PERFORMANCE OBJECTIVES
Demonstrate proficiency in assisting with an imminent delivery and perform initial interventions as necessary.

CONDITION
Assess and assist in the delivery of a newborn and initiate appropriate interventions as needed using a simulated patient. Necessary equipment will be adjacent to the manikin or brought to the field setting.

EQUIPMENT
Obstetrical manikin with newborn, placenta and umbilical cord, 1 assistant, obstetrical kit with OB cleansing towelettes, 4x4s, drapes, sheet, 8 towels, 2 cord clamps, 2 plastic ties, umbilical cord scissors, bulb syringe, obstetrical pad, plastic bag, sterile gloves, newborn blanket, oxygen tank with flow meter, oxygen tubing, adult and neonatal oxygen mask, adult and neonatal bag-valve-mask device, nasal cannula, stethoscope, eye protection, masks, gown, gloves.

PERFORMANCE CRITERIA
• Items designated by a diamond (♦) must be performed successfully to demonstrate skill competency.
• Items identified by double asterisks (**) indicate actions that are required if indicated.
• Items identified by ($) should be practiced.

<table>
<thead>
<tr>
<th>Skill Component</th>
<th>Key Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Assess:</td>
<td>• The initial information obtained from the mechanism of injury or nature of illness assists in formulating the field impression.</td>
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<tr>
<td>• Personnel/patient safety</td>
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<td>• Environmental hazards</td>
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<tr>
<td>• Number of patients</td>
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<tr>
<td>• Mechanism of Injury/Nature of illness</td>
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<tr>
<td>♦ Take body substance isolation precautions</td>
<td>• Mandatory personal protective equipment – gloves at all times</td>
</tr>
<tr>
<td>♦ Assess mother’s history pertinent to pregnancy:</td>
<td>• Situational - long sleeves, eye protection, masks, gown as needed</td>
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<tr>
<td>• Last menstrual period (LMP) and/or expected due date (EDD)</td>
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<tr>
<td>• Prenatal care</td>
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<tr>
<td>• Number of pregnancies (Gravida)</td>
<td></td>
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<tr>
<td>• Number of deliveries (Para)</td>
<td></td>
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<tr>
<td>• Number of children and miscarriages/abortions</td>
<td></td>
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<tr>
<td>• Multiple births (twins, etc.) previous and expected</td>
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<tr>
<td>• Rupture of amniotic membranes (color and odor)</td>
<td></td>
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<tr>
<td>• Vaginal discharge</td>
<td></td>
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<tr>
<td>• bleeding</td>
<td></td>
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<tr>
<td>• bloody discharge</td>
<td></td>
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<tr>
<td>• Any problems with this pregnancy</td>
<td></td>
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<tr>
<td>• hypertension</td>
<td></td>
</tr>
<tr>
<td>• gestational diabetes</td>
<td></td>
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<tr>
<td>• Type of previous deliveries - if indicated</td>
<td></td>
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<tr>
<td>• vaginal</td>
<td></td>
</tr>
<tr>
<td>• cesarean</td>
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<tr>
<td>• Any problems with past deliveries</td>
<td></td>
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<tr>
<td>• When was the last time the “baby” moved</td>
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<tr>
<td>• Pertinent medical history including diabetes</td>
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<tr>
<td>• Medications (prescribed, over the counter or recreational drug use)</td>
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<tr>
<td>• Allergies</td>
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<tr>
<td>• The LMP (last menstrual period) or EDD (expected due date) is important to determine if newborn is premature, term or post-term. Determines if there are special needs and problems.</td>
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<tr>
<td>• Gravida is the number of pregnancies, including the current pregnancy and any spontaneous (miscarriage) or induced (therapeutic) abortions</td>
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<tr>
<td>• Para is the number of deliveries after 20 weeks gestation (age of viability whether living, stillborn, full-term, pre-term, abortions).</td>
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<tr>
<td>• EMS personnel should describe the reproductive history as the number of pregnancies, number of deliveries, and the number of children and abortions.</td>
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<tr>
<td>• Vaginal discharge:</td>
<td></td>
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<tr>
<td>• frank bleeding may indicate placenta previa</td>
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<tr>
<td>• bloody mucus discharge is normal in all 3 stages of labor</td>
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<tr>
<td>• Amniotic fluid that is:</td>
<td></td>
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<tr>
<td>• clear is normal</td>
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<td>• greenish or brownish-yellow indicates fetal distress</td>
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<td>• cloudy or foul smelling fluid indicates an infection.</td>
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<tr>
<td>• A previous cesarean section may lead to possible uterine rupture during labor.</td>
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<tr>
<td>• Diabetes information is important to prepare for a large newborn and excessive amniotic fluid (polyhydramnios).</td>
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<tr>
<td>• Recreational drug use is important to prepare for the possibility of a respiratory distressed newborn.</td>
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<tr>
<td>Skill Component</td>
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</tbody>
</table>
| **Assess contractions:** | • Frequency of contractions is from the onset of one contraction until the onset of the next contraction.  
• Duration of the contraction is from the onset of one contraction to its completion.  
• Intensity is the strength of the contractions. As the strength of each contraction increases, the peaks will come sooner and last longer. |
| • Frequency |  |
| • Duration |  |
| • Intensity |  |
| **Determine if delivery is imminent:** | • Crowning is the most reliable sign of imminent delivery. However if signs of imminent delivery it is best to have mother deliver on scene and not enroute.  
• The mother may or may not have the urge to push. The urge to push is due to the newborn moving into the birth canal and pressing the vaginal wall against the rectum and stimulating the sacral nerves; this may be interpreted by the mother as having to have a bowel movement. |
| • Perineum is bulging |  |
| • Crowning present |  |
| • Contractions 2-3 minutes apart |  |
| • Mother has urge to push |  |
| **Determine need for:** | • Maintaining privacy for the mother is essential. Makeshift protective screens can be improvised with tarps, blankets, sheets, furniture, etc.  
• Have oxygen with appropriate size masks or cannulas available for mother and newborn if needed.  
• Have emesis basin ready in case mother becomes nauseated and possibly vomits. |
| • Additional resources |  |
| • Specialized equipment |  |
| **Consider equipment needed for administration of oxygen to the mother and/or newborn** |  |
| **Put on additional protective equipment:** | • Sterile gloves, gown, face mask, eye protection should be put on to protect the healthcare providers from the splashing blood and bodily fluids during delivery. This protective equipment also protects the mother and newborn from contamination. |
| • Gown with long sleeves |  |
| • Face mask |  |
| • Eye protection |  |
| • Gloves (non-sterile if not already applied) |  |
| **Position mother:** | • Avoid inference of impropriety. Always have a team or family member, if available, in attendance when touching a woman’s perineal area.  
• Place mother in a safe delivery position in order to prevent injury to a slippery newborn. |
| • Place in a Semi-Fowler’s position |  |
| • Elevate buttocks with pillow or blanket 2”- 4” |  |
| • Remove clothing that obstructs perineum |  |
| • Pull up knees and spread apart |  |
| **Open obstetrical (OB) kit** |  |
| **Cleanse perineum with OB cleansing towelettes (wipe front to back)** |  |
| **Put on sterile gloves** |  |
| **Use aseptic technique. Either single or double glove technique is acceptable.** |  |
| **Drape mother and establish a sterile field around vaginal area** |  |
| **Drape the mother to initiate a clean field and provide modesty using the drapes provided in the OB kit.**  
**Place one towel under buttocks which can be removed in case of fecal contamination (have additional towels readily available).** |  |

**PROCEDURE**

<table>
<thead>
<tr>
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<th>Key Concepts</th>
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</table>
| **Support the newborn’s head and apply gentle pressure to perineum to prevent explosive delivery:** | • Support newborn’s head by spreading fingers evenly around the head to (like cupping the head) prevent concentrated pressure on fontanelles. Be careful not to poke fingers into newborn’s eyes or fontanelles.  
• An explosive delivery causes perineal tears and results in harm due to the sudden change in pressure to the newborn’s head. |
<p>| • Keep one hand on newborn’s head |  |
| • Apply pressure to perineum with sterile towel or 4x4s |  |</p>
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| ♦ Rupture the amniotic membranes and pull membranes from newborn’s mouth and nose - if not ruptured previously | • To rupture membranes, pinch membranes between fingers and twist until membranes tear. DO NOT use an instrument to rupture membranes since this may cause injury to the presenting part.  
• Amniotic fluid that is greenish or brownish-yellow (meconium) indicates maternal or fetal distress. Cloudy or foul smelling fluid indicates an infection.  
• If membranes did not rupture spontaneously, prior to this stage, the newborn is said to have been born with a veil or caul. |
| ** Note color and odor of amniotic fluid - if membranes were not ruptured previously |                                                                                                                                                                                                          |
| ♦ Check for nuchal cord around the newborn’s neck as soon as head is delivered: | • Ask mother NOT to push at this point to prevent tightening of the cord around the newborn’s neck.  
• Place 2 fingers under the cord at the back of the newborn’s neck and gently bring the cord forward and over the head.  
• If the cord can’t be loosened, clamp the cord in 2 places about 2” apart and carefully cut between the clamps. Unwrap the cord from the neck and continue with the delivery. |
| ** If no nuchal cord - continue with delivery  
** If nuchal cord - loosen cord with 2 fingers and slip over newborn’s head and if necessary - clamp in 2 places approximately 2” apart and cut the cord |                                                                                                                                                                                                          |
| ♦ Assist in releasing the shoulders:  
• Upper shoulder - guide head downward - if indicated  
• Lower shoulder - guide head upward - if indicated | • Support the head between both hands and make sure to support the newborn throughout the procedure.                                                                                                                                 |
| ♦ Assist in delivering the rest of the newborn and note the gender and time of delivery | • As the feet are delivered, grasp them to assure a good hold on the newborn and note the time of birth.                                                                                                                                                       |
| ♦ Hold newborn securely:  
• Place in Trendelenburg position  
• Support the head at the level of the mother’s perineum | • Trendelenburg position allows for fluids and mucus to drain from the mouth and nose.  
• Keep the newborn at the level of the perineum until the cord is cut to prevent critical exchange of blood flow:  
  - above perineum – siphons the blood from the newborn back into the placenta resulting in the newborn becoming hypovolemic.  
  - below the perineum – provides too much blood to the newborn and may result in the newborn becoming fluid overloaded. |
| ♦ Wipe the newborn’s mouth and nose |                                                                                                                                                                                                          |
| ♦ Clear the newborn’s airway with bulb syringe - only if signs of obstruction | • ONLY clear the newborn’s airway, with a bulb syringe, if signs of airway obstruction due to mucus or accumulated fluid.  
• Aspiration of meconium stained amniotic fluid may cause pneumonia or other breathing problems. The American Heart Association (AHA) no longer recommends routine suctioning even if meconium is present.  
• Newborns are obligate nose breathers.  
• When suctioning:  
  - Suction the mouth first to prevent the newborn from aspirating any accumulated fluid from the mouth and pharynx which may cause pneumonia or other respiratory complications.  
  - Avoid suctioning deep into the oropharynx, as this will result in exaggerated vagal response and subsequent bradycardia.  
• Compress the bulb syringe before inserting it in the mouth and nose to prevent injecting air or fluid.  
• Insert the bulb syringe approximately 1-1.5” into the mouth and no more than 0.5” into the nostrils. Slowly release the bulb to draw fluid into the syringe and discharge the contents into a towel. |
| ♦ Stimulate the newborn to breathe - if indicated | • In a normal birth, the newborn must be breathing on its own before clamps are applied and the cord is cut. Oxygen is provided through the placenta until the newborn takes its first breath.  
• If a newborn does not respond to stimulation and remains apneic or in persistent respiratory distress, clamp and cut the cord immediately and start positive-pressure ventilation. |
| • Gently rub the back with a towel  
• Flick the soles of the feet  
** Ventilate newborn with bag-valve-mask - if no response after 5-10 seconds of stimulation |                                                                                                                                                                                                          |
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| ♦ Double clamp umbilical cord - if not clamped previously  
  • 1<sup>st</sup> clamp - 6" - 8" from newborn  
  • 2<sup>nd</sup> clamp - 2" from the 1<sup>st</sup> clamp toward the mother  
  (8" - 10" from the newborn)  
  OR  
  • Use approved clamp and cut device following manufacturer’s directions | • The cord does not need to finish pulsating before it is clamped and cut. Wrapping the infant before clamping and cutting the cord could result in prematurely dislodging the placenta or tearing the cord.  
• The newborn may be placed on sterile surface near the level of the perineum, while clamping and cutting the cord.  
• Make sure clamps are secure and will not slip or the newborn and/or mother may hemorrhage.  
• Use ties in case of an enlarged umbilical cord.  
• Clamping the cord immediately after delivery may be necessary due to the field environment. However, the current recommendation is to wait approximately 1-3 minutes after delivery to clamp the cord to improve the iron status of the newborn. |
| ♦ Dry and wrap the newborn in a blanket or towel  
** Wrap newborn only in a dry blanket or towel | • Newborns become hypothermic very rapidly. This can precipitate hypoglycemia, respiratory problems, increased oxygen demand, and bradycardia.  
• Wrap the newborn so that only the face is exposed. They lose most of their heat from the head. |
| ♦ Direct assistant to monitor and complete initial care of the newborn | • If a lone rescuer, place newborn on its side with head slightly lower than the trunk or give the newborn to the mother to hold, if she is able.  
• If the mother chooses to breast feed, put newborn to breast. Sources differ as to whether suckling helps in placental separation and expulsion or it has a neutral effect. However, breastfeeding and close contact assists in mother/infant bonding. |
| ♦ Assess mother’s vital signs and check for vaginal bleeding |  |
| ♦ Observe for signs of placental separation:  
  • Lengthening of the umbilical cord  
  • Gush of blood from the vagina  
  • Contraction of the uterus (raises into a globular shape) | • Lengthening of the umbilical cord indicates that the placenta is separating from the uterine wall. Usually takes about 5 - 20 minutes or longer.  
• The gush of blood is from the placental separation mixed with amniotic fluid. |
| ♦ Prepare for delivery of the placenta:  
  • Have mother bear down  
  • Have basin ready to receive placenta  
  • Expect a gush of blood after placenta is delivered | • Pulling on the umbilical cord may result in hemorrhage, an inverted uterus, or retained membranes.  
• DO NOT delay transport if the placenta has not delivered (may take over 30 minutes) transport as soon as the mother and newborn are stabilized.  
• Up to 500cc of blood may be normally expelled (1-2 cups). |
| ♦ Deliver the placenta:  
  • Grasp the placenta when it appears at the vaginal opening  
  • Gently twist (rotate) the placenta - DO NOT pull on cord  
  • Guide the placenta and membranes from the vaginal opening into basin or towel  
** Check for integrity of the placenta and cord | • Twisting the placenta gently helps in separate it from the uterine wall, but do not pull on the cord.  
• Retained pieces of the placenta or membranes will cause persistent bleeding and may require surgical intervention.  
• The placenta is about 7" in diameter and 1" thick. It has a smooth side (uterine side) and a rough side (fetal side) and divided into lobes. |
| ♦ Place the placenta into a labeled plastic bag and transport with mother | • Inspect the placenta prior placing in plastic bag; inform hospital personnel if the placenta and cord do not appear to be intact.  
• Hospital personnel inspect the placenta to make sure that it is intact. |
| ♦ Check for perineal lacerations and apply pressure to control bleeding - if indicated | • If there is a perineal tear, inform mother that this is normal and will be taken care of by physician in the hospital |
| ♦ Remove soiled drapes and other contaminated waste in appropriate bag |  |
### Skill Component: Place obstetrical pad(s) or large dressing over the perineal area:
- Touch only the outer surface of the pads
- Place pads from vagina down towards anus
- Assist mother in putting thighs together to hold pads in place

#### Key Concepts:
- Placing the absorbent side of the obstetrical pads toward mother, over the perineal area from the vagina down toward the anus prevents contamination of perineal lacerations and the vaginal area.
- If the OB kit does not contain OB pads, use folded abdominal dressings

### Skill Component: Assess the fundus every 5 minutes and massage - if indicated:
- Place one hand above pubic bone
- Place other hand above contracted uterus
- Massage (knead) firmly over area using a circular motion until the uterus is firm

#### Key Concepts:
- Fundal massage indicated if there is postpartum hemorrhage or the uterus has not contracted after the placenta has delivered. Inform mother that this procedure is painful, but necessary, to control bleeding.
- Fundal massage:
  - place the medial aspect of the little finger and palm of the hand above the public bone and inferior part of the uterus
  - cup the other hand above the superior aspect of the uterus
  - use the flat of the 4 fingers of the cupped hand and massage the uterus in a circular motion until the uterus is firm

### Skill Component: Provide comfort and support to the mother and transport

#### Key Concepts:
- The mother will chill easily after giving birth due to decreasing blood volume. Cover her with a blanket for warmth.
- The mother and newborn should be transported to the same facility.
- BLS units shall call for an ALS unit or transport to the most appropriate hospital as per Reference:
  - 511 - Perinatal Patient Destination
  - 808 - Base Hospital Contact and Transport Criteria.

### Skill Component: Dispose of contaminated equipment using approved technique

### REASSESSMENT (Ongoing Assessment)

#### Skill Component
- Repeat an ongoing assessment every 5 minutes:
  - Primary assessment
  - Relevant portion of the secondary assessment
  - Vital signs

#### Key Concepts:
- Priority patients are patients who have abnormal vital signs, S/S of poor perfusion, if there is a suspicion that the patient’s condition may deteriorate, or when the patient’s condition changes

#### Skill Component: Evaluate response to treatment

#### Key Concepts:
- Patients must be re-evaluated at least every 5 minutes or sooner; if any treatment was initiated, medication administered or a change in the patient’s condition occurs or is anticipated.

#### Skill Component: Evaluate results of reassessment and note any changes from patient’s previous condition and vital signs

#### Key Concepts:
- Evaluating and comparing results assists in recognizing if the patient is improving, responding to treatment or condition is deteriorating.

**Manage patient condition as indicated.**
PATIENT REPORT AND DOCUMENTATION

<table>
<thead>
<tr>
<th>Skill Component</th>
<th>Key Concepts</th>
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</thead>
<tbody>
<tr>
<td>§ Verbalize/Document:</td>
<td>• Two EMS forms are necessary, one for the mother, and one for the newborn (2 patients).</td>
</tr>
<tr>
<td>• Time of delivery of newborn and placenta</td>
<td>• Time of delivery for the newborn is the time when the newborn’s body is delivered.</td>
</tr>
<tr>
<td>• LMP and/or EDD</td>
<td>• Time of delivery for the placenta is when it passes out of the vagina</td>
</tr>
<tr>
<td>• Problems with this pregnancy</td>
<td>• Documenting reassessment information provides a comprehensive picture of patient’s response to treatment.</td>
</tr>
<tr>
<td>• Vaginal discharge</td>
<td>• Last reassessment information (before patient care is transferred) should be documented in the section of the EMS form that is called “Reassessment after Therapies and/or Condition on Transfer”.</td>
</tr>
<tr>
<td>• Gravida, para (number of pregnancies and deliveries)</td>
<td>• Documentation must be on either the Los Angeles County EMS Report or departmental Patient Care Record form.</td>
</tr>
<tr>
<td>• Type of previous deliveries - if indicated</td>
<td>** The “person who attended” the birth should sign the birth certificate. Often the ED physician will sign the birth certificate, however, EMS personnel may be asked to sign instead, or in conjunction with the ED physician</td>
</tr>
<tr>
<td>• Estimated blood loss</td>
<td></td>
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<tr>
<td>• Integrity of the placenta and cord</td>
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<tr>
<td>• Condition of the newborn</td>
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<tr>
<td>• Fundal massage - if provided</td>
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<tr>
<td>• Presence of meconium</td>
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<tr>
<td>• Apgar Score (if calculated)</td>
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**Fundal Massage**

The fundus (the upper part of the uterus) should be firm and midline. If it is boggy, this indicates the uterus is not firm and may lead to hemorrhage.

Fundal massage:

• Place the medial aspect of the little finger and palm of the hand above the public bone and the inferior part of the uterus

• Cup the other hand above the superior aspect of the uterus

• Use the flat of the 4 fingers of the cupped hand and massage the uterus firmly in a circular motion until the uterus is firm

If the uterus is still not firm and leaning to the right side, this may indicate that the patient’s bladder is full. Have the patient void, then recheck the fundus and start fundal massage again until firm. If the uterus remains boggy, transport immediately.

The mother may be resistant to having this procedure done since it is painful. Reassure her that it is necessary to control the bleeding.
DEFINITIONS:

- **Age of viability** – is the ability of a fetus to survive outside the uterus, usually 24 weeks. The earliest fetus known to survive was 5 months of gestational age (20 weeks). Usually 20% - 35% survive around 23 week gestation. Reference No. 511 – Perinatal Patient Destination pertains to patients who are at least 20 weeks pregnant.

- **Bloody show** – watery bloody discharge is normal throughout the three stages of labor. During the 1st stage of labor it is the displacement of the mucus plug as the cervix dilates

- **Bogy uterine fundus** – also called uterine atony meaning that the uterus does not contract and not constricting the blood vessels at the site of placental separation from the uterine wall. This may result in postpartum hemorrhage (PPH). The fundus feels soft and squishy.

- **Crowning** – bulging of the vaginal opening or when the presenting part of the newborn is visible. This is the most reliable sign of imminent delivery

- **Duration of the contraction** – time from the beginning of the contraction to its completion

- **Frequency of contractions** – time from the beginning of one contraction until the onset of the next contraction

- **Full term** – 38-40 weeks gestation

- **Fundal massage** – is massaging the fundus to make it firm in order to stop postpartum hemorrhage. This is done only after the delivery of the placenta.

- **Gestational age** – Gestational age (the age of the fetus) is calculated from the first day of the mother’s last menstrual period. Since the exact date of conception is almost never known, some believe it may be anywhere from 11 - 21 days after the onset of woman’s last period.

- **Labor pains** – pain in addition to the discomfort of the contractions, usually felt in the lower abdomen and back

- **Meconium** – fetal feces is normally passed as the newborn’s first bowel movement. However, during fetal or maternal stress, defecation may occur before birth. It is green tarry stool. Current practice does not call for aggressive suctioning, only suction if airway is obstructed.

- **Nuchal cord** – umbilical cord wrapped around newborn’s neck

- **Signs of airway obstruction or respiratory distress** - choking, gasping, coughing, grunting, inspiratory stridor, nasal flaring, apnea, retractions, etc.

- **Spontaneous abortion (miscarriage)** – this is the spontaneous loss of a fetus before the 20th week of pregnancy

- **Therapeutic abortion** – is the intentional termination of a pregnancy before the fetus can live independently

- **Uterine inversion** – uterus is inverted or turned inside-out. This is caused by extensive pressure on the uterus or from pulling on the umbilical cord before the placenta is delivered.

### Developmental Terminology

<table>
<thead>
<tr>
<th>Fetus</th>
<th>3 - 40 week gestation in utero</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>Neonate in the first minutes to hours after birth</td>
</tr>
<tr>
<td>Neonate</td>
<td>first month after birth (28 days)</td>
</tr>
<tr>
<td>Infant</td>
<td>includes the neonatal period to 1 year (12 months)</td>
</tr>
</tbody>
</table>

### Reproductive History

- **Gravida** - current and all past pregnancies

- **Para** - There is a discrepancy between various clinical practices and current literature regarding the meaning of para.
  - **Obstetrical literature and in most obstetrical practices** para is the number of delivery events after 20 weeks gestation. They do not include the number of children delivered during this event. Multiple births (twins, etc.) count as one delivery.  
    **Example**: June had 4 pregnancies and delivered 3 different times (1 daughter, 2 sets of twins and had 1 spontaneous abortion at 8 weeks). **She is gravida 4, para 3 and 1 abortion.**

  - **Some obstetrical practices** para describes the number of viable children the woman delivered.
    **Example**: June had 4 pregnancies and delivered 3 different times (1 daughter, 2 sets of twins and had 1 spontaneous abortion at 8 weeks). **She is gravida 4, para 5 and 1 abortion.**

*Due to the confusion, it is best that EMS personnel describe the reproductive history as the number of pregnancies, number of deliveries, and the number of children with 1 abortion at 8 weeks. Thus, June’s reproductive history would be 4 pregnancies, 3 deliveries, has 5 children and had 1 abortion.*
COMPLICATIONS AND INTERVENTIONS:

• **Meconium-stained amniotic fluid**
  
  *Problem* - will cause pneumonia or other respiratory problems
  
  *Intervention* - clear airway with a bulb syringe if the newborn has copious fluid causing airway obstruction or respiratory distress.

  Current practice does not call for aggressive suctioning, only suction if airway obstructed.

• **Nuchal cord**
  
  *Problem* - will choke the newborn and the cord may tear during the delivery causing severe hemorrhage in the newborn and mother
  
  *Intervention* - slip the cord around neck or double clamp and cut cord if unable to slip it over the newborn’s head

STAGES OF LABOR:

• **The three stages of labor are:**
  
  1st stage (dilation stage) - Starts with regular contractions and thinning and gradual dilation of the cervix
  
  Ends with complete dilation of the cervix

  2nd stage (expulsion stage) - Starts with newborn entering the birth canal
  
  Ends with the delivery of the newborn

  3rd stage (placental stage) - Starts with the delivery of the newborn
  
  Ends with the delivery of the placenta

• **Contraction pattern:**
  
  **Latent (early) phase of 1st stage of labor**
  
  > frequency – every 15-30 minutes
  
  > duration – 30-40 seconds
  
  > intensity – mild

  **Active phase of 1st stage of labor**
  
  > frequency – every 2-3 minutes
  
  > duration – average 60 seconds
  
  > intensity – moderate to strong

ABNORMAL DELIVERIES:

• **Prolapsed cord**
  
  *Problem* - cord presents through the birth canal before delivery of the head. This serious emergency endangers the life of the unborn fetus.

  *Intervention*:
  
  - Administer high flow oxygen to the mother to increase oxygen delivery to fetus
  
  - Elevate mother’s pelvis on a pillow or inverted bed pan to reduce pressure on cord
  
  - Elevate presenting part of the newborn off the cord to prevent compression of the cord and maintain fetal circulation
  
  - Cover cord with sterile moist dressings to minimize temperature change and reduce umbilical artery spasm

• **Premature birth**
  
  *Problem* - newborn is more susceptible to respiratory problems, infections, and hypothermia

  *Intervention*:
  
  - Keep newborn warm with extra insulation
  
  - Avoid contamination from birth process and DO NOT breath into newborn’s face
  
  - Administer positive-pressure ventilation if newborn remains apneic or give supplemental oxygen by blow-by method if in respiratory distress

• **Multiple births**
  
  *Problem* - generally both babies are delivered normally, however about 1/3 of the second babies are breech

  *Intervention*:
  
  - When the 1st newborn is born, clamp and cut the cord to prevent hemorrhage to the 2nd newborn
  
  - If the 2nd newborn has not delivered within 10 minutes of the 1st, transport immediately
  
  - Expect hemorrhage after the 2nd newborn has delivered
  
  - Deliver the placenta(s) or transport if not delivered when mother and babies are stabilized and ready for transport
  
  - Keep the babies warm, they are usually small and readily become hypothermic
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Supplemental Information (Continued)

- **Breech presentation**

  **Problem**: newborn’s feet or buttocks appear first instead of the head. Every attempt should be made to transport to the hospital. (It is common to have meconium in amniotic fluid with breech presentation)

  **Intervention**:
  - Administer oxygen to the mother to increase oxygen delivery to the fetus
  - Let delivery proceed
  - If the head does not deliver within 3 minutes
    - form an airway for the newborn by placing the middle and index fingers along the infant’s face
    - hold the vaginal wall away from the newborn’s nose and mouth
    - hold newborn’s mouth open slightly with finger so that newborn can breathe
  - transport rapidly

- **Limb presentation**

  **Problem**: an arm or leg appears first instead of the head.

  **Intervention**:
  - Administer oxygen to the mother to increase oxygen delivery to the fetus
  - Elevate mother’s pelvis on a pillow or inverted bed pan to reduce pressure on the newborn
  - Transport immediately - delivery is impossible

**NOTES:**

- When the amniotic fluid is stained greenish or brownish-yellow, it usually indicates fetal distress during labor. This is caused by the release of meconium into the amniotic fluid.
- Aspiration of meconium stained amniotic fluid may cause pneumonia or other breathing problems. The American Heart Association (AHA) no longer recommends routine suctioning if meconium is noted unless airway obstruction is present.
- Only suction the newborn if airway obstruction is present.
- Transport the mother and newborn to the same facility.
- BLS units shall call for an ALS unit or transport to the most appropriate hospital as per Reference 511 and 808
- APGAR score is an assessment of the newborn at 1 minute and 5 minutes after birth. The five parameters assessed are appearance, pulse, grimace, activity, and respirations.
- APGAR score is not required in Los Angeles County, but is found in all Emergency Childbirth literature and required in the National EMS Education Standards.
- In case of preterm or multiple births this may lead to a precipitous delivery (labor lasting less than 3 hours).
- If contractions are less than 2 minutes apart and the perineum is bulging or if crowning noted, deliver on scene.

**REFERENCES:**

Ref No. 502 – Patient Destination
Ref No. 506 – Trauma Triage
Ref No.510 – Pediatric Patient Destination
Ref No. 511 – Perinatal Patient Destination
Ref No. 808 – Base Hospital Contact and Transport Criteria