

Module 6: Childbirth and Children

Lesson 6-1 Childbirth

Objectives

Objectives Legend

C=Cognitive P=Psychomotor A=Affective

1 = Knowledge level

2 = Application level

3 = Problem-solving level

Cognitive Objectives

At the completion of this lesson, the CFR student will be able to:

- 6-1.1 Identify the following structures: fetus, uterus, birth canal, placenta, umbilical cord, amniotic sac. (C-1)
- 6-1.2 Define the following terms: crowning, bloody show, labor, abortion. (C-1)
- 6-1.3 State indications of an imminent delivery. (C-1)
- 6-1.4 State the steps in the pre-delivery preparation of the mother. (C-1)
- 6-1.5 Establish the relationship between body substance isolation and childbirth. (C-3)
- 6-1.6 State the steps to assist in the delivery. (C-1)
- 6-1.7 Describe care of the baby as the head appears. (C-1)
- 6-1.8 Discuss the steps in delivery of the placenta. (C-1)
- 6-1.9 List the steps in the emergency medical care of the mother post-delivery. (C-3)
- 6-1.10 Discuss the steps in caring for a newborn. (C-1)
- 6-1.11 Discuss the procedures for the following abnormal deliveries: Vaginal Bleeding, Breech birth, Prolapsed cord, Limb presentation. (C-1)
- 6-1.12 Discuss the emergency medical care of a patient with a gynecological emergency (C-1)

Affective Objectives

At the completion of this lesson, the CFR student will be able to:

- 6-1.13 Explain the rationale for attending to the feelings of a patient in need of emergency medical care during childbirth. (A-2)
- 6-1.14 Demonstrate a caring attitude towards patients during childbirth who request emergency medical services. (A-3)
- 6-1.15 Place the interests of the patient during childbirth as the foremost consideration when making any and all patient care decisions. (A-3)
- 6-1.16 Communicate with empathy to patients during childbirth, as well as with family members and friends of the patient. (A-3)

Psychomotor Objectives

At the completion of this lesson, the CFR student will be able to:

- 6-1.17 Demonstrate the steps to assist in the normal cephalic delivery. (P-1, 2)

- 6-1.18 Demonstrate necessary care procedures of the fetus as the head appears. (P-1, 2)
- 6-1.19 Attend to the steps in the delivery of the placenta. (P-1, 2)
- 6-1.20 Demonstrate the post-delivery care of the mother. (P-1, 2)
- 6-1.21 Demonstrate the care of the newborn. (P-1, 2)
- 6-1.22 Demonstrate the procedures for the following abnormal deliveries: vaginal bleeding, breech birth, prolapsed cord, limb presentation. (P-1, 2)

Preparation

Motivation:

Childbirth in an out-of-hospital setting rarely occurs. Because of the infrequency, taking care of an anxious mother and newborn infant is a stressful emergency call for the CFR. Knowledge and practice in simulated situations can decrease stress and lead to better mother and child care.

Prerequisites:

Preparatory, Airway, and Patient Assessment Modules

Materials

AV Equipment:

Utilize various audio-visual materials relating to emergency medical care. The continuous development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to ensure that the objectives of the curriculum are met.

EMS Equipment:

Childbirth kit, airway management equipment, eye protection, gloves.

Personnel

Primary Instructor:

One EMT-B Instructor familiar with childbirth.

Assistant Instructor:

The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable in childbirth.

Recommended Minimum Time to Complete:

1.5 Hours

Presentation

Declarative (What)

1. Childbirth
 - A. Reproductive anatomy, physiology and terminology
 1. Fetus – developing unborn baby
 2. Uterus – organ in which a fetus grows, responsible for labor and expulsion of the infant
 3. Birth canal - vagina and lower part of the uterus
 4. Placenta (afterbirth) - organ through which fetus exchanges nourishment and waste products during pregnancy
 5. Umbilical cord - cord which is an extension of the placenta through which the fetus receives nourishment while in the uterus
 6. Amniotic sac (bag of water) - the sac that surrounds the fetus inside the uterus
 7. Crowning - the bulging-out of the vagina which is opening as the fetus's head or presenting part presses against it.
 8. "Bloody show" - mucus and blood that may come out of the vagina as labor begins
 9. Labor - the time and process (defined in 3 or 4 stages) beginning with the first uterine muscle contraction until delivery of the placenta
 - a. Delivery is imminent
 - b. Crowning
 - c. In the process of delivering
 10. Abortion (miscarriage) - delivery of products of conception early in pregnancy.
 - a. Assess and treat for shock
 - b. Retain products of conception
 - B. Delivery
 1. Is delivery imminent?
 - a. Questions
 - (1) What is your due date?
 - (2) Any chance of multiple births?
 - (3) Any bleeding or discharge?
 - (4) Does the patient feel as if she is having a bowel movement with increasing pressure in the vaginal area?
 - b. Examine for crowning if the patient answers yes to the preceding questions.
 2. If crowning is present, prepare for delivery.
 - a. Use body substance isolation.
 - b. Do not touch vaginal areas except during delivery and when your partner is present.
 - c. Do not let the mother go to bathroom.
 - d. Do not hold mother's legs together.
 3. If the head is not the presenting part this may be a complicated delivery.
 - a. Tell the mother not to push.

- b. Update responding EMS resources.
- c. Calm and reassure the mother.
- 4. Delivery procedures
 - a. Ensure body substance isolation
 - b. Have mother lie on her back with knees drawn up and legs spread apart.
 - c. Place absorbent, clean materials (sheets, towels, etc.) under the patient's buttocks.
 - d. Elevate buttocks with blankets or pillow.
 - e. When the infant's head appears, place the palm of your hand on top of the delivering baby's head and exert very gentle pressure to prevent explosive delivery.
 - f. If the amniotic sac does not break or has not broken, tear it with your fingers and push it away from the infant's head and mouth.
 - g. As the infant's head is being born, determine if the umbilical cord is around the infant's neck.
 - (1) Attempt to slip the cord over the baby's shoulder
 - (2) If unsuccessful, attempt to alleviate pressure on the cord.
 - h. After the infant's head is born, support the head
 - i. Suction the mouth and then the nostrils two or three times with the bulb syringe if available.
 - (1) Use caution to avoid contact with the back of the baby's mouth.
 - (2) If a bulb syringe is not available, wipe the baby's mouth and then the nose with gauze.
 - j. As the torso and full body are born, support the infant with both hands.
 - k. Do not pull on the infant.
 - l. As the feet are delivered, grasp the feet.
 - (1) Keep the infant level with the vagina.
 - (2) You may place the infant on the mother's abdomen for warmth.
 - m. When the umbilical cord stops pulsating, it should be tied with gauze between the mother and the newborn and the infant may be placed on the mother's abdomen.
 - n. Wipe blood and mucus from the baby's mouth and nose with sterile gauze; suction mouth, then the nose again.
 - o. Dry the infant.
 - p. Rub the baby's back or flick the soles of its feet to stimulate breathing.
 - q. Wrap the infant in a warm blanket and place the infant on its side, head slightly lower than trunk.
 - r. There is no need to cut the cord in a normal delivery. Keep the infant warm and wait for additional EMS resources who will have the proper equipment to clamp and cut the cord.
 - s. Record time of delivery.
 - t. If there is a chance of multiple births, prepare for second delivery.
 - u. Observe for delivery of placenta. This may take up to 30 minutes.
 - v. If the placenta is delivered, wrap it in a towel with 3/4 of the umbilical cord and place in a plastic bag, and keep the bag at the level of the infant.

- w. Place sterile pad over vaginal opening, lower mother's legs, help her hold them together.
- 5. Vaginal bleeding following delivery
 - a. Up to 300 - 500 ml blood loss is well tolerated by the mother following delivery.
 - b. The CFR must be aware of this loss so as not to cause undue psychological stress on himself or the new mother.
 - c. With continued blood loss, massage the uterus.
 - (1) Use hand with your fingers fully extended.
 - (2) Place the palm of your hand on lower abdomen above the pubis.
 - (3) Massage (knead) over area.
 - (4) If bleeding continues, check massage technique
 - d. Regardless of estimated blood loss, if mother appears in shock (hypoperfusion), treat as such.
- C. Initial care of the newborn
 - 1. Assessment of infant - normal findings
 - a. Pulse - greater than 100/min
 - (1) Pulse can be assessed at the umbilical cord
 - (2) May also assess at brachial artery
 - b. Respiratory status - >30 breaths per minute, crying
 - 2. The most important care is to position, dry, keep warm, and stimulate the newborn to breathe.
 - 3. Wrap newborn in blanket and cover its head.
 - 4. Repeat suctioning if necessary.
 - 5. Continue to stimulate newborn if not breathing.
 - a. Flick soles of feet.
 - b. Rub infant's back.
 - 6. If the newborn does not begin to breathe or continues to have breathing difficulty after one minute, the CFR must consider the need for additional measures.
 - a. Ensure open and patent airway.
 - b. Ventilate at a rate of 30 – 60 breaths per minute using a bag-valve-mask with supplemental oxygen.
 - c. Reassess after one minute.
 - d. If heart rate drops below 100 beats per minute at any time, assist ventilations using a bag-valve-mask with supplemental oxygen at a rate of 30 – 60 breaths per minute and reassess after 30 seconds.
 - e. If the pulse rate drops below 60 beats per minute at any time add chest compressions to assisted ventilations following AHA, ARC & NSC guidelines and reassess after 30 seconds.
- D. Abnormal Deliveries
 - 1. Prolapsed Cord - condition where the cord presents through the birth canal before delivery of the head; presents a serious emergency which endangers the life of the unborn fetus.

- a. Scene size up
 - b. Initial assessment
 - c. Mother should have high flow oxygen
 - d. History and physical exam
 - e. Assess baseline vitals
 - f. Treatment based on signs and symptoms
 - g. Position mother face up with head down or buttocks raised using gravity to lessen pressure in birth canal.
 - h. Update responding EMS resources of the complication.
2. Breech birth presentation - breech presentation occurs when the buttocks or lower extremities are low in the uterus and will be the first part of the fetus delivered.
- a. Newborn at great risk for delivery trauma, prolapsed cord more common, notify responding EMS resources upon recognition of breech presentation.
 - b. Delivery does not occur within 10 minutes.
 - c. Emergency medical care
 - (1) Immediate notification of responding EMS units upon recognition.
 - (2) Place mother on oxygen.
 - (3) Place mother face up in head down position with pelvis elevated.
3. Limb presentation - occurs when a limb of the infant protrudes from the birth canal. Is more commonly a foot when infant is in breech presentation.
- a. Immediate notification of responding EMS resources upon recognition.
 - b. Place mother on oxygen.
 - c. Place mother in face up head down position with pelvis elevated.
4. Multiple births
- a. Be prepared for more than one resuscitation.
 - b. Call for assistance.
5. Meconium - amniotic fluid that is greenish or brownish-yellow rather than clear; an indication of possible fetal distress during labor.
- a. Do not stimulate before suctioning oropharynx.
 - b. Suction using bulb syringe if available. If no bulb syringe is available, wipe mouth and nostrils clean with a sterile gauze.
 - c. Maintain airway.
 - d. Transport as soon as possible.
7. Premature
- a. Always at risk for hypothermia.
 - b. Usually requires resuscitation, should be done unless physically impossible.
- E. Post delivery care of the mother
1. Keep contact with the mother throughout the process.
 2. Monitor respirations and pulse.
 3. Keep in mind that delivery is an exhausting procedure.
 4. Replace any blood soaked sheets and blankets while awaiting transport.

- F. Gynecological emergencies
 - 1. Vaginal bleeding
 - a. Body substance isolation
 - b. Airway
 - 2. Trauma - external genitalia - treat as other bleeding soft tissue injuries; never pack vagina, provide oxygen and ongoing patient assessment.
 - 3. Alleged sexual assault - criminal assault situations require initial and on-going assessment / management and psychological care.
 - 4. Emergency medical care:
 - a. Body substance isolation
 - b. Initial Assessment
 - c. Apply oxygen if needed
 - d. Non-judgmental attitude during SAMPLE focused assessment
 - e. Crime scene protection
 - f. Examine genitalia only if profuse bleeding present.
 - g. Use same sex CFR for care when possible
 - h. Discourage the patient from bathing, voiding or cleaning wounds
 - i. Reporting requirements

Application

Procedural (How)

1. Demonstrate a normal delivery.
2. Demonstrate necessary care of the fetus as the head appears.
3. Demonstrate initial care of the newborn.
4. Discuss the steps in delivery of the placenta
5. Demonstrate post-delivery care of the mother.
6. Demonstrate the procedures for the following abnormal deliveries:
Breech birth, prolapsed cord, limb presentation
7. Demonstrate emergency medical care of the mother with continued bleeding.
8. Demonstrate the steps in the emergency care of the female patient with gynecological disorders.

Contextual (When, Where, Why)

Knowledge and skills practice in the laboratory setting, particularly for out-of-hospital childbirth, help the students maintain professionalism, understand these uncommon emergency medical care situations, and support the patient until additional EMS providers arrive at the scene

Student Activities

Auditory (Hearing)

1. The student should hear a video tape of a mother in the final stages of labor, providing a sample of the mother's actions during this painful process.

New York State Certified First Responder Curriculum

Adapted from the United States Department of Transportation
First Responder: National Standard Curriculum

Visual (Seeing)

1. The student should see audio-visual materials of labor and delivery showing:
 - A. Late stages of labor and normal delivery
 - B. Suctioning the infant's mouth and nose during delivery
 - C. Clamping and cutting the umbilical cord
 - D. Assessment and care of the newborn
 - E. Normal bleeding during delivery
 - F. Care of the placenta.

Kinesthetic (Doing)

1. Student should practice assisting in a normal delivery.
2. Student should practice necessary care of the fetus as the head appears during delivery.
3. Student should practice post delivery care of mothers and neonates.

Instructor Activities

Facilitate discussion and supervise practice.

Reinforce student progress in cognitive, affective, and psychomotor domains.

Redirect students having difficulty with content (complete remediation form)

Evaluation

Written:

Develop evaluation instruments, e.g., quizzes, oral reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Practical:

Evaluate the actions of the CFR students during role play, practice, or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

Remediation

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

Enrichment

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's course guide and attach with lesson plan