

Neonatal Intensive Care Rotation

DESCRIPTION

The resident will partake in a clinical rotation in the neonatal intensive care unit.

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REQUIRED READINGS

Richard A. Polin *et al.* Workbook in Practical Neonatology
or equivalent text

EDUCATIONAL GOALS

To give the first year pediatric surgery resident an appreciation for the intensive care of the neonate, particularly as it pertains to surgical conditions, and to familiarize the resident with neonatal physiology and the social dynamics of neonatal care. This four week experience will be supervised by the neonatology faculty and will confer a graduated level of responsibility.

LEARNING OBJECTIVES

During the rotation in the Neonatal Intensive Care Unit the resident in Pediatric Surgery will achieve the following objectives as listed under the categories of general core competencies.

Medical Knowledge

The resident will:

- 1) Recognize that birth is but one point in the continuum of events which begin before conception and that many neonatal problems can be anticipated based on an understanding of the perinatal history and the complications of pregnancy, labor and delivery placing a neonate at risk.
- 2) Be able to recognize and treat neonatal medical emergencies.
- 3) Be able to recognize and treat neonatal surgical emergencies.
- 4) Become familiar with long-term consequences of prematurity.
- 5) Become facile in the treatment of stable convalescent infants.

- 6) Understand the effects of prematurity on transitional physiology and subsequent infant development.
- 7) Understanding novel technologies and approaches such as ECMO and inhaled nitric oxide therapy.
- 8) Acquire special knowledge in an area of clinical or basic science research.

Patient Care & Technical Skills

The resident will:

- 1) Demonstrate a mastery of the technical skills for resuscitation & stabilization including initiation of ventilation, intubation, umbilical arterial and venous access, lumbar puncture, suprapubic bladder aspiration, peripheral arterial puncture, peripheral insertion of central venous catheters, tube thoracostomy, and tracheal intubation, conventional and high frequency mechanical ventilatory management.
- 2) Be able to stabilize and transport critically ill neonates.
- 3) Be competent in newborn physical examination.
- 4) Be able to perform accurate assessment of gestational age.
- 5) Be able to provide adequate guidance and counseling of new parents.
- 6) Exhibit the skills necessary (generation of a hypothesis, development of a research protocol, data tabulation, manuscript preparation, etc.) to successfully carry out a clinical or basic science research project.
- 7) Achieve certification in the Neonatal Resuscitation Program and Pediatric Advanced Life Support.

Systems-Based Practice

The resident will:

- 1) Recognize the need for referral to appropriate subspecialists.
- 2) Make efficient use of medical resources including awareness of the benefits of prenatal care for mother, fetus and neonate, awareness of the cost to society of neonatal intensive care, and rational use of laboratory and radiologic studies.
- 3) Demonstrate familiarity with the discharge planning process and appropriate follow-up care.

Professionalism

The resident will:

- 1) Understand the ethical principles governing decisions to initiate, terminate or modify intensive care; exhibiting facility in speaking with families about the appropriate or inappropriate application of technology; supporting families in such situations.
- 2) Demonstrate organization of information and prioritization of problems.

Practice-Based Learning & Improvement

The resident will:

- 1) Exhibit evidence of continuing review of contemporary medical literature as indicated by comments on rounds, in conferences and other settings.
- 2) Show enthusiasm for fostering medical education among trainees and colleagues.

Interpersonal and Communication Skills

The resident will:

- 1) Exhibit competence in public speaking.

Learning Activities (See Tables 1 & 3 under *Competency-Based Goals and Objectives*)

- 1) Active participation on daily rounds and all patient care activities in the NICU
- 2) Attendance at all educational lectures, including the multidisciplinary Perinatal Conference and Clinical Consensus Conferences. The resident will present one case or a series of similar cases in depth at one of the Perinatal Conferences.
- 3) Participation in the following formal programs at the Center for Advanced Pediatric Education (CAPE): NeoSim (simulation-based training in neonatal resuscitation), ECMO Sim (simulation-based training in the management of ECMO emergencies), and Compassionate Delivery of Bad News (simulation-based training in delivering difficult news, discussing discontinuation of intensive care support, etc.). These programs will be tailored specifically to the needs of the fellow in Pediatric Surgery.
- 4) Participation in the ECMO and Advanced Respiratory Support course
- 5) Although there is no in-house call responsibilities, the resident will need to be available by pager for select delivery room cases (e.g. the birth of a child with gastroschisis). There is also the option for the resident to stay later into the evening for index neonatal resuscitation cases (e.g. multiple births).