

Educational Focus

Scenario Outline

This scenario presents the resuscitation of a newborn at 34 weeks' gestation. The learner is expected to prepare for the birth by asking the 4 pre-birth questions, assembling the team based on assessment of perinatal risk, choosing a leader, delegating tasks, and performing the equipment check. This newborn requires CPAP and pulse oximetry to guide administration of supplemental oxygen. Learners must be familiar with a device that provides CPAP (T-piece resuscitator and/or flow-inflating bag).

Learning Objectives

Upon completion of the simulation, the learners will be able to:

- Demonstrate correct technique for performing initial steps at the radiant warmer
- Demonstrate accuracy when counting a newborn's heart rate
- Demonstrate correct placement of the oximeter sensor, interpretation of oxygen saturation using the target oxygen saturation table, and administration of free-flow oxygen
- Demonstrate use of the appropriate oxygen concentration when administering supplemental oxygen to a newborn less than 35 weeks' gestation
- Identify indications for CPAP in the delivery room and demonstrate correct technique for administering CPAP
- Demonstrate correct technique for inserting an orogastric (OG) tube

Debriefing Points

Points for discussion during debriefing could include:

- Preparation for a preterm birth
- Additional risks for preterm babies compared to term babies
- How to assist ventilation when a preterm baby has difficulty breathing
- Use of NRP Key Behavioral Skills

Reference Materials

Textbook of Neonatal Resuscitation, 8th edition, Lesson 3: Initial Steps of Newborn Care

Textbook of Neonatal Resuscitation, 8th edition, Lesson 4: Positive-Pressure Ventilation

Textbook of Neonatal Resuscitation, 8th edition, Lesson 8: Resuscitation and Stabilization of Babies Born Preterm

Setup & Simulation

Equipment

For setup:

- Damp, lightly blood- and meconium-stained blanket or towel
- Segment of simulated umbilical cord
- Simulated amniotic fluid or water
- Simulated blood
- Simulated vernix

For use during simulation:

- All items included in the NRP Quick Equipment Checklist
- Umbilical cord clamps

Setup & Preparation

- Setting: Delivery room.
- Moisten the simulator's skin with simulated amniotic fluid, blood and vernix, and insert the umbilical cord segment into the abdomen.
- Wrap the simulator in a damp, lightly blood-stained blanket or towel, without a diaper, and place it under a blanket or towel on the mother's abdomen.

Learner Brief

Provide this information to the participants as they enter the simulation:

You have been asked to attend a vaginal birth of a late preterm newborn. The obstetric provider is present, and the baby is coming soon. Please prepare for the birth.

Additional Information

Provide this information to the participants, if asked during simulation:

Gestational age:	34 weeks' gestation
Amniotic fluid:	Clear
Additional risk factors:	Spontaneous labor began with ruptured membranes at 34 weeks' gestation for unknown reasons. No antenatal steroids
Estimated fetal weight:	2500 g (5 lb 8 oz).
Umbilical cord management plan:	Plan to delay cord clamping for 30-60 seconds if baby is crying

Scenario Progression

Before delivery

Vaginal birth • 34 weeks gestation • Clear amniotic fluid
 • Spontaneous labor began with ruptured membranes at 34 weeks' gestation for unknown reasons. No antenatal steroids • Estimated birth weight 2500 g • Plan to delay cord clamping for 30-60 seconds

CRITICAL PERFORMANCE STEPS

- Ask the 4 pre-birth questions to assess perinatal risk:**
 - What is the expected gestational age?
 - Is the amniotic fluid clear?
 - Are there additional risk factors?
 - What is our umbilical cord management plan?
- Conduct pre-birth team briefing:**
 - Assemble team based on perinatal risk
 - Identify leader
 - Assign tasks
- Perform equipment check.**
- Apply gloves and personal protective equipment**

- Ask the 3 rapid evaluation questions:**
 - Term?
 - Good muscle tone?
 - Breathing or crying?
- Delay cord clamping for 30-60 seconds.**
- Move infant to radiant warmer**
- Perform initial steps of newborn care:**
 - Provide warmth, dry (and remove wet linen), put hat on baby's head, and stimulate. May place temperature sensor on infant and change radiant warmer to servo mode (optional)
 - Position head and neck in sniffing position
 - Clear secretions from mouth and nose with bulb syringe (if secretions are copious or impeding breathing)

- Provide ongoing evaluation of respirations, heart rate, tone, activity and color**
- By age 2-3 minutes, place pulse oximeter on right hand or wrist to evaluate perceived persistent cyanosis**
- Identify target oxygen range for age in minutes by using the target oxygen saturation table**
- Request cardiac monitor (optional)**
- Administer CPAP at 5 cm H₂O pressure via flow-inflating bag or T-piece resuscitator for grunting respirations**
- Adjust oxygen concentration per target oxygen saturation table**

- Insert orogastric tube to decompress the stomach during CPAP**
- Continue to monitor respirations, heart rate, tone, activity and color**
- Adjust supplemental oxygen according to target oxygen saturation table**
- Continue CPAP due to persistent grunting respirations**
- Continue to monitor respirations, HR, oxygen saturation, tone, activity, and temperature**
- Plan appropriate post-resuscitation care**
- Communicate effectively with the medical team and mother**
- Perform post-resuscitation debriefing**

The baby has been born

