Newborn Delivery & Complications (≥ PL1)

Clinical Indications:

1. Imminent delivery with crowning.

Contraindications:

1. None in the emergency setting for a normal delivery.

Relative Contradictions:

1. Refer to each complication for further guidance and use of OLMC is encouraged.

Procedure:

1. Delivery should be controlled so as to allow a slow, controlled delivery of the infant. This will prevent injury to the mother and infant.
2. Consider additional resources as there will be two potential patients.
3. Support the infant's head as it delivers.
4. If the umbilical cord is around the neck, slip it over the head. If unable to free cord from the neck, double clamp the cord and cut between the clamps.
5. Suction the airway with a bulb syringe.
6. While continuing to support the head, gently lower the head to encourage delivery of the anterior shoulder.
7. Once the anterior shoulder delivers gently lift the head and anterior shoulder to allow delivery of the posterior shoulder.
8. Be prepared to support the infant while delivering the remainder of the body.
9. Clamp the cord 6 inches and place second clamp 9 inches from the abdomen and cut the cord between the clamps.
10. Record APGAR scores at 1 and 5 minutes.
11. Follow the Newborn Care Guideline for further treatment.
12. The placenta will deliver spontaneously, usually within 5-25 minutes of the infant. Do not force the placenta to deliver or pull on the umbilical cord.
13. Massage the uterus and/or initiate breast feeding (as infant and/or maternal condition allows) to stimulate uterine contractions, decrease bleeding and initiate delivery of the placenta. If the placenta delivers it should be retained for inspection. For post-partum hemorrhage refer to guideline Obstetrical Emergency.

Complications are on the following pages of the Clinical Procedure

Complications of Labor:

Breech Delivery:
The largest part of the fetus (head) is delivered last. In general, breech presentations include buttocks presentation and/or extremity presentation. An infant in a breech presentation is best delivered in the hospital setting since an emergency cesarean section is often necessary. However, if it is necessary to perform a breech delivery in a pre-hospital setting, the following procedures should be performed:

Treatment: Breech Presentation

1. Position mother with her buttocks at edge of bed, legs flexed.
2. Allow the fetus to deliver spontaneously up to the level of the umbilicus. If the fetus is in a front presentation, gently, extract the legs downward after the buttocks are delivered.
3. After the infant's legs are clear, support the baby's body with the palm of the hand and the volar surface of the arm.
4. After the umbilicus is visualized, gently extract a 4"-6" loop of umbilical cord to allow for delivery without excessive traction on the cord. Gently rotate the fetus to align the shoulder in an anterior-posterior position. Continue with gentle traction until the axilla is visible.
5. Gently guide the infant upward to allow delivery of the posterior shoulder.
6. Gently guide the infant downward to deliver the anterior shoulder.
7. During a breech delivery, avoid having the fetal face or abdomen toward the maternal symphysis.
8. The head is often delivered without difficulty. However, be careful to avoid excessive head and spine manipulation or traction.
9. As the head passes the pubis, apply gentle upward pressure until the mouth appears over the perineum. Immediately suction mouth, then nose.
10. If the head does not deliver immediately, action must be taken to prevent suffocation of the infant.
    a. Place a gloved hand in the vagina with the palm toward the babies face.
    b. Form a "V" with the index and middle fingers on either side of the infant's nose.
    c. Gently push the vaginal wall away from the infant's face, so that the infant can breathe, until the head is delivered.
    d. If unable to deliver infant's head within three (3) minutes, maintain the infant's airway with the "V" formation and rapidly transport to the hospital.

Shoulder Dystocia:
This occurs when the fetal shoulders impact against the maternal symphysis, blocking shoulder delivery. Delivery entails dislodging one shoulder and rotating the fetal shoulder girdle into the wider oblique pelvic diameter. The anterior shoulder should be delivered immediately after the head.

Treatment: Shoulder Dystocia

1. Position mother on her left side in a dorsal-knee-chest position to increase the diameter of the pelvis or position mother with buttocks off the edge of the bed and thighs flexed upward as much as possible.
2. Apply firm, open hand pressure above the symphysis pubis.
3. Attempt to guide the infant's head downward to allow the anterior shoulder to slip under the symphysis pubis.
4. Gently rotate the fetal shoulder girdle into the wider oblique pelvic diameter. The posterior shoulder usually delivers without resistance.
5. Complete the delivery as above.
6. If delivery does not occur, maintain airway patency as best as possible and immediately transport.

Prolapsed Umbilical Cord:

This occurs when the cord slips down into the vagina or presents externally after the amniotic membranes have ruptured. Fetal asphyxia may rapidly ensue if circulation through the cord is not re-established and maintained until delivery.

Treatment: Prolapsed Umbilical Cord

1. If the umbilical cord is seen in the vagina, insert two gloved fingers into the vagina and gently elevate the presenting part to relieve pressure on the cord and restore umbilical pulse. DO NOT attempt to reposition or push the cord back into the uterus.
2. Position the mother in Trendelenburg or knee-chest-position to relieve pressure on the cord.
3. Instruct the mother to "pant" with each contraction to prevent her from bearing down.
4. If assistance is available, apply moist sterile dressings to the exposed cord.
5. Maintain hand position during rapid transport to the receiving hospital. The definitive treatment is an emergency cesarean section.

Uterine Inversion:

This is a turning *"inside out"* of the uterus. Signs and symptoms include postpartum hemorrhage with sudden and severe abdominal pain. Hypovolemic shock may develop rapidly.

Treatment: Uterine Inversion

1. Do not attempt to detach the placenta or pull on the cord.
2. Make one (1) attempt to reposition the uterus:
    a. Apply pressure with the fingertips and palm of a gloved hand and push the uterine fundus upward and through the vaginal canal.
    b. If procedure is ineffective, cover all protruding tissues with moist sterile dressings and rapidly transport to hospital.

Postpartum Hemorrhage:

This is defined as the loss of 500 ml or more of blood in the first twenty-four (24) hours following delivery. The most common cause is the lack of uterine muscle tone and is most frequently seen in the multigravida and/or multiple birth mother. However, any other obstetrical malady may cause hemorrhage.

Treatment: Significant hemorrhage following delivery or delayed placenta delivery

1. Unless multiple births are anticipated, begin fundal massage.
2. Administer TXA.