GENERAL CONSIDERATIONS FOR CHILDBIRTH

A. Unless delivery is imminent, transport to a hospital with obstetrical capabilities.

B. Imminent delivery is when the baby’s head is visible at the vaginal opening during a contraction (crowning).

C. A visual inspection of the perineal area should only be done when contractions are less than 5 minutes apart, there is bleeding / fluid discharge and/or the patient feels the urge to push.

D. The EMT should only place a gloved hand inside of the vagina as indicated for breech delivery with an entrapped head or prolapsed umbilical cord.

E. A mother in active labor should be placed on the cot or floor to prevent the newborn from falling after delivery.

Basic EMT

A. Obtain history of patient condition and pregnancy: contraction duration and interval, due date, number of pregnancies, and number of deliveries of live child, prenatal care, and any possible complications.

B. Determine transport or stay on scene for delivery. Transport unless crowning is present during a contraction. Contact Medical Control.

C. Always try to transport the mother to her designated hospital for delivery. Transport mother on left side with head slightly elevated to relieve pressure on the mother’s vena cava.

D. If delivery is imminent, prepare equipment and follow delivery guidelines.

E. Normal Presentation Childbirth Delivery Guidelines:

1. Gather equipment – OB kit, oxygen, BVM, towels, blankets, large dressings, cot and PPE.
2. Place patient on cot or floor on her back with knees and hips flexed.
3. If time permits, drape mother with towels in OB kit.
4. Don sterile gloves, gown and face shield.
5. As head crowns, gentle pressure with a flat hand on the baby’s head should be applied to prevent an explosive delivery.
6. Support head as it delivers.
7. Slide fingers along neck to check for the umbilical cord.
   a. If present, try to slip over baby’s head.
   b. If unable and it is wrapped too tightly for delivery to proceed, clamp cord in 2 places and cut between.
8. Put hands on either side of infant’s head with thumbs towards the face.
9. Gently guide head downward to assist with delivery of anterior (top) shoulder. Do NOT pull! Doing so can cause damage to spinal nerves.
   a. If shoulder does not deliver, see Delivery Complications Guidelines – Shoulder Dystocia.
10. Gently guide head upward to allow delivery of posterior (bottom) shoulder.
11. After the shoulders are delivered the rest of the body usually follows quickly, so be sure to support the body as it emerges. Infant will be slippery. Do NOT put fingers in armpits to pull the body out. Record time of baby’s birth.

12. Keep baby at level of vagina to prevent over or under transfusion of blood from the cord.

13. Clamp cord in two places about 2-3 inches from the abdomen and cut between clamps with scissors. Do not milk the cord. You do not have to wait for the cord to stop pulsating.

14. Immediately start drying the baby with towels.

15. Assess mother and baby for complications.

16. Obtain APGAR scores at one and five minutes after delivery.

17. The placenta may deliver any time in the next 20-30 minutes. You do not have to wait for delivery to transport the mother. Do NOT pull the cord as this can cause the uterus to invert or cause the placenta to separate from the uterus, either of which can cause hemorrhage. If placenta does deliver, transport in biohazard bag with patient.

18. Baby should be dried, placed skin-to-skin with the mother, and covered with dry linen to maintain temperature.

19. Observation of breathing, activity, and color should be ongoing.

20. Keep mother and baby warm.

21. Transport

Advanced EMT / Paramedic

A. Start IV of normal saline if hypovolemic shock or excessive bleeding is present. Administer 250-500 ml bolus and repeat as needed.

B. Breech Delivery – Footling Breech (one or both feet delivered first) and Frank Breech (buttocks are presenting part)

1. When feet or buttocks are first noted at the vaginal opening during a contraction, there is normally time to transport patient to nearest facility.

2. If upper thighs or buttocks have passed out of vagina, delivery is imminent.

3. Breech Infant Delivery Guidelines:
   a. Gather equipment – OB kit, oxygen, BVM, towels, blankets, large dressings, cot and PPE.
   b. Place patient on cot or floor on her back with knees and hips flexed.
   c. If time permits, drape mother with towels in OB kit.
   d. Don sterile gloves, gown and face shield.
   e. Allow baby to deliver with contractions while supporting the body. The posterior or bottom buttock and hip usually deliver first, then the anterior hip.
   f. After leg delivery, hold onto pelvis with both hands to support the body which will naturally turn to deliver the shoulders.
   g. If the shoulders do not deliver easily, apply gentle traction of the body until the axilla become visible. Then guide the infant’s body upward to deliver the posterior (bottom) shoulder. Guide the infant downward to deliver the anterior (top) shoulder.
h. As the head passes the pubis, usually face down, put one hand on the face and the other on the back of the neck, apply gentle upward traction until the mouth appears.

i. If the baby’s body has delivered and the head appears to be caught in vagina, the EMT must support the baby’s body and insert two fingers into the vaginal opening along the baby’s neck until the chin is located. At this point, the two fingers should be placed between the chin and the vaginal wall and advanced past the mouth and nose.

j. After achieving this position, a passage for air must be created by pushing the vaginal wall away from the baby’s face. The air passage must be maintained until the baby is completely delivered.

k. After delivery follow routine neonatal assessment.

C. **Shoulder Dystocia** – after delivery of the head, top shoulder gets stuck and delivery is halted.

   1. If unable to deliver anterior shoulder, have mother flex hips and bring knees to her chest to change the angle of the pelvis
   2. Have an assistant put moderate pressure on abdomen just above the symphysis pubis.
   3. If this does not assist in delivery of shoulder, then transport immediately.

D. **Excessive Bleeding Pre-Delivery**

   1. Follow Hypovolemic Shock Protocol in addition to normal delivery guidelines.
   2. If delivery is not imminent, patient should be transported on her left side and follow Hypovolemic Shock Protocol

E. **Excessive Bleeding Post-Delivery**

   1. Start IV normal saline. Administer 250-500ml bolus and repeat as needed.
   2. Typically caused by uterine atony. If placenta has been delivered, massage uterus and put baby to mother’s breast.
   3. If the uterus has inverted and is extending through the cervix it must be replaced quickly to limit profound hemorrhage. With the palm of the hand, push the fundus of the inverted uterus toward the vagina. If this does not turn the uterus right-side out, cover the uterus with moistened towels and transport immediately.

F. **Prolapsed Cord** – the umbilical cord has passed through the vagina and is exposed.

   1. Patient should be transported with hips elevated or in knee to chest position. Place moist dressing around the cord.
   2. If umbilical cord is seen or felt in the vagina, insert two fingers to elevate presenting part away from the cord; distribute pressure evenly when occiput presents.
   3. Do NOT attempt to push the cord back.
   4. High flow oxygen and transport immediately while maintaining elevation of presenting part.
A. Approximately 10% of newborns require some assistance to begin breathing at birth. About 1% require extensive resuscitation measures.

B. Those newly born infants who do not require resuscitation can generally be identified by a rapid assessment of the following 3 characteristics:
   1. Term gestation?
   2. Crying or breathing?
   3. Good muscle tone?

C. If the answer to all 3 questions is “yes,” the baby does not need resuscitation and should not be separated from the mother.
   1. Baby should be dried, placed skin-to-skin with the mother, and covered with dry linen to maintain temperature
   2. Observation of breathing, activity, and color should be ongoing

D. If the answer to any of the assessment questions is “no” the infant should receive one or more of the following four categories of action in sequence:
   1. Initial steps in stabilization (provide warmth, clear airway if necessary, dry, stimulate)
   2. Ventilation
   3. Chest compressions
   4. Administration of epinephrine and/or fluid boluses

E. Approximately 60 seconds are allotted for completing the initial steps, reevaluating, and beginning ventilation of required (see algorithm at end of protocol)

F. The decision to progress beyond the initial steps is determined by simultaneous assessment of two vital characteristics: respirations (apnea, gasping, or labored or unlabored breathing) and heart rate (whether greater than or less than 100 beats per minute)

G. Per AHA guidelines – it is recommended that suctioning immediately following birth (including suctioning with a bulb syringe) should be reserved for babies who have obvious obstruction to spontaneous breathing or who require positive-pressure ventilations

H. For babies born with meconium-stained amniotic fluid, endotracheal suctioning is only indicated for depressed infants.

I. Rescue breathing is delivered at a rate of 40-60 breaths per minute. Compression-to-ventilation ratio is 3:1, with 90 compressions and 30 ventilations delivered in one minute (120 events per minute). If cardiac arrest is suspected to be of primary cardiac etiology, compression-to-ventilation ratio of 15:2 may be considered.

J. APGAR scores are done at 1 and 5 minutes after delivery. Scoring should not delay any interventions.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Blue / Pale</td>
<td>Pink body, blue extremities</td>
<td>Completely pink</td>
</tr>
<tr>
<td><strong>Pulse</strong></td>
<td>Absent</td>
<td>&lt; 100</td>
<td>&gt;100</td>
</tr>
<tr>
<td><strong>Grimace (response to stimulation)</strong></td>
<td>No response</td>
<td>Grimace</td>
<td>Cough / sneeze</td>
</tr>
<tr>
<td><strong>Muscle tone</strong></td>
<td>Limp</td>
<td>Some flexion</td>
<td>Active Motion</td>
</tr>
<tr>
<td><strong>Respiratory effort</strong></td>
<td>Absent</td>
<td>Slow, irregular</td>
<td>Good, crying</td>
</tr>
</tbody>
</table>
A. Start IV/IO normal saline. If infant is hypovolemic, administer 10 ml/kg bolus over 5 minutes

B. Check blood sugar level, is < 40 administer 2 ml/kg of D10 IV/IO
   - 1 ml of D50 diluted with 4 ml of NS will yield 5 ml D10
   - 2 ml of D50 diluted with 8 ml of NS will yield 10 ml D10

C. Apply monitor and check rhythm

A. In the depressed infant born with meconium-stained amniotic fluid, direct tracheal suctioning with an ET tube and meconium aspirator is indicated.

B. If in asystole or persistent bradycardia despite adequate ventilation and chest compressions administer 0.01 – 0.03 mg/kg of epinephrine 1:10,000 IV/IO every 5 minutes as needed
A. Miscarriage – premature termination of a pregnancy.

1. Assess for shock and treat per Shock Protocol
2. Give psychological support to patient and/or family.
3. Be sure to take all expelled tissue to the hospital

B. Ectopic Pregnancy – Growth and development of a fertilized egg occurs outside of the uterus.

1. Patient may experience severe abdominal pain.
2. May have intra-abdominal and/or vaginal bleeding and discharge.
3. Patient may not know that she is pregnant.
4. Transport supine with knees flexed.
5. Take any expelled tissue to the hospital.

C. Cardiac Arrest

1. Precipitating events for cardiac arrest include: pulmonary embolism, trauma, hemorrhage, or congenital / acquired cardiac disease.
2. Standard cardiac resuscitation protocols should be followed.
3. When the mother is supine, the fetus may compress the iliac vessels, inferior vena cava and the abdominal aorta. To minimize the effects of the fetus pressure on venous return place a wedge (pillow) under the right abdominal flank or hip, or apply continuous manual displacement of the uterus to the left.

D. Third Trimester Bleeding

1. Abruptio placentae – premature separation of placenta from uterine wall. Characterized by abdominal pain and vaginal bleeding (may be dark). Uterus tender
2. Placenta previa – placenta partially or completely covers cervical os (opening); characterized by painless vaginal bleeding (may be bright red)
3. Never do a vaginal exam.

E. Pre-eclampsia

1. Hypertensive disorder that can occur during pregnancy. Can cause headaches, vision problems, abdominal pain, nausea, vomiting, and sudden swelling of the hands, feet or face. There is no pre-hospital treatment for pre-eclampsia other than to transport in a quiet, calm manner.

F. Eclampsia

1. Serious condition characterized by swelling, hypertension and grand mal seizures. Treatment is magnesium and eventual delivery of the infant

   Paramedic - Administer 4 grams Magnesium Sulfate in 100 ml of NS infused wide open until seizure stops or total dose delivered.

2. Note – eclampsia can occur up to 1-2 months after childbirth
• ASSESS AND MANAGE AIRWAY
• MAINTAIN O2 SATS >95%
• EVALUATE PATIENT CONDITION
  o CROWNING PRESENT WITH CONTRACTIONS? – DELIVER ON SCENE IF YES – SEE GUIDELINES
• MONITOR VITAL SIGNS
• OBTAIN MEDICAL HISTORY
  o CONTRACTION DURATION AND INTERVAL
  o DUE DATE
  o NUMBER OF PREGNANCIES
  o NUMBER OF DELIVERIES OF LIVE CHILDREN
  o PRENATAL CARE
  o POSSIBLE COMPLICATIONS
• REASSURE PATIENT
• TRANSPORT ON LEFT SIDE TO DELIVERY HOSPITAL WHEN POSSIBLE

• IV NS (RUN TO MAINTAIN PERFUSION)
• ASSESS AND MANAGE AIRWAY
• MAINTAIN O2 SATS >95%
• EVALUATE PATIENT CONDITION
  o BABY IS BREECH FOLLOW GUIDELINES
  o SHOULDER DYSTOCIA-
    HAVE MOTHER FLEX HIPS AND BRING KNEES TO CHEST, APPLY PRESSURE TO ABDOMEN JUST ABOVE THE SYMPHYSIS PUBIS.
  o PROLAPSED CORD-
    HAVE MOTHER ELEVATE HIPS OR PLACE IN KNEE TO CHEST POSITION, DO NOT PUSH ON CORD, USE TWO FINGERS TO RELIEVE CORD PRESSURE BY ELEVATING PRESENTING PART AWAY FROM CORD, ADMINISTER HIGH FLOW OXYGEN.
  o EXCESSIVE BLEEDING-
    FOLLOW SHOCK PROTOCOL IN ADDITION TO NORMAL DELIVERY GUIDELINES. TRANSPORT MOTHER ON LEFT SIDE IF DELIVERY NOT IMMINENT. IF BABY HAS BEEN DELIVERED MASSAGE UTERUS AND PUT BABY TO MOTHER’S BREAST.
• MONITOR VITAL SIGNS
• OBTAIN MEDICAL HISTORY
• REASSURE PATIENT
• TRANSPORT TO DELIVERY HOSPITAL WHEN POSSIBLE

Breech Infant Delivery Guidelines:

• GATHER EQUIPMENT – OB KIT, OXYGEN, BVM, TOWELS, BLANKETS, LARGE DRESSINGS, COT AND PPE.
• PLACE PATIENT ON COT OR FLOOR ON HER BACK WITH KNEES AND HIPS FLEXED.
• IF TIME PERMITS, DRAPE MOTHER WITH TOWELS IN OB KIT.
• DON STERILE GLOVES, GOWN AND FACE SHIELD.
• ALLOW BABY TO DELIVER WITH CONTRACTIONS WHILE SUPPORTING THE BODY. THE POSTERIOR OR BOTTOM BUTTOCK AND HIP USUALLY DELIVER FIRST, THEN THE ANTERIOR HIP.
• AFTER LEG DELIVERY, HOLD ONTO PELVIS WITH BOTH HANDS TO SUPPORT THE BODY WHICH WILL NATURALLY TURN TO DELIVER THE SHOULDERS.
• IF THE SHOULDERS DO NOT DELIVER EASILY, APPLY GENTLE TRACTION OF THE BODY UNTIL THE AXILLA BECOME VISIBLE. THEN GUIDE THE INFANT’S BODY UPWARD TO DELIVER THE POSTERIOR (BOTTOM) SHOULDER. GUIDE THE INFANT DOWNWARD TO DELIVER THE ANTERIOR (TOP) SHOULDER.
• AS THE HEAD PASSES THE PUBIS, USUALLY FACE DOWN, PUT ONE HAND ON THE FACE AND THE OTHER ON THE BACK OF THE NECK, APPLY GENTLE UPWARD TRACTION UNTIL THE MOUTH APPEARS.
• AFTER ACHIEVING THIS POSITION, A PASSAGE FOR AIR MUST BE CREATED BY PUSHING THE VAGINAL WALL AWAY FROM THE BABY’S FACE. THE AIR PASSAGE MUST BE MAINTAINED UNTIL THE BABY IS COMpletely DELIVERED.
• AFTER DELIVERY FOLLOW ROUTINE NEONATAL ASSESSMENT.
OB EMERGENCIES

- ASSESS AND MANAGE AIRWAY
- MAINTAIN O2 SATS >95%
- EVALUATE PATIENT CONDITION
  - MISCELLANEOUS - ASSESS AND TREAT FOR SHOCK (SEE SHOCK PROTOCOL), TAKE EXPPELED TISSUE IF AVAILABLE
  - ECTOPIC PREGNANCY - ASSESS AND TREAT FOR SHOCK (SEE SHOCK PROTOCOL), TAKE EXPPELED TISSUE IF AVAILABLE, TRANSPORT SUPINE WITH KNEES FLEXED
  - THIRD TRIMESTER BLEEDING - ASSESS AND TREAT FOR SHOCK (SEE SHOCK PROTOCOL), TRANSPORT MOTHER ON LEFT SIDE.
  - CARDIAC ARREST – SEE CARDIAC ARREST PROTOCOL, TRANSPORT ON LEFT SIDE
  - PREECLAMPSIA – TRANSPORT IN CALM QUIET MANNER
- MONITOR VITAL SIGNS
- OBTAIN MEDICAL HISTORY
- REASSURE PATIENT
- TRANSPORT

- IV NS (RUN TO MAINTAIN PERFUSION)
- MONITOR ECG

- IF ECLAMPSIA PRESENT: ADMINISTER MAGNESIUM SULFATE 4 GRAMS IN 100 ML OF NORMAL SALINE INFUSED WIDE OPEN UNTIL SEIZURE STOPS OR TOTAL DOSE IS DELIVERED

KEY

BASIC EMT
ADVANCED EMT
PARAMEDIC
MED CONTROL
Replaces 7/1/11
Replaces 7/1/11