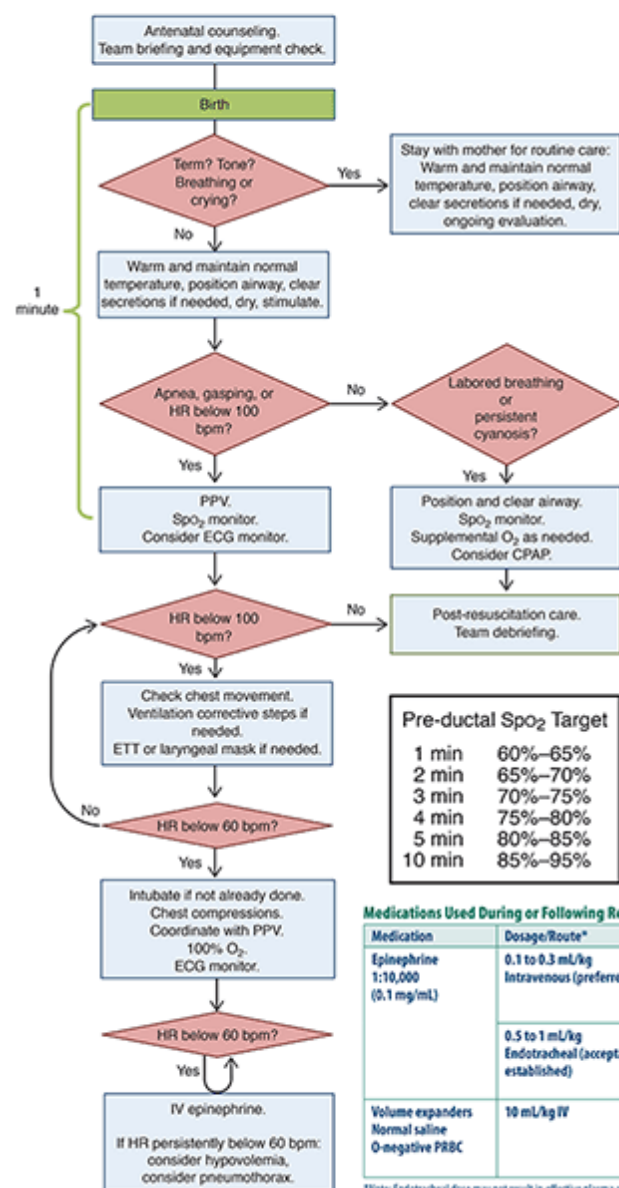


Neonatal Resuscitation Program® - Reference Chart

The most important and effective action in neonatal resuscitation is ventilation of the baby's lungs.



Pre-ductal SpO ₂ Target	
1 min	60%–65%
2 min	65%–70%
3 min	70%–75%
4 min	75%–80%
5 min	80%–85%
10 min	85%–95%

A Airway

- Place head in "sniffing" position.
- Suction mouth, then nose.

B Breathing

- If apneic, gasping, or HR <100 bpm, give PPV at 40–60 breaths/min.
- Listen for rising heart rate for first 15 seconds of PPV.
- If HR not rising and chest not moving with PPV, do MR. SOPA until chest moves with PPV for 30 seconds.
- Attach pulse oximeter; consider cardiac monitor.
- Intubate or place laryngeal mask and give PPV for 30 seconds prior to starting compressions.
- Use CO₂ detector after intubation or insertion of laryngeal mask.

C Circulation

- Start compressions if HR is <60 bpm after 30 seconds of PPV with chest movement. Check HR every 60 seconds.
- Cardiac monitor is preferred method for assessing HR during CPR.
- Give 3 compressions: 1 breath every 2 seconds. Use 100% oxygen.
- Compress one-third of the anterior-posterior diameter of the chest.

D Drugs

- Give epinephrine if HR is <60 bpm after 60 seconds of CPR.
- Caution: epinephrine dosage is different for ET and IV routes.

MR. SOPA Corrective Steps

M and R	Mask adjustment, reposition airway
S and O	Suction mouth and nose, open mouth
P	Pressure increase
A	Alternative airway (ET tube or laryngeal mask)

Endotracheal Intubation

Gestational Age (weeks)	Depth of Insertion at Lips (cm)	Weight (g)	ET Tube Size (ID, mm)
23–24	5.5	500–600	Size 2.5
25–26	6.0	700–800	<1,000 g or <28 weeks
27–29	6.5	900–1,000	Size 3.0
30–32	7.0	1,100–1,400	1,000–2,000 g or 28–34 weeks
33–34	7.5	1,500–1,800	Size 3.5
35–37	8.0	1,900–2,400	>2,000 g or >34 weeks
38–40	8.5	2,500–3,100	
41–43	9.0	3,200–4,200	3.5–4.0

Shaded table adapted from Kamplay SL, Morone JA, Petrone FL. Endotracheal tube length for neonatal intubation. *Resuscitation*. 2008;77(1):169–173.

Medications Used During or Following Resuscitation of the Newborn

Medication	Dosage/Route*	Wt (kg)	Total Volume (mL)	Precautions
Epinephrine 1:10,000 (0.1 mg/mL)	Intravenous (preferred route)	1	0.1–0.3	Give rapidly; follow IV dose with 0.5–1 mL normal saline flush. Repeat every 3 to 5 minutes if HR <60 with chest compressions. After ET dose, may give IV epinephrine as soon as IV route is established.
		2	0.2–0.6	
		3	0.3–0.9	
		4	0.4–1.2	
	Endotracheal (acceptable until IV established)	1	0.5–1	
		2	1–2	
		3	1.5–3	
		4	2–4	
Volume expanders	10 mL/kg IV	1	10	Not responding to steps of resuscitation and has signs of shock or history of acute blood loss. Give over 5 to 10 minutes.
Normal saline		2	20	
O-negative PRBC		3	30	
		4	40	

*Note: Endotracheal dose may not result in effective plasma concentration of drug, so vascular access should be established as soon as possible. Drugs given endotracheally require higher dosing than when given intravenously.

Neonatal Resuscitation Program® Quick Equipment Checklist

This checklist includes only the most essential supplies and equipment needed at the radiant warmer for most neonatal resuscitations. Tailor this list to meet your unit-specific needs. Ensure that an equipment check has been done prior to every birth.

Warm	• Preheated warmer
	• Warm towels or blankets
	• Temperature sensor and sensor cover for prolonged resuscitation
	• Hat
	• Plastic bag or plastic wrap (<32 weeks' gestation)
	• Thermal mattress (<32 weeks' gestation)
Clear airway	• Bulb syringe
	• 10F or 12F suction catheter attached to wall suction, set at 80 to 100 mm Hg
	• Meconium aspirator
Auscultate	• Stethoscope
Ventilate	• Flowmeter set to 10 L/min
	• Oxygen blender set to 21% (21%-30% if <35 weeks' gestation)
	• Positive-pressure ventilation (PPV) device
	• Term- and preterm-sized masks
	• 8F feeding tube and 20-mL syringe
Oxygenate	• Equipment to give free-flow oxygen
	• Pulse oximeter with sensor and cover
	• Target oxygen saturation table
Intubate	• Laryngoscope with size-0 and size-1 straight blades (size 00, optional)
	• Stylet (optional)
	• Endotracheal tubes (sizes 2.5, 3.0, 3.5)
	• Carbon dioxide (CO ₂) detector
	• Measuring tape and/or endotracheal tube insertion depth table
	• Waterproof tape or tube-securing device
	• Scissors
	• Laryngeal mask (size 1) and 5-mL syringe
Medicate	Access to
	• 1:10,000 (0.1 mg/mL) epinephrine
	• Normal saline
	• Supplies for placing emergency umbilical venous catheter and administering medications
	• Electronic cardiac (ECG) monitor leads and ECG monitor