EMS Services

PRE-HOSPITAL CARE

MEDICAL CONTROL

PROTOCOLS AND PROCEDURES
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<td>Abnormal Birth Emergencies</td>
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<td>Obstetrical Emergencies</td>
<td>4-4A</td>
</tr>
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</table>
CHILDBIRTH / OBSTETRICAL EMERGENCIES

UNCOMPLICATED DELIVERY

- Contact Medical Control to Notify of Delivery
  - Observe Head Crowning
  - UNIVERSAL PATIENT CARE
    - Prepare Patient for Delivery
      - Set-up Equipment / administer 100% O₂
    - IV Protocol if time
      - Run Normal Saline at 150 mL/hr
  - Delivery of Head
    - Firm, gentle pressure with flat of hand to slow expulsion
    - Allow head to rotate normally, check for cord around neck, wipe face free of debris
    - *Suction mouth and nose with bulb syringe
  - Delivery of Body
    - Place one palm over each ear. With next contraction, gently move head downward until upper shoulder appears. Then lift up gently to ease out lower shoulder.
    - Support the head and neck with one hand and buttocks with other.
    - REMEMBER THE NEWBORN IS SLIPPERY!
  - Newborn and Cord
    - Keep newborn at level of vaginal opening. Keep warm and dry. After 10 seconds, clamp cord in two places with sterile equipment at least 6 – 8” from newborn.
    - Cut between clamps. DO NOT PULL ON THE CORD TO DELIVER the placenta.
    - Allow placenta to deliver itself, do not delay transport. Take the placenta to the hospital with the patient.
- Care of the Newborn (Refer to Neonatal Resuscitation)
  - Temperature: (warm and dry)  Airway: (position and suction)
  - Breathing: (stimulate to cry)  Circulation: (heart rate and color)
  1) Assess babies response to birth and administer care as needed.
  2) Position, clear airway, stimulate to breathe by drying and give O₂ as needed.
  3) Establish effective ventilation with BVM and then, intubation.
  4) Provide chest compression if indicated by heart rate.
  5) Administer medications.
  6) Assign APGAR score 1 min and 5 min after birth.

- CONTACT MEDICAL CONTROL
- TRANSPORT
UNCOMPPLICATED DELIVERY

CONTACT MEDICAL DIRECTION IMMEDIATELY WHEN DELIVERY IS IMMINENT

<table>
<thead>
<tr>
<th>History</th>
<th>Signs and Symptoms</th>
<th>Differential Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due date</td>
<td>Spasmodic pain</td>
<td>Abnormal presentation</td>
</tr>
<tr>
<td>Time contractions started / how often</td>
<td>Vaginal discharge or bleeding</td>
<td>Buttock</td>
</tr>
<tr>
<td>Rupture of membranes</td>
<td>Crowning or urge to push</td>
<td>Foot</td>
</tr>
<tr>
<td>Time / amount of any vaginal bleeding</td>
<td>Meconium</td>
<td>Hand</td>
</tr>
<tr>
<td>Sensation of fetal activity</td>
<td>Left lateral position</td>
<td>Prolapsed cord</td>
</tr>
<tr>
<td>Past medical and delivery history</td>
<td>Inspect perineum</td>
<td>Placenta previa</td>
</tr>
<tr>
<td>Medications</td>
<td>(No digital vaginal exam)</td>
<td>Abruptio placenta</td>
</tr>
</tbody>
</table>

GENERAL CONSIDERATIONS:

- Exam (of Mother): Mental Status, Heart, Lungs, Abdomen, Neuro
- Document all times (delivery, contraction frequency, and length).
- If maternal seizures occur, refer to the Obstetrical Emergencies Protocol.
- After delivery, massaging the uterus (lower abdomen) will promote uterine contraction and help to control post-partum bleeding.
- Some perineal bleeding is normal with any childbirth. Large quantities of blood or free bleeding are abnormal.
- If delivery becomes imminent, prepare to deliver and protect mother’s privacy if possible (stop the squad and prepare for delivery).
- Newborns are very slippery, so be careful not to drop the baby.
- There is no need to wait on scene to deliver the placenta.
- If possible, transport between deliveries if the mother is expecting twins.
- Allow the placenta to deliver, but DO NOT delay transport while waiting.
- DO NOT PULL ON THE UMBILICAL CORD WHILE PLACENTA IS DELIVERING.

<table>
<thead>
<tr>
<th>Apgar Scoring</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COLOR</strong></td>
<td></td>
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<tr>
<td><strong>HEART RATE</strong></td>
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<tr>
<td>Blue / Pale</td>
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<tr>
<td>Pink Body, Blue Extremities</td>
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<tr>
<td>Completely Pink</td>
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<td>Absent</td>
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<td>Below 100</td>
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<tr>
<td>Above 100</td>
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<tr>
<td><strong>IRRITABILITY (response to stimulation)</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>No Response</td>
<td></td>
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<tr>
<td>Grimace</td>
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<td></td>
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<tr>
<td>Cries</td>
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<tr>
<td><strong>MUSCLE TONE</strong></td>
<td></td>
<td></td>
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<tr>
<td>Limp</td>
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<td></td>
<td></td>
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<tr>
<td>Flexion of Extremities</td>
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<tr>
<td>Active Motion</td>
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<tr>
<td><strong>RESPIRATORY EFFORT</strong></td>
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<tr>
<td>Absent</td>
<td></td>
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<tr>
<td>Slow and Regular</td>
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<td></td>
<td></td>
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<tr>
<td>Strong Cry</td>
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</tbody>
</table>
UNIVERSAL PATIENT CARE PROTOCOL (For Mother)

↓

Meconium in Amniotic fluid?

Yes

↓

Airway Suction

No

↓

Continue to stimulate infant and note APGAR

First 30 seconds:
Dry, warm, stimulate and position infant. Bulb syringe suction

Respiration's Present?

No

↓

Heart Rate less than 100

BVM 30 seconds at 40 – 60 Breaths per minute with 100% OXYGEN
Reassess heart rate

Yes

Heart Rate greater than 100

Reassess Heart Rate and APGAR Score

HR less than 60

See Pediatric Airway Protocol

Begin CPR

↓

IV PROTOCOL

Bradycardia Protocol

Consider:
NORMAL SALINE BOLUS
DEXTROSE / NARCAN
Age appropriate Dose

HR 60 - 100

See Pediatric Airway Protocol

HR greater than 100

Monitor and Reassess

HR less than 80

Reassess HR

HR 80 -100

IV PROTOCOL

Bradycardia Protocol

HR greater than 100

OXYGEN Blow - By

CONTACT MEDICAL CONTROL

TRANSPORT
CHILDBIRTH / OBSTETRICAL EMERGENCIES

PEDIATRIC NEONATAL RESUSCITATION

<table>
<thead>
<tr>
<th>History</th>
<th>Signs and Symptoms</th>
<th>Differential Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Due date and gestational age</td>
<td>• Respiratory distress</td>
<td>• Airway failure</td>
</tr>
<tr>
<td>• Multiple gestation (twins, etc.)</td>
<td>• Peripheral cyanosis or mottling (normal)</td>
<td>• Secretions</td>
</tr>
<tr>
<td>• Meconium</td>
<td>• Central cyanosis (abnormal)</td>
<td>• Infection</td>
</tr>
<tr>
<td>• Delivery difficulties</td>
<td>• Altered level of responsiveness</td>
<td>• Maternal medication effect</td>
</tr>
<tr>
<td>• Congenital disease</td>
<td>• Bradycardia</td>
<td>• Hypovolemia</td>
</tr>
<tr>
<td>• Medications (maternal)</td>
<td></td>
<td>• Hypoglycemia</td>
</tr>
<tr>
<td>• Maternal risk factors substance abuse, smoking</td>
<td></td>
<td>• Congenital heart disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hypothermia</td>
</tr>
</tbody>
</table>

GENERAL CONSIDERATIONS:

- Exam: Mental Status, Skin, HEENT, Neck, Chest, Heart, Abdomen, Extremities, Neuro
- Consider hypoglycemia in infant.
- Document 1 and 5 minute APGAR scores (see Appendix).
- If the patient is in distress, consider causes such as, hypovolemia. Administer a 10 mL/kg fluid bolus of normal saline.
- If the BGL less than 40 mg/dl go to the Pediatric Diabetic Protocol.
  - IV/IO can be administered.

Dextrose administration: Neonate: D10 solution = (250 mL bag of NS withdraw and discard 50 mL and then add 50 mL of D50 to the 200 mL NS to make D10 solution, give: 5-10 mL/kg).

Infants and children: 2 – 4 mL/kg IV of a D25 solution. May be repeated x1 after 5 minutes D25 solution = (Mix D50 with 50 mL NS).

- Hypothermia is a common complication of home and field deliveries. Keep the baby warm and dry.
- If there is a history of recent maternal narcotic use, consider Naloxone (Narcan) 0.1 mg/kg every minute until patient responds.
- Meconium may need to be suctioned several times to clear airway. It may also be necessary to visualize the trachea and suction the lower airway. Lower airway suction is achieved by intubating the infant and suctioning directly through the ET tube using the aspirator each time suctioning is done. This lower airway suction is only done when the infant is NOT vigorous.
- If drying and suction has not provided enough stimulation, try rubbing the infant’s back or flicking their feet. If the infant still has poor respiratory effort, poor tone, or central cyanosis, consider them to be distressed. Most distressed infants will respond quickly to BVM.
- Use caution not to allow newborns to slip from grasp.

APGAR SCORING

<table>
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ABNORMAL BIRTH EMERGENCIES

CORD AROUND NECK
- Loosen cord or clamp and cut if too tight
- Continue Delivery

PROLAPSED CORD
- Transport Mother with hips elevated and knees to chest
- Insert fingers to relieve pressure on cord if presenting part of the infant is compressing the cord

BREECH BIRTH
- Transport unless delivery is imminent
- Do not encourage mother to push
- Support but do not pull presenting parts

SHOULDER DYSTOCIA
- Transport Mother with knees to chest
- If delivery does not occur, transport immediately
- Place pressure on symphysis pubis

If delivery is in process and the head is clamped inside vagina, create air passage by supporting body of infant and placing 2 fingers along sides of nose, and push away from face to facilitate an airway passage.

If unable to deliver, transport mother with knees to chest.

CONTACT MEDICAL CONTROL

TRANSPORT
ABNORMAL BIRTH EMERGENCIES

CONTACT MEDICAL DIRECTION IMMEDIATELY WHEN ANY ABNORMAL BIRTH PRESENTATION IS DISCOVERED

<table>
<thead>
<tr>
<th>History</th>
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</thead>
<tbody>
<tr>
<td>• Past medical history</td>
<td>• Frank Breech (buttocks presents first)</td>
<td>• Miscarriage</td>
</tr>
<tr>
<td>• Hypertension meds</td>
<td>• Footling Breech (one foot or both feet presenting)</td>
<td>• Stillbirth</td>
</tr>
<tr>
<td>• Prenatal care</td>
<td>• Transverse Lie (fetus is on his/her side with possible arm or leg presenting)</td>
<td></td>
</tr>
<tr>
<td>• Prior pregnancies / births Gravida / Para</td>
<td>• Face First Presentation</td>
<td></td>
</tr>
<tr>
<td>• Ultrasound Findings in Prenatal Care</td>
<td>• Prolapsed Cord (umbilical cord presents first)</td>
<td></td>
</tr>
</tbody>
</table>

GENERAL CONSIDERATIONS:
- DO NOT pull on any presenting body parts.
- These patients will most likely require a c-section, so immediate transport is needed.
- Prolonged, non-progressive labor distresses the fetus and mother. Be sure to reassess mother’s vital signs continuously.

Cord Around Baby's Neck:
- As baby's head passes out the vaginal opening, feel for the cord. Initially try to slip cord over baby’s head; if too tight, clamp cord in two places and cut between clamps.

Breech Delivery:
- Footling Breech, which is one or both feet delivered first
- Frank Breech, which is the buttocks first presentation
- Feet or buttocks first become visible, there is normally time to transport patient to nearest facility.
- If upper thighs or the buttock have come out of the vagina, delivery is imminent.
- If the child's body has delivered and the head appears caught in the vagina, the EMT must support the child's body and insert two fingers into the vagina along the child's neck until the chin is located. At this point, the two fingers should be placed between the chin and the vaginal canal and then advanced past the mouth and nose.
- After achieving this position, a passage for air must be created by pushing the vaginal canal away from the child's face. This air passage must be maintained until the child is completely delivered.

Excessive Bleeding Pre-Delivery:
- If bleeding is excessive during this time and delivery is imminent, in addition to normal delivery procedures, the EMT should use the hypovolemic shock protocol.
- If delivery is not imminent, patient should be transported on her left side and shock protocol followed.

Excessive Bleeding Post-Delivery:
- If bleeding appears to be excessive, start IV of saline. Follow HYPOVOLEMIC SHOCK PROTOCOL.
- If placenta has been delivered, massage uterus and put baby to mother's breast.

Prolapsed Cord:
- When the umbilical cord passes through the vagina and is exposed, the EMT should check cord for a pulse.
- The patient should be transported with hips elevated or in the knee chest position and a moist dressing around cord.
- If umbilical cord prolapsed, insert two fingers to elevate presenting part away from cord, distribute pressure evenly when occiput presents.
- DO NOT attempt to push the cord back. High flow oxygen and transport IMMEDIATELY.

Shoulder Dystocia:
- Following delivery of the head, the shoulder(s) become “stuck” behind the symphisis pubis or sacrum of the mother.
- Occurs in approximately 1% of births.
**UNIVERSAL PATIENT CARE PROTOCOL**

**MONITOR / IV PROTOCOL**

**Vaginal Bleeding / Abdominal Pain?**

- **No**
  - **Hypertension?**
    - **Yes**
      - **Mild Pre-eclampsia** – (BP greater than 140/90, Peripheral Edema)
      - **Severe Pre-eclampsia** – (BP greater than 140/90, Edema, Headache, Visual Disturbances)
      - **Eclampsia – Seizures – other signs absent**
        - If patient actively seizing, give 4 grams of Magnesium Sulfate in 10 mL NS IV over 2 – 3 minutes
        - **Call Medical Control for Valium Order**
        - **Quiet Rapid transport**
      - **Contact Medical Control**
      - **Transport**
    - **No**
      - **Known Pregnancy / Missed Period?**
        - **Yes**
          - **1st Trimester** – Miscarriage, Ectopic Pregnancy
          - **2nd & 3rd Trimester** – Placenta Previa
          - **Abruptio Placenta**
            - **Yes**
              - **NORMAL SALINE IV, as needed**
              - **Pad bleeding, save and bring with patient**
              - **Childbirth / Imminent Delivery Protocol**
              - **Rapid Transport**
            - **No**
              - **Other Abdominal Pain?**
                - **Yes**
                  - See Protocol
                - **No**
                  - **Transport**
        - **No**
          - **Quiet Rapid transport**
          - **Contact Medical Control**
          - **Transport**
### Obstetrical Emergencies

<table>
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<tr>
<th>History</th>
<th>Signs and Symptoms</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Past medical history</td>
<td>Vaginal bleeding</td>
<td>Pre-eclampsia / Eclampsia</td>
</tr>
<tr>
<td>Hypertension meds</td>
<td>Abdominal pain</td>
<td>Placenta previa</td>
</tr>
<tr>
<td>Prenatal care</td>
<td>Edema of hands and face</td>
<td>Placenta abruptio</td>
</tr>
<tr>
<td>Prior pregnancies / births</td>
<td>Seizures / Hypertension</td>
<td>Spontaneous abortion</td>
</tr>
<tr>
<td>Gravida / Para</td>
<td>Severe headache</td>
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<td></td>
<td>Visual changes</td>
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</tbody>
</table>

### General Considerations:

- **Exam:** Mental Status, Abdomen, Heart, Lungs, Neuro

- **General Information:**
  - May place patient in a left lateral position to minimize risk of supine hypotensive syndrome.
  - Ask patient to quantify bleeding - number of pads used per hour.
  - Pregnant patients if transported with a C-Collar and backboard must be strapped securely on board and tilted 20 degrees on left side relieving compression on vena cava.
  - DO NOT apply packing to the vagina.
  - Be alert for fluid overload when administering fluids.
  - Consider starting a second IV if the patient is experiencing excessive vaginal bleeding or hypotension.
  - Transport to an appropriate OB facility if the patient is pregnant.

### Abortion / Miscarriage:

- The patient may be complaining of cramping, nausea, and vomiting.
- Be sure to gather any expelled tissue and transport it to the receiving facility.
- Signs of infection may not be present if the abortion / miscarriage was recent.
- An abortion is any pregnancy that fails to survive over 20 weeks. When it occurs naturally, it is commonly called a “miscarriage”.

### Post Partum Hemorrhage:

- Post partum blood loss greater than 300-500 mL.
- Bright red vaginal bleeding
- Be alert for shock and hypotension

### Abruptio Placenta:

- Usually occurs after 20 weeks.
- Dark red vaginal bleeding.
- May only experience internal bleeding.
- May complain of a “tearing” abdominal pain.

### Pre-Eclampsia / Eclampsia:

- Severe headache, vision changes, or RUQ pain may indicate pre-eclampsia.
- In the setting of pregnancy, hypertension is defined as a BP greater than 140 systolic and greater than 90 diastolic, or a relative increase of 30 systolic and 20 diastolic from the patient’s normal (pre-pregnancy) blood pressure.

### Uterine Inversion:

- The uterine tissue presents from the vaginal canal
- Be alert for vaginal bleeding and shock

### Ectopic Pregnancy:

- The patient may have missed a menstrual period or had a positive pregnancy test.
- Acute unilateral lower abdominal pain that may radiate to the shoulder.
- Any female of childbearing age complaining of abdominal pain is considered to have an ectopic pregnancy until proven otherwise.

### Pelvic Inflammatory Disease:

- Be tactful when questioning the patient to prevent embarrassment.
- Diffuse back pain.
- Possibly lower abdominal pain.
- Pain during intercourse.
- Nausea, vomiting, or fever.
- Vaginal discharge.
- May walk with an altered gait due to abdominal pain.

### Placenta Previa:

- Usually occurs during the last trimester.
- Painless bright red vaginal bleeding.

### Vaginal Bleeding:

- If the patient is experiencing vaginal bleeding, DO NOT Pack the vagina, pad on outside only.