Chapter 13

Childbirth

Learning Objectives

- Identify the following structures: birth canal, placenta, umbilical cord, and amniotic sac
- Define the following terms: crowning, bloody show, labor, and abortion
- State the indications of an imminent delivery

Learning Objectives

- State the steps in the predelivery preparation of the mother
- Establish the relationship between body substance isolation (BSI) and childbirth
- State the steps to assist in delivery
Learning Objectives

- Describe care of baby as the head appears
- Discuss steps in delivery of the placenta
- List the steps in emergency medical care of the mother postdelivery

Learning Objectives

- Discuss steps in caring for the newborn
- Demonstrate steps to assist in a normal cephalic delivery
- Demonstrate necessary care procedures of the fetus as the head appears

Learning Objectives

- Demonstrate postdelivery care of the mother
- Demonstrate care of the newborn
Anatomy and Physiology of Pregnancy

Female reproductive anatomy includes:

- Ovaries
- Fallopian tubes
- Uterus
- Vagina
- Perineum

- Ovaries
  - Pair of almond-shaped organs located in right and left lower quadrants of the abdomen
  - Function to release eggs and hormones
    - Once a month an egg is released from ovary and travels through fallopian tube to uterus
Anatomy and Physiology of Pregnancy

- Fallopian tube
  - Extends from each ovary and acts as a path for egg to reach uterus
- Uterus
  - Pear-shaped muscular organ that houses unborn infant
- Cervix
  - Neck of uterus–lower portion where it enters vagina
  - Contains mucus plug that acts as barrier between uterus and vaginal opening during pregnancy
    - Once labor begins–mucus plug will separate and discharge from vagina–sometimes termed bloody show

- Vaginal/birth canal
  - Sheath that encloses lower portion of uterus and extends down to vaginal opening
- Perineum
  - Area between vaginal opening and anus

- A fertilized egg
  - Grows and develops in uterus
  - Is linked to the mother via the placenta
  - Placenta
    - O₂ and nutrients from mother’s blood pass through placenta and enter circulatory system of fetus through the umbilical cord
  - Umbilical cord
    - Fetus passes waste material back through umbilical cord and placenta to mother’s circulatory system to be eliminated
Anatomy and Physiology of Pregnancy

- Fertilized egg
  - Amniotic sac
    - Fluid-filled sac that surrounds fetus during pregnancy
    - Helps protect developing fetus
- Rupture of the membranes
  - Amniotic sac will typically rupture before delivery of the fetus
  - Some mothers refer to this as "My water has broken"

Labor

- Process that occurs when woman is preparing to give birth
- Can last from a few hours to many hours or days
- Length of labor depends on:
  - Age of mother
  - Whether it is first or subsequent pregnancy
  - General health of mother
  - Overall health of fetus
Labor

● First stage
  ➢ Begins with first contraction
  ➢ Ends when cervix is fully dilated

Labor

● First stage
  ➢ Contraction
    • Hardening and tightening of uterus
    • Muscular movement of uterus
    • Occurs at regular intervals, shortens as fetus moves through birth canal
    • Normally accompanied by pain
    • Generally, begin at approximately 30 minutes apart and become closer and closer until they are less than 3 minutes apart
    • Contraction time
    • Interval time

Labor

● Second stage
  ➢ Begins with full dilation (opening) of cervix
  ➢ Ends with delivery of the baby
  ➢ Infant’s head enters vagina (birth canal)
  ➢ Increasing pain gives mother urge to bear down or feel need to move bowels
  ➢ Presenting part
    • Part of infant that appears first at vaginal opening
    • During normal delivery–head is presenting part
Labor

- Third stage
  - Starts after baby is delivered
  - Ends after placenta (afterbirth) is expelled from mother’s body

Delivery

- First decide
  - Will you need to deliver baby at scene?
  - Is there enough time for mother to reach hospital
- As birth nears:
  - Contractions last longer (up to 90 seconds) and become more intense
  - Shorter interval of time between contractions

Delivery

- Indicators to help determine if delivery is imminent
  - Ask questions
    - Are you bleeding or having other kinds of vaginal discharge (bloody show)?
    - Do you feel like you need to have a bowel movement?
    - Do you feel increasing pressure in your vaginal area?
    - What is your due date?
    - Is there any chance of a multiple birth?
    - Is this your first pregnancy?
    - How long have you been having contractions?
    - How far apart are your contractions?
    - Has your water broken?
Delivery

- Indicators to help determine if delivery is imminent
  - If mother states any of the following, consider performing a visual inspection
    - Needs to push
    - Needs to have a bowel movement
    - Has bloody show
    - Amniotic sac has ruptured

Delivery

- Visual inspection
  - Have patient lie on back
  - Elevate hips with padding
  - Knees should be bent and feet flat on floor
  - Knees should be spread apart
  - Protect patient's modesty and privacy
  - Check for crowning during contraction

Delivery

- Breech birth (limb presentation)
  - Occurs when baby's head is not presenting part
  - Complicated delivery
  - Be sure EMS has been called
  - If birth is not imminent
    - Provide emotional support
    - Call for help
    - Continue to monitor mother while waiting for EMS
    - Position mother on left side
Delivery

- Breech birth (limb presentation)
  - If birth is not imminent
    - Provide emotional support
    - Call for help
    - Continue to monitor mother while waiting for EMS
    - Position mother on left side

Delivery

- Supplies for delivery
  - Proper body substance isolation (BSI)
    - Gloves
    - Gown
    - Mask
    - Eye protection
Delivery

- Supplies for delivery
  - Commercially prepared OB kit includes:
    - Gloves, gown, mask, and eye protection
    - Clean, absorbent materials including sheets and towels
    - Blankets
    - Bulb syringe

- Commercially prepared obstetrical kit includes:
  - Sanitary napkins or bulky trauma dressings
  - Scissors
  - Gauze pads
  - Rolled gauze, umbilical clamps
  - Red plastic “medical waste” bags for soiled linen and disposable supplies
  - Container for the placenta

Delivery procedure

- Prepare for delivery
  - Put on BSI
  - Prepare supplies and equipment to assist mother
  - Provide reasonable privacy for mother by asking unneeded bystanders to leave or turn back and look away
Delivery

- Delivery procedure
  - Prepare for delivery
    - Have mother remove undergarments and lie on back with knees drawn up and spread apart
    - Elevate mother’s hips

Delivery

- Delivery procedure
  - As baby moves down into birth canal:
    - Mother’s urge to push will be very strong
    - Remind her not to arch her back
    - Have her tuck her chin to chest, grab behind her knees, and curl body forward

Delivery

- Delivery procedure
  - As baby moves down into birth canal:
    - Encourage mother to hold her breath for 6-10 seconds as she bears down; pushing longer can cause
      - Strain
      - Rupture of blood vessels
      - Exhaustion
      - Tearing of perineum
Skill 13-1: Normal Delivery

- Prepare for delivery
  
- As the infant’s head appears, place the palm of your hand on top of baby’s head

Skill 13-1: Normal Delivery

- Support baby’s head and check baby’s neck for presence of umbilical cord
  
- Support infant’s head as it rotates

Skill 13-1: Normal Delivery

- Guide infant’s head downward to deliver anterior shoulder
  
- Guide infant’s head upward to release posterior shoulder
Skill 13-1: Normal Delivery

- Suction baby’s mouth first and then baby’s nostrils two or three times with bulb syringe

- If you do not have a bulb syringe, the mouth and then nose should be wiped with a gauze pad
- Support and assist in delivery of infant’s shoulders–rest of baby will be born very quickly
- Once infant is delivered keep the infant at or around level of vagina until umbilical cord has been cut

- When umbilical cord stops pulsating–tie it with gauze between mother and newborn
- Wipe blood or mucus from baby’s mouth and nose with sterile gauze and suction baby’s mouth and nose again
- Dry and wrap baby
Skill 13-1: Normal Delivery
- Stimulate baby to breathe by rubbing its back or flicking the soles of its feet
- Position baby on side, with head slightly lower than trunk, or place baby on mother’s abdomen
- Record time of delivery

Skill 13-1: Normal Delivery
- If there is a chance of multiple births, prepare for a second delivery
- Observe for delivery of placenta—could take up to 30 minutes

Skill 13-1: Normal Delivery
- When placenta is delivered
  - Wrap placenta and approximately ¾ of attached umbilical cord in towel and place them in plastic bag for transport to hospital
  - Place bulky pad over vaginal opening
    - Lower mother’s legs
    - Encourage mother to hold her legs together
    - Never place anything directly in vagina
Postdelivery vaginal bleeding

- Vaginal and perineal bleeding is normal during and after birth process.
- Mother's perineum tissue can tear during crowning and delivery of head causing moderate bleeding.

Postdelivery vaginal bleeding

- Normal to lose 300-500 mL of blood (from inside uterus) after delivery.
- Watch for signs that bleeding is excessive:
  - Anxiety
  - Changing in level of consciousness or lethargy
  - Rapid pulse
  - Rapid respirations
  - Bleeding that does not slow down or stop

To help control excessive postdelivery bleeding and minimize risk of shock:

- Control bleeding by massaging lower abdomen over uterus.
Delivery

- To help control excessive postdelivery bleeding and minimize risk of shock:
  - Treat for shock
    - Provide mother with O<sub>2</sub>
    - Maintain mother's normal body temperature by covering her with blankets
  - Encourage breast feeding
    - Stimulates contraction of uterus and may help control rate of bleeding

Delivery

- Postdelivery care of mother
  - After mother has delivered you should:
    - Continue to monitor mother's breathing and pulse
    - Make mother comfortable and monitor her for bleeding by replacing blood-soaked sheets, blankets, and pads with clean, dry ones
    - Maintain contact with mother while awaiting her transport to hospital

Delivery

- Initial care of newborn
  - During delivery—clear baby's airway
  - Once baby delivered—stimulate baby to breathe
  - Babies are bluish in appearance when first born and "pinken up" as their breathing becomes more regular
Delivery

- Dry the baby
  - Dry infant completely
  - Keep infant warm by wrapping infant in dry, warm blanket
    - Cover head to reduce heat loss

Delivery

- Clear airway
  - Once delivered, position infant on side with head slightly lower than body
  - Wipe mouth and then nose with gauze pad
  - Use bulb syringe to suction mouth and then nose

Delivery

- Check for breathing
  - Provide stimulation for infant to breathe within first 30 seconds of life
  - Once infant begins breathing:
    - Check that infant is taking >40 breaths/minute and is awake and alert
    - Crying is normal for newborns
Delivery

- Check for breathing
  - If newborn does not begin to breathe or continues to have breathing difficulty:
    * Ensure an open airway
    * Provide ventilation with mouth-to-mask or bag-mask technique at a rate of 40-60 breaths/minute for approximately 30 seconds

- Check circulation
  - Monitor pulse of umbilical cord or pulse at brachial artery
  - Pulse rate should be >100 beats/minute
  - Baby should be “pinking up” in color
  - If no pulse:
    * Begin CPR
    * Chest compressions should be performed at rate of 120/minute, and three compressions should be given for every one ventilation

- Newborn should be assessed continually for first few minutes after delivery
  - APGAR scoring system most commonly used
    * Appearance
    * Pulse
    * Grimace
    * Activity
    * Respirations
Complications

- Miscarriage/spontaneous abortion
  - For unknown reasons, mother's body rejects developing fetus and expels products of pregnancy
  - Usually occurs before week 20 of pregnancy
  - Be prepared to offer comfort and psychological support in addition to physical care
  - Signs and symptoms
    - Bleeding
    - Abdominal cramps or pain
    - Passing of pregnancy and fetal tissue

Complications

- Miscarriage/spontaneous abortion
  - Treatment
    - Support mother's airway, breathing, and circulation
    - Save any passed blood or tissue for transport to hospital
    - Provide O₂
    - Arrange for transport
    - Provide psychological support

Complications

- Multiple births
  - Watch each infant closely for breathing difficulties and rapid cooling
  - Things to remember
    - Mother is often not at full term when she goes into labor
    - Labor may not last as long
    - Babies often are smaller than full-term baby
      - Each baby typically weighs less than or equal to 5½ pounds
Complications

- **Prolapsed cord**
  - Occurs when umbilical cord is presenting part in delivery
  - Cord becomes pinched between baby's head and mother's birth canal blocking delivery of O2 to baby
  - Do not attempt to push cord back into birth canal

Complications

- **Prolapsed cord**
  - Position mother in a knee-chest position
  - Place wet dressings over exposed umbilical cord
  - Provide psychological support to mother
  - Provide mother with O2
  - Immediate transport necessary

Complications

- **Breech birth**
  - Occurs when head is not the presenting part
  - If buttocks emerges first labor and delivery may proceed normally
  - Be prepared to support the infant during delivery
Complications

• Breech birth
  ▶ If head does not appear shortly after rest of body create an airway for the baby
  * Support baby’s body on your forearm
  * Do not pull on baby to deliver head
  * Using same hand that is supporting baby’s body, slide two gloved fingers into mother’s vagina and place them on each side of baby’s mouth
  * Give mother O₂

Complications

• Breech birth
  ▶ If presenting part is an extremity
  * Delivery will probably not occur out of hospital
  * Remain calm
  * Comfort and reassure mother
  * Position mother in knee-chest position
  * Place mother on O₂
  * Provide psychological support while waiting for her to be transported to hospital

Questions?