

Resuscitation of a One-day-old Newborn in the Mother's Hospital Room

Educational Focus

Scenario Outline

This case presents a term infant after an uncomplicated pregnancy, labor, and birth. The infant is an apparently healthy, full-term newborn that suddenly becomes apneic and unresponsive in her mother's hospital room at 20 hours of age. The scenario focuses on considerations for resuscitation outside of the delivery room, including quickly mobilizing an emergency resuscitation team, obtaining equipment, and maintaining the newborn's body temperature. The newborn requires positive-pressure ventilation.

Learning Objectives

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

- Summarize how NRP principles can be applied to babies who require unanticipated resuscitation in the hospital after leaving the hospital delivery room.
- Identify effective methods for assembling additional equipment and personnel outside the delivery room
- Demonstrate the correct technique for administering positive-pressure ventilation

Debriefing Points

Points for discussion during debriefing could include:

- Considerations for newborn resuscitation outside the delivery room
- Strategies for mobilizing qualified help and necessary equipment
- Use of NRP Key Behavioral Skills

Reference Materials

Textbook of Neonatal Resuscitation, 8th edition, Supplemental lesson 13: Resuscitation Outside the Delivery Room
Textbook of Neonatal Resuscitation, 8th edition, Lesson 4: Positive-Pressure Ventilation

Setup & Simulation

Equipment

For setup:

- Bassinette
- Bulb syringe
- Self-inflating bag and mask
- Clothing for SimNewB
- Segment of simulated umbilical cord
- Umbilical cord clamp

For use during simulation:

- All items included in the NRP Quick Equipment Checklist

Setup & Preparation

- Setting: Post-partum room.
- Prepare the radiant warmer so it is equipped with supplies listed on the NRP Quick Equipment Checklist and place it either inside or outside the room as appropriate for the local facility.
- Insert a clamped umbilical cord into the simulator's abdomen and dress the simulator in baby clothes.
- The mother and a family member are sitting on the bed, and the mother is holding the simulator in her arms.
- Place a bassinette close to the bed. (The bassinette is not the best option for resuscitation because it is difficult to perform PPV when the baby is in a bassinette, but having the bassinette within reach will provide an opportunity for learners to consider this option. Having another family member on the bed can also challenge learners as they will then have to ask the family member to move if the bed is needed for the resuscitation.)

- Place a bulb syringe in the bassinette and hang a plastic bag containing a self-inflating bag and mask on the wall.
- As the scenario starts, the mother is calling out for help and is visibly upset about the situation.

Learner Brief

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

A baby girl was born in the hospital at term after an uncomplicated pregnancy, labor, and vaginal birth. The transitional period was uneventful. She remained with her mother and began breastfeeding soon after birth. She is now 20 hours of age and you respond to calls for help from the mother's room.

Additional Information

If asked what has happened, the mother will provide the following information to the participants:

"I just fed her, now she is not breathing and she is blue."

Scenario Progression

Mother is screaming:
"Help! ... Someone help me!
My baby isn't breathing Help me!"

L2



Does not suction
mouth and nose
and start PPV

Suctions mouth
and nose and
starts PPV

L1

No change

Starts PPV

Does not
perform ventilation
corrective steps

Performs
ventilation
corrective steps

L1

Performs ventilation
corrective steps



Provides 30 seconds of PPV
that moves the chest

L5

SpO₂
92

End of simulation

CRITICAL PERFORMANCE STEPS

- ☐ Evaluate breathing and tone
- ☐ Place baby on radiant warmer or firm surface, such as the mother's bed
- ☐ Position head, suction mouth and nose with a bulb syringe, stimulate, reposition airway
- ☐ Evaluate respirations
- ☐ Initiate positive-pressure ventilation with 21% oxygen

- ☐ Call for help
- ☐ Give brief report of the situation to responders while continuing PPV
- ☐ Check HR after the first 15 seconds of PPV.
- ☐ Announce, "HR is less than 100 bpm and not increasing, no chest movement with ventilation"
- ☐ Initiate ventilation corrective steps (MR. SOPA)
 - Mask Adjustment, Reposition head into sniffing position.
 - Attempt PPV (for 5 breaths). If no chest movement:
 - Suction mouth and nose, Open mouth. Attempt PPV (for 5 breaths). If no chest movement:
 - Increase peak inspiratory Pressure by 5-10 cm H₂O (to maximum of 40 cm H₂O) (Attempt PPV for 5 breaths after each pressure increase.)

Note! The instructor may decide how many ventilation corrective steps the learners should go through before airway obstruction is turned off, but it should be off when pressure is increased at the latest to avoid intubation.

- ☐ Re-attempt ventilation. Announce, "Chest is moving NOW. Continue PPV for 30 seconds."
- ☐ Provide 30 seconds of PPV that moves the chest with face-mask ventilation

- ☐ Apply pulse oximeter and/or cardiac monitor if not already done
- ☐ After 30 seconds of PPV that moves the chest, re-assess HR
- ☐ Gradually decrease PPV rate and pressure
- ☐ Discontinue positive-pressure ventilation when infant's HR is consistently more than 100 bpm and infant has spontaneous respirations
- ☐ Continue ongoing evaluation of newborn's respirations, HR, oxygen saturation, tone and activity
- ☐ Communicate effectively with the mother
- ☐ Prepare for transport to special care area
- ☐ Perform post-resuscitation debriefing