

Newly Born



History

- Due date and gestational age
- Multiple gestation (twins etc.)
- Meconium / Delivery difficulties
- Congenital disease
- Medications (maternal)
- Maternal risk factors such as substance abuse or smoking

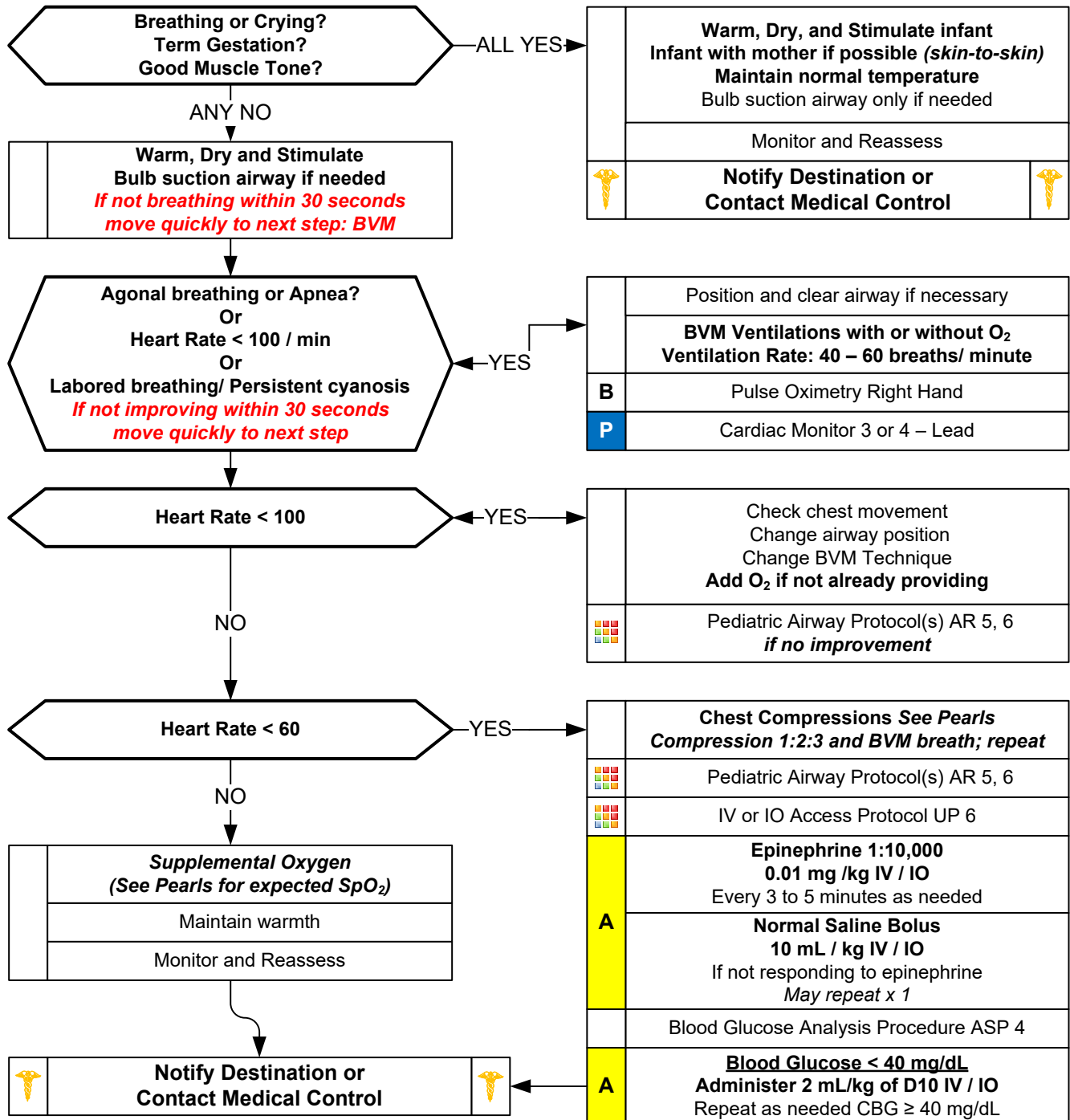
Signs and Symptoms

- Respiratory distress
- Peripheral cyanosis or mottling (normal)
- Central cyanosis (abnormal)
- Altered level of responsiveness
- Bradycardia

Differential

- Airway failure, Secretions, or Respiratory drive
- Infection
- Maternal medication effect
- Hypovolemia, Hypoglycemia, Hypothermia
- Congenital heart disease

In a non-vigorous infant whose respirations are not improving after warming, drying, and stimulating within 30 seconds, move quickly to Positive Pressure Ventilation with BVM



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Pearls

- Recommended Exam: Quality of Cry, Muscle tone, Respirations, Heart Rate, Pulse Oximetry, and Gestational Age**
- Majority of newborns do not require resuscitation, only warming, drying, stimulating, and cord clamping.**
 - With term gestation, strong cry/ breathing, and good muscle tone, generally will not need resuscitation.
 - If no resuscitation needed, skin-to-skin contact with the mother is best way to maintain warmth of infant.
 - Maintain warmth of infant following delivery adjuncts; cap/ hat, plastic wrap, thermal mattress, radiant heat.
 - Most important vital signs in the newly born are heart rate, respirations, and respiratory effort.
 - About 10% of newborns need assistance to help them start breathing after birth.
 - About 1% of newborns require intensive resuscitation to restore/ support cardiorespiratory functions.
- Airway:**
 - Positive Pressure Ventilations with BVM is the most important treatment in a newborn with poor respirations and/ or persistent bradycardia (HR < 100 BPM).
 - When BVM is needed, ventilation rate is 40 – 60 breaths per minute.
 - Adequacy of ventilation/ is measured mainly by increase in heart rate as well as chest rise.
 - If heart rate or respirations are not improving after 30 to 60 seconds of resuscitation, place BIAD or endotracheal tube.
 - Routine suctioning is no longer recommended, bulb suction only if needed.
- Breathing:**
 - Oxygen is not necessary initially, but if infant is not responding with increased heart rate or adequate breathing, add oxygen to the BVM.
- Circulation/ Compressions:**
 - Heart rate is critical during first few moments of life and is best monitored by 3 or 4 lead ECG, as pulse assessment is difficult in the neonate. Heart Rate is best tool for gauging resuscitation success.
 - If heart rate remains < 60 BPM after 30 to 60 seconds of BVM/ resuscitation, begin compressions.
 - With BIAD or ETT in place, compressions and ventilation should be coordinated with compression, compression, then ventilation. (3:1 ratio with all events totaling 120 per minute)
 - 2-thumbs encircling chest and supporting the back is recommended. Limit interruptions of chest compressions.
- If infant not responding to BVM, compressions, and/ or epinephrine, consider hypovolemia, pneumothorax, and/ or hypoglycemia (< 40 mg/dL).**
- Document 1 and 5 minute APGAR in PCR or ePCR. DO NOT delay or interrupt resuscitation to obtain an APGAR score.**
- Meconium staining:**
 - Infant born through meconium staining who is NOT vigorous:**
 - Bulb suction mouth and nose and provide positive pressure ventilation.
 - Direct endotracheal suctioning is no longer recommended.
- Expected Pulse Oximetry readings following birth:**

(Accurate only in infant NOT requiring resuscitation)

1 minute	60 – 65%
2 minutes	65 – 70%
3 minutes	70 – 75%
4 minutes	75 – 80%
5 minutes	80 – 85%
10 minutes	85 – 95%
- Pulse oximetry should be applied to the right upper arm, wrist, or palm.
- Cord clamping:**
 - Recommended to delay for 1 minute, unless infant requires resuscitation.
- Maternal sedation or narcotics will sedate infant (Naloxone NO LONGER recommended, use supportive care only).
- D10 = D50 diluted (1 ml of D50 with 4 ml of Normal Saline) or **D10 solution at 2 mL/kg IV / IO.**
- In the NEONATE, D10 is administered at 2 mL/kg. (NOT 5 mL/kg in the pediatric patient after the first month of life.)**

Apgar score

	Score 2	Score 1	Score 0
A pppearance	 Pink	 Extremities blue	 Pale or blue
P ulse	> 100 bpm	< 100 bpm	No pulse
G rimace	Cries and pulls away	Grimaces or weak cry	No response to stimulation
A ctivity	 Active movement	 Arms, legs flexed	 No movement
R espiration	Strong cry	Slow, irregular	No breathing