Childbirth

Aliases

Labor, delivery, birth

Patient Care Goals

1. Obtain necessary history to plan for birth and resuscitation of the newborn.
2. Recognize imminent birth.
3. Plan for resources based on number of anticipated patients (e.g., mother and child or multiple births).
4. Assist with uncomplicated delivery of term newborn.
5. Recognize complicated delivery situations (e.g., nuchal or prolapsed umbilical cord, breech delivery, shoulder dystocia) and plan for management and appropriate transport destination.
6. Apply appropriate techniques when an obstetric complication exists.

Patient Presentation

Inclusion Criteria

Imminent delivery with crowning

Exclusion Criteria

1. Vaginal bleeding in any stage of pregnancy [see Obstetrical/Gynecological Conditions guideline]
2. Emergencies in first or second trimester of pregnancy [see Obstetrical/Gynecological Conditions guideline]
3. Seizure from eclampsia [Eclampsia/Pre- Eclampsia guidelines]

Patient Management

Assessment:

A. Signs of imminent delivery:
   1. Crowning or other presentation in vaginal opening
   2. Urge to push
   3. Urge to move bowels
   4. Mother's sense of imminent delivery
B. Signs of active labor
   1. Contractions
   2. Membrane rupture
   3. Bloody show

Treatment and Interventions

1. If patient in labor but no signs of impending delivery, transport to appropriate receiving facility.
   a. Inter-Facility Transport: Refer to Laboring Patient Algorithm to assist with risk stratification of local delivery versus transport
2. Conduct controlled delivery should so as to allow a slow controlled delivery of infant. This will prevent injury to mother.
   a. Support the infant's head as needed and apply gentle counterpressure to help prevent the head from suddenly popping out
3. Check for cord around the baby's neck.
   a. If present, slip it over the head.
   b. If unable to free the cord from the neck, double clamp the cord and cut between the clamps.
4. Do **not** routinely suction the infant's airway (even with a bulb syringe) during delivery.
5. Grasp the head with hand over the ears, and gently guide head down to allow delivery of the anterior shoulder.

6. Gently guide the head up to allow delivery of the posterior shoulder.
7. Slowly deliver the remainder of the infant.
8. After 1–3 minutes, clamp cord about 6 inches from the abdomen with 2 clamps; cut the cord between the clamps.
    a. If resuscitation is needed, the baby can still benefit from a 1-minute delay in cord clamping. Start resuscitation immediately after birth and then clamp and cut the cord at 1 minute.
    b. While cord is attached, take care to ensure the baby is not significantly higher positioned than the mother to prevent blood from flowing backwards from baby to placenta.
9. Dry, warm, and stimulate infant, wrap in towel and place on maternal chest unless resuscitation needed
10. Resuscitation takes priority over recording APGAR scores. Record APGAR scores at 1 and 5 minutes.
11. After delivery of infant, suctioning (including suctioning with a bulb syringe) should be reserved for infants who have obvious obstruction to the airway or require positive pressure ventilation (follow Neonatal Resuscitation guideline for further care of the infant).
12. The placenta will deliver spontaneously, often within 5–15 minutes of the infant.
    a. Do not force the placenta to deliver; do not pull on umbilical cord.
    b. Contain all tissue in plastic bag and transport.
13. After delivery, massaging the uterus and allowing the infant to nurse will promote uterine contraction and help control bleeding.
    a. Estimate maternal blood loss.
    b. Treat for hypovolemia as needed.
    c. **Oxytocin [PARA]**,
        i. **IV 5-10 unit bolus followed by 10 units/hr, max 40 units**
        ii. **No IV access present, Oxytocin 10 Units IM**
14. Transport infant secured in seat or isolette unless resuscitation needed.
15. Keep infant warm during transport.
16. Most deliveries proceed without complications. If complications of delivery occur, the following are recommended:
    a. Shoulder dystocia: If delivery fails to progress after head delivers, quickly attempt the following:
        i. Hyperflex mother's hips to severe supine knee-chest position (McRoberts' maneuver)
        ii. Apply firm suprapubic pressure to attempt to dislodge shoulder. This often requires two EMS clinicians to perform and allows for delivery in up to 75% of cases.
        iii. Apply high-flow oxygen to mother.
        iv. Attempt to angle baby's head as posteriorly as possible but NEVER pull.
        v. Continue with delivery as normal once the anterior shoulder is delivered
        vi. Transport as soon as possible.
        vii. Contact on-line medical control and/or closest appropriate receiving facility for consultation and to prepare team.
    b. Prolapsed umbilical cord
        i. Placed gloved hand into vagina and gently lift head and body off of cord.
            1. Assess for pulsations in cord, if no pulses are felt, lift the presenting part off the cord.
            2. Wrap the prolapsed cord in moist sterile gauze.
            3. Maintain until relieved by hospital staff.
        ii. Consider placing mother in prone knee-chest position or extreme Trendelenburg.
        iii. Apply high-flow oxygen to mother.
        iv. Transport as soon as possible.
        v. Contact on-line medical control as needed.
    c. Breech birth
        i. Place mother supine, allow the buttocks and trunk to deliver spontaneously, then support the body while the head is delivered.
        ii. If needed, put the mother in a kneeling position which may assist in the delivery of

the newborn.

iii. Apply high-flow oxygen to mother.
iv. Assess for presence of prolapsed cord and treat as above.
v. If head fails to deliver, place gloved hand into vagina with fingers between infant's face and uterine wall to create an open airway. Place your index and ring fingers on the baby's cheeks forming a "V" taking care not to block the mouth and allowing the chin to be tilted toward the chest flexing the neck.
vi. When delivering breech, you may need to rotate the baby's trunk clockwise; or sweep the legs from the vagina.
vii. Once the legs are delivered support the body to avoid hyperextension of the head; keep the fetus elevated off the umbilical cord.
viii. NEVER pull on the body, especially a preterm or previable baby – just support the baby's body while mother pushes when she feels the urge to.
ix. Transport as soon as possible.
x. Contact on-line medical control and/or closest appropriate receiving facility for medical consultation and to prepare team.
xi. Assess for presence of prolapsed cord and treat as above.
xii. The presentation of an arm or leg through the vagina is an indication for immediate transport to hospital.

d. Nuchal cord
    i. After the head has been delivered, palpate the neck for a nuchal cord, if present, slip over the head.
    ii. If the loop is too tight to slip over the head, attempt to slip the cord over the shoulders and deliver the body through the loop.
    iii. The cord can be doubly clamped and cut between the clamps; the newborn should be delivered promptly.
e. Excessive bleeding during active labor may occur with placenta previa or placenta abruption
    i. Obtain history from patient: known previa, recent pre-eclampsia symptoms, hypertension history, recent trauma, drug use especially cocaine
    ii. Placenta previa may prevent delivery of infant vaginally.
    iii. Place large bore IV and administer IV fluids as indicated**. [AEMT]**
    iv. If available, transfusion or the administration of whole blood as indicated**.[PARA]**
    v. Transport emergently.
f. Postpartum hemorrhage (See Post-Partum Hemorrhage Protocol)
    i. Obtain history from the patient – history of prenatal or delivery complications, recent trauma, prescription anticoagulants, drug use, especially cocaine.
    ii. Perform fundal massage.
    iii. Initiate IV fluid resuscitation and, if available, transfuse blood products**.[PARA].**
    iv. Consider administration of tranexamic acid (TXA).**[PARA]**
    v. As recommended following all deliveries, administration of **oxytocin [PARA].**
g. Maternal cardiac arrest
    i. Apply manual pressure to displace uterus from right to left.
    ii. Treat per the Cardiac Arrest guideline for resuscitation care (defibrillation and medications should be given for same indications and doses as if non-pregnant patient).
    iii. Transport as soon as possible if infant is estimated to be over 24 weeks gestation (perimortem Cesarean section/resuscitative hysterotomy at receiving facility is most successful if done within 5 minutes of maternal cardiac arrest).
    iv. Contact on-line medical control.

Patient Safety Considerations

1. Supine Hypotension Syndrome:
    a. If mother has hypotension before delivery, place patient in left lateral recumbent position or manually displace gravid uterus to the left is supine position necessary.
    b. Knee-chest position may create safety issues during rapid ambulance transport.

2. Do **not** routinely suction the infant's airway (even with a bulb syringe) during delivery.
3. Newborns are very slippery, take care not to drop the infant.
4. Do not pull on the umbilical cord while the placenta is delivering.
5. If possible, transport between deliveries if mother is expecting twins.

Notes and Educational Pearls

- OB assessment:
    - Length of pregnancy
    - Number of pregnancies
    - Number of viable births
    - Number of non-viable births
    - Last menstrual period
    - Due date (gestational age)
    - Prenatal care
    - Number of expected babies (multiple gestations)
    - Drug use and maternal medication use
- Notify medical direction/receiving facility if:
    - Antepartum hemorrhage.
    - Postpartum hemorrhage.
    - Breech presentation.
    - Limb presentation.
    - Complicated nuchal cord (around neck) – unable/difficult to reduce.
    - Prolapsed umbilical cord.
    - Shoulder dystocia.
    - Maternal cardiac arrest.
    - If anticipated transport time is greater than 30 minutes
- Some bleeding is normal with any childbirth.
    - Large quantities of blood or free bleeding are abnormal.

APGAR Score

Sign	**0**	**1**	**2**
Appearance	Blue, Pale	Body pink, Extremities blue	Completely pink
Pulse	Absent	Slow (less than 100)	≥ 100
Grimace	No response	Grimace	Cough or Sneeze
Activity	Limp	Some flexion	Active motion of extremities
Respirations	Absent	Slow, Irregular	Good, Crying

Quality Improvement

Associated NEMSIS Protocol(s) (eProtocol.01)

- 9914155—OB/GYN-Childbirth/Labor/Delivery
- 9914161—OB/GYN-Pregnancy Related Disorders
- 9914163—OB/GYN-Post-Partum Hemorrhage

Key Documentation Elements

- Document all times (delivery, contraction frequency and length)

Performance Measures

- Recognition of complications
- Documentation of APGAR scores
- Reassessment of maternal status

References

1. Stallard T, Burns B. Emergency delivery and perimortem C-section. *Emerg Med Clin N Am.* 2003;21:679-93.
2. WHO, United Nations Population Fund, UNICEF. *Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice (3rd edition).* Geneva, Switzerland: WHO Press; 2015.