

# Instructor's Resources

## NRP Quick Equipment Checklist

The NRP Quick Equipment Checklist includes only the most essential supplies and equipment needed at the radiant warmer for most neonatal resuscitations. The list may be tailored to meet unit-specific needs.

### Warm

- Preheated warmer
- Warm towels or blankets
- Temperature sensor and sensor cover for prolonged resuscitation
- Plastic bag or plastic wrap (< 32 weeks' gestation)
- Thermal mattress (< 32 weeks' gestation)
- Hat (< 32 weeks' gestation)

### Clear airway

- Bulb syringe
- 10F or 12F suction catheter attached to wall suction set at 80-100 mm Hg
- Tracheal aspirator

### Auscultate

- Stethoscope

### Ventilate

- Flowmeter set to 10 L/min
- Positive-pressure ventilation (PPV) device
- Oxygen blender set to 21% (21% - 30% if < 35 weeks' gestation)
- Term- and preterm-sized masks
- 8F orogastric tube and 20-mL syringe
- Laryngeal mask (size 1) and 5-mL syringe (if needed for inflation)
- 5F or 6F orogastric tube if insertion port present on laryngeal mask
- Access to cardiac monitor and leads

### Oxygenate

- Equipment to administer free-flow oxygen
- Pulse oximeter with sensor and cover
- Target Oxygen Saturation Table

### Intubate

- Laryngoscope with size size-0 and size-1 straight blades (size 00 optional)
- Stylet (optional)
- Endotracheal tubes (sizes 2.5, 3.0, 3.5)
- Carbon dioxide (CO<sub>2</sub>) detector
- Measuring tape and/or endotracheal tube insertion depth table
- Scissors
- Waterproof tape or tube-securing device

### Medicate

Access to:

- Epinephrine (0.1 mg/mL= 1mg/10 mL)
- Normal saline (100 mL or 250 mL bag) or prefilled syringes
- Supplies for placing emergency umbilical venous catheter and administering medications
- Table of pre-calculated emergency medication dosages for babies weighing 0.5 kg to 4 kg

## Preset Patient State Levels

Preset State	Heart rate (bpm)	Muscle tone	Respirations (per min)	Vocal sound	Lung sounds	Blood pressure	SpO <sub>2</sub>	Cyanosis
L5	140	Motion	40	Strong cry	Normal	60/40	97%	Off
L4	160	Motion	60	Grunting	Coarse crackles	60/40	74%	On
L3	120	Tone	10	Weak cry	Coarse crackles	45/20	67%	On
L2	70	Limp	4	None	Coarse crackles	30/20	63%	On
L1	40	Limp	0	None	None	30/20	No signal	On
L0	0	Limp	0	None	None	0	No signal	On

You may use the list below to give learners a systematic orientation to the features of the SimNewB simulator. For each bullet point on the list, allow learners to see, feel, and listen to the feedback provided by the simulator. You may also let the learners perform relevant procedures such as placing an endotracheal tube before they have to do it in a simulation.

### The Neonatal Simulator

The SimNewB simulator provides you with relevant vital signs and physiologic feedback in real time. You may also receive feedback from a patient monitor that serves as the pulse oximeter and cardiac monitor, depending on which device is attached to the baby.

By observing and examining the newborn and monitoring vital signs, you will be able to obtain the assessment information you need to determine the appropriate interventions. The simulator has the following features:

#### Respiratory features

- You can observe spontaneous breathing with visible chest rise and fall and variable respiratory rates. Chest movement may be symmetric or asymmetric. You can also observe shallow and deep chest rise.
- You can auscultate normal and abnormal breath sounds with a stethoscope.
- You can hear a weak cry and a loud cry.
- You can hear audible grunting respirations.
- You can provide positive-pressure ventilation and observe chest movement if the lungs are inflating.
- You can administer CPAP and observe the cm of H<sub>2</sub>O pressure on the CPAP device.
- You can intubate with an endotracheal tube.
- You can insert a laryngeal mask.
- If there are no breath sounds on one side of the chest, suspect an endotracheal tube that is inserted too far, or a pneumothorax.
- You can aspirate a pneumothorax by inserting a percutaneous catheter-over-needle device in the fourth intercostal space at the left anterior axillary line.
- If no chest movement is achieved despite all ventilation corrective steps, you can suction a suspected tracheal obstruction by using a suction catheter or a tracheal aspirator.
- You can place an orogastric tube for gastric decompression.

#### Cardiovascular features

- You can auscultate normal and abnormal heart sounds with a stethoscope.
- You can assess central cyanosis by noting cyanosis around the mouth.
- You can palpate the umbilical pulse, the left brachial pulse and the right brachial pulse.
- You can cut the umbilical cord and place umbilical catheters. If the catheter is in place, you will obtain blood return when you aspirate.
- You can infuse medication and volume into the umbilical catheter.
- You can give medication by intraosseous access through the left and right tibia.
- You can perform chest compressions with appropriate force and depth for a full-term newborn.

*NOTE: Never infuse liquids, such as epinephrine or surfactant, into the airway.*

#### Muscle tone and activity

- You can assess muscle tone by lifting and releasing the baby's arms. If the baby is limp, the arms will fall to the mattress. If the baby has good tone, the arms will not fall when released and may move up and down.

#### Patient monitoring

- When you place the simulated pulse oximeter sensor on the baby, you will see the heart rate and oxygen saturation on the monitor.
- If the heart rate is low, pulse oximetry may not detect a signal, and the patient monitor will show "Saturation signal low."
- When you place cardiac monitor leads on the newborn's chest or limbs, you will see the simulated ECG tracing, heart rate and respiratory rate on the monitor.