# NRP Decoded !

**Pre-Birth 4 Questions:**
Expected gestational age?
Clear amniotic fluid?
Additional risk factors?
Umbilical cord management plan?

Antenatal counseling.
Team briefing.
Equipment check.

Birth

**Term gestation?**
**Good tone?**
**Breathing or crying?** → Yes → Stay with mother for initial steps, routine care, ongoing evaluation.

No

Warm, dry, stimulate, position airway, suction if needed.

1 minute

**Apnea or gasping?**
**HR <100 bpm?** → No → **Labored breathing or persistent cyanosis?**

Yes ↓ (Apnea) | Yes ↓ (Labored breathing)

PPV.
Pulse oximeter. *Pre-ductal*
Consider cardiac monitor.

Position airway, suction if needed.
Pulse oximeter.
Oxygen if needed.
Consider CPAP.

x 15 sec

**HR <100 bpm?** → No

Yes ↓

Ensure adequate ventilation.
Consider ETT or laryngeal mask.
Cardiac monitor.

Good vent x 30 secs then check HR

**HR < 60 bpm?**

Yes ↓

ETT or laryngeal mask.
Chest compressions.
Coordinate with PPV-100% oxygen.
UVC.

CC x 60 secs then check HR

**HR < 60 bpm?**

Yes

IV epinephrine every 3-5 minutes.
If HR remains <60 bpm,
• Consider hypovolemia.
• Consider pneumothorax.

CC x 60 secs then check HR

Stop compressions when HR> 60
Reassess need for PPV when HR>100

Post-resuscitation care.
Team debriefing.

## Ventilation Numbers:
Rate: **40-60**
= 1 breath every 1-1.5 sec
Flow rate: **10 L**
FiO2 start with **21%**
▪ <35 wks: **21%-30%**
▪ with CC: **100%**
PIP **20** (max 40)
PEEP **5**
*Breathe*, two, three ♫

## Ventilation Corrective Steps
### MR SOPA
**M:** Mask adjustment
**R:** Reposition airway
    5 breaths & assess CM *
**S:** Suction mouth & nose
**O:** Open mouth
    5 breaths & assess CM
**P:** Pressure ↑
    5 breaths & assess CM
**A:** Alternative airway
    *chest movement

## Chest Compressions (CC)
90 per minute
= 3 compression : 1 breath
*1 & 2 & 3 & Breathe* ♫
Cycle duration: 60 secs
1/3 of AP diameter

## Epinephrine (1:10,000)
IV/IO: **0.02** mg/kg
= **0.2** mL/kg
ET: **0.1** mg/kg
= **1** mL/kg
Flush with **3** mL NS

## When HR is not improving with CC & vent :
### CARDIO
**C:** Chest movement?
**A:** Airway secured?
**R:** Rate 3:1 every 2 secs?
**D:** Depth 1/3 of AP diameter?
**IO :** Inspired O2 100%?

## Still ↓ HR after Epi & volume expansion 10 cc/kg?
**CARDIO +**
**Epi:** correct dose given?
**UVC or IO:** dislodged?
Is there a **pneumothorax** present?

## Pulse Oximeter
Pre-ductal
( Rt arm )

| Weight | GA | ETT size |
|---|---|---|
| < 1 kg | < 28 wks | 2.5 |
| 1-2 kg | 28-34 wks | 3 |
| > 2 kg | > 34 wks | 3.5 |

## ETT Depth Formula
= NTL* + 1 cm
*nasal tragus length

## Sudden Deterioration after Intubation
### DOPE
**D:** Displaced ETT
**O:** Obstruction
**P:** Pneumothorax
**E:** Equipment failure

## CO2 Detector Problems
**False -ve**
Inadequate pressure, collapsed lung, ↓ HR, ↓cardiac output, bilateral pneumothorax, obstructed ETT
**False +ve**
Defective device, contamination with (atropine, epi, surfactant, gastric secretions).

### Target Oxygen Saturation Table
| | |
|---|---|
| 1 min | 60%-65% |
| 2 min | 65%-70% |
| 3 min | 70%-75% |
| 4 min | 75%-80% |
| 5 min | 80%-85% |
| 10 min | 85%-95% |

### Initial oxygen concentration for PPV
| | |
|---|---|
| ≥35 weeks' GA | 21% oxygen |
| <35 weeks' GA | 21%-30% oxygen |

| APGAR | 0 | 1 | 2 |
|---|---|---|---|
| Appearance | blue, pale | pink body, blue extremities | pink |
| Pulse | absent | < 100 | > 100 |
| Grimace | no response | min. response to stimulation | good response to stimulation |
| Activity | absent | flexed arms & legs | active |
| Respiration | absent | slow & irregular | vigorous cry |

**Cessation of resuscitative efforts : 20 minutes**

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