

Abnormal presentation and multiple Gestation

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BREECH PRESENTATION



Intro

- **Presentation** refers to the part of the fetus that lies over the pelvic inlet. In most cases, this presenting part can be felt during a vaginal examination through the cervix. Common presentations include:

- Cephalic
- Breech
- Shoulder

Breech and shoulder presentations are more frequent in patients with multiple gestations.

- **Position** denotes the relationship between a specific fetal bony point and the maternal pelvis:

- The occiput defines the position in vertex presentations.
- The sacrum is used for breech presentation .
- The mentum is for face presentations.

- **Attitude** of the fetus describes how the fetal parts relate to each other, specifically the head's position relative to the trunk. Common terms used are:

- Hyperextended
- Flexed

Intro

■ BREECH PRESENTATION

Breech presentation describes a longitudinal lie in which the fetal buttocks and/or lower extremities overlie the pelvic inlet.

■ **varieties** of breech presentation:

- Frank breech—lower extremities flexed at the hips and extended at the knees *which is most common type
- Complete breech—lower extremities flexed at both the hips and the knees * least common type
- Incomplete breech—one or both of the lower extremities extended at the hips



- Ultrasonographic or radiographic examinations are typically used by obstetricians to confirm the type of breech presentation and rule out any associated severe congenital anomalies, such as anencephaly. The specific type of breech presentation can influence the obstetrician's decision regarding the mode of delivery.
- Frank breech presentation: The fetus tends to remain in this position throughout labor.
- Complete breech presentation: This may change to an incomplete breech presentation before or during labor.

Epidemiology

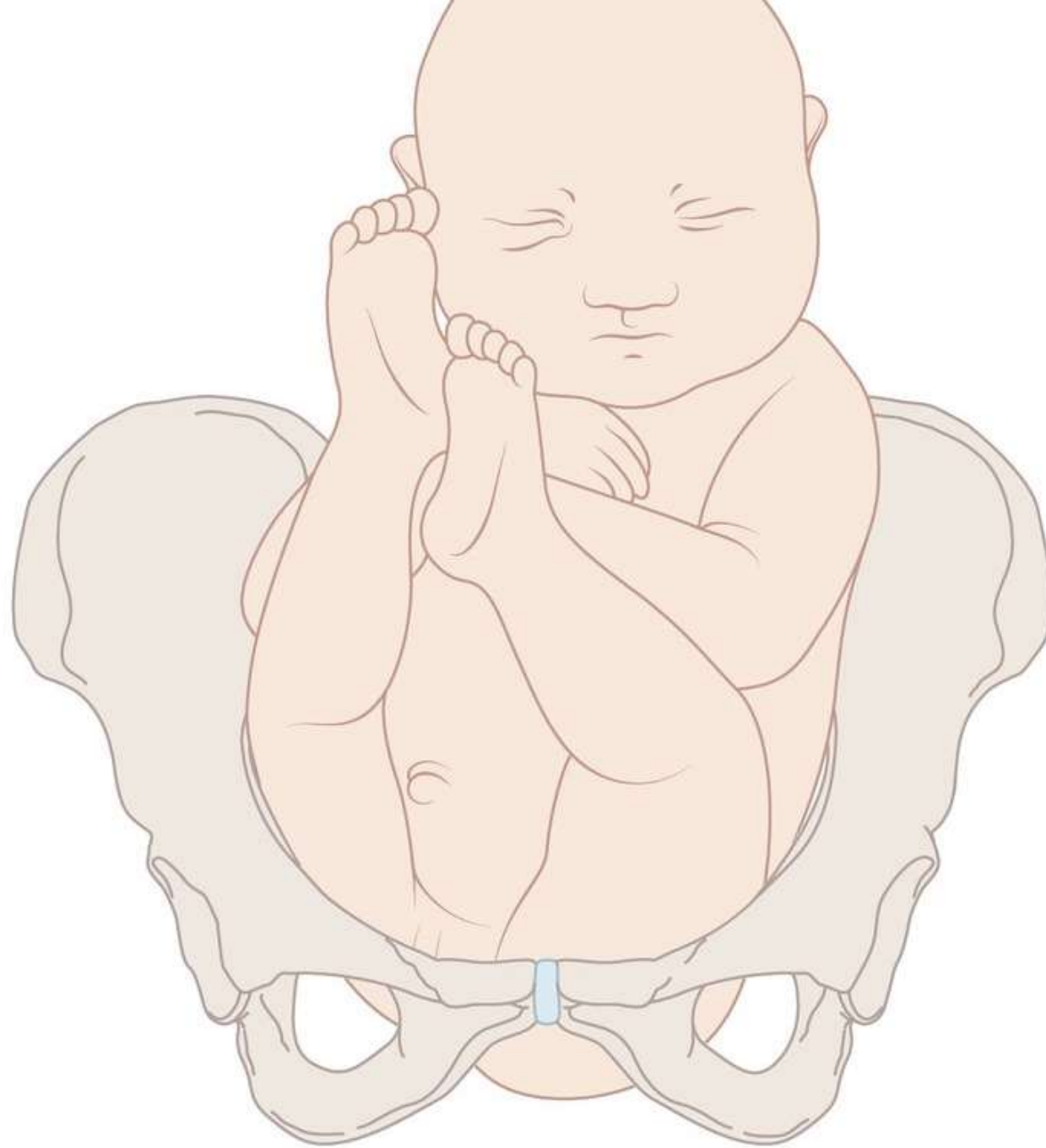
- The breech presentation is the most common of the abnormal presentations. before 28 weeks gestation , approximately 25% of fetuses are in a breech presentation . Most change to a vertex presentation by 34 weeks gestation, but 3% to 4% of fetuses remain in a breech presentation at term



Complete Breech



Incomplete



Frank Breech

Factors predispose to breech presentation :

- Uterine Distention or Relaxation
 - Multiparity
 - Multiple gestation
 - Polyhydramnios
 - Macrosomia
- Abnormalities of the Uterus or Pelvis
 - Pelvic tumors
 - Uterine anomalies
 - Pelvic contracture
- Abnormalities of the Fetus
 - Hydrocephalus
 - Anencephaly
- Obstetric Conditions
 - Previous breech delivery
 - Preterm gestation
 - Oligohydramnios
 - Cornual-fundal placenta
 - Placenta previa

Complication associated with Breech presentation :

- • Intrapartum fetal death
- • Intrapartum asphyxia
- • Birth trauma: Increased
- • Arrest of aftercoming head
- • Spinal cord injuries (with deflexion)
- • Major congenital anomalies
- • Preterm delivery * 16-33%* regardless the type of delivery
- • Hyperextension of head
- Fetal heart rate abnormalities
- Increased risk of morbidity and mortality (due to Hydrocephalus and encephaly)

Complication associated with Breech presentation :

■ Obstetric Complications in Breech Presentation:

- Vaginal breech delivery: Carries a higher risk of neonatal trauma compared to vertex (head-first) deliveries.
- Cesarean delivery: Although it reduces some risks, it can be difficult and potentially traumatic, particularly if the incisions (skin and uterine) are too small or if there is inadequate maternal muscle relaxation,
- **Umbilical cord prolapse** , which varies with the type of breech presentation Which is highest with incomplete breech presentation 15-18% and lowest with Frank presentation 0.5%

Obstetric management

■ External Cephalic Version (ECV)

Purpose and Definition:

ECV is a procedure designed to convert a breech or shoulder presentation into a vertex (head-down) presentation.

Timing of ECV

The optimal timing for ECV is after 36 or 37 weeks of gestation

■ Factors Influencing Success:

1. The presenting part has not entered the pelvis.
2. Amniotic fluid volume is normal. **in Oligohydramnios ECV is contraindicated*
3. The fetal back is not positioned posteriorly.
4. The patient is not obese.
5. The patient is parous (has given birth before)
6. The presentation is either frank breech or transverse.

Complications of ECV :

- Transient and persistent fetal heart rate (FHR) abnormalities (6.1% and 0.22%, respectively).
- Vaginal bleeding (0.30%)
- Placental abruption (0.08%).
- Emergency cesarean delivery (0.35%).
- Stillbirth (0.19%)

HOW TO MANAGE:

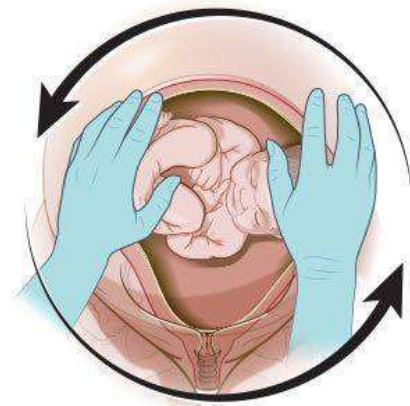
A faint, stylized illustration of a fetus in the womb, positioned in the center-right of the slide. The fetus is shown in a curled position, with its head near its chest and its arms raised. The illustration is rendered in a dark, muted color palette, blending into the background.

- Continuous FHR monitoring and access to cesarean delivery services are essential during ECV.
- Tocolytic agents (e.g., terbutaline or nitroglycerin) are often administered to improve success rates
- Neuraxial Analgesia/Anesthesia
- (Epidural/spinal) to reduce pain or discomfort during the procedure

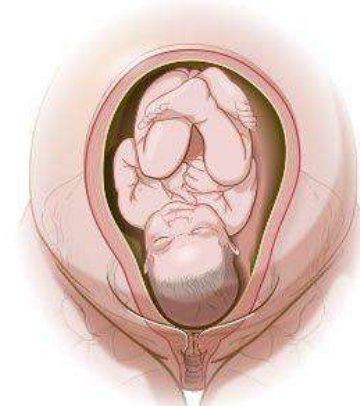
External Cephalic Version (ECV)



Breech position



Transverse lie



Head-down position

Mood of delivery



Women with confirmed breech presentation at or over 36 weeks gestation should be seen by their named Consultant to plan the mode of birth. Such management plans regarding birth should be discussed with the woman ..

Women should be counselled thoroughly to ensure a proper understanding of both the benefits and risks of their options surrounding a breech presentation. This discussion should take into account an individual risk profile that includes a review of previous obstetric and medical history .



CRITERIA FOR A TRIAL OF LABOR AND Vaginal Delivery for Patients With Fetal Breech Presentation

- 1. No independent indications for caesarean section
2. Adequate pelvis by imaging pelvimetry
 3. Estimated fetal weight between 2000 and 3500 g by ultrasonography or by two experienced examiners
 4. The presentation on ultrasound scan is either frank (hips flexed and knees extended) or complete (hips flexed and knees flexed), but not footling breech (feet below the buttocks)
 5. Continuous electronic fetal heart rate monitoring
 6. Spontaneous progression of labor, with timely effacement and dilation of the cervix and timely descent of the breech
 7. Flexion of the fetal head



7. AVAILABILITY OF AN INDIVIDUAL SKILLED IN VAGINAL BREECH DELIVERY AND AN ASSISTANT .

8. AVAILABILITY OF AN INDIVIDUAL SKILLED IN THE ADMINISTRATION OF OBSTETRIC ANESTHESIA

.9. ABILITY TO PERFORM AN ABDOMINAL DELIVERY PROMPTLY

10. AVAILABILITY OF AN INDIVIDUAL WITH SKILLS IN NEONATAL RESUSCITATION

There are three varieties of vaginal breech delivery:

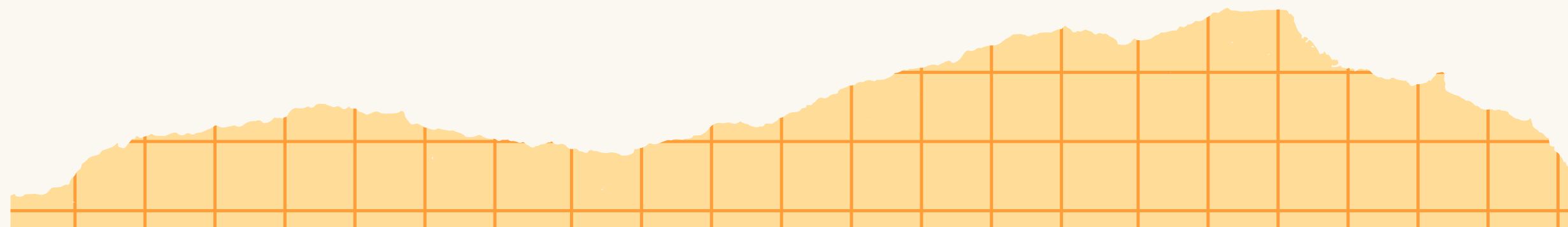
Spontaneous breech delivery is delivery without any traction or manipulation other than support of the infant's body.

With assisted breech delivery (also known as partial breech extraction), the infant is delivered spontaneously as far as the umbilicus; at that time, the obstetrician assists delivery of the chest and the aftercoming head.

total breech extraction....

https://youtu.be/NBZ_WKGFHJO?si=fyU7DRDENPQG

[CAAC](#)



Buttocks

SPONTANEOUS BREECH DELIVERY

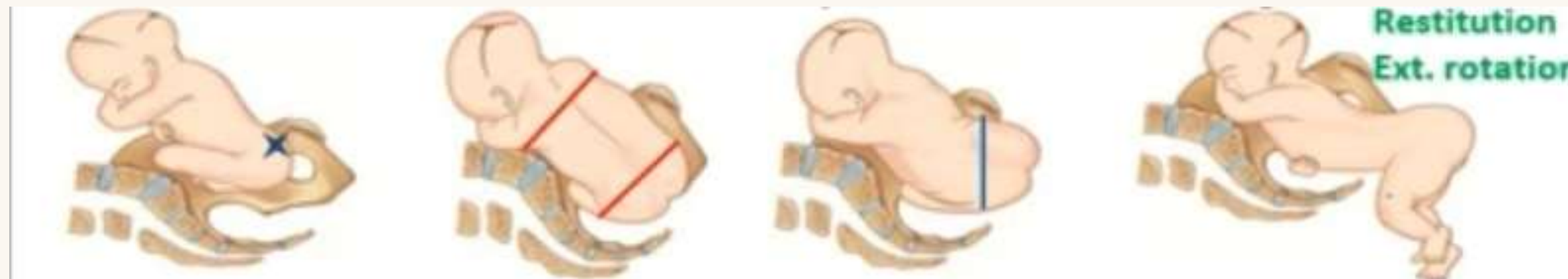
✿ • ENGAGEMENT → BITROCHANTERIC DIAMETER (10 CM) → INTO ANY OBLIQUE DIAM.

✿ INTERNAL ROTATION OF THE ANTERIOR BUTTOCKS ✿ OF A CIRCLE

✿ bitrochanteric diameter occupies AP diameter of outlet

✿ The anterior buttock hinges behind the SP

✿ The posterior buttock is delivered by lateral flexion of the spine



Shoulder

✿ ENGAGEMENT → BIS-ACROMIAL DIAMETER (12 CM) INTO SAME OBLIQUE DIAM.

✿ Internal rotation → biacromial diameter lies into AP diameter of outlet

✿ The anterior shoulder hinges behind the SP

✿ The posterior shoulder is delivered by lateral flexion of the spine

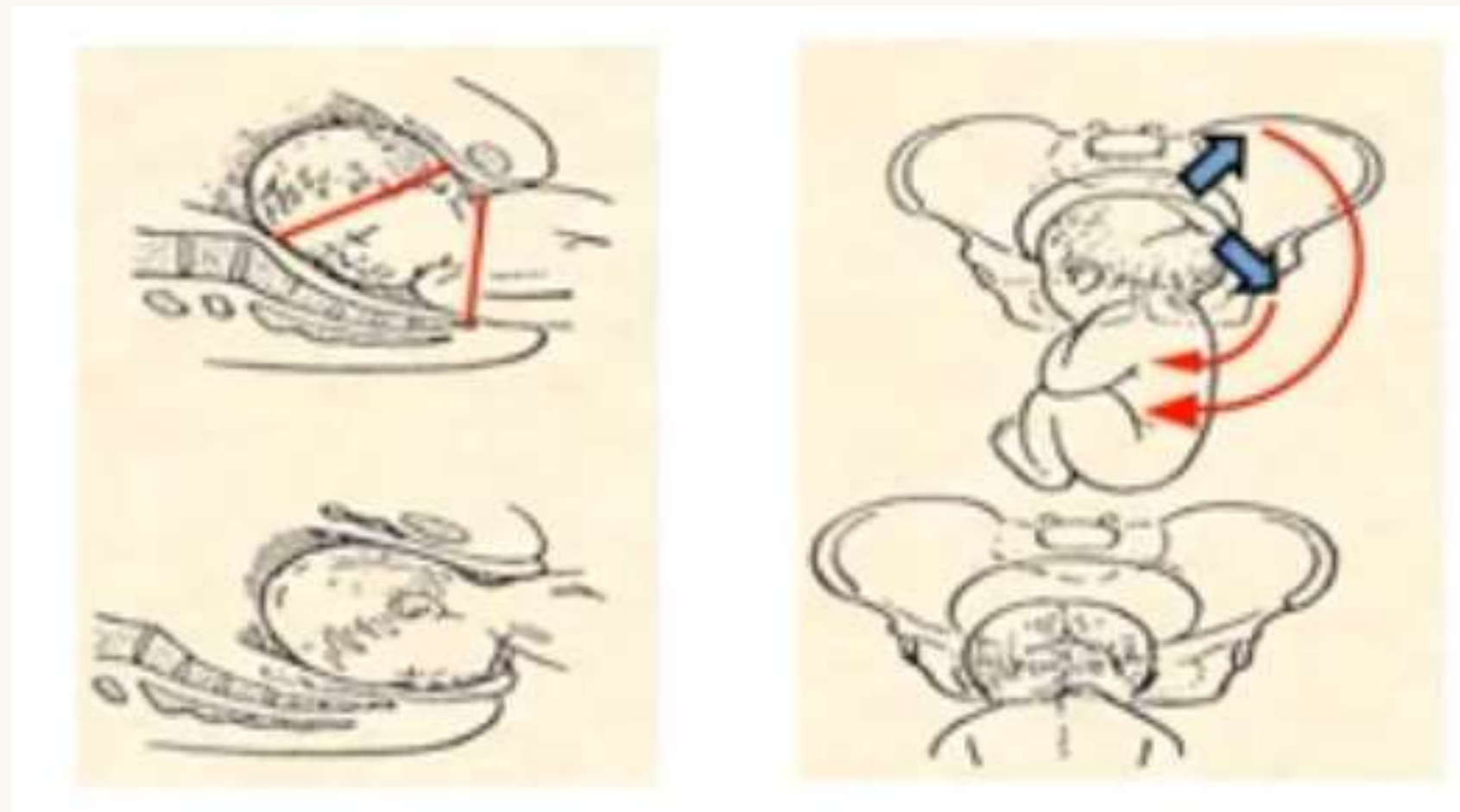


head

- ✦ ENGAGEMENT OF THE HEAD BY THE OCCIPITOFRONTAL DIAMETER (11.5 CM)
into the OPPOSITE oblique diameter (12–12.5cm)

- ✦ Internal rotation of the occiput anteriorly

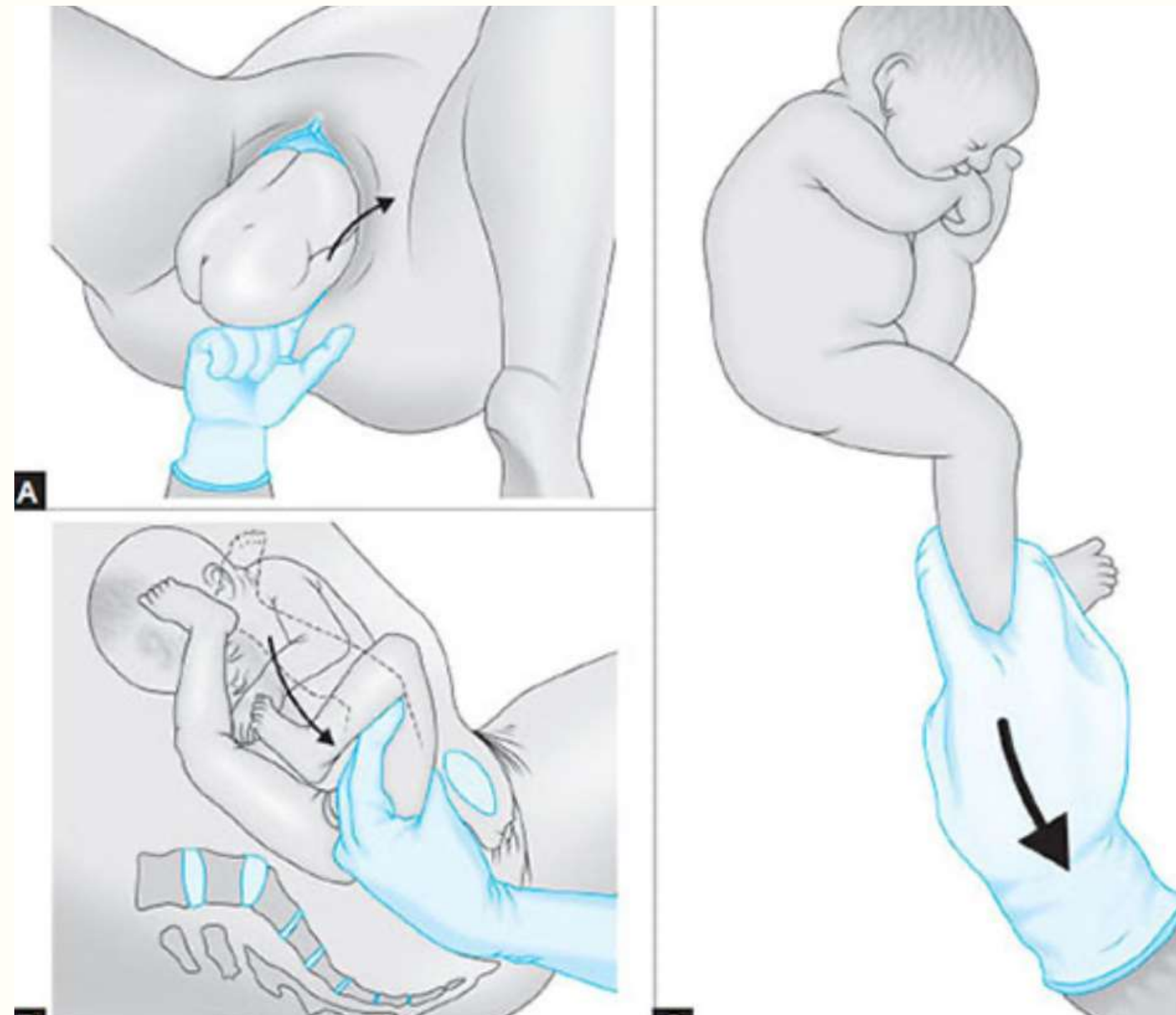
- ✦ Occiput becomes anterior → hinges behind SP → delivery by flexion



Pinard manoeuvre

FOR BREECH WITH EXTEND LEGS

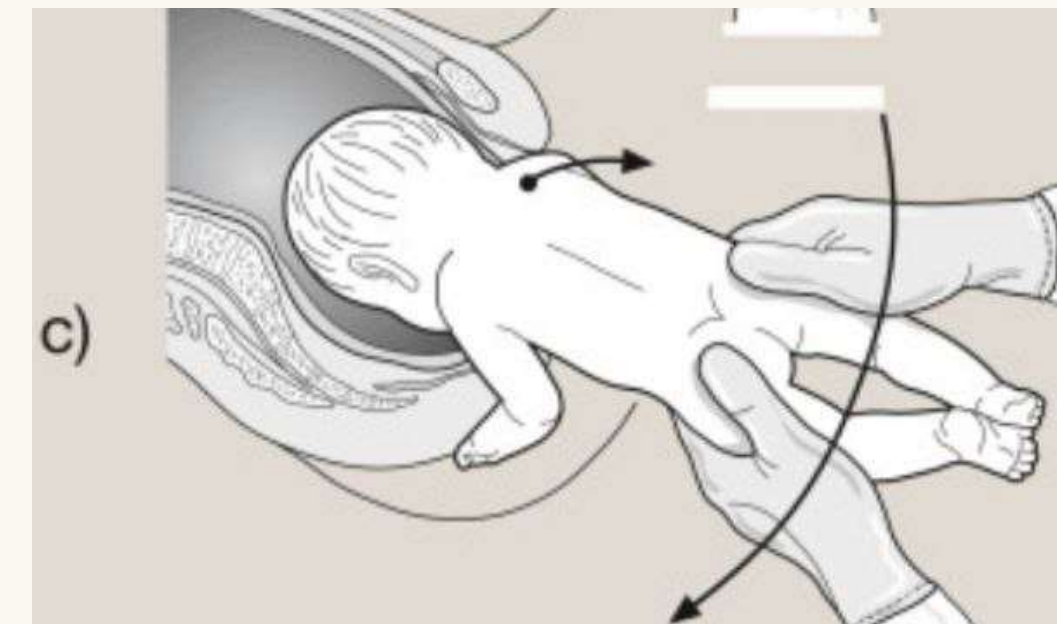
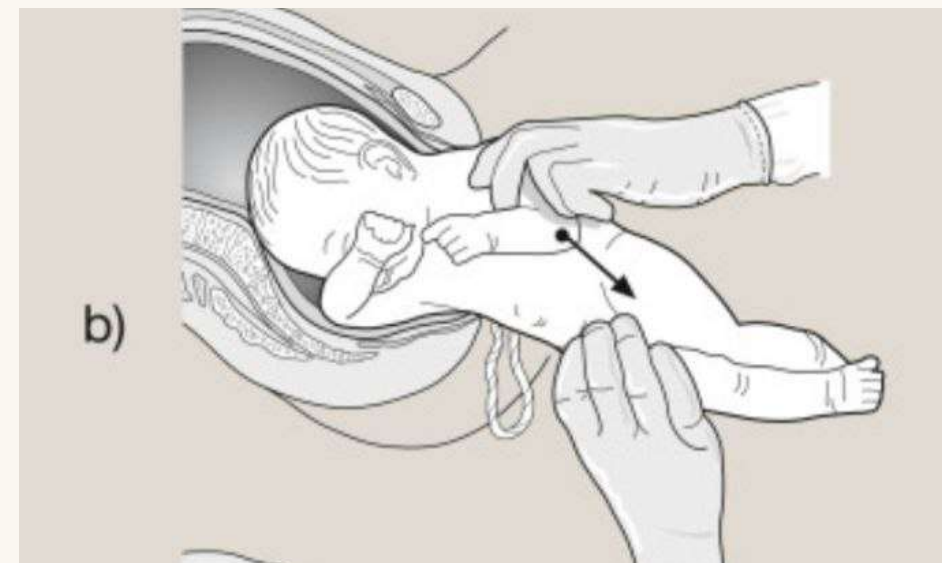
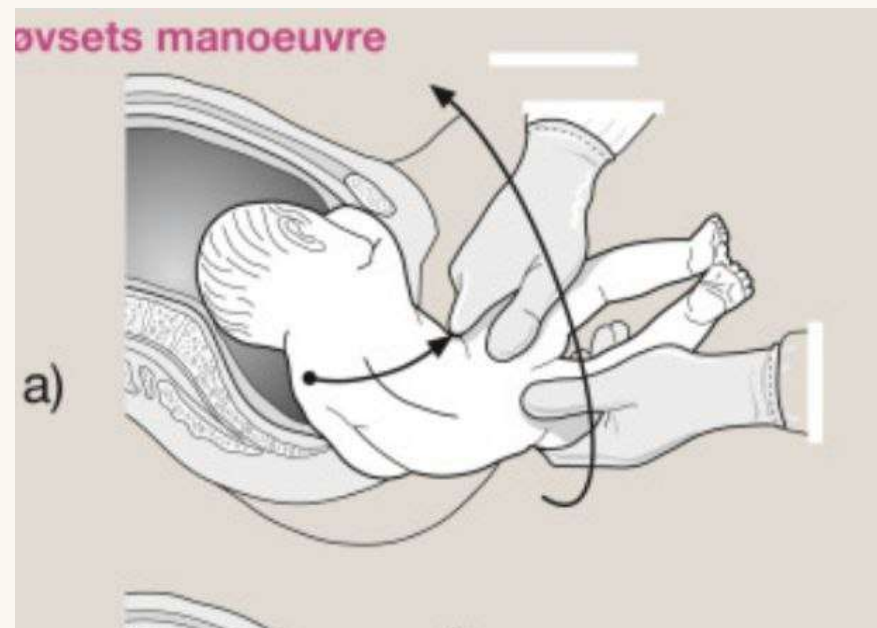
The Pinard manoeuvre is accomplished by inserting two fingers along one extremity to the knee, which is then pushed away from the midline (abducted) at the same time as flexing the leg at the hip. This causes spontaneous flexion of the knee and delivery of the foot.



<https://youtube.com/shorts/ZRo2VZo28co?si=HVGKhQcaRxp2HXp4>

ASSIST SHOULDER DELIVERY

LØVSET'S MANOEUVRE INVOLVES ROTATION OF THE TRUNK OF THE FOETUS DURING A BREECH BIRTH TO FACILITATE DELIVERY OF THE EXTENDED FOETAL ARMS AND THE SHOULDERS



APPLY TRACTION ON TRUNK TILL ANGLE OF THE SCAPULA >>>>appears below SP. >>>>>Rotate the trunk 180°>>>>keeping the back anterior to bring the occiput ant.>>>>This is repeated until one shoulder>>>> followed by the other is delivered

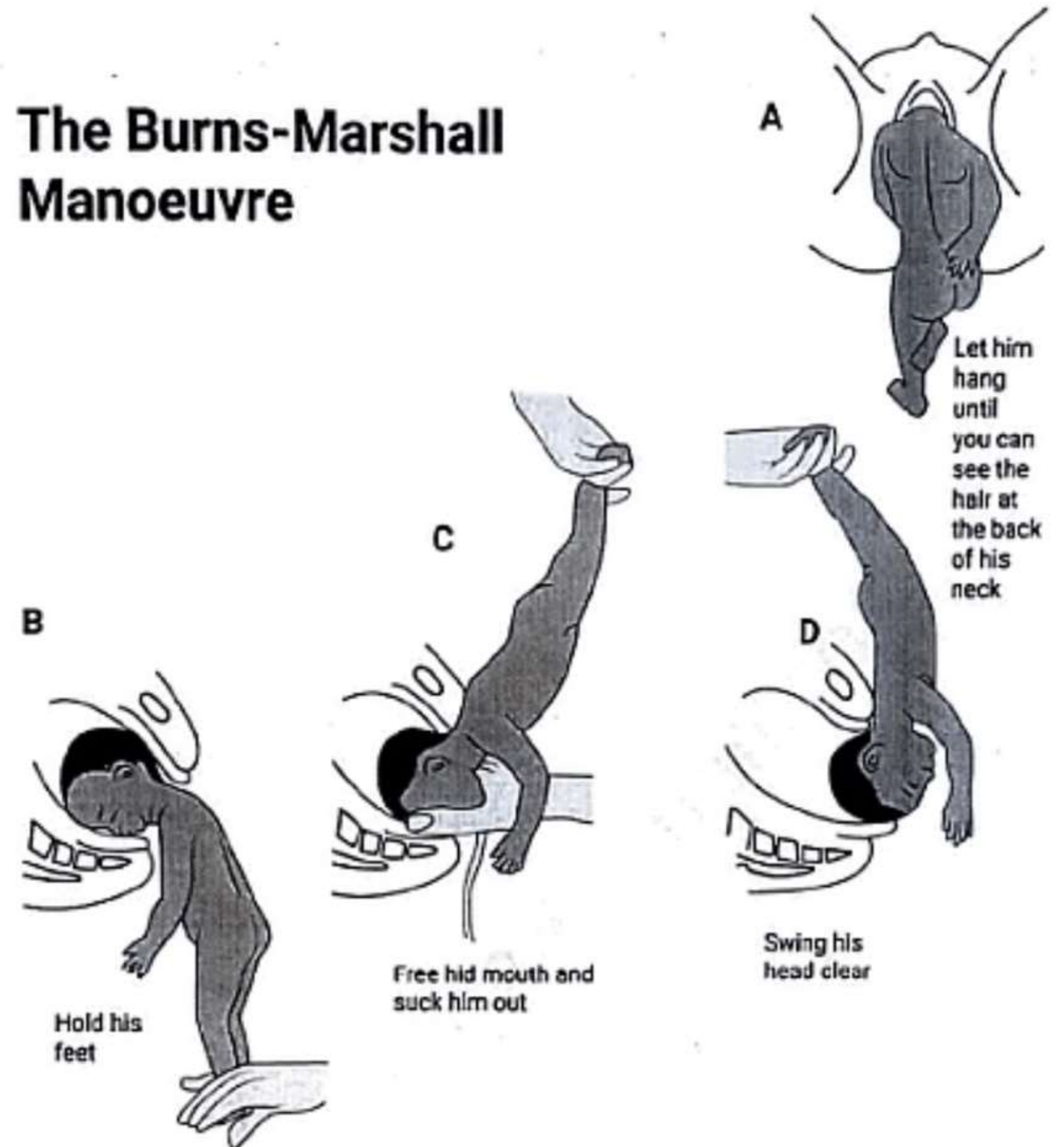
ASSIST DELIVERY OF AFTER COMING HEAD :

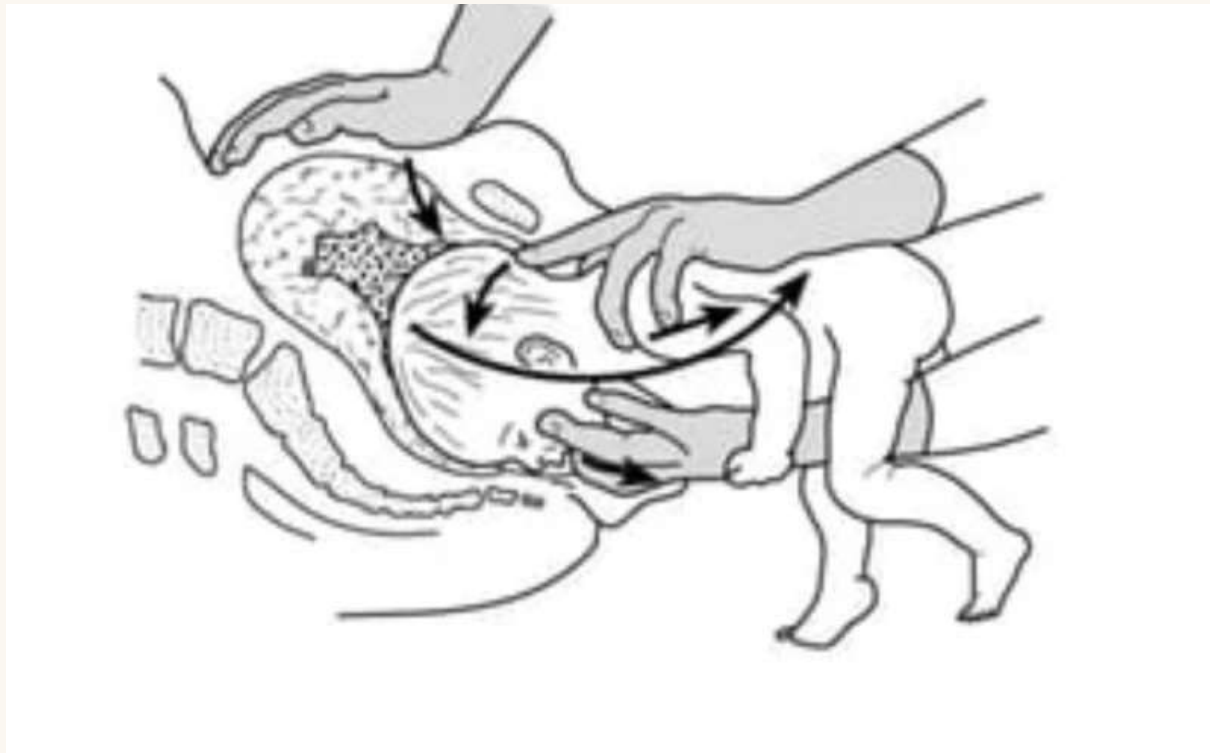
A) BURNS-MARSHALL METHOD

ALLOW FETUS TO HANG →
TRACTION + ↑ FLEXION....WHEN
SUB-OCCIPITAL REGION APPEARS

- BEHIND SP → MOVE THE BABY
TOWARDS THE MOTHER'S ABDOMEN

The Burns-Marshall Manoeuvre

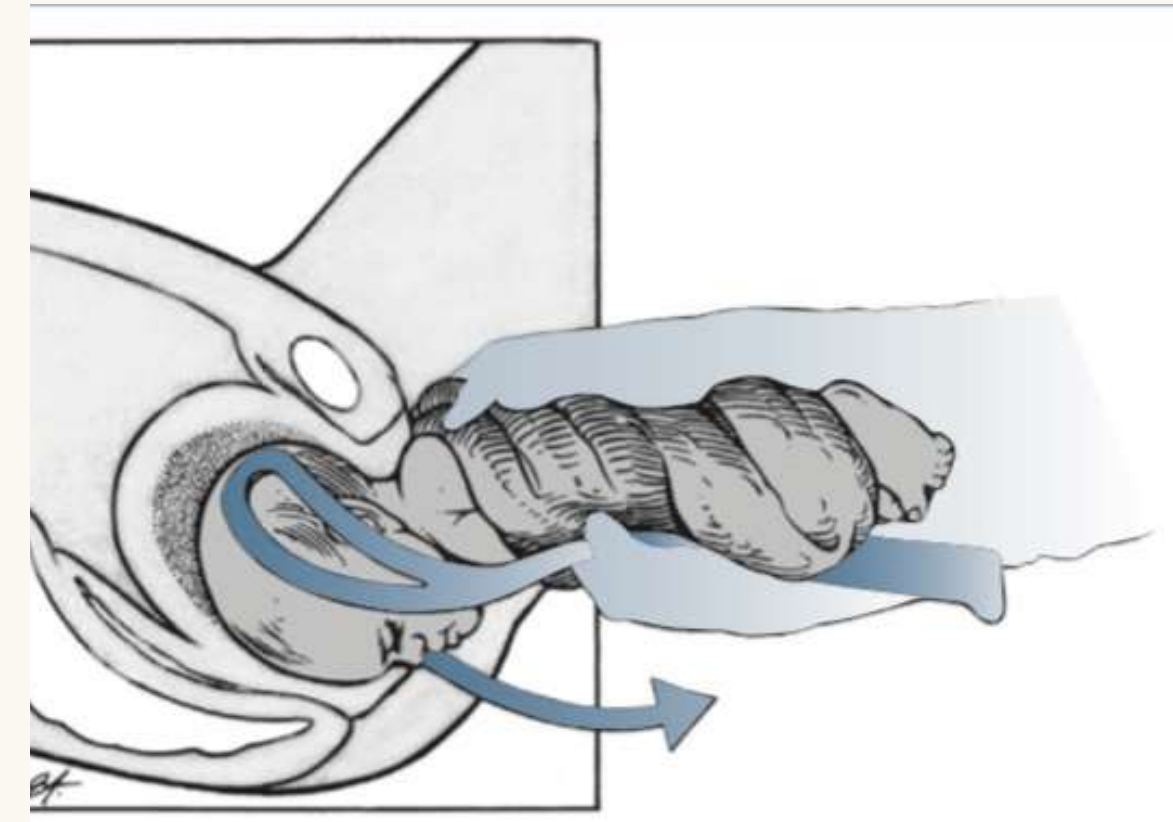




B) MAURICEAU–SMELLIE–VEIT MANEUVER JAW FLEXION–SHOULDER TRACTION

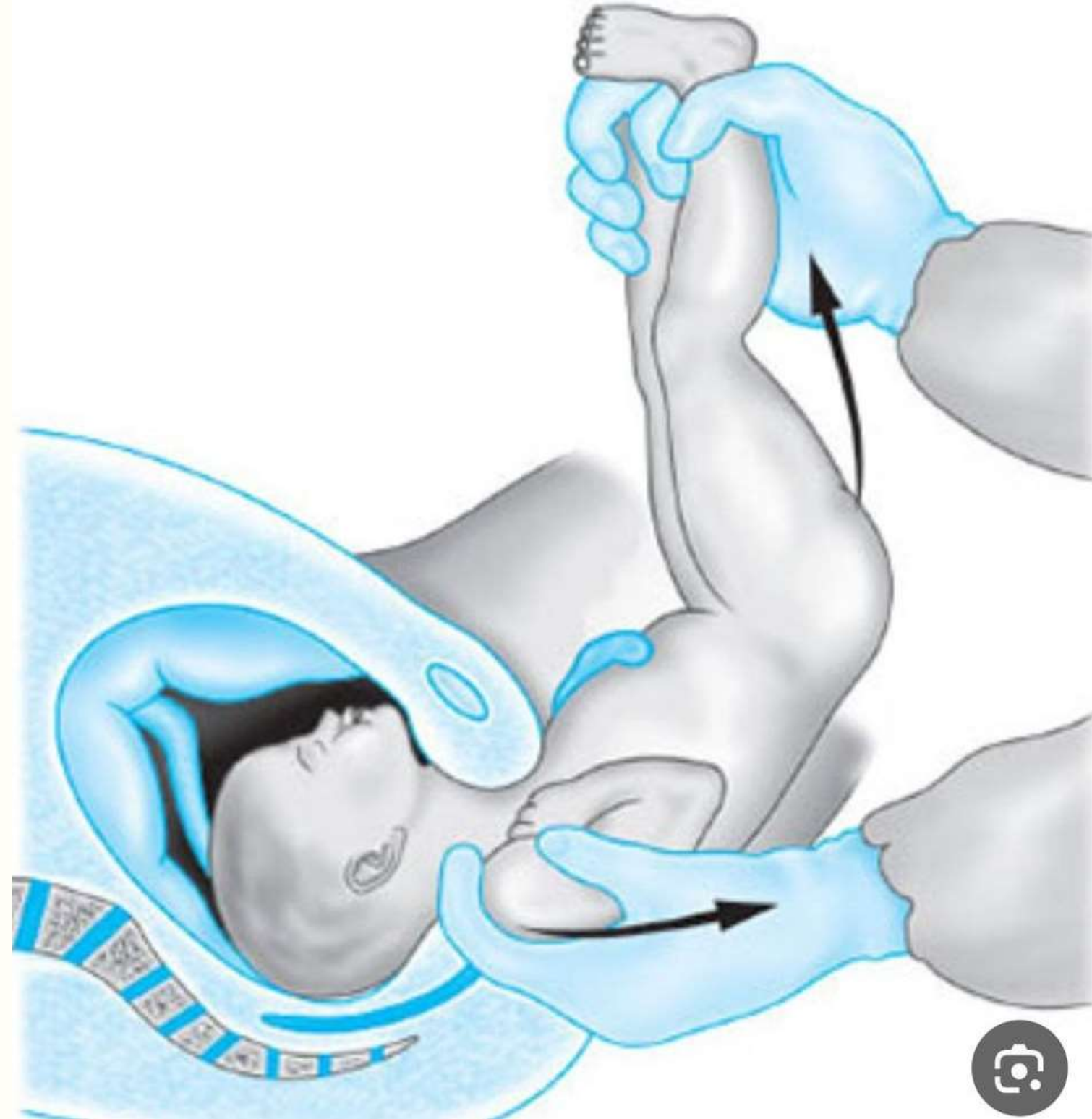
- Left forearm → support fetal trunk on with 1 finger in mouth or 2 fingers on maxillae to increase flexion
- Right arm → hook 2 fingers over the shoulders & apply down-ward traction till occiput appears below SP

C) USE FORCEPS IF NEEDED (piper forceps)

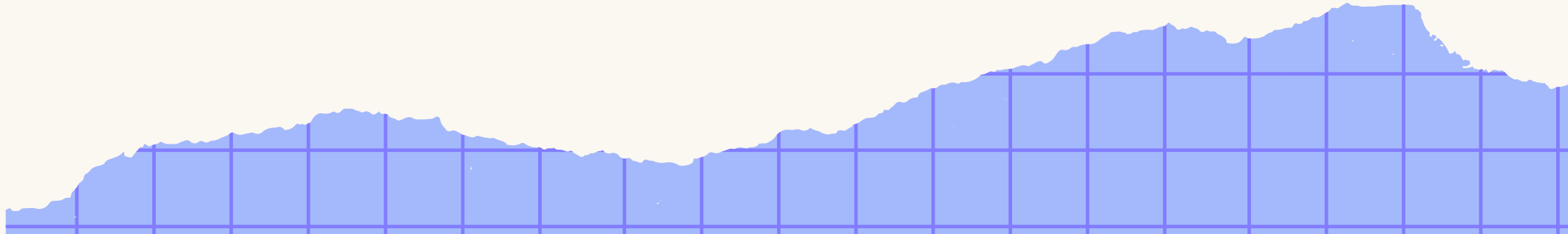


Prague manoeuvre

WHEN THE OCCIPUT ROTATES POSTERIORLY AND THE HEAD EXTENDS, THE CHIN HANGS ABOVE THE SYMPHYSIS PUBIS. FOETUS IS GRASPED FROM ITS FEET AND FLEXED TOWARDS THE MOTHER'S ABDOMEN, WHILE THE OTHER HAND IS DOING SIMULTANEOUS TRACTION ON THE SHOULDERS TO DELIVER THE HEAD BY FLEXION



, VAGINAL BREECH DELIVERY **MUST BE AVOIDED** IN THE FOLLOWING SITUATION:

- FOOTLING BREECH, WHICH IS WHEN THE FEET OF THE BABY ARE BELOW ITS BOTTOM
 - THE PECULIAR POSITION OF THE FETUS (I.E., THE NECK OF THE BABY IS TILTED BACK)
 - LARGE BABIES WEIGHING OVER 3.8 KG
 - SMALL BABY WEIGHING LESS THAN 2 KG
 - NARROW PELVIS WITH LESS SPACE FOR THE FETUS TO SAFELY PASS THROUGH THE BIRTH CANAL
 - C-SECTION DELIVERY IN A PREVIOUS PREGNANCY
 - PRE-ECLAMPSIA
 - LOW-LYING PLACENTA
- 

THE OBSTETRICIAN'S GREATEST FEAR IS THE RISK FOR FETAL HEAD ENTRAPMENT.

Fetal head entrapment is more likely to occur in patients at less than 32 weeks' gestation. Before 32 weeks' gestation, the fetal head is larger than the wedge formed by the fetal buttocks and thighs.

If this complication occurs, the obstetrician may choose one of the following three options: (1) performance of Dührssen incisions in the cervix, (2) relaxation of skeletal and cervical smooth muscle, or (3) cesarean delivery.

Twins:

- **EPIDEMIOLOGY:**

- Monozygotic twin, which arise from the splitting of a single fertilized ovum, have a stable occurrence of approximately 4 per 1,000 births.
- In contrast, the occurrence of dizygotic twins, resulting from the fertilization of two distinct ova, fluctuates based on maternal age and ethnicity.
- Interestingly, the chance of having dizygotic twins increases with the number of previous pregnancies, regardless of the mother's age.

Aetiology:

- Multiple pregnancies can be classified regarding:
 - Number of fertilized eggs: zygoty.
 - Number of placentae: chorionicity.
 - Number of amniotic cavities: amnionity.

Placentaion:

Multiple pregnancies
can exhibit various
types of
placentation:

**Monochorionic
monoamniotic**

Monochorionic
monoamniotic
placentas arise when
twinning occurs
between 8 and 13 days.

**Monochorionic
diamniotic**

A monochorionic
diamniotic placenta is
typically produced
when twinning happens
between 3 and 8 days.

**Dichorionic
diamniotic**

A dichorionic diamniotic
placenta forms if
monozygotic twinning
occurs within the first 2 to 3
days following fertilization.

As embryonic
cleavage occurring
between 13 and 15
days it can result in
conjoined twins, also
characterized by a
**monochorionic
monoamniotic
placenta.**

TYPES OF TWINS

DISCOVER HOW DIFFERENT TYPES OF IDENTICAL TWINS ARE FORMED

MORULA



Division at
1-3 Days



DICHORIAL & DIAMNIOTIC

**IMPLANTED
BLASTOCYST**



Division at
8-13 Days

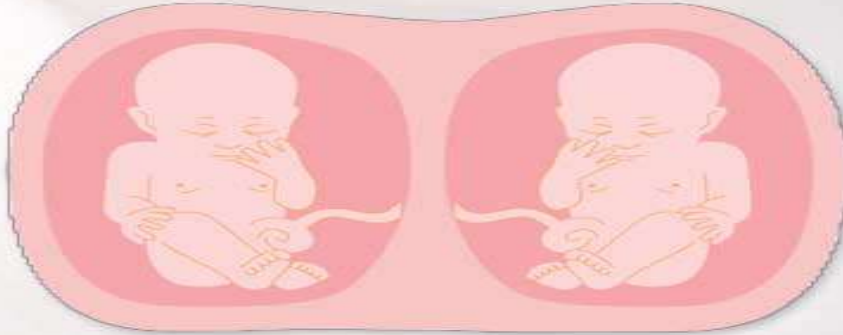


MONOCHORIAL & MONOAMNIOTIC

BASTOCYST



Division at
4-8 Days



MONOCHORIAL & DIAMNIOTIC

**EMBRYONIC
DISC**



Division after
13 Days



CONJOINED



Dr. Madhu Goel
Obstetrician and Gynaecologist

Physiologic Changes:

- Multiple gestations lead to enhanced physiological and anatomical changes during pregnancy. Particularly, cardiovascular and pulmonary adjustments are more significant, while renal, hepatic, and central nervous system changes remain elevated like those in singleton pregnancies.
- Lung capacity and residual volume decreased due to increase of uterine size resulting of higher risk of hypoxemia during hypoventilation with high metabolic rate
- Plasma volume also increases significantly, by an additional 750 mL during twin gestation, leading to the potential for relative or actual anemia.
- Maternal weight gain typically accelerates after 30 weeks of gestation.

Maternal complications associated with multiple gestation:

- Preterm premature rupture of membranes.
- Preeclampsia/ eclampsia.
- Preterm labor.
- Prolonged labor.
- Placental abruption.
- Disseminated intravascular coagulation.
- Operative delivery (forceps and cesarean)
- Obstetric trauma.
- Uterine atony.
- Antepartum and/or postpartum hemorrhage.

Maternal morbidity & mortality:

- Multiple gestation in general increase incidence of maternal morbidity and mortality.
- Severe acute maternal morbidity was reported in multiple gestation more 4 times than singleton .
- The higher incidence of cesarean deliveries in multiple gestations further contributes to increased maternal morbidity and mortality.
- Key risk factors for maternal morbidity include;
 - age over 40 years
 - Nulliparity
 - using of assisted reproductive technology
 - nonspontaneous labor onset.

Cont.... :

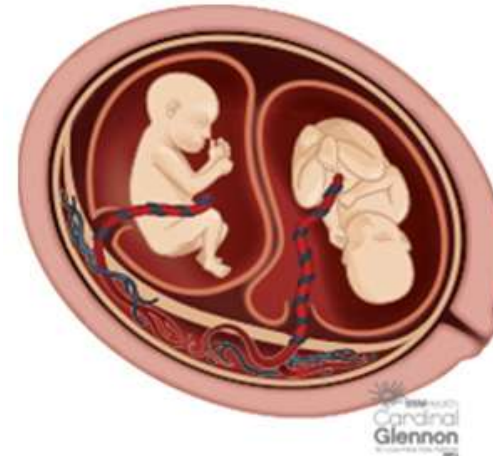
- As the number of fetuses increases, so does the risk of complications; mothers of triplets and quadruplets are particularly susceptible to issues such as preterm premature rupture of membranes, hypertension, and excessive bleeding.
- Furthermore, blood loss during delivery tends to be around 500 mL greater in multiple gestation pregnancies compared to those with a singleton fetus.

Fetal complication associated with multiple gestation:

- Twin-to-twin transfusion
- Preterm labor.
- Polyhydramnios.
- Congenital anomalies.
- Cord entanglement.
- Umbilical cord prolapse.
- Malpresentation.
- Fetal growth restriction.

Twin-to-twin transfusion:

- TTTS occurs because of an imbalance in blood flow through vascular communications in the placenta, which leads to further perfusion of one twin and under perfusion of its another twin. **More common in monochorionic placenta**
- **Etiology**
- Arterio-venous unidirectional anastomoses result in net transfusion of blood from the donor to the recipient fetus.
- Loss of hemostases between fetuses blood volume result in differences in blood pressure between them
- It is associated with a high risk of fetal growth restriction, anemia in donor, volume overload and cardiac failure. and fetuses who survive are at risk of severe cardiac, neurologic, and developmental disorders.



Healthy Twins



Twins with TTTS

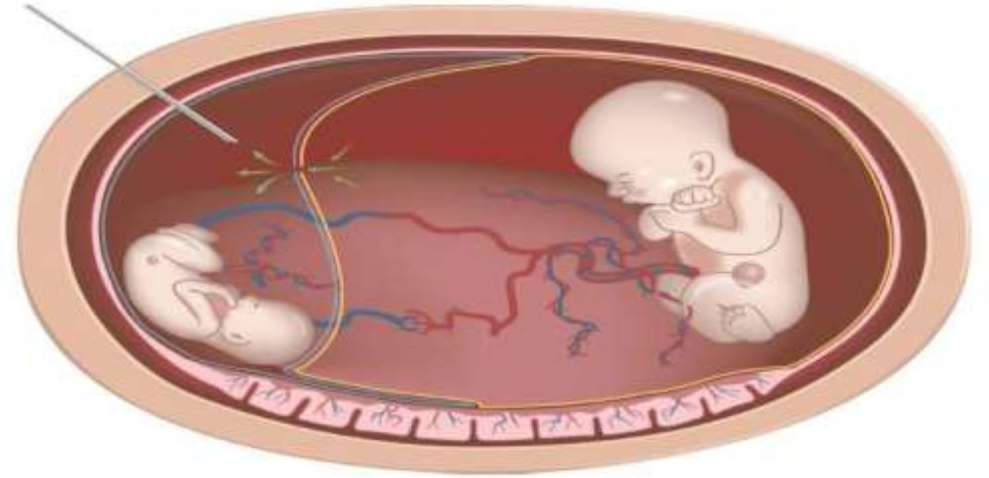
Twin-to-twin transfusion

- The treatment options most often considered are;
- decompression amniocentesis.
- amniotic septostomy
- interruption of the placental vessel communications
- Selective fetoscopic laser photocoagulation may be used to reduce the vascular anastomoses and may improve perinatal outcomes.

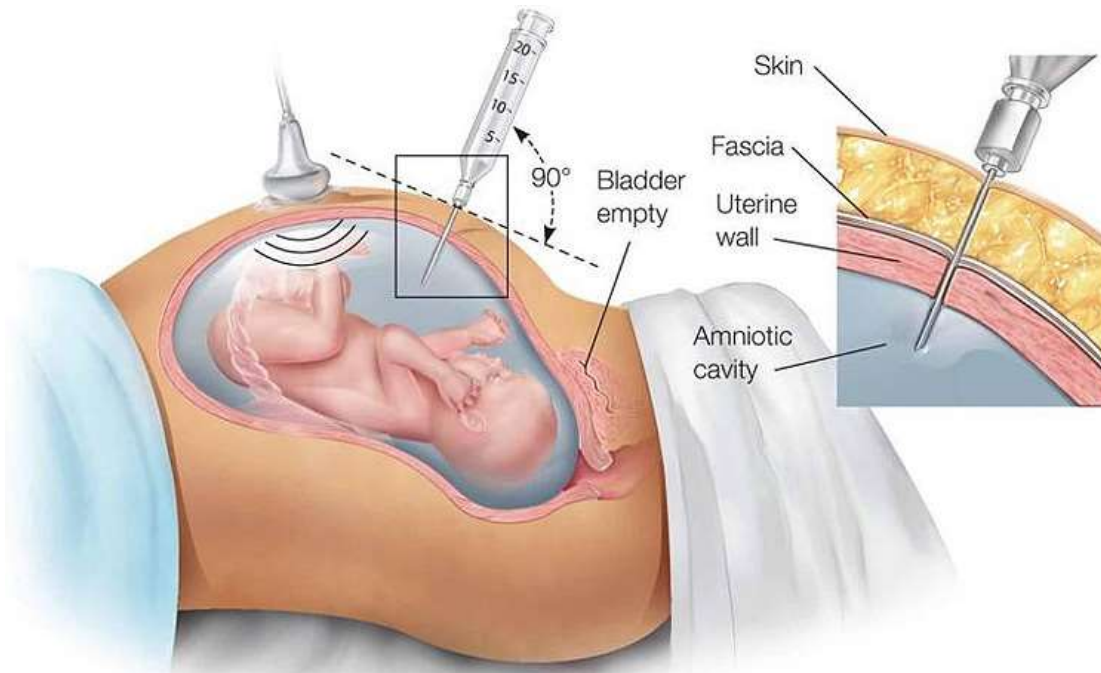


TTTs on ultrasound

AMNIOTIC SEPTOSTOMY



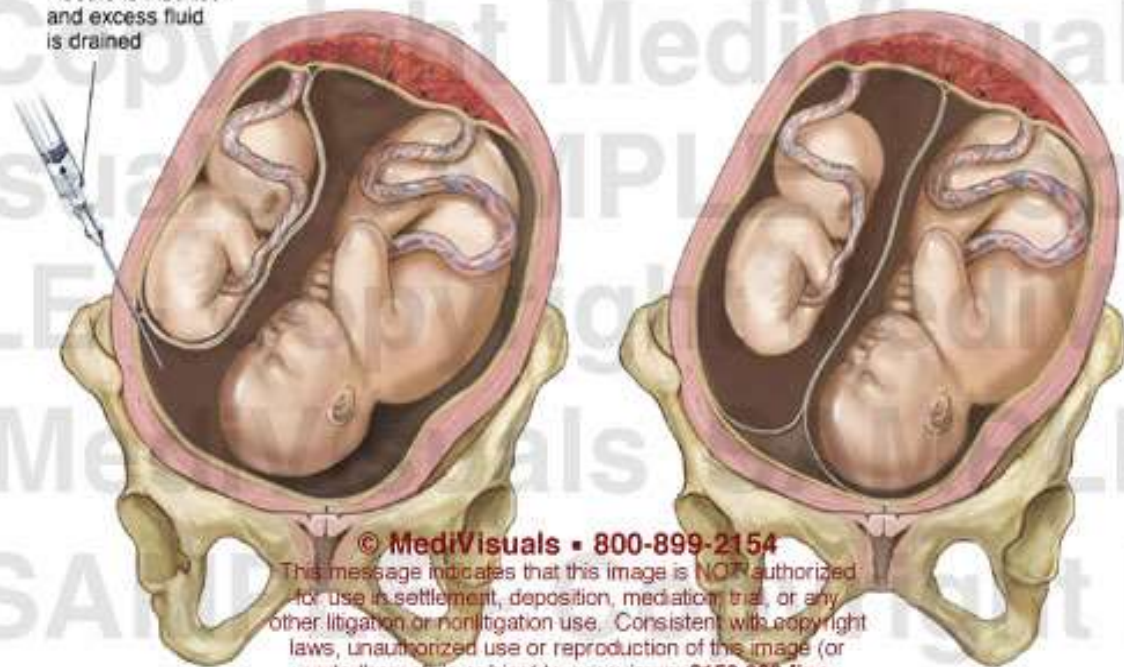
the deliberate creation of a hole in the dividing septum with the intention of improving amniotic fluid volume in the donor sac



Decompression amniocentesis

Amnioreduction

Amnioreduction:
Needle is inserted
and excess fluid
is drained



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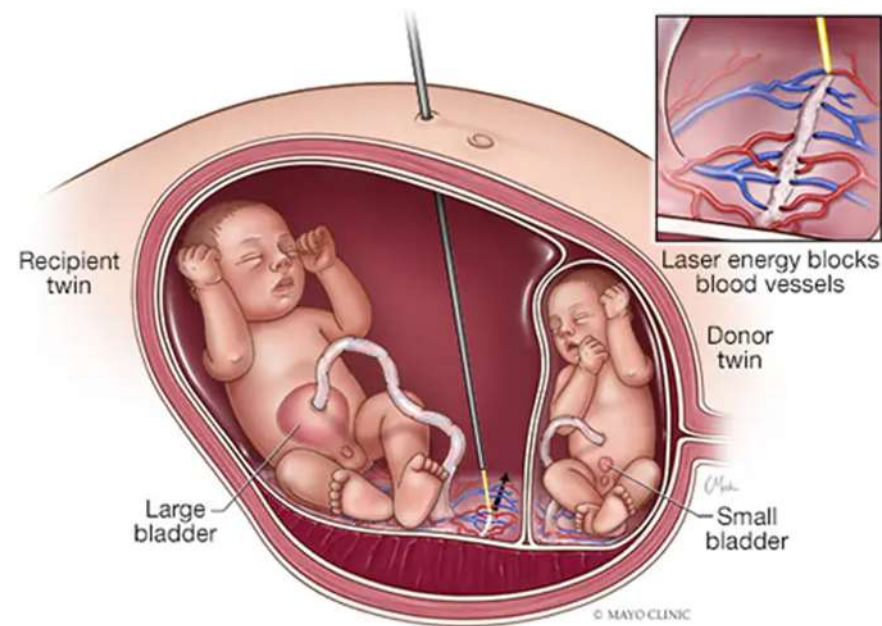
During Amnioreduction

After Amnioreduction

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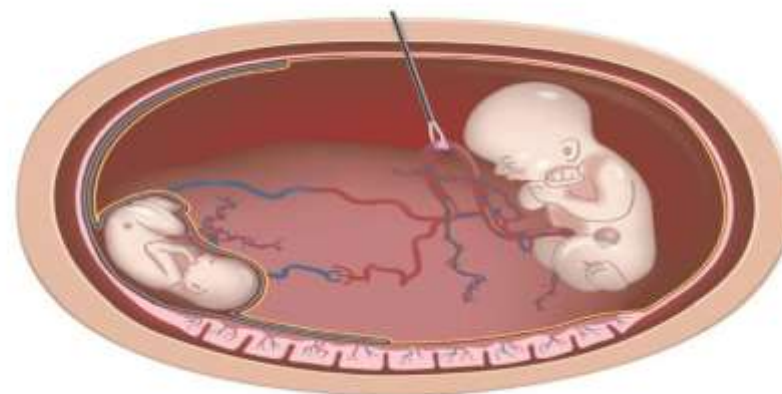
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Selective fetoscopic laser photocoagulation



Fetal laser photocoagulation

SELECTIVE FETICIDE



Fetal growth restriction

- the factors that lead to intrauterine growth restriction in singleton pregnancies such as uteroplacental insufficiency and chromosomal abnormalities ,Severe maternal starvation during pregnancy also affect multiple gestations.
- In twin to twin transfusion syndrome.
- The presence of polyhydramnios in one fetal sac (recipient) may make the other one in growth restriction
- Compared with first-born twins, the second-born has a higher incidence of adverse outcome due to lower birth weight, higher frequency of malpresentation, umbilical cord prolapse, and placental abruption

Preterm delivery

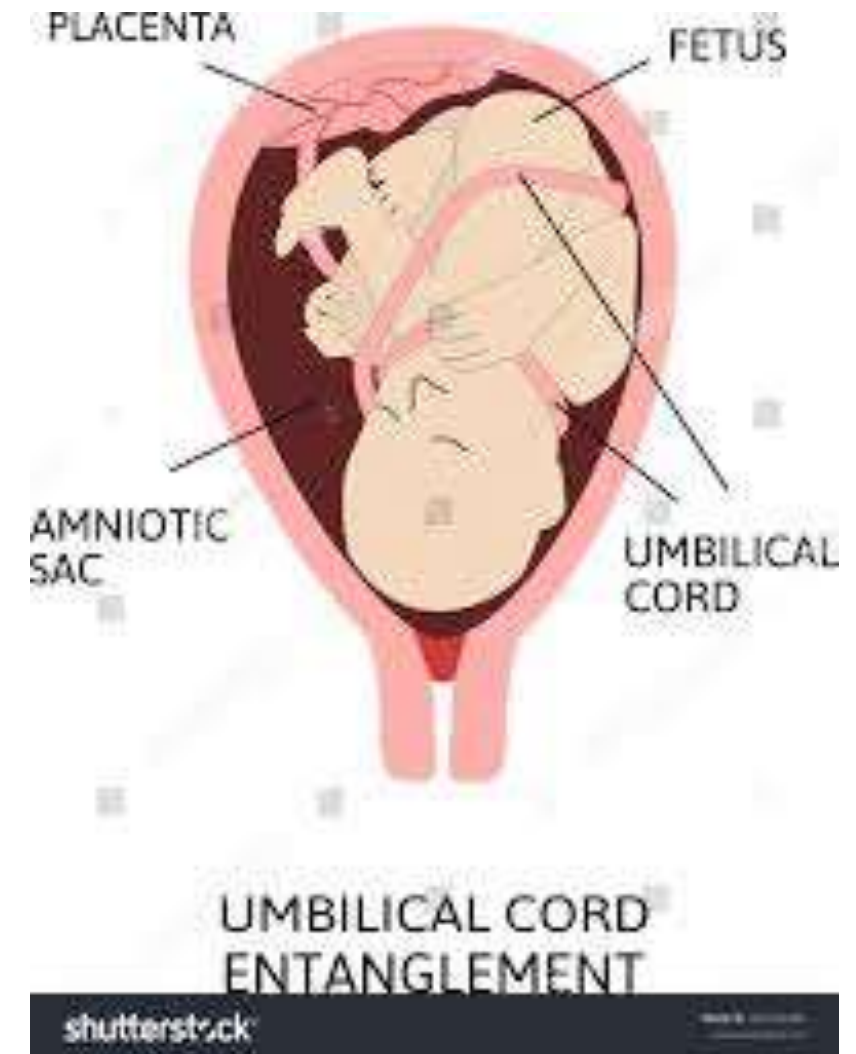
- Patients with multiple gestation are at high risk for preterm labor and delivery.
- Preterm birth occurs in more than 20% of twin and 93% of triplet gestations before 37 weeks
- The common method of prevent preterm delivery such as
- bed rest, prophylactic cerclage, vaginal progesterone, and or tocolytic therapy **have not demonstrated improved perinatal outcomes in pregnancies with multiples.**
- **The recomodation in this case is giving dexamethasone to facilitate lung maturity**
- **And magnesium sulfate to neuroprotective purpose**

Fetal morbidity & mortality:

- Twins and triplets face higher weight-specific mortality, often due to twin-to-twin transfusion, congenital malformations, preeclampsia, malpresentation, or umbilical cord prolapse.
- Rare complications like maternal pulmonary edema (mirror syndrome) or disseminated intravascular coagulation from dead fetal tissue can also occur.
- Multiple gestations, particularly triplets and quadruplets, carry a significantly higher risk of neonatal morbidity and mortality than twin pregnancies.
- Intrauterine fetal death may happen
- Neurodevelopment morbidity
- Complication from TTTS

cord entanglement

- In Monochronic twins have a risk from of cord entanglement (one or more loops of the umbilical cord encircling any part of the fetal body or two umbilical cords becoming entangled with each other).



Delivery of twins

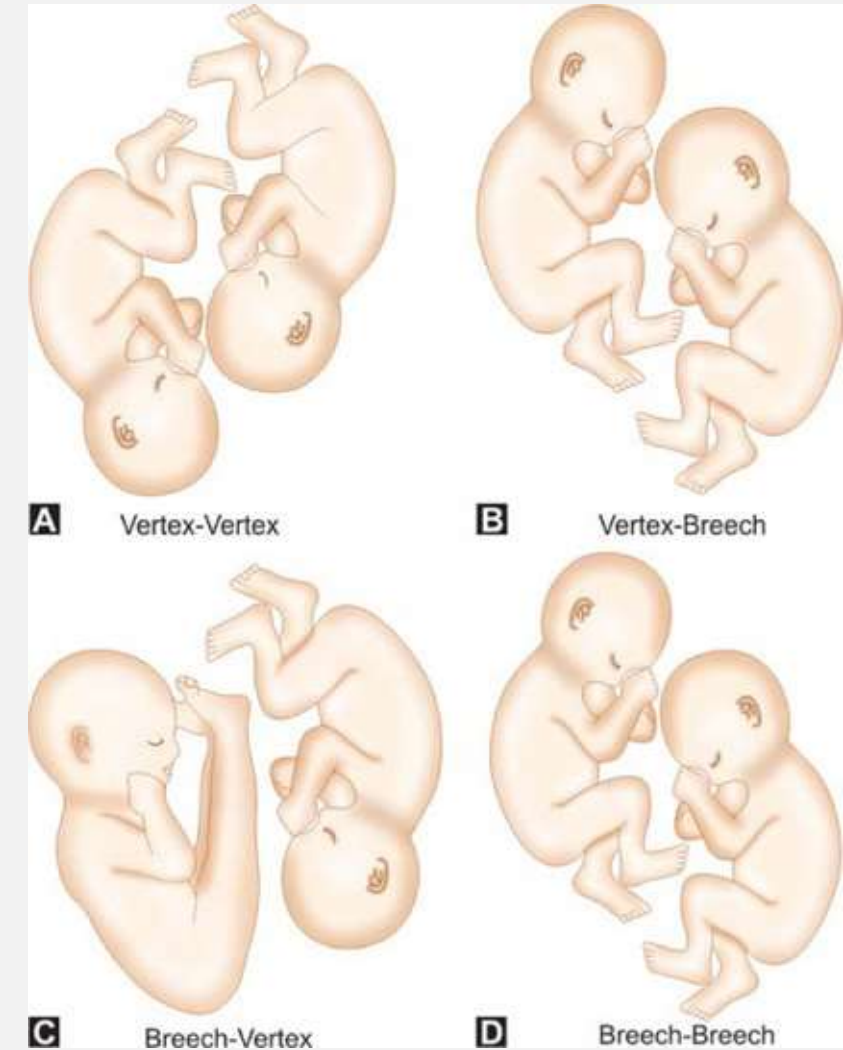
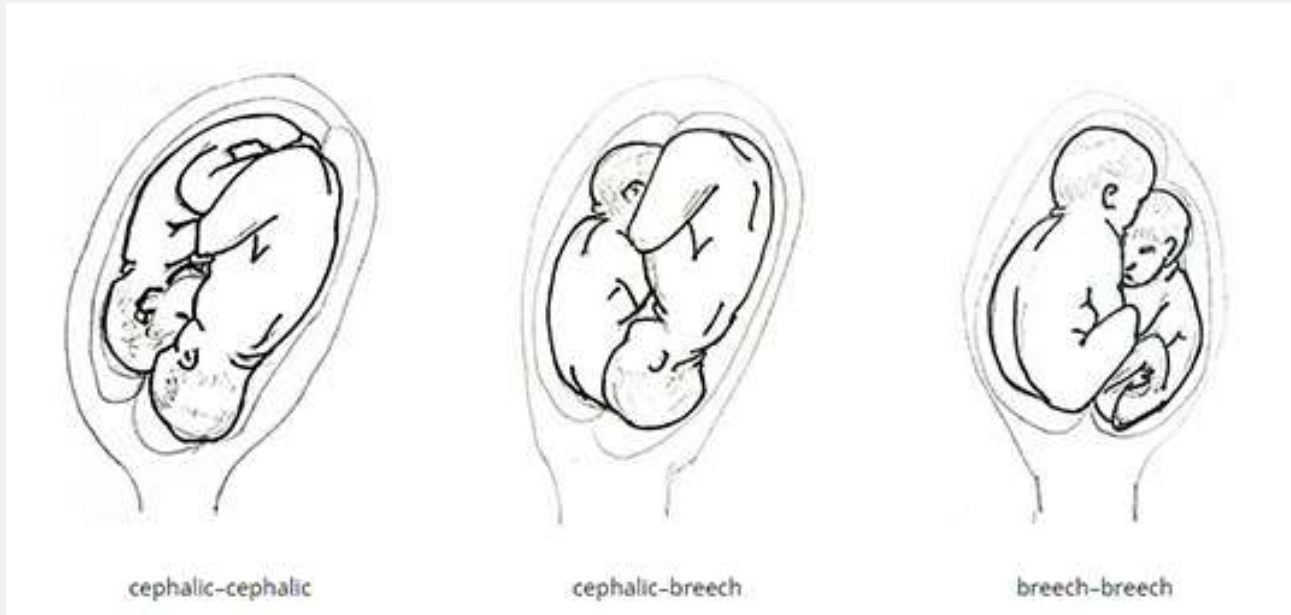
- **Second-born Twin Outcomes:** The second-born twin is at an elevated risk of adverse outcomes, largely due to factors such as lower birth weight, increased incidence of malpresentation, umbilical cord prolapse, and placental abruption.
- **Optimal Delivery Timing:** Delivering twins at 38 weeks and triplets at 35 weeks has been shown to significantly lower perinatal mortality, offering an optimal balance for healthy outcomes. While twin pregnancies are not an automatic indication for cesarean, they do come with a higher likelihood of surgical delivery.

Vaginal vs. Cesarean Delivery:

-
- planned cesarean sections neither significantly decrease nor increase the risks of fetal or neonatal death compared to planned vaginal births.
 - performing cesareans before 37 weeks is linked to higher neonatal morbidity and mortality, making a planned vaginal delivery between 32 and 37 weeks a safer option in many cases.
 - For the first-born twin, neonatal **morbidity** are generally better with vaginal delivery, while second twin shows no notable difference between vaginal and cesarean births.
 - Second twin's **mortality** rate—whether in vertex or non-vertex position—is lower with vaginal delivery.
 - Maternal Morbidity: Maternal complications, such as postpartum hemorrhage, are more common in vaginal delivery attempts, while cesarean delivery may offer some protective effect in certain cases.

Presentation of Twins:

- both twins present in vertex in about 30-50% of cases, while 25-40% of cases involve a vertex/breech combination.
- Most obstetricians allow labor to proceed when both twins are in vertex presentation but tend to perform cesarean if the first twin is in breech or shoulder presentation.



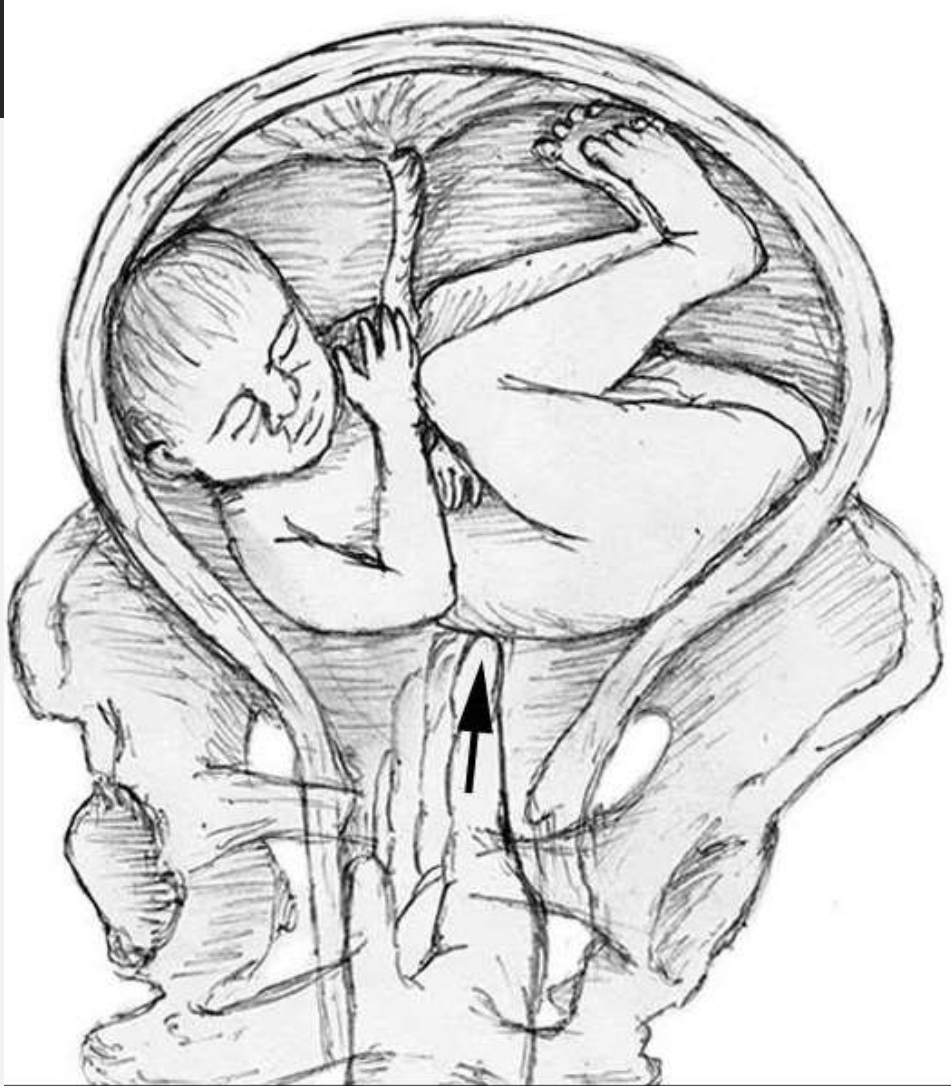
First twin delivery

- If the first twin is breech and the second is vertex, complications like chin entrapment or locked twins can occur, often requiring an emergency C-section.
- When first twin is in a cephalic presentation, the type of delivery depends on the second twin.
- Planned C-section may be necessary for reasons such as:
 1. Growth differences between twins (especially if second twin is larger)
 2. Twin-to-twin transfusion syndrome (TTTS)
 3. Certain congenital anomalies.
 4. Uteroplacental insufficiency.

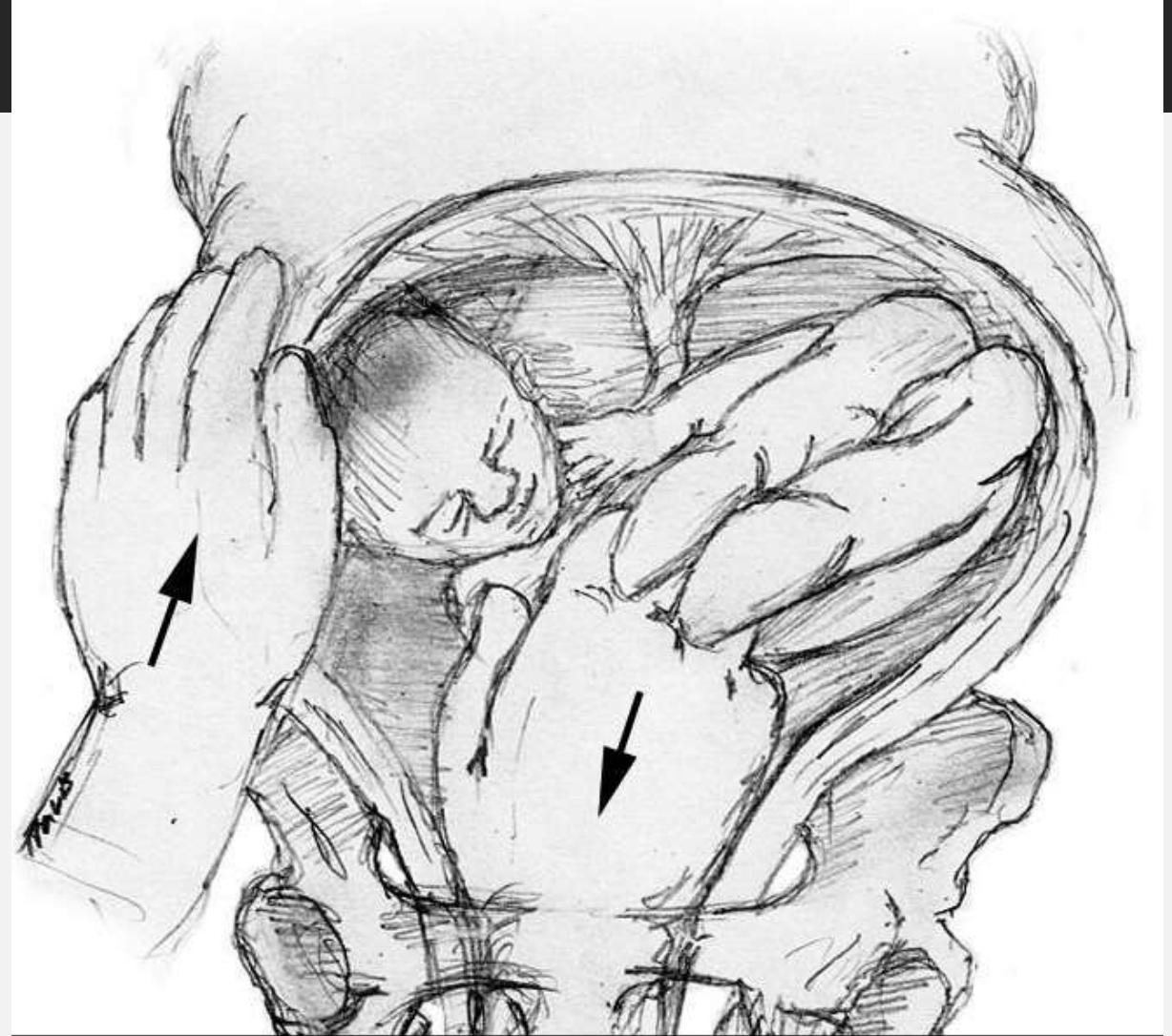
Second twin delivery

- If first twin is delivered vaginally and second one is vertex or membranes are intact, labor can continue for a spontaneous birth.
- For nonvertex second twin , options include:
 1. External cephalic version (ECV)
 2. Internal podalic version and total breech extraction.
 3. Cesarean delivery.
- Internal podalic version and total breech extraction often increase the chances of vaginal birth, total Breech extraction is favored when first twin is larger, ensuring the pelvis and cervix are adequately prepared for vaginal delivery of the second twin.
- Emergency C-sections are indicated for malpresentation, non-reassuring FHR, or cord prolapse. Continuous FHR monitoring is key, as prolonged delivery intervals increase risks for second twin.

Internal podalic version

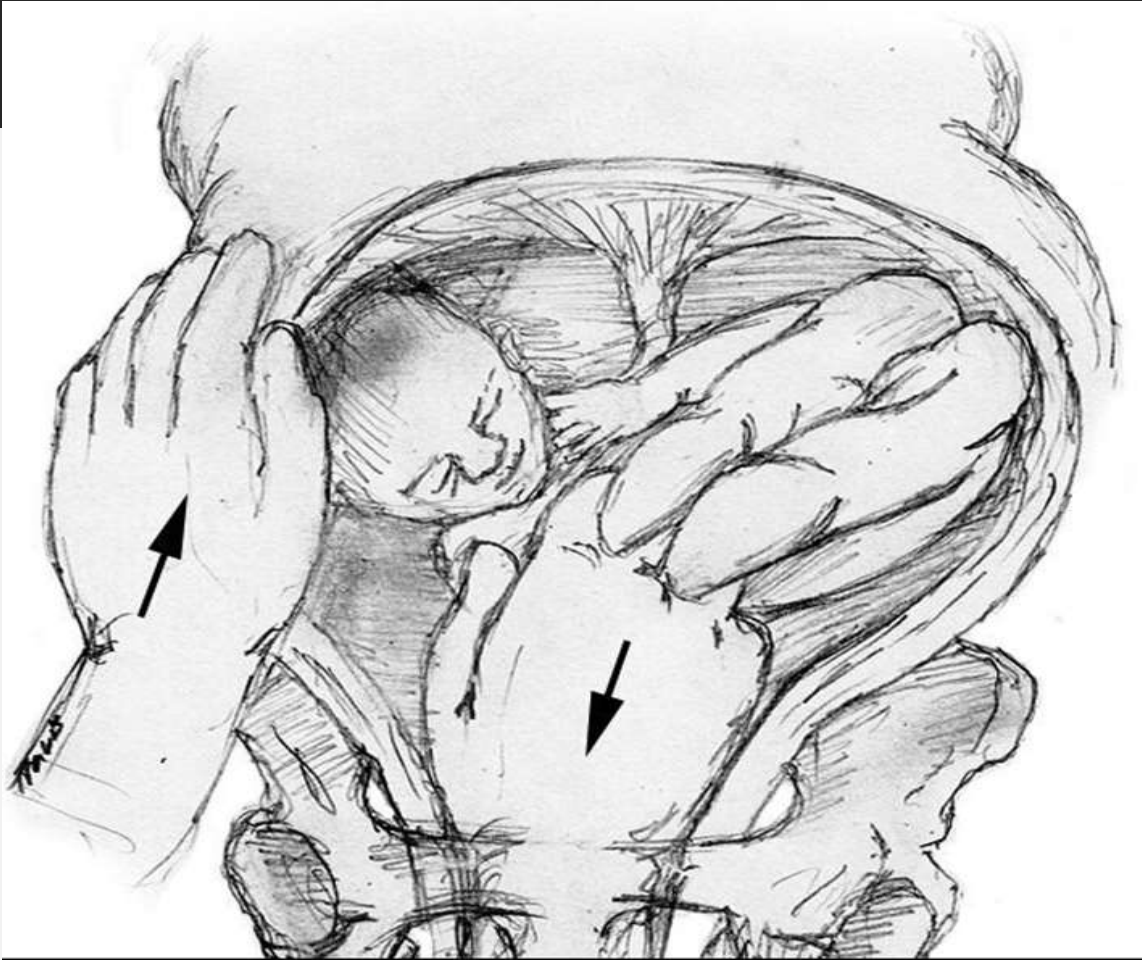


1) Introduce one hand into the uterus and grasp the feet through the intact membranes

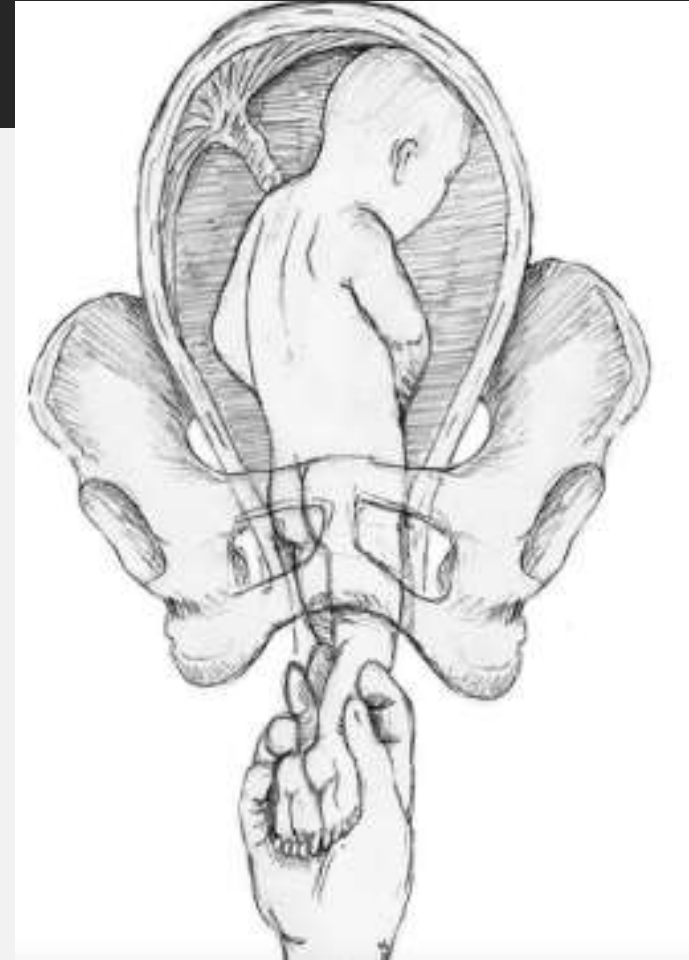


2) The other hand should be used to guide the fetal head upward

Internal podalic version



3) Apply continuous axis traction toward the birth canal



4) Rupture the membranes and continue gentle traction until the hips emerge

Anesthetic management in vaginal & cesarean deliveries:

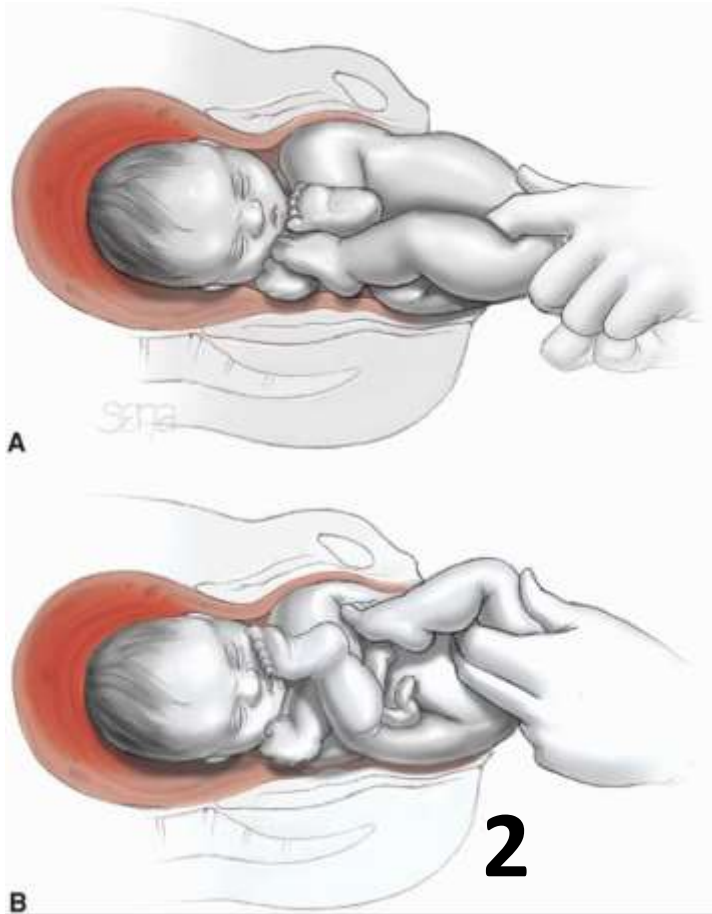
-
- In multiple gestations, patients face higher risks of aortocaval compression, hypotension and postpartum hemorrhage during neuraxial anesthesia. Left or right lateral position after epidural anesthesia reduces this risk.
 - For internal podalic version and breech extraction, it's best to act quickly before the uterus contracts, using pain relief and muscle relaxants like nitroglycerin if needed.
 - Women with multiple gestations have a higher risk of hemodynamic instability during neuraxial anesthesia so it's better to not use it in cesarean sections.
 - The longer delivery time for multiple infants increases the risk of umbilical cord acidemia and neonatal depression.

Breech extraction of a second twin:

Breech extraction is typically used for delivering the second twin in vertex-breech presentations, and it's preferred over passive delivery. It should be avoided if the second twin weighs less than 1500g, over 4000g, or is significantly larger than the first twin.

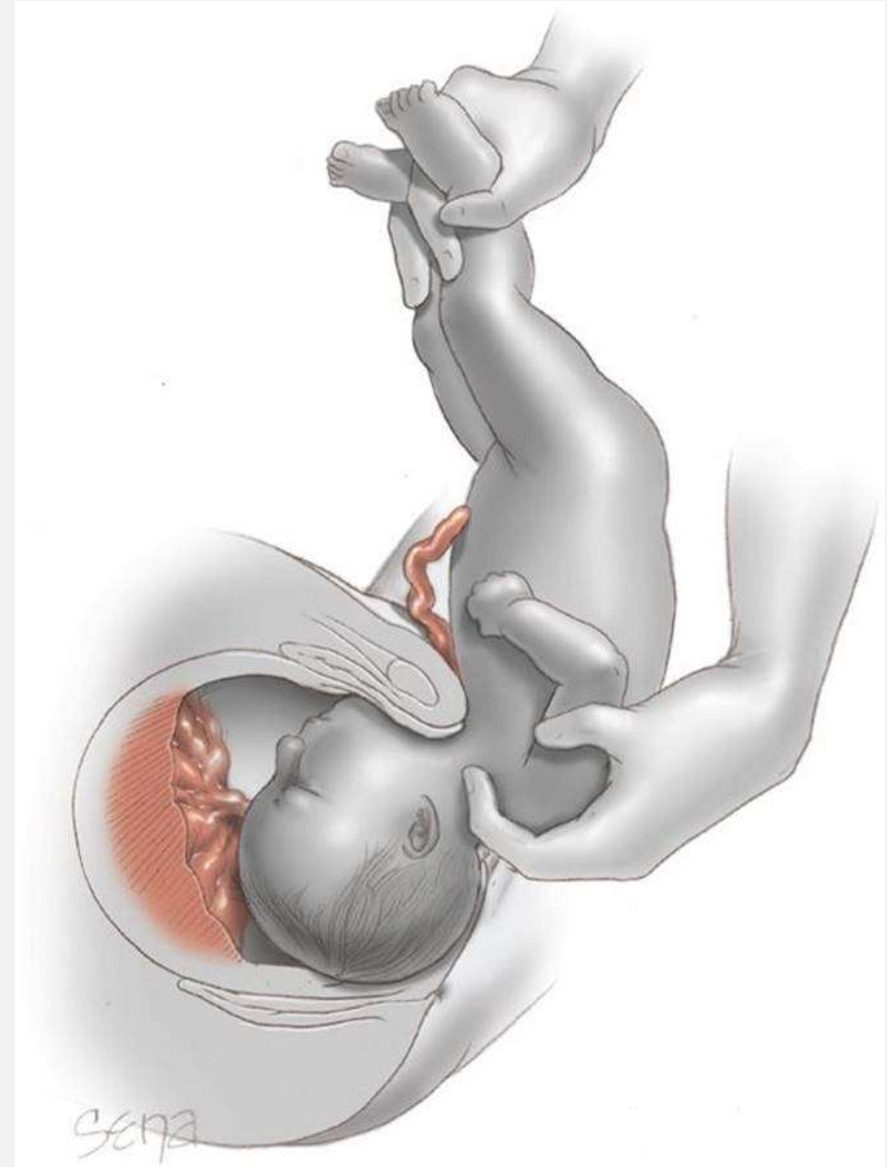
Steps for breech extraction of the second twin:

1. Use ultrasound to check the heart rate and presentation.
2. Inform the patient about the procedure.
3. Do not rupture the membranes yet.
4. Insert a hand into the vagina to grasp the feet.
5. Gently pull the feet through the vagina.
6. Continue delivering the legs, thighs, and buttocks, then continue the delivery.



Delivery of the trunk:

In a breech extraction, the fetus's back usually rotates anteriorly. If the back rotates posteriorly, after delivering the upper extremities, the **Prague maneuver** is used. The fetus is elevated toward the maternal abdomen with one hand, while two fingers of the other hand are placed around the neck and above the shoulders to complete the delivery.

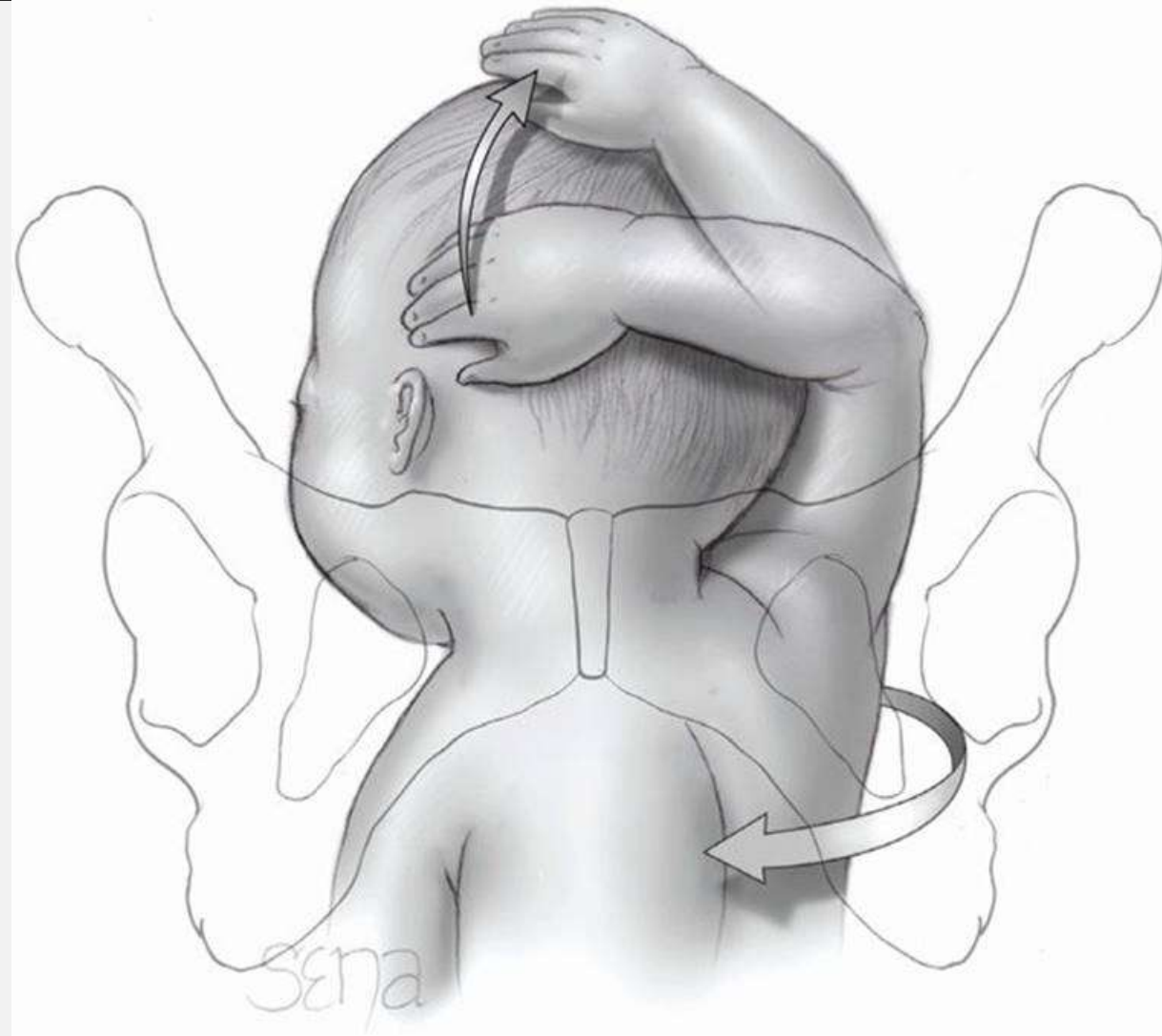


Delivery of the upper extremities:

□ Nuchal Arm: One or both arms may be positioned around the back of the neck during delivery.

For a single nuchal arm, follow these steps:

1. Rotate the fetus's back toward the side of the nuchal arm.
 2. Insert three fingers into the vagina: place your thumb at the axilla and the other two fingers anterior to the arm, then draw the arm across the body.
- For bilateral nuchal arms, correct one side first, then address the other.



Delivery of the head:



❑ Fetal Head Entrapment:

1. If the cervix constricts around the fetal head, the first step is to administer IV nitroglycerin.
2. If this fails, Dührssen incisions are performed, involving two to three radial incisions at the 2-, 6-, and 10-o'clock positions.
3. If the head is still not delivered after Dührssen incisions, the Zavanelli maneuver is the next step.

the Zavanelli maneuver: replacement of the fetus higher into the vagina and uterus, followed by cesarean delivery, can be used to rescue an entrapped breech fetus that cannot be delivered vaginally. This maneuver was described for the protruding head with intractable shoulder dystocia.



Dührssen incisions

the Zavanelli maneuver

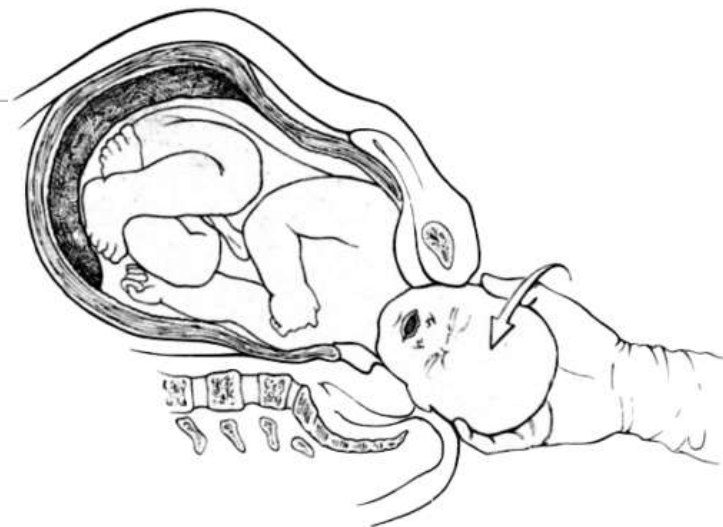
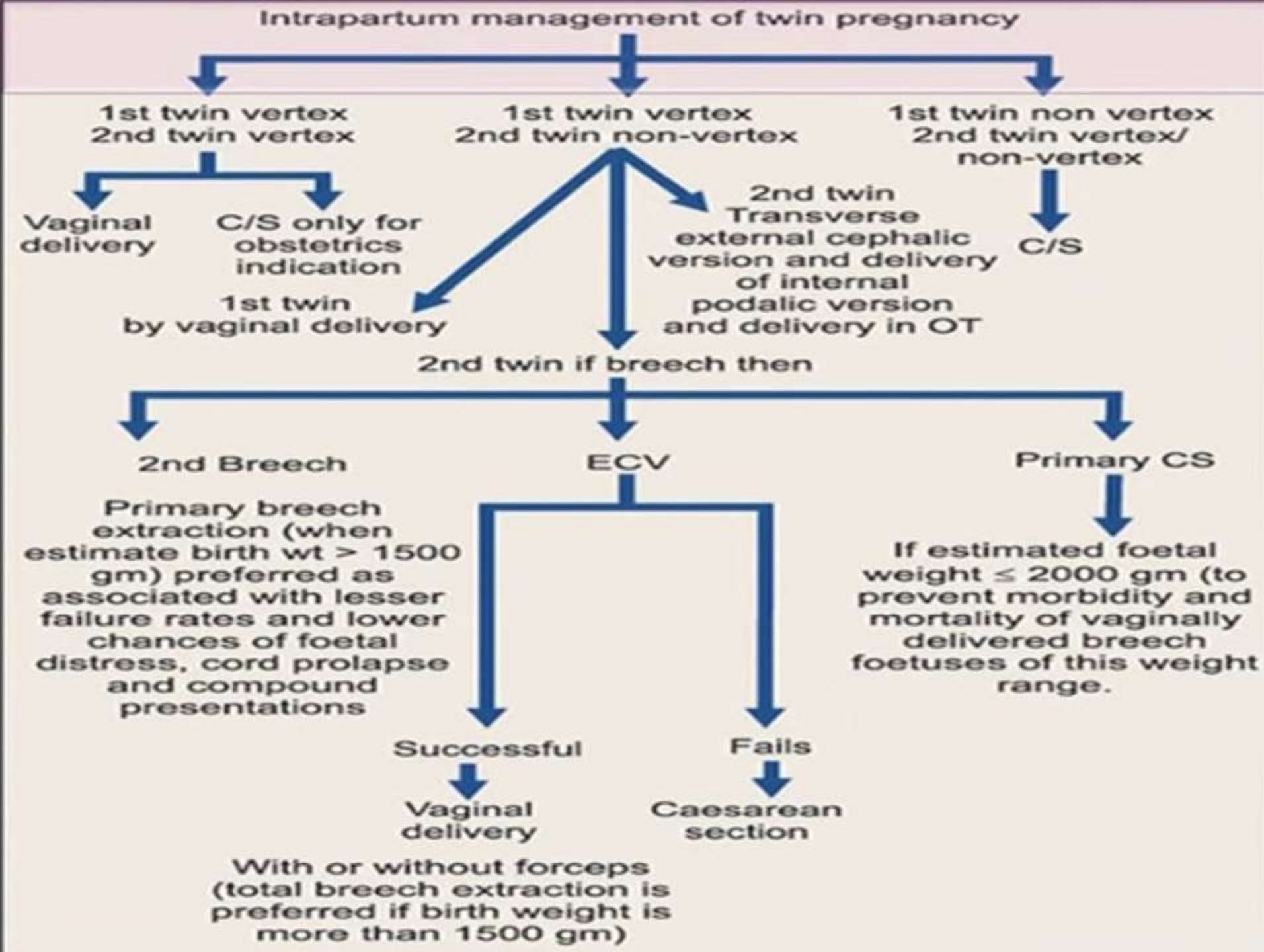


Fig 1.



Fig 2.



THANK you

