

Emergency Childbirth

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Learning Objectives

- Review the anatomic structures and physiology of the female reproductive system
- Identify normal events of pregnancy
- Describe how to assess an obstetric patient
- Describe procedures for handling complications of pregnancy
- Identify stages of labor and the prehospital care provider's role in each stage

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Learning Objectives (Cont'd)

- Differentiate a normal and abnormal delivery
- State indications for imminent delivery
- Identify and describe complications associated with pregnancy and delivery
- Explain the use of contents of an obstetrics kit

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Learning Objectives (Cont'd)

- Differentiate the management of a patient with predelivery emergencies from a patient with a normal delivery
- State the steps in the predelivery preparation of the mother
- Establish the relation between standard precautions and childbirth

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Learning Objectives (Cont'd)

- State the steps to assist in the delivery of the newborn
- Describe the management of the mother after delivery
- Discuss the steps in the delivery of the placenta
- Describe how to care for the newborn

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Learning Objectives (Cont'd)

- Describe how and when to cut the umbilical cord
- Summarize neonatal resuscitation procedures
- Describe the procedures for handling abnormal deliveries and maternal complications of labor

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Learning Objectives (Cont'd)

- Describe special considerations of the premature baby
- Describe special considerations when meconium is present in the amniotic fluid or during delivery

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Gynecology

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Anatomy of the Female Genital Tract

- External female genitalia, uterus, vagina, fallopian tubes, ovaries, perineum
- Ovaries
 - Organ pair, release eggs/ova, reproductive hormones
 - Travels down fallopian tube to uterus

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Anatomy of the Female Genital Tract (Cont'd)

- Uterus
 - Embryo/fertilized egg implants, grows
 - Upper convex portion, fundus
 - Uterine cavity
 - Uterine wall
- Cervix
 - Neck of uterus
 - Inserts into vagina

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Anatomy of the Female Genital Tract (Cont'd)

- Birth canal
 - Lower uterus
 - Cervix
 - Vagina

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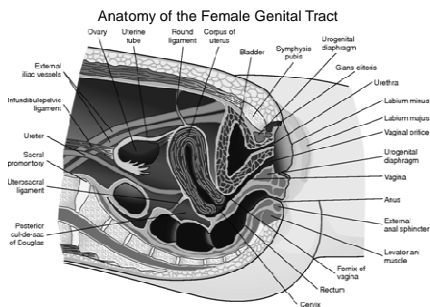
Anatomy of the Female Genital Tract (Cont'd)

- External genitalia
 - Mons pubis
 - Labia majora
 - Labia minora
 - Urethral meatus
 - Vaginal orifice
 - Perineum/perineal body

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Anatomy of the Female Genital Tract (Cont'd)



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- **Assessment and management**
 - **Signs**
 - Tachycardia, hypotension, fever, abdominal tenderness, blood from vagina

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- **Assessment and management**
 - History
 - Recording format
 - Assess, treat for shock, maintain ABCs, IV access, monitor vital signs, transport

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Obstetrics

- **Prehospital delivery**
 - Previous deliveries
 - Unsuspected complication, premature labor, bleeding
 - Psychosocial issues
 - Lack of access to medical care, drug/alcohol abuse, domestic violence

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Obstetrics (Cont'd)

- **Obstetric terms**
 - Antepartum—Before birth
 - Gestation—Carrying an embryo or fetus
 - Grand multipara—More than 5 births
 - Gravida--Pregnant
 - Multigravida—More than 2 pregnancies
 - Multipara—More than 2 live births
 - Natal—Associated with birth
 - Nullipara—Woman who has never born a child

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Obstetrics (Cont'd)

- **Obstetric terms**
 - Para—Woman who produces 1 or more offspring
 - Parity—Fact or condition that a woman has borne a child
 - Perinatal—Immediately before and after birth
 - Postnatal—Immediately after birth
 - Postpartum—Following childbirth
 - Prenatal—Before birth
 - Primigravida—First time pregnancy
 - Primipara—Woman who has had 1 live birth
 - Term gestation—Delivery of fetus between 39 and 40 weeks

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Anatomy and Physiology of Pregnancy

- Fetal development
 - Fertilization occurs in distal third of fallopian tube
 - Embryo, first 8 weeks of pregnancy, then fetus
 - Grows in amniotic sac
 - Fluid originates from fetal secretions, primarily urine

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Anatomy and Physiology of Pregnancy (Cont'd)

- Fetal development
 - Umbilical cord
 - Nutrition
 - O₂
 - Waste elimination
 - Three vessels, two arteries and vein, connects fetus to placenta

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Anatomy and Physiology of Pregnancy (Cont'd)

- Fetal development
 - Placental functions
 - Transfer of gases
 - Transport of nutrients
 - Excretion of wastes
 - Hormone production
 - Protection

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Anatomy and Physiology of Pregnancy (Cont'd)

- Fetal development
 - Normal length of pregnancy
 - Trimesters, 3 months each
 - Gender determined by end of first trimester
 - Fetal heart tones detectable by stethoscope, 20 weeks
 - Fetal movement felt, 18-22 weeks
 - Term, week 37
 - Estimated date of confinement (EDC)/estimated due date

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Anatomy and Physiology of Pregnancy (Cont'd)

Anatomy of Pregnant Woman

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Anatomy and Physiology of Pregnancy (Cont'd)

- Maternal physiology
 - First trimester, heart rate increases by 10-15 beats/min
 - Diaphragmatic displacement rotates heart, displaces upward, left

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Anatomy and Physiology of Pregnancy (Cont'd)

- Maternal physiology
 - Respiratory rate increases
 - Functional residual capacity reduced
 - Increase in tidal volume, minute volume



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Anatomy and Physiology of Pregnancy (Cont'd)

- Maternal physiology
 - BP decrease of 10-15 mm Hg by second trimester, normal by third trimester
 - Blood volume, 1.5x
 - Cardiac output increases by 30% by week 34
 - Supine hypotensive syndrome

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Anatomy and Physiology of Pregnancy (Cont'd)

- Maternal metabolism and nutrition
 - Normal weight gain varies, usually 11-16 kg, most should occur during second half of pregnancy
 - Insulin resistance

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Assessment of Pregnant Patient

- History
 - Primary complaint, relation to pregnancy
 - Vaginal bleeding, uterine contractions, abdominal pain
 - Gestational age
 - Gravidity
 - Parity

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Assessment of Pregnant Patient (Cont'd)

- Physical examination
 - General appearance
 - Vital signs
 - Dehydration, shock

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Assessment of Pregnant Patient (Cont'd)

- Physical examination
 - Gestational age >20 weeks, fetal heart tones
 - Feet, legs for edema
 - Abdominal examination

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General Management of Pregnant Patient

- Two patients
- Hypoxia, hypovolemia
- O₂ requirements increase
- Standard diagnostic, treatment modalities

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General Management of Pregnant Patient (Cont'd)

- Respiratory distress, respiratory arrest, higher vomiting risk, aspiration
- Left lateral recumbent position

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Normal Childbirth

- Labor
 - Onset of regular, coordinated contractions of uterus, combined with dilation of cervix
 - Braxton-Hicks contractions

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Normal Childbirth (Cont'd)

- Labor
 - First stage
 - Onset of regular uterine contraction to complete cervical dilation
 - Dilation stage
 - Measure contraction time, interval
 - Bloody show

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Normal Childbirth (Cont'd)

- Labor
 - Second stage
 - Full dilation of cervix to delivery of newborn
 - Expulsion stage
 - Moving into birth canal
 - Amniotic sac ruptures
 - Presenting part visible, usually head
 - Crowning

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Normal Childbirth (Cont'd)

- Labor
 - Third stage
 - Immediately after delivery until expulsion of placenta
 - Placental stage
 - Do not delay transport for placental delivery
 - If placenta delivers, check for all parts, place in bag

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Normal Childbirth (Cont'd)

- **Delivery**
 - Decision to transport versus delivery in field
 - Estimated transport time
 - Mother's condition complicated by other life threats
 - If mother wants to bear down, inspect perineum
 - If crowning, prepare for delivery

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Normal Childbirth (Cont'd)


- **Delivery**
 - Preparation for delivery
 - Private area
 - Standard precautions
 - Supplies



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Normal Childbirth (Cont'd)

- **Delivery**
 - Preparation for delivery
 - Position mother



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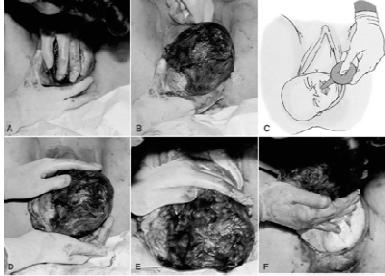
Normal Childbirth (Cont'd)

- **Delivery**
 - Delivery procedure
 - Allow head to deliver in controlled, gradual manner
 - Use bulb syringe to suction mouth, nose
 - Check around neck for umbilical cord

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Normal Childbirth (Cont'd)

Normal Delivery



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Normal Childbirth (Cont'd)

- **Delivery**
 - Delivery procedure
 - Gently direct head downward to allow anterior shoulder to slip out from under the pubic bone
 - Keep infant at vagina level to wipe remaining secretions around mouth, nose
 - Dry infant to reduce body heat loss, stimulate breathing

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Normal Childbirth (Cont'd)

- **Delivery**
 - **Delivery procedure**
 - Cut umbilical cord, place two clamps, cut between them
 - Wrap infant in clean towels, blankets
 - Note time of delivery
 - Multiple births, prepare for next delivery
 - Watch for placenta to deliver spontaneously
 - Place in container, transport to hospital

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Postdelivery Care of Mother

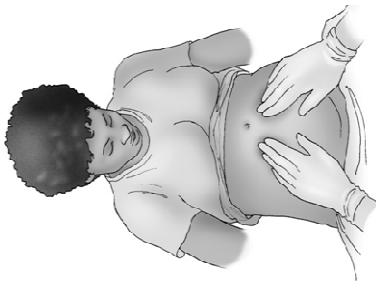
- Mother weak, tired
- Monitor BP, heart rate
- Keep mother warm, watch for shock
- Excessive blood loss, massage uterus

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Postdelivery Care of Mother (Cont'd)

Uterine Massage



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Postdelivery Care of Infant

- **Airway**
 - Suction immediately after head is delivered
 - Check again to ensure no mucus
 - Repeat bulb suctioning if necessary

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Postdelivery Care of Infant (Cont'd)

- **Breathing**
 - Clearing airway, drying procedures usually stimulate breathing
 - Rub back, flick feet with fingers
 - Chin lift/jaw thrust to open airway
 - Respiratory rate at least 30 breaths/min
 - Bag mask device

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Postdelivery Care of Infant (Cont'd)

- **Circulation**
 - Check for pulse in umbilical cord, brachial artery
 - No pulse, <60 beats/min, begin chest compressions

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Postdelivery Care of Infant (Cont'd)

- Apgar scores
 - Appearance
 - Pulse
 - Grimace
 - Activity
 - Respiratory effort

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Complications of Childbirth

- Preterm delivery
 - Between 20 and 37 weeks
 - Risk factors
 - Physiological abnormalities
 - Uterine/cervical abnormalities
 - PROM
 - Multiple gestations
 - Intrauterine infection

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Complications of Childbirth (Cont'd)

- Preterm delivery
 - Fluid leakage, amniotic sac broken
 - Rapid transport, rest, fluids, tocolytic administration
 - Baby may need aggressive resuscitation
 - Humidified blow-by O₂
 - Keep infant warm
 - 24 weeks, old enough to survive

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Complications of Childbirth (Cont'd)

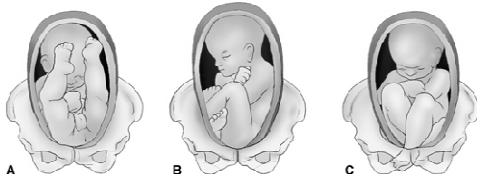
- Breech delivery
 - Baby's buttocks, lower extremities first part to enter birth canal
 - Frank breech, complete breech, footling breech
 - As infant delivers, support legs, pelvis

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Complications of Childbirth (Cont'd)

Breech Delivery



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Complications of Childbirth (Cont'd)

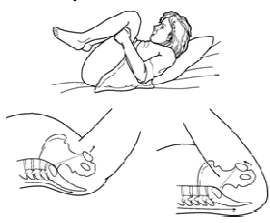
- Breech delivery
 - Do not grasp by abdomen, can damage internal organs
 - Grasp pelvic bone, do not pull on body
 - Rotate torso so shoulders oriented anteriorly to posteriorly
 - Guide body upward to allow posterior shoulder to deliver, then downward to deliver anterior shoulder

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Complications of Childbirth (Cont'd)

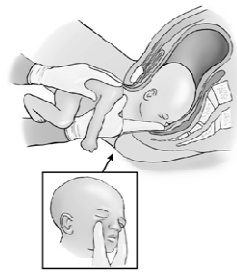
- Breech delivery
 - Position mother



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Complications of Childbirth (Cont'd)

Airway for Breech Delivery



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Complications of Childbirth (Cont'd)

- Shoulder dystocia
 - Head delivers, shoulder trapped under pelvic bone
 - "Turtle sign"
 - Knee chest position
 - Do not pull hard
 - Press downward with fingers on baby's shoulder through mother's abdominal wall just above pubic bone
 - Unsuccessful, rapid transport

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Complications of Childbirth (Cont'd)

- Cephalopelvic disproportion
 - Baby's head too large for maternal pelvic opening
 - Cesarean section required

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Complications of Childbirth (Cont'd)

- Prolapsed umbilical cord
 - Cord in front of presenting part, becomes compressed, cutting off blood supply, O₂ to baby



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Complications of Childbirth (Cont'd)

- Compound presentation
 - Presentation of extremity alongside major presenting fetal part
 - Knee-chest position
 - O₂
 - Transport immediately

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Complications of Childbirth (Cont'd)

- Multiple births
 - Markedly enlarged abdomen after delivery, consider multiple births
 - Procedures same as single birth
 - Higher risk, breathing difficulties, hypothermia

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Complications of Childbirth (Cont'd)

- Vaginal bleeding
 - Massage abdomen
 - Breastfeed
 - Shock, hemorrhagic shock
 - O₂
 - Keep mother warm
 - IV access

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Complications of Childbirth (Cont'd)

- Meconium
 - Newborn's first bowel movement
 - Baby in distress from lack of oxygen, infection
 - Aspirate into lungs with first breath

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Complications of Childbirth (Cont'd)

- Fetal death
 - CPR
 - Emotional support

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Questions?

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