NEONATAL RESUSCITATION

INITIAL MEASURES:

1. Position baby with neck slightly extended (sniffing position) and head lower than body. Suction mouth and then nose.
2. Clamp umbilical cord at least 4-6 inches from umbilicus.
3. Quickly dry amniotic fluid from head and body. Remove wet linen from contact with baby. Keep baby's body covered.

EVALUATE RESPIRATIONS, HR, AND COLOR

1. Spontaneous breathing, HR > 100 & Pink – keep infant warm, and observe.
2. Spontaneous breathing, HR > 100 & Cyanotic – provide blended **O_2**. (30-40%).
3. Spontaneous breathing, HR< 100 and/or the infant has apnea or gasping respirations – initiate positive pressure ventilation (PPV) with 21% oxygen (room air) or blended oxygen and apply pulse oximeter to right hand/wrist.
4. If apneic; slap foot, flick or rub back, and reevaluate respirations. If apnea persists, ventilate with bag valve mask.
5. **APGAR score** patient.

BAG VALVE VENTILATION:

1. Position infant with head slightly extended, slight Trendelenburg.
2. Check seal by giving 2-3 ventilations at appropriate pressure, and observe for chest movement.
3. If chest rise is good and easy, ventilate for 30 seconds at 40-60/min with room air. Recheck HR.
4. If no chest rise and/or HR does not increase with Mask PPV, ventilation should be optimized by implementing the following 6 steps:
    I. Adjust the mask to insure a good seal.

II. Reposition the airway by adjusting the position of the head.
III. Suction the secretions in the mouth and nose.
IV. Open the mouth slightly and move jaw forward.
V. Increase the PIP enough to move the chest.
VI. Consider endotracheal intubation.

REEVALUATE HEARTRATE:

1. HR< 60, continue ventilations at 30/min. and initiate chest compressions (3:1 ratio of compressions to ventilations; 90 compressions to 30 breaths per minute)
2. HR continues to be < 60/min. administer epinephrine IV: 0.01– 0.03 mg/kg (1:10,000). Or, less optimally through ETT, at a higher dose: 0.05 – 0.10 mg/kg (1:10,000) followed by IV dosing, if necessary, as soon as access is established.
3. HR 60 – 100 and increasing, continue ventilations with blended oxygen to maintain target level SaO2
4. HR> 100 and spontaneous respiration present, discontinue PPV and decrease/discontinue oxygen once an adequate SaO2 is maintained at target levels:

Time after Birth	SaO2
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-90%

ENDOTRACHEAL INTUBATION:

Indications

- ✓ Very premature infants
- ✓ For suctioning of nonvigorous infants born through meconium stained amniotic fluid.
- ✓ When bag and mask ventilation is necessary for more than 2 – 3 min.
- ✓ PPV via face mask does not increase HR or chest compressions are needed

Procedure

1. Visualize the epiglottis and trachea. Insert ETT.
2. Confirm tube placement by direct observations, auscultation, and ETCO2 if available.
3. If ETT correctly placed, note cm. mark at lip and secure tube.

FLUID THERAPY

Volume expansion is recommended when blood loss is suspected (e.g. pale skin, poor perfusion, weak pulse) and when infants HR continues to be low despite effective resuscitation, give trial volume infusion of 10 ml/kg NS.

WITHHOLDING RESUSCITATION

Withholding resuscitation and offering comfort care is appropriate (with parental consent) in certain infants:

- ✓ Very premature infants < 23 weeks or weighing < 400 g.
- ✓ Infants with anencephaly

TERMINATION OF RESUSCITATION

Termination of resuscitation may be considered after 10 minutes of attempted resuscitation without ROSC and through consultation with on-line Medical Control.

POST RESUSCITATION MANAGEMENT

1. Assess blood sugar, and if < 40 administer 1 ml/kg of D50 diluted 1:1 with NS.
2. Check temperature and initiate passive rewarming measures.