

Newborn Requiring Initial Steps of Newborn Care and Free-flow Oxygen

Educational Focus

Scenario Outline

This scenario presents the birth of a healthy, full-term infant with clear amniotic fluid. Fetal heart rate monitoring shows a Category II pattern and mother has a fever. Learners are 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 who delegates tasks, and performing the equipment check. At birth, the baby appears term, has poor muscle tone, and does not cry, and the learner is expected to ask the 3 rapid evaluation questions and provide initial steps at the radiant warmer, including use of pulse oximetry to guide administration of free-flow oxygen.

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

Debriefing Points

Points for discussion during debriefing could include:

- Indications for supplemental oxygen.
- Correct administration of free-flow oxygen including initial concentration and interpretation of the target oxygen saturation table.
- Use of NRP Key Behavioral Skills

Reference Materials

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

Setup & Simulation

Equipment

For setup:

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

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 and blood 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:

A 34-year old woman was admitted in active labor yesterday and her membranes ruptured 12 hours ago. The obstetric provider is present and the mother is about to give birth vaginally. Please prepare for the birth.

Additional Information

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

Gestational age:	38 weeks
Amniotic fluid:	Clear
Additional risk factors:	Category II fetal heart rate tracing (indeterminate pattern requiring evaluation and surveillance), suspected chorioamnionitis.
Estimated fetal weight:	3500 g (7 lb 11 oz).
Umbilical cord management plan:	Plan to delay cord clamping for 30-60 seconds if baby is vigorous.

Scenario Progression

CRITICAL PERFORMANCE STEPS

Before delivery

- Vaginal birth • 38 weeks gestation
- Clear amniotic fluid • Category II fetal heart rate tracing (indeterminate pattern requiring evaluation and surveillance), maternal fever, and suspected chorioamnionitis. • Estimated birth weight 3500 g
 - Plan to delay cord clamping for 30-60 seconds

- 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. Risk factors are identified; at least 2 people are required at the birth, one with full resuscitation skills.
 - Identify leader
 - Assign tasks
- Perform equipment check**
- Apply gloves and personal protective equipment**

The baby has been born

L2

Completes initial steps

L4

SpO₂
67

Weak cry

When the baby is still cyanotic
3-4 minutes after birth:
Administers free-flow oxygen

L5

SpO₂
85

Strong cry

End of simulation

- Ask the 3 rapid evaluation questions:**
 - Term?
 - Good muscle tone?
 - Breathing or crying?
- Move infant to radiant warmer**
- Complete initial steps of newborn care**
 - Provide warmth, dry (and remove wet linen), put hat on baby's head, and stimulate if needed
 - Position head and neck in sniffing position
 - Clear secretions from mouth and nose with bulb syringe, anticipating PPV

- Evaluate breathing. If breathing, evaluate heart rate**
- Provide ongoing evaluation of respirations, heart rate, tone, activity, color**
- By age 3-4 minutes, place pulse oximeter sensor on right hand or wrist to evaluate perceived persistent cyanosis**
- Identify target oxygen saturation range for age in minutes by using the target oxygen saturation table**
- Administer free-flow oxygen using correct technique** (30% oxygen is the recommended initial concentration)

- Continue to monitor respirations, heart rate, and oxygen saturation during free-flow oxygen or until stable within target range in room air (21%)**
- Discontinue supplemental oxygen according to target oxygen saturation table**
- Communicate effectively with the medical team and mother**
- Continue ongoing evaluation**
- Perform post-resuscitation debriefing**

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