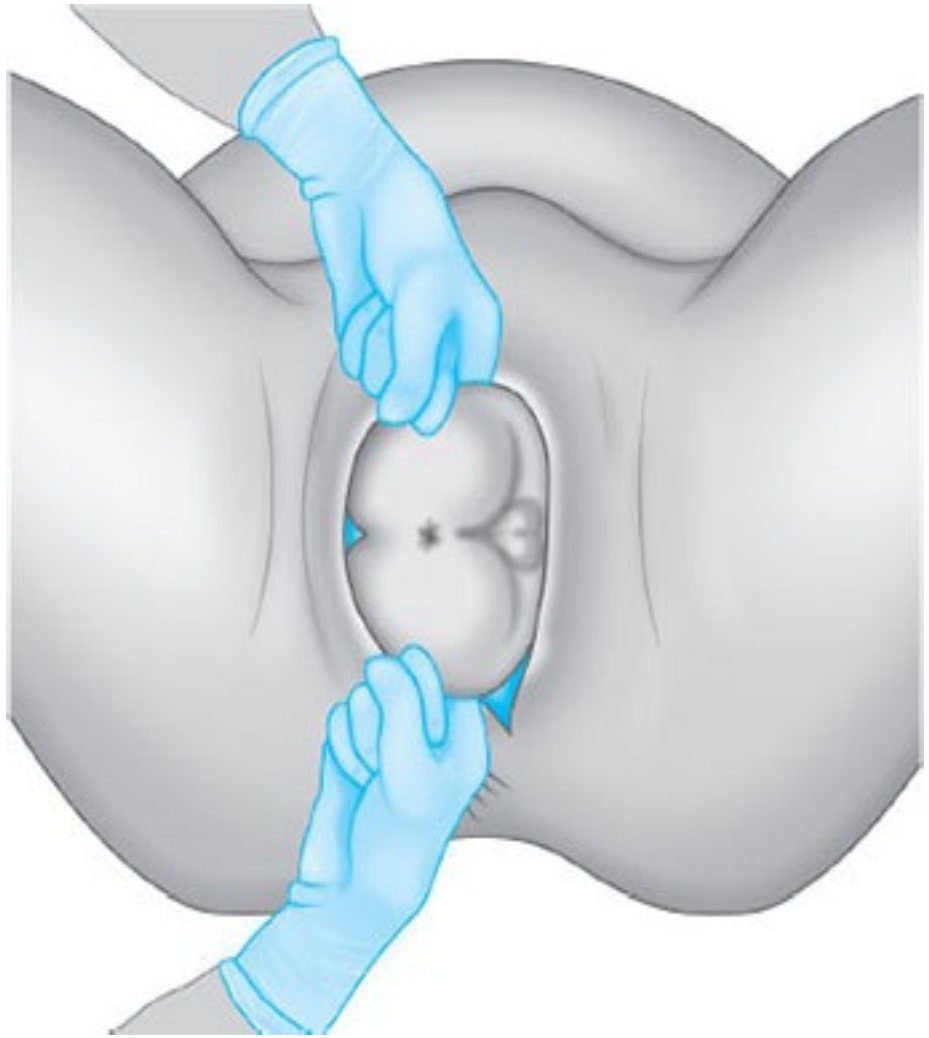
4- Traction is directed downwards & backwards till anterior buttock appears under symphysis pubis then traction is directed upwards to deliver posterior buttock.

Precaution: Traction is done during uterine contraction & is helped by suprapubic pressure.





GROIN TRACTION



ARREST OF SHOULDERS

	(A) EXTENSION OF ARM	(B) NUCHAL POSITION OF ARM
CAUSES	**Commonly due to pulling on fetus *without fundal pressure* specially if cervix is incompletely dilated**	**Rotation of trunk in wrong direction**
DIAGNOSIS (by PV)	**Arms are absent in front of chest wall**	**Forearm lies behind nape of neck**
MANAGEMENT	• **Classical method (see below).** • **Lovset's maneuver (see below).**	**Rotation of trunk in direction of fingertips of displaced hand**

Bringing down an arm- Classical Method

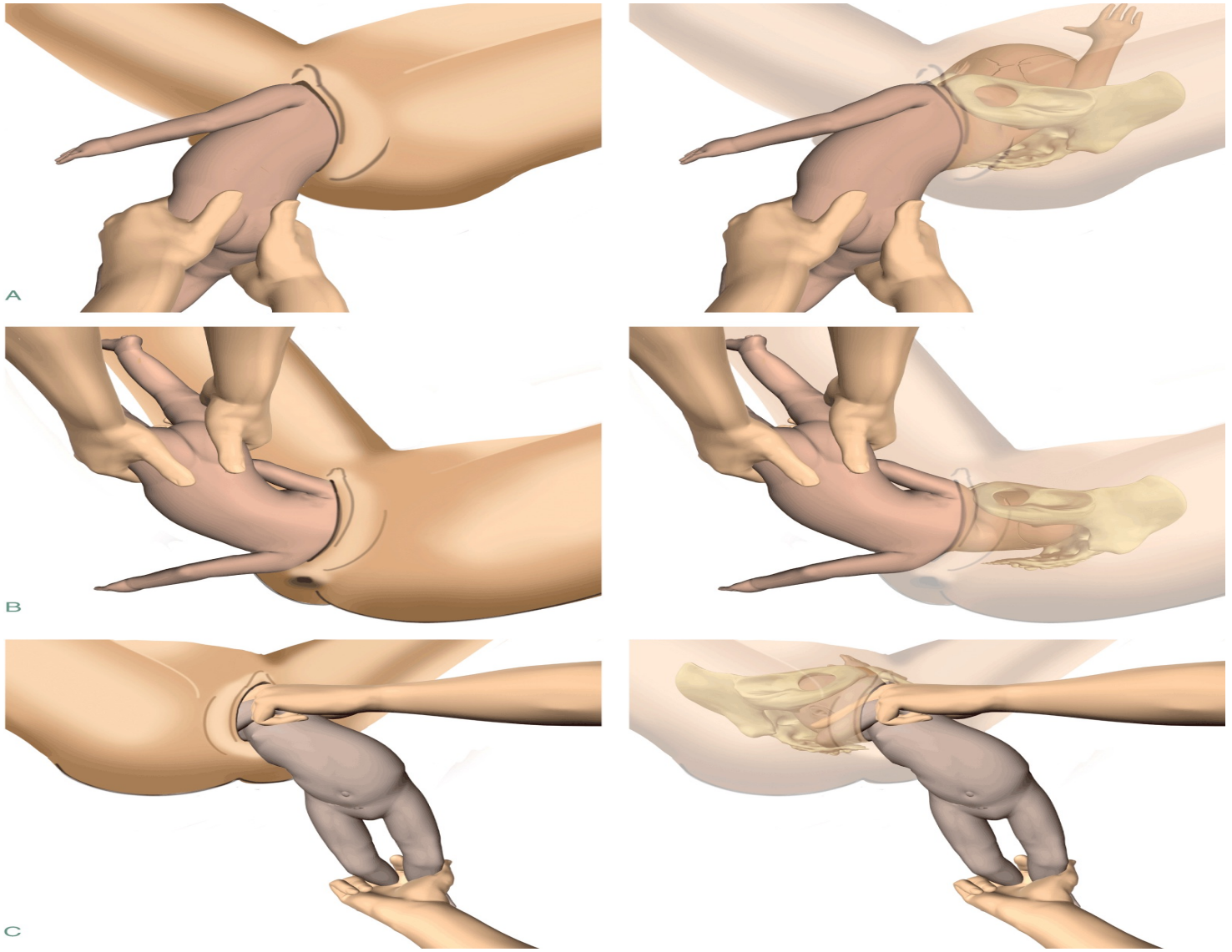
Technique: [start with posterior arm where there is more space in the sacral concavity.]

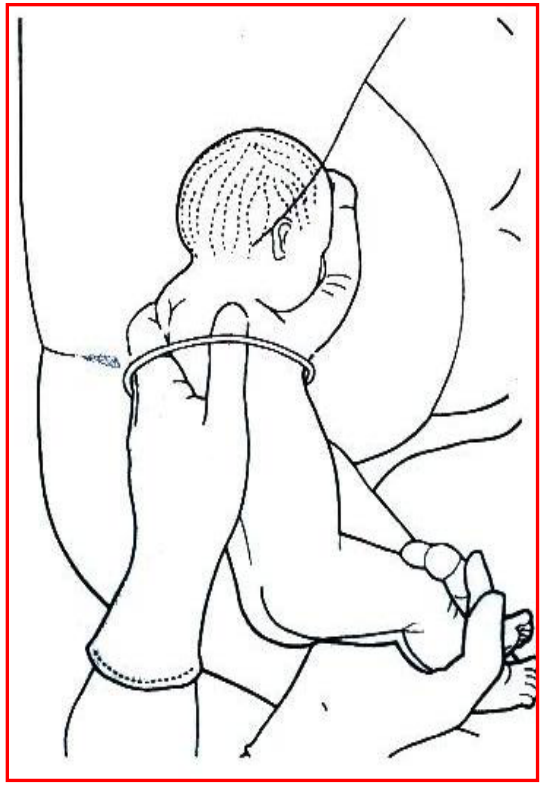
1- Under general anesthesia, rotate trunk to bring shoulder in A-P diameter of pelvis & draw fetus downwards till lower angle of scapula becomes visible.

2- Bring down **posterior arm** first by introduction of hand which corresponds to arm of fetus along fetal back, over shoulder, along humerus then press by fingertips against cubital fossa & sweep arm down in front of face.

3- Bring down anterior arm either anteriorly or after rotating it posteriorly.

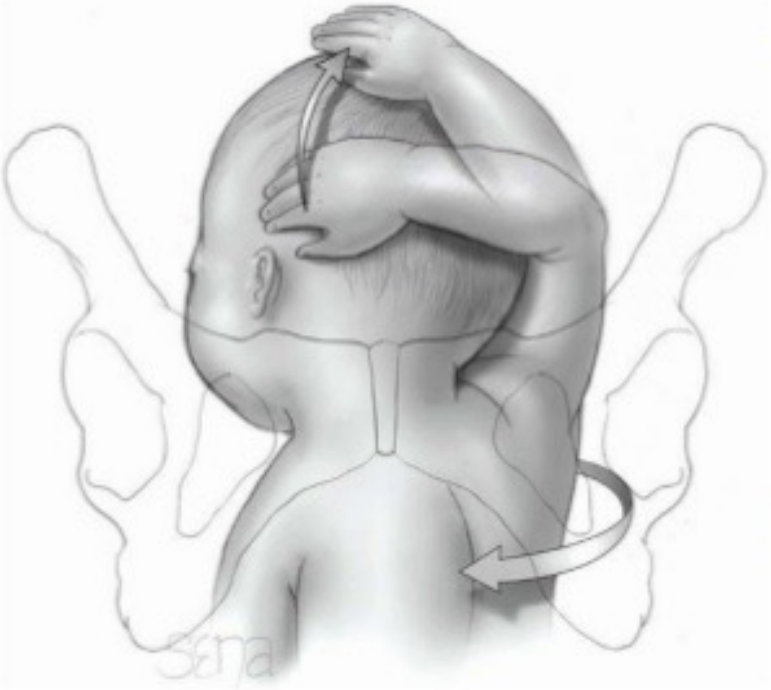
Precaution: Rotation to bring anterior arm posteriorly must be in direction which brings delivered arm towards ventral aspect of fetus.



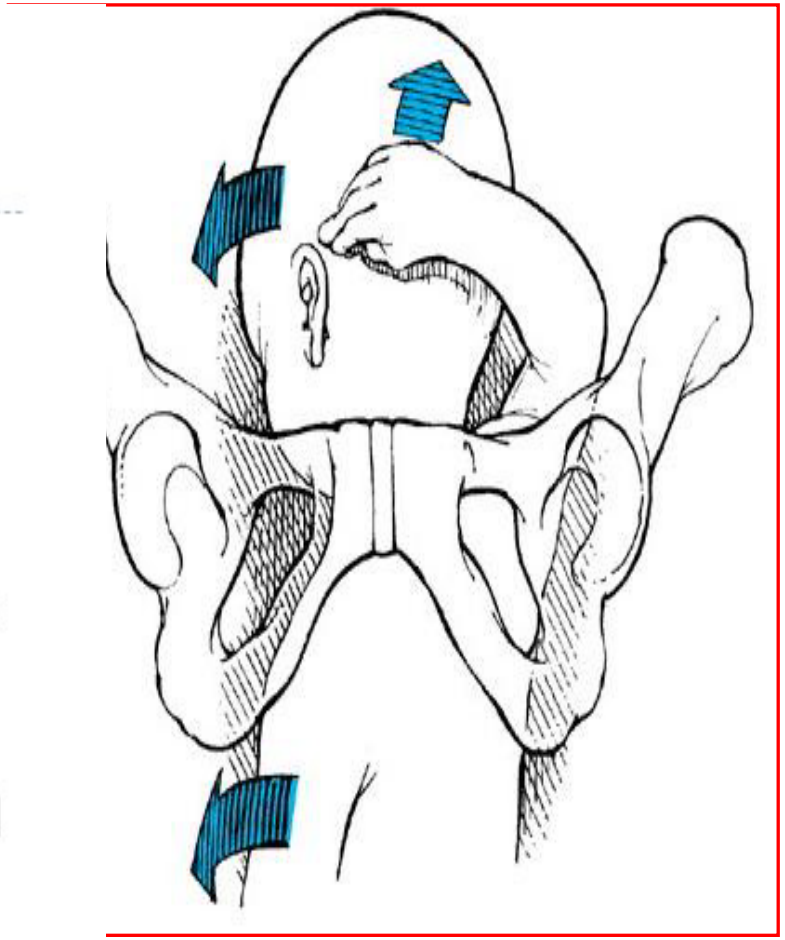


Bringing Arm: Classic method (EXTENDED ARM)

Nuchal Arm



- By rotating the fetus through a half circle in such a direction that the friction exerted by the birth canal will serve to draw the elbow toward the face.
- Should rotation of the fetus fail to free the nuchal arm(s), it may be necessary to push the fetus upward in an attempt to release it.



Lovset's maneuver

Principle: Based on pelvic inclination, when anterior scapula is born, posterior shoulder is below pelvic brim while anterior shoulder is still above it.

Technique:

1- By downward traction & anterior rotation of trunk 1/2 circle (180°) the posterior shoulder becomes anteriorly below symphysis pubis where shoulder & arm can be delivered.

2- Rotation of trunk 1/2 circle (while maintaining the back anterior) to bring posterior shoulder anteriorly below symphysis pubis where shoulder & arm can be delivered.

Precaution: During rotation, fetal back must be kept anterior.

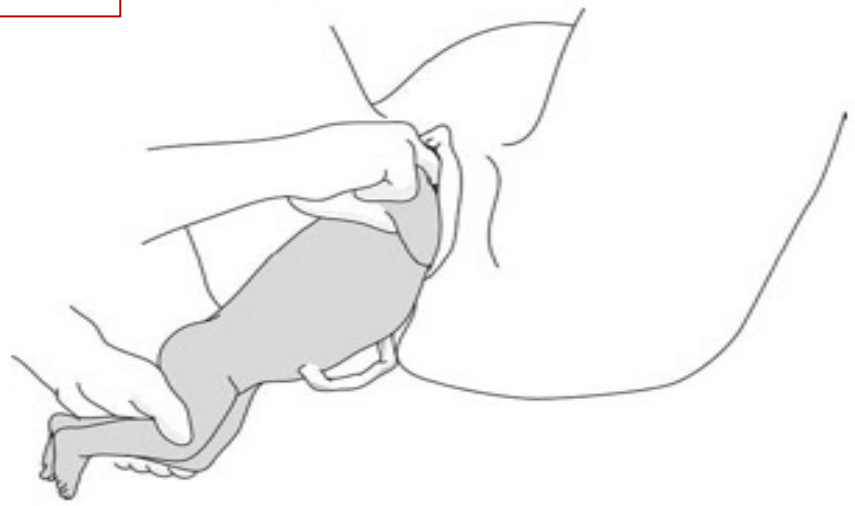
Advantage: No anesthesia is needed (hands aren't introduced in uterus)

LOVSET'S MANEUVER

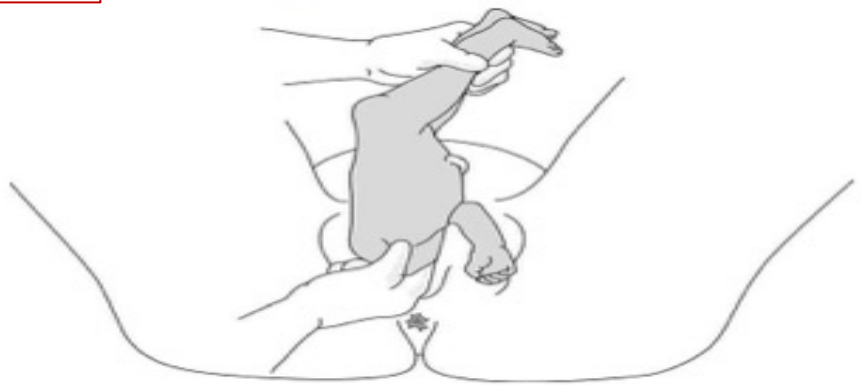
1 - Turning the infant to bring down the anterior shoulder

2 Downward traction and descent of shoulders along the midline (sacral-pubic) axis

3 Delivering the anterior arm and shoulder



4 - Delivering the posterior shoulder



Arrest of aftercoming Head

Definition: Head is considered arrested if Kristeller's maneuver failed to deliver it. It may be arrested above the pelvic brim or in pelvic cavity.

Causes: listed in table 👇

A) Causes in passages	*B) Causes in head*
1- Incompletely dilated cervix. 2- Rigid perineum. 3- Contracted Pelvis.	1- Large sized head. 2- Hydrocephalus. 3- Extension of head (deflexion of head). 4- Posterior rotation of occiput (due to negligence of attendant to help forward rotation of fetal back during delivery of trunk).

Arrest of aftercoming Head-MANAGEMENT

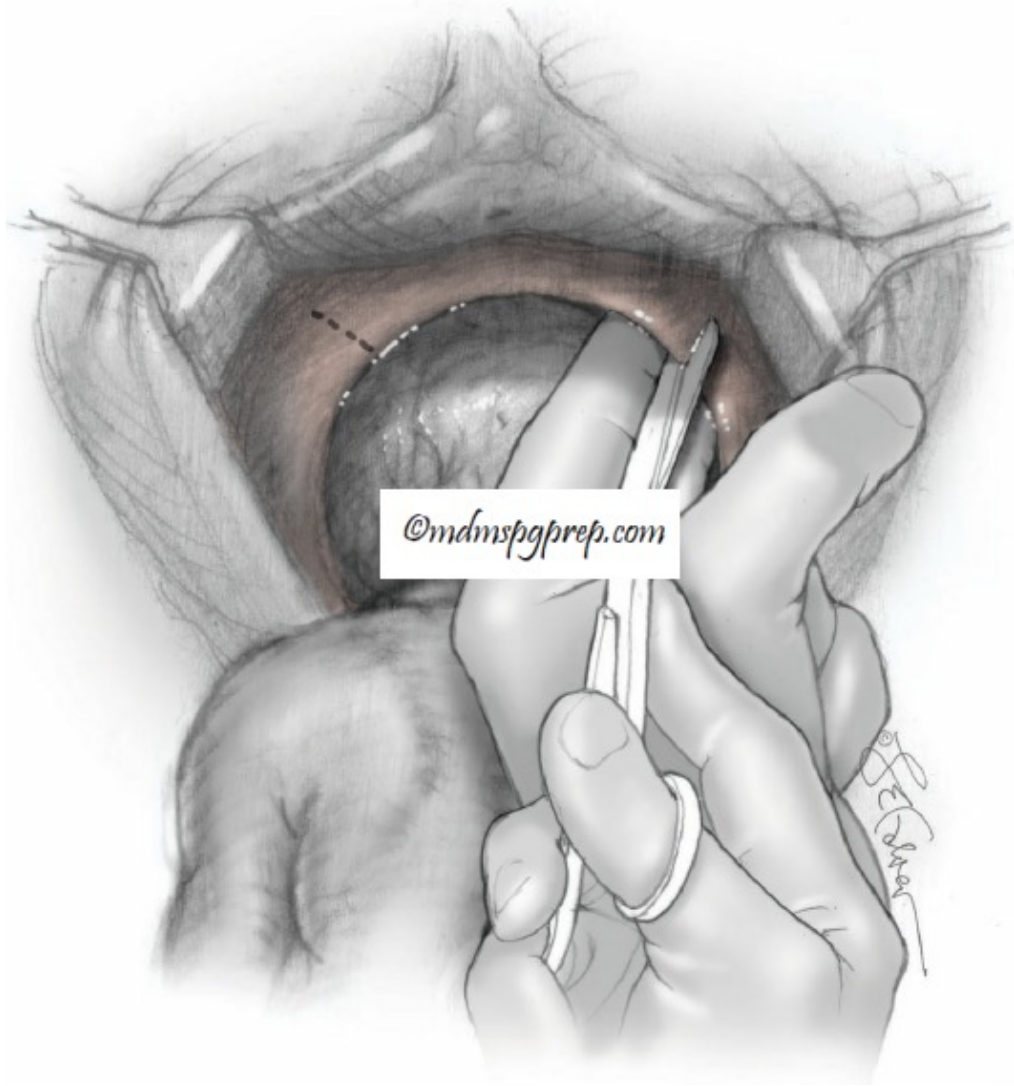
	CAUSE OF ARREST	MANAGEMENT
1	Incompletely dilated cervix.	Duhressen's cervical incisions
2	Rigid perineum.	Episiotomy + forceps
3	Contracted Pelvis.	a) living→ symphysiotomy b) Dead→ craniotomy
4	Large sized head.	
5	2- Hydrocephalus.	
6	3- Extension of head	Jaw flexion-shoulder traction
7	4- Posterior rotation of occiput	See later

Arrest of aftercoming Head-MANAGEMENT

DUHRESSEN'S INCISION

1- Living fetus: Do cervical incisions at 5 & 7 O'clock or11, or 2 O'clock (not at 3 or 9 O'clock to avoid extension to uterine vessels).

2- Dead fetus: Wait till full dilatation.



Posterior Rotation of Occiput

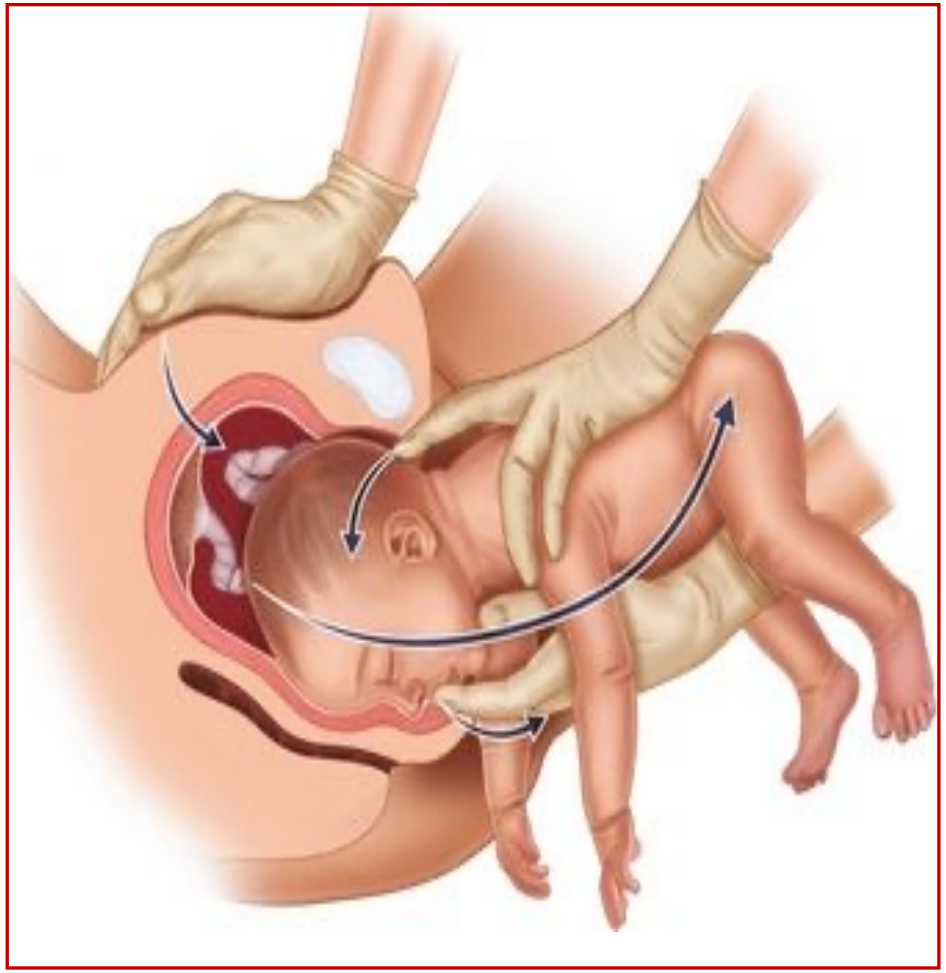
Try to do anterior rotation of back → if failed, management depends on attitude of head as follow:

1- Flexed head: Do jaw flexion – shoulder traction in posterior direction till sinciput appears under symphysis pubis & delivery is completed as face to pubis.

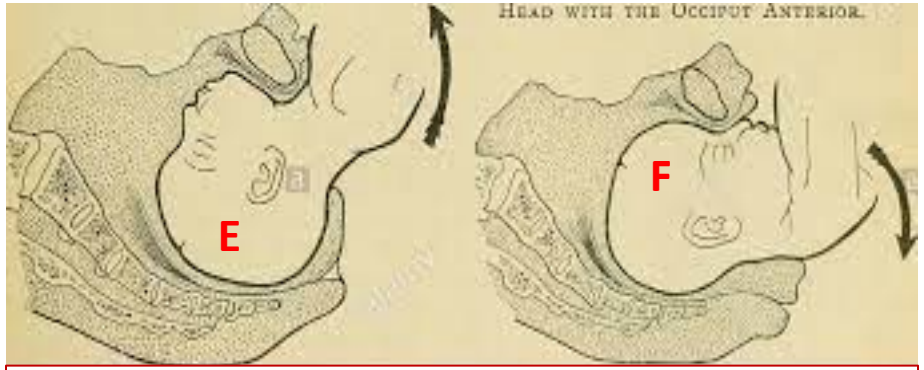
2- Extended head:

a- Living fetus: Prague's maneuver (grasp fetus from its feet & flex its body on mother's abdomen & at the same time, apply traction on shoulders from behind by fingers of other hand to deliver head over perineum).

b- Dead fetus: Perforation.



JAW-FLEXION SHOULDER TRACTION



POSTERIOR ROTATION OCCIPUT

PRAGUE TECHNIQUE

COMPLICATIONS OF BREECH PRESENTATION

A) Maternal : General maternal complications of malpresentation .

B) Fetal :

1) Fetal morbidity: a) asphyxia, b) injuries, c) intracranial hemorrhage.

2) Fetal mortality.

COMPLICATIONS OF BREECH PRESENTATION

Fetal Asphyxia

Not the main cause of fetal death (fetus can withstand anoxia for 10-15 minutes).

CAUSES	PREVENTION
1- Cord prolapse & compression. 2- Placental compression or separation. 3- Inhalation of AF due to premature respiration. 4- RDS. 5- Prolonged labor.	**1-** Covering fetal trunk with warm towel to avoid premature stimulation of respiration. **2-** Retraction of perineum backward by speculum to drain AF & blood & to expose mouth of fetus. **3-** Immediate suction of mucus & AF from air passages of baby. **4-** Avoid ICH. **5-** Proper treatment of APH.

COMPLICATIONS OF BREECH PRESENTATION

FETAL BIRTH INJURIES

CAUSES

1- Fractures of cervical spines, clavicle, humerus or femur.
2- Cervical & brachial plexuses paralysis.
3- Injury to spinal cord.
4- Damage to abdominal organs (as liver & adrenal gland).
5- Trauma to pharynx.

PREVENTION

1- Proper handling of fetus.
2- Delaying extension of fetal trunk upwards on mother's abdomen till occiput is below subpubic arch.
3- Fetal trunk is never raised > 90° .

COMPLICATIONS OF BREECH PRESENTATION

INTRACRANIAL HEMRRHAGE	
CAUSES	PREVENTION
1- Excessive pressure on head. 2- Rapid compression & decompression of head causing tentorial tears.	1- Slow delivery. 2- Avoid excessive suprapubic pressure. 3- Generous episiotomy. 4- Give vitamin K to mother early in labor or to fetus immediately after labor. 5- Forceps extraction to aftercoming head.

COMPLICATIONS OF BREECH PRESENTATION

2) Fetal mortality

- ***Incidence:*** 3 times > in cephalic presentation.
- ***Causes:***
  a) Prematurity: Commonest cause.
  b) ICH: 45% of fetal deaths in breech deliveries.
  c) Congenital anomalies: 6%.
  d) Cord prolapse.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