

Quick Review of NRP for NICU Nurses

1. Initial Assessment (Birth)

- Term? Good tone? Breathing or crying?
 - Yes → Routine care (warm, dry, position, clear secretions if needed, ongoing monitoring).
 - Yes, but premature → Delayed cord clamping (30 sec), then move to warmer.
 - No → Move to radiant warmer, initiate resuscitation steps.

2. Initial Resuscitation Steps

- Warm, position airway, clear secretions if needed, dry, stimulate.
- Assess breathing and heart rate (HR).
 - $HR \geq 100$, breathing → Continue monitoring, support transition.
 - Apneic, gasping, or $HR < 100$ → Initiate PPV and SpO₂ monitoring.

3. Positive Pressure Ventilation (PPV) & MRSOPA

- Provide PPV at 40-60 breaths/min using T-piece resuscitator or bag-mask.
- Monitor chest rise and HR response.
- If HR remains < 100 → Perform MRSOPA steps sequentially while continuing PPV:
 - Mask adjustment
 - Reposition airway
 - Suction mouth and nose
 - Open mouth
 - Pressure increase (by 2-5 cmH₂O)
 - Airway alternative

4. HR Assessment After 30 Seconds of Effective PPV

- $HR \geq 100$ → Continue post-resuscitation care.
- $HR 60-99$ → Continue PPV and optimize ventilation.
- $HR < 60$ → Move to chest compressions.



5. Chest Compressions

- Initiate if HR remains <60 bpm after 30 seconds of effective PPV.
- 3:1 compression-to-ventilation ratio (90 compressions, 30 breaths/min).
- Use two-thumb encircling technique.
- Reassess HR every 60 seconds.
 - HR \geq 60 → Stop compressions, continue PPV
 - HR still <60 → Administer epinephrine.

6. Epinephrine Administration

- Indication: HR remains <60 bpm after 60 seconds of compressions + PPV.
- Dosing:
 - IV/UVC: 0.2 mL/kg of 1:10,000 epinephrine, followed by 3 mL saline flush.
 - ETT (if no IV access): 1 mL/kg (higher dose due to poor absorption).
- Repeat every 3-5 minutes if HR remains <60.
- If ETT dose given and IV/UVC access obtained, give IV dose immediately.

7. Fluid Resuscitation

- Indication: Suspected hypovolemia (pale, poor pulses, history of blood loss).
- Give Normal Saline 10 mL/kg IV push over 5-10 minutes.
- Consider blood transfusion if risk factors (placental abruption, fetal-maternal hemorrhage, hydrops, etc.).

8. Duration of Resuscitation

- Continue for at least 20 minutes unless no response.
- Involve parents in decision-making when considering discontinuation.



NRP key takeaways

1. PPV is the single most important step of NRP
2. #1 sign your PPV is effective is rising HR
3. MRSOPA should be your best friend!
4. Intubation-know your tube size: <1kg 2.5ETT, 1-2kg 3ETT, >3kg 3.5 ETT
5. Intubation- how to know it is a good place: HR Rising, CO2 detector change color
6. Intubate before chest compression
7. Chest compressions: head of the bed, two thumbs
8. Chest compressions: increase oxygen to 100%
9. EPI: ETT tube dose-1ml/kg, UVC dose-0.2 ml/kg
10. EPI: 3ml flush between doses
11. EPI: if you give ETT dose, then get a line, you can give a UVC dose right away (do not wait 3-5 mins)
12. Fluid resuscitation: NS or Blood 10ml/kg over 5-10mins
13. UVC: insert until you get blood return, then good to use

