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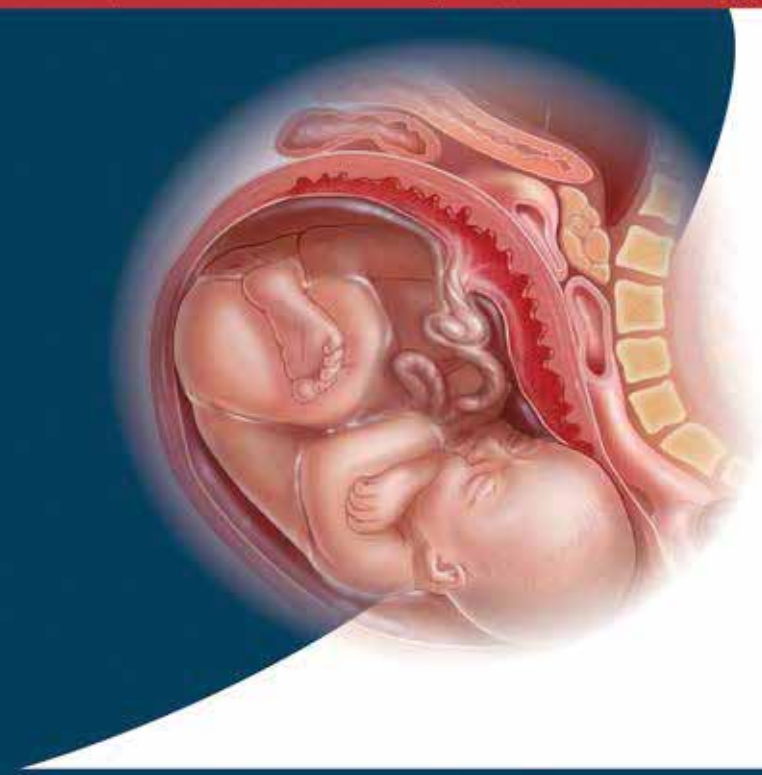



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Obstetrics NURSING Procedure Manual

As per the Revised INC Syllabus for BSc Nursing

Dharitri Swain

2nd Edition

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Obstetrics Nursing Procedure Manual

As per the Revised INC Syllabus for BSc Nursing

Second Edition

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Video Legends

Chapter 1—Antenatal Procedure

Video 1.1: Antenatal examination
Video 1.2: Female pelvis and fetal skull
Video 1.3: Demonstration of fetal skull

Chapter 2—Labor and Delivery Procedures

Video 2.1: Vaginal examination in labor
Video 2.2: Conduction of normal vaginal delivery
Video 2.3: Delivery of placenta
Video 2.4: Examination of placenta, cord and membrane
Video 2.5: Management of retained placenta and manual removal of placenta
Video 2.6: Episiotomy and suturing

Chapter 4—Postnatal Procedures

Video 4.1: Perineal care
Video 4.2: Breast care
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Chapter 5—Newborn Procedures

Video 5.1: Immediate care of newborn
Video 5.2: Thermal protection—prevention of hypothermia
Video 5.3: Kangaroo mother care
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Video 5.6: Expressing breast milk

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CHAPTER 2

Labor and Delivery Procedures

CHAPTER OUTLINE

- Demonstration of mechanism of labor—cephalic, breech, posterior position and face presentation
- Vaginal examination in labor
- Maintaining partograph
- Pain management techniques during labor
- Conduction of normal delivery and active management of third stage of labor
- Delivery of placenta
- Examination of placenta, cord and membrane
- Management of retained placenta and manual removal of placenta
- Episiotomy and suturing
- Assist in the management of abnormal deliveries—breech delivery, twin deliveries and shoulder dystocia
- Assisted instrumental vaginal delivery
- Identification and management of prolonged labor, cervical dystocia, CPD, contracted pelvis
- Management of uterine inertia
- Management of uterine atony
- Management of postpartum hemorrhage and shock
- Management of trauma to the birth canal

ASSESSMENT OF WOMAN IN LABOR

Normal labor starts with onset of regular involuntary coordinated, painful uterine contractions associated with cervical effacement and dilatation.

Diagnostic Criteria of First Stage of Labor

- Cervical effacement: 0–100% effaced
- Cervical dilatation: 0–10 cm dilation
- Has three phases:
  1. Latent: 0–3 cm
  2. Active: 4–7cm
  3. Transition: 8–10 cm
- Average duration: 12 hours in primigravida, 6 hours in multigravida.

Admission to Labor and Delivery

Establishing a therapeutic relationship	• Welcome the mother and family members to the hospital • Determine family expectations about birth • Convey confidence • Use touch for comfort • Respect cultural values

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Collecting health history	Once the woman has been admitted and labor progress has been assessed, the following additional information regarding health history is collected: • Personal data—name, age, gravid, para, LMP, EDD, blood type, allergies, etc. • Pregnancy history, prenatal care, laboratory test, special test such as amniocentesis, sonography done • Problems with this pregnancy • History of previous pregnancy and any other medical illnesses • Preferences for labor and delivery • Preparation for childbirth • Psychosocial assessment, cultural assessment
Conducting a physical examination	• Assessment of vital signs—head-to-toe examination including system review • Evidence of pallor, petechiae or ecchymosis, jaundice, varicosities, edema • Abdominal examination—palpation of fetal presentation, position, estimated fetal size and station • Assessment of uterine contraction—pattern, strength and duration • Auscultation of fetal heart sound and observation of fetal movements • Pelvic examination—cervical dilatation and effacement, position of cervix, fetal station • Presence of molding or caput, status of membrane, pelvic capacity and perineum status
Stage I: Latent phase	
Assess maternal physiologic status of mother • Assessment of labor progress by plotting partograph—dilation, effacement, station, lies, etc. • Assess contractions—in this stage usually it comes 5–10 min. apart and last 30–45 sec. • Cervix is dilated 1–3 cm and effacement begins • Assess status of fetal membranes whether intact or ruptured • Assess behavioral or psychological response of mother—fear, anxiety, fatigue, frustration, sleepiness, amnesia, etc. • Orient to common following procedures during labor: ▪ Vital signs and fetal heart monitoring ▪ Administering Enema ▪ IV fluid ▪ Electronic monitoring ▪ Vaginal examination	
Assess physiologic status of fetus • Assess FHR and contractions at least once every hour • Continuous external electronic monitor of FHR	
Stage II: Active phase	
• Evaluate contraction pattern every 30 min—typically contractions occur every 2–5 min, last 45–60 sec. • Assess cervix dilates progressively 4–8 cm	

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- Assess woman's psychosocial state—more introverted, restless, or anxious; helpless; distraction techniques are failing
- Assess labor progress
- Assess fetal status—FHR every 30 min
- Assess maternal status—ability to relax between contractions

Stage III: Transition phase

- **Assess contraction pattern:** Assess at least every 30 min, should occur every 2–3 min, last 60–90 sec. and strong in intensity
- **Vaginal examination:** Assess dilation 8–10 cm, station of head, degree of molding and caput of the head, membrane status and color of liquor if ruptured
- **Assess for transition phase:** Assess signs woman has reached transition phase, increase in bloody show and strong urge to push if fetal station is low
- **Assess woman's response to cope:** Withdrawn, drowsy, irritable, aggressive
- **Assess maternal distress:** Nausea and vomiting are common; hyperventilation, dehydration, rising pulse>100/mint, hot and dry vagina with offensive discharge, acetone smell in breath
- **Assess fetal heart rate:** To report fetal distress

CARE DURING FIRST STAGE OF LABOR

Establishing a therapeutic relationship	• Convey confidence • Use touch for comfort • Respect cultural values
Relieving anxiety	• Maternal vital signs and FHR to be monitored frequently and the woman or family members should be informed about the status of mother and fetus a. Maternal temperature every 2 to 4 hours and if membranes ruptured, then every 1 hourly b. Blood pressure, pulse, respirations usually every 30 to 60 minutes or bases on maternal conditions c. FHR every 30 minutes for low risk cases or every 15 minutes for high risk • Provide psychological support and encourage family participation in labor • Involve the husband or close family support person in the labor care
Minimizing pain	• Encourage to change desired position frequently for comfort • Teach and assist the woman with slow breathing and relaxation techniques • Provide back rubs, leg stroking, and shoulder massage as needed • Encourage relaxation technique—listen to soothing music, watching TV, etc. • Providing patient teaching—regarding relaxation technique and cope with labor pain
Encouraging bladder emptying	• Encourage the woman to void every 2 hours at least 100 ml • Palpate the lower abdomen, and evaluate for a distended bladder • Encourage ambulation which may help in voiding • Catheterize (in and out) when necessary or as directed • Monitor intake and output, especially if on Pitcoin or $MgSO_4$ drips
Strengthening coping with active labor and transition	• Teach and assist the woman with slow breathing and relaxation techniques • Encourage for active participation in medical intervention and assurance for good fetal outcome

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	• Assist with coping strategies such as diversion therapy, breathing and relaxation technique • Provide comfort measures: ▪ Back rubs and leg stroking ▪ Shoulder massage ▪ Listen to soothing music, share with family person ▪ Ice chips to moisten mouth ▪ Clean pads and linens as needed ▪ A quiet environment • Repositioning, either side is preferable, with pillow and blanket. Supports as needed • Encourage the woman to deal with one contraction at a time • Provide reassurance and encouragement during each contraction • Provide information on the contraction's frequency, peak, and descent • Encourage resting between contractions • Encourage the woman not to push with feelings of rectal pressure until complete cervical dilation has occurred. Assisting her with panting may be helpful
Preventing intrauterine infection	• Take the woman's temperature, and record every 2 hours if membrane not ruptured. If ruptured, record temperature every 1 hour • Change the pad and linens when wet or soiled • Provide perineal care after voiding and as needed • Discourage the use of perineal pads or folded towels against the perineum because they create a warm, moist environment for bacteria • Minimize vaginal examinations • Observe for fetal tachycardia • Assess complete blood count as indicated
Maintaining mobility	• Provide information regarding limitations and opportunities for movement with electronic fetal monitoring • Encourage the woman to be out of bed ambulating or sitting in a chair while being monitored, if indicated • Encourage positions change in bed every hour or as indicated • Assist with back massage, leg stroking, and slow leg movements while in bed
Encouraging slow breathing techniques	• Teach the woman regarding controlling proper method of breathing and relaxation techniques as needed • Inform the woman that the urge to push is common during transition and is usually due to rapid fetal descent, the dilating cervix, and uterine contractions • Pushing with feeling or rectal pressure before complete cervical dilation should be avoided due to risks of increasing cervical edema and lacerations • Assist the woman to avoid pushing prematurely by maintaining close eye contact during breathing and breathing with the woman, having her blow out strong, short breaths • Awaken the woman before the beginning of each contraction so she can gain control of her breathing if she has partial amnesia between contractions

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MECHANISM OF LABOR

Definition

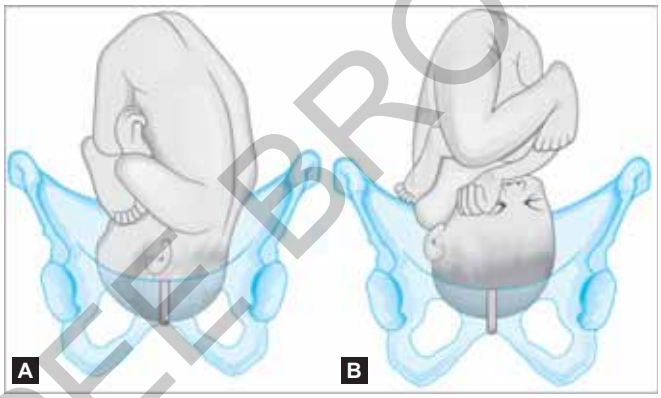
The spontaneous adjustments of the fetal position and attitude to affect efficient passage of the fetus through the pelvis, marked by progressive descent until delivery of the fetus is called labor.

The series of movements occur on the head in the process of adaptation during its journey through the pelvis is called mechanism of labor.

MECHANISM OF LABOR IN CEPHALIC PRESENTATION

Fetopelvic Relationship

- Lie—longitudinal
- Attitude—complete flexion
- Presentation—cephalic
- Presenting part—vertex
- Denominator—occiput
- Position—occipitolateral/occipitoanterior



Figs. 2.1A and B: (A) Left occipitoanterior (LOA) position; (B) Right occipitoanterior (ROA) position.

Cardinal Movements in Delivery of the Fetal Head

Steps	Movements	Mechanism
Step 1	Engagement	Biparietal diameter enter into the pelvic brim
Step 2	Descent	Descent occurs through out of labor process
Step 3	Flexion	Complete flexion creates a smaller structure to pass through the maternal pelvis
Step 4	Internal rotation of the head	• ROA/LOA—45° (1/8th of circle) • ROL/LOL—90° (2/8th of circle) • ROP/LOP—135° (3/8th of circle)
Step 5	Crowning	When the widest diameter of the fetal head is embraced by the distended vulva, it is said to be crowned

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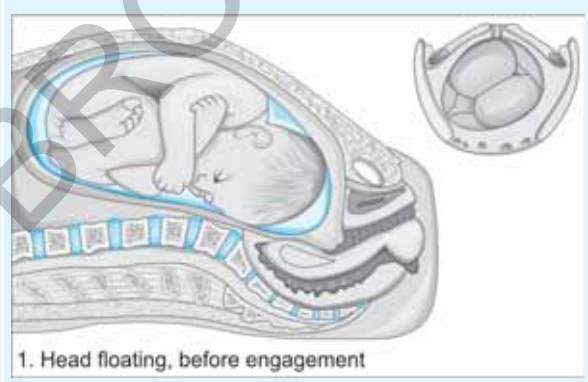
Steps	Movements	Mechanism
Step 6	Extension	The head is born by further extension as the occiput, bregma, forehead, nose, mouth and chin pass successively over the perineum
Step 7	Restitution	This movement causes untwisting of neck as occurred during internal rotation of head
Step 8	Internal rotation of the shoulder and external rotation of head	• ROA/LOA—No rotation • ROL/LOL—45° • ROP/LOP—90° • Due to internal rotation of the shoulder (45°), there is visible external rotation of head outside (45°).
Step 9	Lateral flexion	Delivery of shoulder and trunk

Steps of Mechanism of Labor (MOL)

Cardinal movements	Relation to practice
I. Engagement: The greatest transverse diameter BPD passes through the pelvic inlet **Engaging diameters of head:** **AP diameters:** Suboccipitobregmatic—9.5 cm or Suboccipitofrontal—10 cm **Transverse diameter:** Biparietal—9.5 cm **Time of engagement** Engagement may occur in the last few weeks of pregnancy or only in labor, especially in multipara • The fetus enters the pelvis in transverse or oblique diameter • Chance of Engagement as follows: ▪ **LOT–40%** ▪ **ROT–20%** ▪ **OP–20%** ▪ **ROP > LOP** ▪ **ROA/LOA–20%** • LOA is little more common than ROL as the left oblique diameter is encroached by the rectum • Asynclitism helps in engagement of head	Engagement can be assessed by abdominal palpation in rule of fifth (5/5) method during antenatal period and stations during progress of labor  1. Head floating, before engagement
II. Descent: As the fetal head engages and descends, it assumes an occiput transverse position because that is the widest pelvic diameter available for the widest part of the fetal head	• In nullipara engagement takes place before the onset of labor and further descent may not occur till the 2nd stage • In multipara descent begins with engagement • It is gradually progressive continue throughout labor till the fetus is delivered

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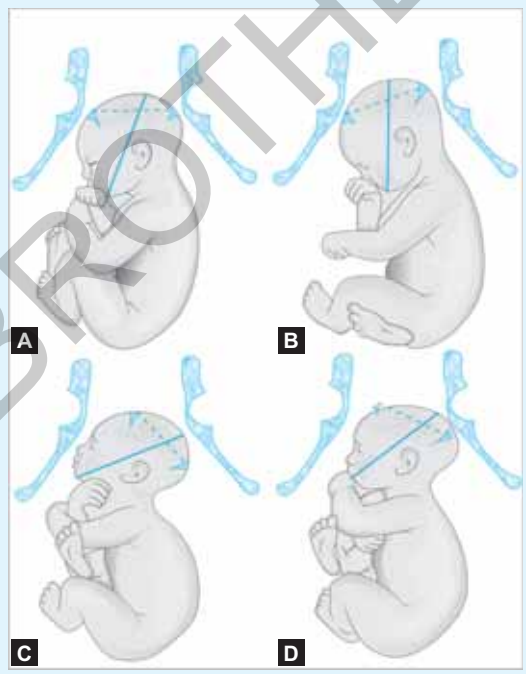
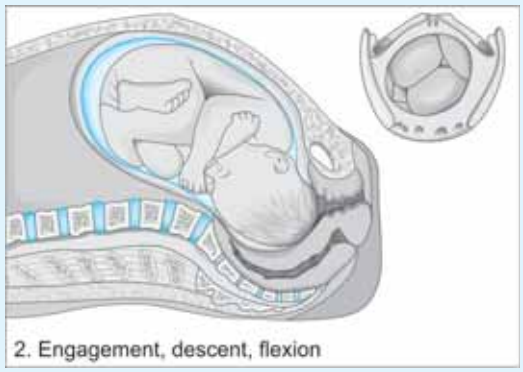
Cardinal movements	Relation to practice
Descent occurs due to: • Uterine contraction and retraction. • Bearing down effort—mainly in the second stage of labor • Descent occurs throughout the process	• Descent affected by the uterine contractions and thinning of the lower segment
III. Flexion: • As the fetus descends the chin touches the chest (arms begin to cross) and the attitude of flexion is adopted. This functionally creates a smaller structure to pass through the maternal pelvis. As the head flexed it brings the shortest longitudinal diameter of the head (suboccipitobregmatic—9.5 cm) to pass through the birth canal • When flexion occurs, the occipital (posterior) fontanel slides into the center of the birth canal and the anterior fontanel becomes more remote and difficult to feel **Increased flexion due to:** • Resistance from the pelvic walls and floor and this leads to increased flexion of the head • Lever action producing flexion of the head • Four degrees of head flexion. Indicated by the solid line the occipitomental diameter; the broken line connects the center of the anterior fontanel with posterior fontanel: A. Flexion poor B. Flexion moderate C. Flexion advanced D. Flexion complete • In complete flexion, the chin is on the chest, and the suboccipitobregmatic diameter, the shortest anteroposterior diameter of the fetal head, is passing through the pelvic inlet	• Upright position to assist with gravity and help in maintaining flexion of head • When resting, adopt the left lateral position (OFP) • Observation of the contractions: frequency and regularity, increasing in strength and becoming expulsive   2. Engagement, descent, flexion

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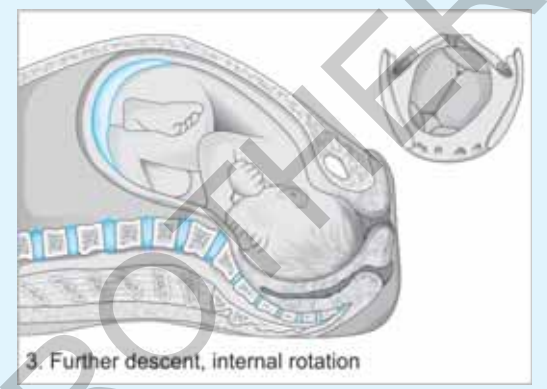
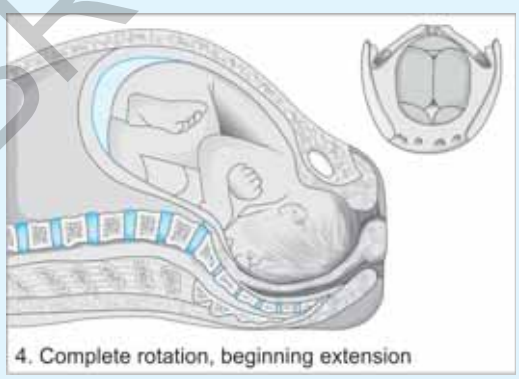
Cardinal movements	Relation to practice
IV. Internal rotation: The internal rotation occurs as the head descends through the pelvic cavity • As the occiput reaches the resistance of the pelvic floor, it rotates forward anteriorly toward the symphysis pubis • Internal rotation of head occurs as per the position of fetus ▪ ROA/LOA—45° ▪ ROL/LOL—90° ▪ ROP/LOP—135° • There will simultaneously **internal rotation of shoulder** due to internal rotation of head • Internal rotation of shoulder occurs as per the position of fetus ▪ ROL/LOL—45° ▪ ROA/LOA—No rotation ▪ ROP/LOP—90° **Internal rotation occurs due to:** • Slopping shape of the pelvic floor: The slope of the pelvic floor angling the leading point of the head (occiput) in downward and forward direction • The levator ani muscles form a V-shaped sling that tend to rotate the vertex anteriorly • By the effect of the contraction and retraction of the uterus	• Assess fully dilation of cervix and station of the head • Vertex may or may not be visible • Maintain upright position—kneeling, squatting position of mother • Observe mother may be spontaneously pushing • Encourage mechanical pushing or allow for natural descent  3. Further descent, internal rotation  4. Complete rotation, beginning extension
V. Crowning: The combined effect of descent and internal rotation bring the presenting diameter to the plane of the pelvic outlet, with the occiput lying under the pubic arch and the sinciput at the lower border of the sacrum or coccyx. When the widest diameter of the fetal head is embraced by the distended vulva, it is said to be crowned	• Wait for spontaneously/mechanically pushing • If required episiotomy is given for easy delivery of head • Assess the blood loss and duration of the second stage 

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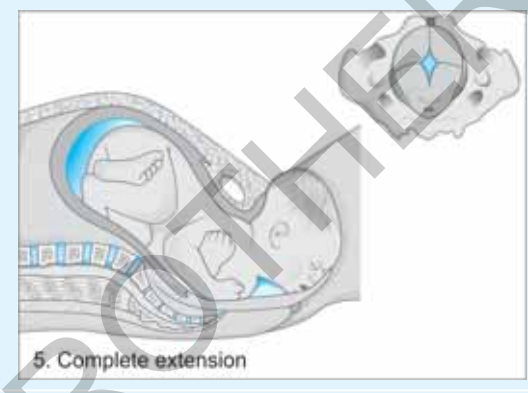
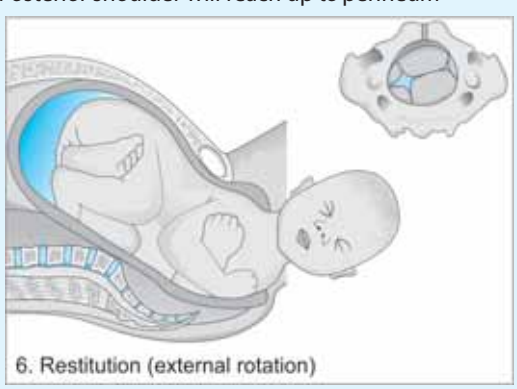
Cardinal movements	Relation to practice
VI. Extension: • The curve of the hollow of the sacrum favors extension of the fetal head as further descent occurs. This means that the fetal chin is no longer touching the fetal chest. • When the flexed head reaches the vulva it undergoes extension → the base of the occiput will be in direct contact with the inferior margin of the symphysis pubis • The head is born by further extension as the occiput, bregma, forehead, nose, mouth and chin pass successively over the perineum.	• Encourage spontaneously/mechanically pushing • Mother may be breathing through contractions • Assist mother push and provide perineal support for complete delivery of head • Assess the progress and duration of the second stage • Introverted in her behavior and may adopt alternative position, bending toward the floor with knees apart  5. Complete extension
VII. Restitution: • Following delivery of the head the occiput rotates (45°) to the lateral position, in the opposite direction of internal rotation to correct the twist of the neck produced by internal rotation • This movement causes untwisting of neck is called restitution	• No need to do anything, allow time for restitution • See a small part of the anterior shoulder under symphysis pubis. Wait for the next movement • Allow mother to breath normally and reassure for contraction to deliver the remainder of the body
VIII. External rotation: • Restitution is followed by internal rotation of shoulder and simultaneously external rotation of head • The internal rotation of the shoulders (45°) inside the pelvis transmitted to the delivered head which in turn move one eight of a circle (45°) outside the pelvis, in the same direction as that of the restitution called external rotation of head • So, the head will turn to the left or the right, righting itself with the shoulders. The shoulders lie in the anteroposterior diameter of the pelvis • So at the end of external rotation, the occiput is directed toward one thigh and the face is toward the other thigh • The ant shoulder comes under the symphysis pubis	• No need to do anything, allow time for external rotation spontaneously • See a major part of the anterior shoulder under symphysis pubis • Posterior shoulder will reach up to perineum  6. Restitution (external rotation)

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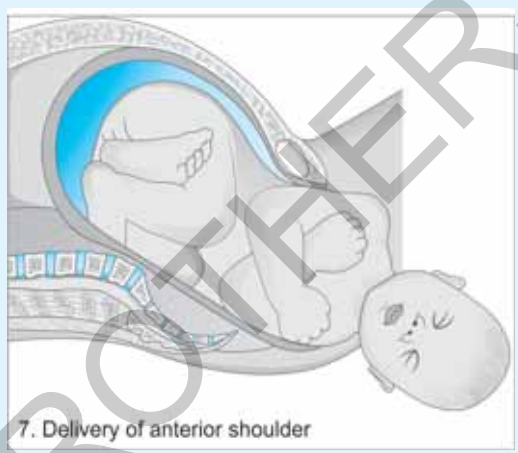
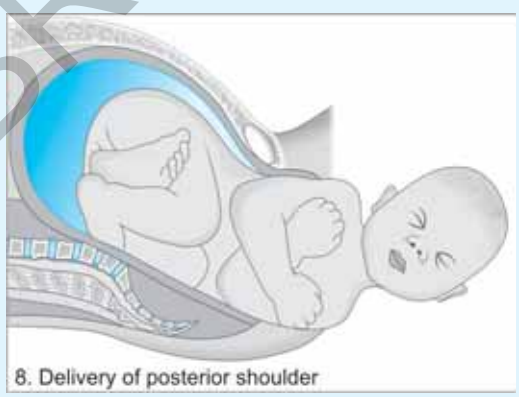
Cardinal movements	Relation to practice
IX. Lateral flexion (delivery of the shoulder and body): • With further descent by lateral flexion of the fetal body, the anterior shoulder will be born first under the pubic arch and the posterior shoulder will pass over the perineum • Then trunk and buttocks follow with the same or the next contraction	• Encourage mother for slow pushing to deliver the shoulder and trunk • If the woman is on all fours or leaning forward then the posterior shoulder may be born first due to gravity and the effect of the birth canal  7. Delivery of anterior shoulder  8. Delivery of posterior shoulder

MECHANISM OF LABOR IN OCCIPITOPOSTERIOR POSITION

Fetopelvic Relationship

- Lie: Longitudinal
- Attitude: Deflexion of head
- Presentation: Cephalic
- Presenting part: Vertex
- Position: Occipitoposterior
- Denominator: Occiput
- Diameter of engagement: Occipitofrontal = 11.5 cm

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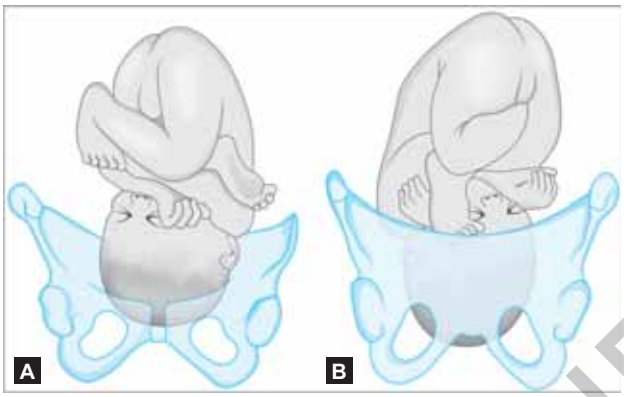

Figs. 2.2A and B: (A) LOP; (B) ROP.

Steps of Mechanism of Labor in Occipitoposterior Position

Steps of mechanism of labor	Mechanism of labor is identical to OT and anterior varieties
Engagement	The vertex is engaged when the biparietal diameter is at the level of the pelvic inlet or lower. In clinical practice, this translates into an occiput palpable at 0 stations
Descent	This cardinal movement will usually happen concomitant with engagement, and is typically documented late in the active phase of the first stage of labor
Flexion	As the vertex descends into the maternal pelvis, it will encounter resistance from the maternal pelvic floor muscles. This will cause the flexion of the fetal head onto the thorax. Resistance from the pelvic walls and floor and this leads to increased flexion of the head
Internal rotation of the head	• At the moment of engagement and descent of the vertex into the pelvis, the fetus will be in a posterior position. Because of the anatomic configuration of the pubococcygeus and iliococcygeus muscles, the occiput will be forced to rotate to the symphysis pubis. This is the widest area of the pelvic floor that will allow the passage of the fetus • The occiput rotate to the symphysis pubis through 135° (3/8th) and simultaneously shoulder rotate 90° and occupies in same oblique diameter of the pelvis • If partial rotation (1/8th) of occiput—transverse arrest • If non rotation of occiput-direct occiput posterior arrest
Crowning	When the widest diameter of the fetal head is embraced by the distended vulva, it is said to be crowned
Extension	At the moment of the delivery of the fetal head, the combined effects of the uterine contractions and the pelvic floor result in this cardinal movement and delivery of head
Restitution	Following delivery of the head, the occiput rotates to the lateral position, in the opposite direction of internal rotation to correct the twist of the head on the shoulders produced by internal rotation called restitution

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External rotation of head	• Due to internal rotation of the shoulder (45°), there is visible external rotation of head outside (45°) • After delivery of the head, the anterior shoulder will descend under the pubic bone
Lateral flexion—delivery of shoulder and trunk	• With further descent by lateral flexion of the fetal body the anterior shoulder will be born first under the pubic arch and the posterior shoulder will pass over the perineum • Then trunk and buttocks follow with the same or the next contraction

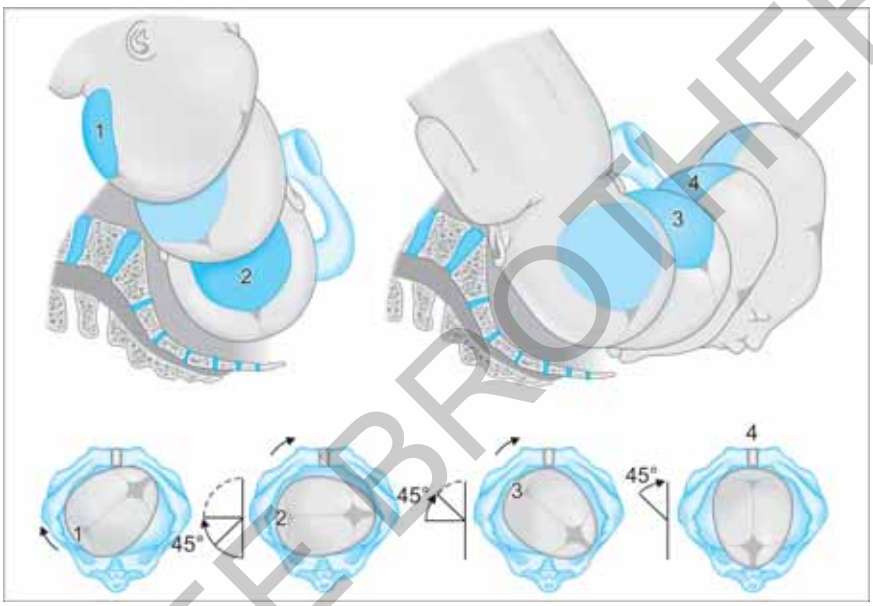

Fig. 2.3: Degree of head rotation.

MECHANISM OF LABOR IN BREECH PRESENTATION

Definition

The series of movements occur on the buttock, shoulder and head in the process of adaptation during its journey through the pelvis is called mechanism of labor in breech presentation.

Fetopelvic Relationship for MOL

- Lie: Longitudinal
- Attitude: Flexion in complete breech/partial extension in incomplete breech
- Presentation: Breech/Podalic
- Presenting part:
  - Buttock/feet/genitalia-complete breech
  - Only buttock/genitalia-frank breech
  - Only one/both feet/knees-complete breech
- Position: Sacroanterior

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Type of lacerations	Management of birth canal injuries
Vaginal tear and vulva injuries	**Vaginal tear** • After the proper exposure hemostatic suture and vaginal tear suturing to be done if multiple laceration, then pack the vagina for 24 hours after removing the packing see for bleeding **Vulva injuries** • Valval laceration, perineal laceration and hematoma needs to be drained and proper hemostatic suture should be given • Sometime local packing requires
Hematomas • Vulval hematoma • Paravaginal hematoma • Broad ligament and retroperitoneal hematoma	**Management** • Small vulval hematomas (≤5 cm) may be treated conservatively with analgesics, and ice packs • If pain is not controlled, large hematoma need to incise and evacuate clots under regional/general anesthesia.

CLINICAL BASED QUESTIONS/VIVA VOCE

1. What is eutocia and dystocia?
2. How will you diagnose normal labor?
3. What is effacement? How will you measure it?
4. What is cervical dilatation? How will you measure dilatation clinically?
5. What is physiological retraction ring? What is the clinical significance of it?
6. What are stages of labor? What are the clinical events of each stage?
7. How do you assess progress of labor?
8. How will you differentiate latent phase, active phase of labor?
9. What is uterine contraction? What are the characteristics of UC during various stages of labor?
10. What is the difference between uterine contraction and retraction?
11. What is the importance of retraction in obstetrics?
12. How will you assess uterine contraction?
13. What is the expected duration of different phases of labor?
14. What are cardinal movements occur in mechanism of labor?
15. What is station? How will you measure during labor?
16. What is active management of second stage of labor?
17. What is active management of third stage of labor?
18. How will you assess separation of placenta?
19. What are the methods of placenta separation?
20. What are assisted placenta expulsion methods?
21. What is the placental abnormality to detect during placental examination?
22. How will you prevent perineal injury during vaginal delivery?
23. What is the anatomy of a normal placenta just after delivery?
24. How will you differentiate between maternal side and fetal side of placenta?
25. What is the preliminary preparation of a patient for normal delivery?

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