

NEONATAL RESUSCITATION

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Information Needed:

- Gestational age
- Multiple gestations
- Mother's use of medications and/or illicit drugs
- Utilize the Broselow Tape to measure length and then SMC Pediatric Reference Card for determination of drug dosages, fluid volumes, defibrillation/cardioversion joules and appropriate equipment sizes.

Objective Findings:

- Meconium (dark staining of amniotic fluid) if membranes have ruptured
- Apgar score at 1 and 5 minutes

Treatment:

- Provide warmth with thermal blanket or dry towel
 - Cover head
- Keep neonate at or below the level of the mother
- Position, clear airway
 - Suction the mouth and then the nasopharynx
 - If meconium noted and neonate is depressed (poor respiratory effort, decreased muscle tone or heart rate less than 100) to limit aspiration quickly provide vigorous suctioning of mouth and nasopharynx with appropriate size catheter on low suction setting and immediately afterward provide oxygenation and ventilation
- Dry, stimulate, and reposition airway as needed
- Clamp and cut the cord
- Evaluate respirations, heart rate, and color
 - Check heart rate at umbilical cord stump
- If apneic or heart rate <100/minute:
 - Assisted BVM ventilation at 40-60 breaths/minute with 100% oxygen for 30 seconds and reassess
 - Provide on-going care if improvement noted.
 - Continue reassessment of respirations and heart rate enroute
- If heart rate remains <60/minute:
 - Continue with assisted ventilation with bag-valve mask
 - Begin chest compressions at 120/minute (3:1 compression/ventilation ratio) reassess after 30 seconds
 - If no improvement:

- Establish IV/IO access
- Give epinephrine (1:10,000) IV/IO. May be repeated q 3-5 minutes prn
- Continue CPR and reassessment of respirations and heart rate enroute at regular intervals
- If heart rate is >100/minute:
 - Check skin color; if peripheral cyanosis, give oxygen by mask or blow by
 - Provide on-going care
 - Reassess heart rate and respirations enroute.

Precaution and Comments:

- Even when meconium is present, focus should be on oxygenation and ventilation of the neonate. Neonates born with meconium staining who are not depressed require the same suction techniques as those born with clear fluid
- Prolonged apnea without bradycardia or cyanosis may indicate respiratory depression caused by narcotics administered within 4 hours of delivery. However, naloxone should be avoided in the infant of a known or suspected narcotic-addicted mother as this can induce a withdrawal reaction
- The primary enemy of a newborn is hypothermia, which can occur in minutes. Cold stress can impede effective resuscitation; therefore warming interventions are a priority

Intraosseous access is not recommended as the vascular access of choice for the neonate; however it can be used as an alternative route for medication and fluid administration if unable to establish other venous access.

Apgar Scoring

The Apgar score measures overall cardiopulmonary and neurologic functions of the neonate. A set of scores should be taken at one minute after birth and another set after five minutes. If the newborn is unstable (4-7), scoring should continue every five minutes thereafter. Do not use the Apgar score to guide resuscitation. Instead, it should be used as a tool to measure the effectiveness of interventions.

	Sign	0 Points	1 Point	2 Points
A	Activity (Muscle Tone)	Absent	Arms & Legs flexed	Active movement
P	Pulse Rate	Absent	Below 100 bpm	Above 100 bpm
G	Grimace (Reflex Irritability)	No response	Grimace	Sneeze, cough, pulls away
A	Appearance	Blue-gray, pale all over	Normal except for extremities	Normal over entire body
R	Respirations	Absent	Slow, irregular	Good, crying

Activity - muscle tone should be good with evidence of active motion in arms, legs, and facial expressions

Pulse - may be determined by feeling of pulse at the base of the umbilical cord, or at the brachial or femoral artery

Grimace - reflex irritability is determined by the neonate's response when the nostrils are suctioned

Appearance - skin color should be pink, not pale or cyanotic. Cyanosis may be central or peripheral only. Blue extremities are common in the first few minutes of life

Respirations - should be strong immediately after birth following brief stimulation (slapping the feet)