

UNIVERSITY OF MICHIGAN HEALTH SYSTEM · DEPARTMENT OF EMERGENCY MEDICINE
PEDIATRIC EMERGENCY MEDICINE FELLOWSHIP PROGRAM

Rotation: Newborn Medicine (Alternate to the NICU)
Institution: University of Michigan Health System
Duration: Two (2) to Four (4) Weeks
Fellow Training Year: ED trained fellows (Year 1)

Supervising Faculty: J. Schiller, MD

EDUCATIONAL GOALS:

1. Learn the approach to evaluation and management in cases of imminent delivery and the newly born infant including preparation, using maternal and delivery historical factors that indicate potential problems in the newborn. *Competencies: MK, PC, SBP, IC*
2. Demonstrate knowledge and skill in assessment and management of the newly born infant, and be able to perform advanced neonatal resuscitation according to evidence based national guidelines. *Competencies: MK, PC, IC, P, PBLI*
3. Demonstrate knowledge and skill in the approach to infants presenting with jaundice including diagnostic evaluation and indications for photo or exchange transfusion therapy using evidence based national guidelines. *Competencies: MK, PC, PBLI*
4. Demonstrate knowledge about breast feeding methods, breast care and support of mother/baby relationship. *Competencies: MK, PC, P, IC,*
5. Understand newborn nutritional requirements and chemical content of breast versus formula preparation (protein content) and common feeding problems in the newborn. *Competencies: MK, PC*
6. Learn to recognize and treat infants with suspected infections, including sepsis, and how to minimize transmission of infection to newborns in the hospital environment. *Competencies: MK, PC, IC, P, PBLI*

EDUCATIONAL OBJECTIVES:

Perinatal Practice

1. Understand the importance of relevant aspects of the maternal history in evaluating a newborn. *Competencies: MK, PC*
 - Past medical history (SLE, myasthenia, etc.)
 - Medications
 - Classic teratogens (thalidomide, etc.)
 - Other
 - OB history
 - Para/gravida
 - Abortions (elective/spontaneous)
 - Complications (prematurity, cord, infxns)
 - Other
2. Understand the importance of relevant aspects of the pregnancy history in evaluating a newborn. *Competencies: MK, PC*
 - Infections
 - Bleeding
 - Smoking/EtOH/other drug use
 - Premature ctxns or AF leakage
3. Understand the importance of the delivery history in evaluating a newborn. *Competencies: MK, PC*

Accreditation Council for Graduate Medical Education (ACGME) Core Competency Key:

PC = Patient Care; MK = Medical Knowledge; PBLI = Practice-Based Learning and Improvement; IC = Interpersonal and Communication Skills; P = Professionalism; SBP = Systems-Based Practice

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- Onset Of Labor
 - Rupture Of Membranes
 - Fetal Distress
 - Maternal Complications
 - Meconium Staining
4. Understand the principles of prenatal screening and its use in fetal intervention. *Competencies: MK, PC, PBLI*
- AFP
 - Ultrasound (heart, CDH, renal, brain, spine)
 - GTT
 - Fetal measurements
 - Oligo/polyhydramnios
5. Understand the principles of neonatal resuscitation. *Competencies: MK, PC, SBP, IC, P PBLI*
- NALS basics
 - Equipment
 - Personnel
 - Transport

The Transition

1. Understand how to accurately assess an infant's gestational age by exam and assign an Apgar score. *Competencies: MK, PC*
2. Understand the key points of eye prophylaxis including purpose, common pathogens and acceptable prophylactic antibiotics. *Competencies: MK, PC*
3. Understand the key points relating to vitamin K. *Competencies: MK, PC*
4. Understand the key points relating to umbilical stump care. *Competencies: MK, PC*
5. Understand risk factors for infantile for the Prevention of Conjunctivitis Among hypoglycemia, its clinical presentation and the approach to management. *Competencies: MK, PC*
6. Understand indications for measurement of infantile hematocrit and blood pressure in the transitional period. *Competencies: MK, PC*

Jaundice

1. Know how to distinguish between conjugated and unconjugated hyperbilirubinemia on exam and via laboratory testing. *Competencies: MK, PC*
2. Be able to formulate a differential diagnosis for causes of conjugated and unconjugated hyperbilirubinemia. *Competencies: MK, PC*
3. Be able to evaluate jaundice appropriately. *Competencies: MK, PC*
4. Have a specific understanding of the pathophysiology, clinical presentation, evaluation and treatment of the following: *Competencies: MK, PC*
 - ABO/Rh incompatibility

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- Breastfeeding jaundice
 - Physiologic jaundice
5. Know the AAP guidelines for management of hyperbilirubinemia of the newborn. *Competencies: MK, PC*
 6. Be aware of indications for exchange transfusion. *Competencies: MK, PC*
 7. Have an understanding of the mechanism and sequelae of kernicterus. *Competencies: MK, PC*
 8. Have an understanding of the biomechanics of phototherapy (i.e. modes, wavelength, and expected response rates). *Competencies: MK, PC*

Breastfeeding

1. Know the normal physiology of lactation, including colostrum production, engorgement and the letdown reflex. *Competencies: MK, PC*
2. Understand the nutritional, immunological, and ecological benefits of breast milk. *Competencies: MK, PC*
3. Be able to counsel a new breastfeeding mother. *Competencies: MK, PC, IC, P*
4. Be able to evaluate and manage common breastfeeding problems. *Competencies: MK, PC*
5. Understand true contraindications to breastfeeding: *Competencies: MK, PC*
6. Be able to manage an infant with dehydration secondary to insufficient milk supply. *Competencies: MK, PC*

Infant Nutrition

1. Know the basic caloric requirements of a normal newborn. *Competencies: MK, PC*
2. Be able to assess infants with special nutritional needs/concerns (e.g. SGA, LGA). *Competencies: MK, PC*
3. Be familiar with the major differences between human milk, cow's milk, cow's milk-based formulas and soy-based formulas. *Competencies: MK, PC*
4. Be able to emphasize the importance of iron fortification of formula. *Competencies: MK, PC*
5. Understand indications for using special infant formulas, with a specific understanding of protein intolerance and lactose intolerance. *Competencies: MK, PC*

Perinatal Infectious Diseases

1. Understand issues relating to perinatal HIV infection. *Competencies: MK, PC*
2. Describe common clinical findings, long-term sequelae and diagnostic strategies for fetal/perinatal infections. *Competencies: MK, PC, PBLI*
3. Be familiar with techniques employed in the nursery to reduce nosocomial infections. *Competencies: MK, PC, SBP, P, PBL*

DESCRIPTION OF CLINICAL EXPERIENCE:

This rotation occurs in the University of Michigan Women's Hospital. The fellows round with the general pediatrician daily. The fellow, under the supervision of the general pediatrician, is responsible

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for responding to any concern regarding the newborn. There is a didactic curriculum and syllabus of readings in addition to teaching rounds. The fellows also spend time with lactation consultants. Fellows may rotate on the Pediatric NICU Hospitalist service in conjunction with this rotation (with PD and Service approval).

DESCRIPTION OF DIDACTIC EXPERIENCE:

EDUCATIONAL TOPICS COVERED DURING THIS ROTATION:

- Discharge Planning
- Newborn Screening
- Neonatal Dermatology
- Circumcision
- Developmental Dysplasia of the Hip
- Infant of a Diabetic Mother
- Infant of a Substance Abusing Mother
- Birth Trauma

Sudden Infant Death Syndrome

EVALUATION PROCESS:

Fellows are evaluated in writing by the Newborn Faculty at the completion of the rotation. Fellows are evaluated in the areas of Patient Care, Medical Knowledge, Practice Based Learning, Professionalism, Interpersonal Skills and System-Based Practice. Fellows likewise evaluate their experiences after each rotation as well. Evaluations are forwarded to the Program Director and made available in aggregate to individual fellows via the MedHub system at all times. Formal review of fellows' evaluations occurs at quarterly PD/Fellow meetings. Fellows are supervised in compliance with UMHS/GME/Fellowship Program Supervision policies while on this rotation. Fellows are required to be in compliance with UMHS/GME/Fellowship Program Duty Hour Reporting policies while on this rotation.

FEEDBACK MECHANISMS:

Specific problems or notations of excellence identified through verbal or written communication to the Program Director regarding the fellow are immediately brought to the attention of the involved fellow. Fellows receiving an overall poor performance grade (less than satisfactory evaluation for rotation) are notified immediately and meet with the PD. Fellows who receive notation for improvement in some areas (but pass the overall rotation) are given a work plan for educational intervention with specific timeline for completion and reevaluation. Fellows who do not pass an overall rotation will meet with the PD for remediation work plan, including timetable for reevaluation and UMHS notifications as required by GME. Monthly evaluations are placed in the fellow's file and are available for review at any time online via MedHub by the fellow, but are also reviewed during quarterly meetings with the PD. Fellows are encouraged to review their files regularly and at least monthly.

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Reviewed		11/2006		06/30/2009	4/2011	06/2011		
Revised	06/2005		11/2008			06/2011	07/05/2011	07/15/2011
Initial(s)	MN	MN	MN	MN	MN	MN/JS	sb	MN