

Neonatal Resuscitation

Defines a set of established and standardized measures carried out to initiate, attain or support breathing in a new-born and babies with breathing difficulties within the first 28 days of life.

Preparation & Essential Skills

Preparation for Neonatal Resuscitation involves getting ready to carry out the procedure.

Key requirements

- Radiant warmer turned on or warm environment
- Dry, warm clothing and baby cap
- Suction device (penguin sucker or mechanical)
- Ambu-Bag and mask (correct size)
- B-CPAP set up

- Oxygen source and nasal tubing
- Pulse oximeter and thermometer or patient monitor with proper sized probes
- Clock or timer
- Gloves, sterile cord clamp
- Stethoscope
- NGT/OGT and accessories
- Cannulation set
- Syringes and IV fluids (D10%)
- Laryngeal mask airway
- Intubation supplies

Post-Resuscitation Supplies

- Glucose monitoring equipment
- Thermal mattress or incubator
- Epinephrine, normal saline
- Monitoring devices for vitals
- Documentation forms

Identification of neonates at risk and communication

- Preterm labor, meconium-stained liquor, multiple gestation
- Identify high-risk deliveries
- Communicate risks to the team before birth
- Prepare equipment and personnel accordingly

NB.

- ❖ Have a ready to help team
- ❖ Pay attention to Airway, ensure effective ventilation, chest compression appropriate documentation.
- ❖ At least 1 trained resuscitator for every high-risk delivery
- ❖ Review Golden Minute concept:
- ❖ Initiate ventilation within 60 seconds
- ❖ Go through resuscitation flowchart like HBB algorithms

❖ Be systematic. Ie. Dry → Assess → Stimulate → Ventilate → Chest compressions → Medications

Essential Skills in Neonatal Resuscitation.

1. Rapid Assessment – APGAR

Appearance (Color), Pulse (Heart rate), Grimace (Reflex response), Activity (Muscle tone) Respiration

- Used to guide ongoing support but not to delay resuscitation

2. Thermal Protective Activities

- Dry thoroughly with warm towel
- Replace wet linen immediately
- Cover the head with a cap
- Use plastic wrap for preterm infants of 32 WOG and below.
- Maintain ambient room temp (~25° C)

3. Positioning and Airway Management

- Place baby on back, head in sniffing or neutral position.
- Open airway
- Suction mouth then nose only if secretions present
- Avoid over-suctioning.

4. Recommended Stimulation

- Flick the soles of the feet
- Rub the back gently
- No slapping or vigorous shaking

5. Effective Ventilation – Bag and Mask

Indicated if baby:

- Is not breathing
- Has heart rate < 100 bpm
- Use correct mask size and good seal
- Observe for chest rise
- Deliver breaths at 40–60 breaths/min

6. Chest Compressions

Start if HR < 60 bpm after 30 secs of effective ventilation

- Use two-thumb technique
- Ratio: 3 compressions to 1 breath
- Rate: 90 compressions + 30 breaths = 120 events/min

7. Medication

Indicated if HR remains <60 bpm despite ventilation and compressions

- Epinephrine via umbilical vein (0.01–0.03 mg/kg)
- Volume expansion: 10 mL/kg of normal saline if hypovolemia suspected
- Dextrose 10% in birth weight >1kg or 5% in <1kg.
- Caffeine 20mg stat in <34 WOG
- Antibiotics like cefotaxime 100mg/kg twice daily in suspected sepsis.

8. Monitoring

- Heart rate is the key indicator of resuscitation success
- Use stethoscope or pulse oximeter (if available)
- Monitor respiration and color
- Regularly assess temperature and glucose post-resuscitation

Team Communication

- Use closed-loop communication
“I gave 5 breaths” → “Confirmed chest rise”
- Announce vital signs aloud
- Leader coordinates steps and decisions
- Encourage calm and clear dialogue

Post-Resuscitation Care

- Maintain warmth and monitor vitals
- Blood glucose monitoring
- Initiate Oxygen therapy if needed
- Inform NICU and arrange for transfer if baby remains unstable
- Document all actions taken during and after resuscitation
- Documentation is very key and share information with team.

Thank you for
listening

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