



Chapter 26

NEONATAL RESUSCITATION

Introduction

Not all infants require resuscitation

The infant who is vigorous at birth, immediately shows good respiratory effort, cries and becomes pink, should be placed on mother's abdomen, dried, receive initial care and assessed immediately at birth and, thereafter, wrapped warmly in the arms of a parent. The healthy newborn who breathes well and cries immediately **DOES NOT REQUIRE ROUTINE SUCTION, ON THE PERINEUM, OR FOLLOWING BIRTH.**

Personnel

1. Every birth area should have a list of maternal/fetal conditions for:
 - ❖ prenatal transfer to a perinatal referral centre
 - ❖ summoning extra personnel with neonatal resuscitation skills to attend the birth, eg.
 - malpresentation
 - operative birth
 - prematurity
 - intrauterine growth restriction
 - meconium stained fluid
 - fetal distress
2. Personnel skilled in neonatal resuscitation and able to function as a team should be present for every birth. At least one of these people should have the baby as their primary responsibility.
3. A regular education program with annual reviews should be required for personnel responsible for care of the newborn.
4. Roles for resuscitation team members should be written and agreed upon.
5. Regular team rehearsals are recommended.
6. When a distressed infant is anticipated, where possible, at least two persons should have management of the infant as their only responsibility.

Equipment

1. Equipment should be checked for availability and working order daily, and before and after each birth.
2. Equipment should be standardized to avoid confusion.
3. Equipment should be kept in an orderly fashion for easy access when needed.
4. Recommended basic equipment includes:
 - preheated radiant warmer with servo control probe
 - prewarmed blankets, towels, and infant hats
 - disposable gloves
 - suction bottle and manometer
 - suction tubing
 - suction catheters 6, 8, 10, 14 Fr
 - O₂ tubing
 - infant resuscitation bag (≤ 750 ml) with in-line pressure manometer or pop-off valve and reservoir
 - cushioned infant size masks (0,1,2)
 - oral airways (sizes - 000,00, 0, 1)
 - neonatal stethoscope
 - air supply and oxygen-air blender
 - straight (Miller) laryngoscope blades (00, 0, 1)
 - 16.5 cm Neonatal Magill forceps (6½ in)
 - laryngoscope handle
 - extra batteries and bulbs
 - sterile ET tubes (sizes 2; 2.5; 3.0; 3.5; 4.0 mm) with connectors
 - plasticized wire stylets (sterile, single use)
 - meconium aspirators
 - 1.2 cm (1/2 in) tape
 - scissors
 - gastric tubes (sizes 5, 8, Fr)
 - 20 ml syringe
 - umbilical catheters (sizes 3.5,5 Fr)
 - 3-way stopcocks
 - sterile umbilical catheterization/small vessel cut-down tray
 - fluid administration set with burette and microdrip
 - needles and syringes
 - alcohol swabs
 - Epinephrine 1:10,000
 - Naloxone 0.4 mg/ml
 - Sodium Bicarbonate 4.2%
 - non-invasive BP monitoring
 - volume expanders
 - Normal Saline, Ringers lactate
 - access to blood, plasma substitute
 - Glucometer for rapid assessment of blood glucose
 - D10W for infusion

***Neonatal medication is kept separate from maternal medication**

5. An oxygen saturation monitor should be used
6. An emergency pneumothorax aspiration set consisting of an 18 gauge plastic cannula, connected with extension tubing to a 3-way stopcock, 20 ml syringe and under water seal, should be available.
7. Every hospital offering obstetrical care should have available Neonatal Resuscitation Records, which are signed at the end of the procedure by those participating. This record is part of the baby's chart.

References

1. Health Canada, *National Guidelines for Neonatal Resuscitation*, Canadian Institute of Child Health, Ottawa, 1994.
2. "Part 13: Neonatal Resuscitation Guidelines", *Circulation*, 2005; 112:IV 188-IV-195; originally published online Nov. 28, 2005; DOI: 10.1161/CIRCULATIONAHA.105.166574. Available online [http://circ.ahajournals.org/cgi/reprint/112/24_suppl/IV-188].
3. "Summary of Major Changes to the 2005 AAP/AHA Emergency Cardiovascular Care Guidelines for Neonatal Resuscitation: Translating Evidence Based Guidelines to the NRP", *American Academy of Pediatrics*, vol. 15, No. 2, /Fall/Winter 2005. Available online [<http://www.aap.org/nrp/pdf/nrp-summary.pdf>]