

NAME OF ROTATION: Term Nursery

COURSE DIRECTOR: Sandra Moore, MD
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LOCATION: DeKalb Medical Center
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TRAINING LEVEL: PGY-1

LENGTH OF ROTATION: 1 month

COURSE DESCRIPTION:

During the PGY-1 year, the intern will participate in a one-month rotation in the Level I nursery at Dekalb Medical Center. In this capacity, the intern will function as the primary care physician for newborns admitted to the well-baby nursery. The focus of the newborn nursery rotation will be in assessing newborns in the delivery room, obtaining a detailed history and physical examination, and providing appropriate anticipatory guidance to the parents.

GOAL, OBJECTIVES, AND CORE COMPETENCIES:

GOAL 1: Understand how to appropriately assess and manage a newborn in the delivery room including resuscitation and stabilization of the critically ill newborn infant.

Objective 1.1: The resident will be able to accurately assess and manage normal and high risk newborns immediately following delivery including:

1. Assigning a one minute APGAR
2. Adequate suctioning of the nose and mouth
3. Steps necessary to reducing radiant heat loss
4. Assess affects of maternal anesthesia/medications
5. Interpret scalp and blood gases
6. Inspect for signs of major and minor malformations
7. Recognize signs of significant problems and appropriately manage or transfer to a level II or III nursery.

Objective 1.2: Successfully pass a course in the neonatal life support.

Objective 1.3: The resident will be able to demonstrate effective and efficient resuscitation in mock codes and during actual deliveries.

Objective 1.4: The resident will be able to discuss signs of normal and abnormal physiologic changes during the first hours of life.

Objective 1.5: The resident will be able to describe appropriate tools used in health promotion and disease prevention including:

1. Rationale and use of eye prophylaxis, vitamin K1 administration, and hepatitis vaccine.
2. Discuss the benefits of breastfeeding and early maternal bonding.
3. Describe how obstetricians and pediatricians can work together to improve the outcome during high-risk deliveries (e.g. Mothers with Group B Strep, HSV, prolonged rupture of membranes).
4. Discuss the prevalence of home deliveries by nurse midwives in ones community and recognize the risks, liabilities, and potential benefits of such methods of delivery.

Objective 1.6: Describe the delivery room assessment, management, and criteria for consultation or transfer to a level II or III nursery for common conditions including:

1. Meconium stained fluid
2. Respiratory depression and other common effects of maternal anesthesia/medications
3. Complicated labor including decelerations, maternal hypertension, infants of diabetic mothers, twin deliveries
4. Cyanosis, respiratory distress, or heart murmur
5. Cardiorespiratory depression or abnormal blood gases

Objective 1.7: The resident will be able to obtain history, perform a physical, screening and treatment plan for infants unexpectedly delivered at home or in transit to the hospital.

GOAL 2: To fully understand how to provide comprehensive care in a level I nursery.

Objective 2.1: The resident will fully comprehend the role of the primary care pediatrician in the level I nursery and how it relates to the continuum of office health supervision care.

Objective 2.2: The resident will understand and be able to describe the rationale behind various nursery and delivery routines (e.g. PKU, Sickle Cell screening, Blood Typing) and how these affect the health and well being of families and newborns.

Objective 2.3: The resident will be able to describe the physiology of neonatal transition after delivery and how it relates to the overall management of the newborn in the nursery.

GOAL 3: Perform an assessment of the newborn using an appropriate history, physical exam, and routine screening procedures.

Objective 3.1: The resident will be able to obtain and interpret information relevant to newborn health including maternal medical and obstetric history, family history, and maternal tests including Rh, rubella, hepatitis, serology, HIV, tuberculosis, drugs, and blood type.

Objective 3.2: The resident will be able to obtain and interpret a social history to assess the physical and psychosocial environment in the infants home and identify infants at high risk.

Objective 3.3: The resident will be able to obtain and describe the importance of appropriate physical examination maneuvers including:

1. Gestational age assessment and growth category
2. Vital signs and measurements
3. General appearance
4. Neurological system
5. Respiratory effort
6. Skin
7. Chest and breast
8. Heart
9. Lungs
10. Abdomen
11. Genitalia
12. Femoral and brachial pulses
13. Hips (Ortolani and Barlow maneuvers)

14. Extremities
15. HEENT
16. Neck and clavicles
17. Newborn Reflexes

Objective 3.4: Understand and discuss routine screening procedures such as PKU, Sickle Cell, and Thyroid screening and their indications.

Objective 3.5: The resident will be able to describe the state neonatal blood screening program including the disease screened for, timing, testing procedures, securing results, and referring as needed.

Objective 3.6: The resident will be able to recognize and manage common newborn conditions including:

1. Large birthmarks such as Mongolian spots, hemangiomas, port wine stains.
2. Marking secondary to birth trauma
3. Peripheral and central cyanosis
4. High or low temperature
5. Tachypnea
6. Pathologic and innocent heart murmurs
7. Abdominal distention
8. Two vessel umbilical cords
9. Abnormal findings on the Ortolani or Barlow maneuvers
10. Swollen breasts
11. Vaginal bleeding
12. Subconjunctival hemorrhages
13. Facial palsy
14. Fractured clavicle
15. Cephalhematoma
16. Large or small for gestational age
17. Infant of diabetic mother
18. Infant of substance abusing mother
19. Child with ABO/Rh incompatibility
20. Polycythemia
21. Premature/Postmature infant
22. Jitteriness
23. Transient metabolic disturbances
24. Delayed urination/stooling
25. Vomiting feedings
26. Poor suck
27. Jaundice

- 28. R/O sepsis
- 29. Malformations and congenital defects

Objective 3.7: The resident will be able to explain and discuss findings of the examination with the parents including counseling pertaining to physical changes such as desquamation, change in eye color, transient hair loss and appropriate umbilical cord care.

GOAL 4: Understand how to manage breast and bottle feeding in the newborn infant

Objective 4.1: The resident will be able to assess a newborn's nutritional status based upon feeding history, illness, number of stools, "wet" diapers, and physical exam.

Objective 4.2: Discuss mother's feeding choice and assess for potential risks and referral to lactation specialist as appropriate.

Objective 4.3: Refer mothers to WIC and outside resources for assistance with food purchase and nutrition education.

Objective 4.4: The resident will be able to recognize and manage common conditions related to nutrition including:

1. Common problems for breast feeding infants and mothers
2. Newborn who is a poor feeder
3. Feeding plans for the SGA infant
4. Feeding plans for the infant of a diabetic mother
5. Feeding plans for the infant with a cleft palate
6. Feeding plans for the neurologically depressed/abnormal infant

GOAL 5: Understand how to assess and appropriately manage infections, which frequently present in the newborn nursery.

Objective 5.1: The resident will be able to identify common and important perinatal infections and discuss methods for screening infections including:

1. Chlamydia
2. CMV
3. Gonorrhea
4. Group B Strep
5. Hepatitis B
6. Hepatitis C
7. HSV
8. HIV

9. HPV
10. Parvovirus B19
11. Rubella
12. Syphilis
13. Toxoplasmosis
14. Varicella

Objective 5.2: The resident will be able to identify newborns at risk for bacterial sepsis by history, physical exam, and laboratory studies.

Objective 5.3: The resident will be able to counsel parents about routine Hepatitis B vaccination, including risks, benefits, common side effects, and informed consent.

Objective 5.4: The resident will be able to recognize and manage cases which frequently present to the newborn nursery including:

1. Newborn with a fever or temperature instability
2. Infant born to a mother with fever
3. Infant born to mother infected or colonized with a pathogen (see listing above)
4. Infant born to mother with prolonged rupture of membranes

GOAL 6: Understand how to recognize and manage jaundice in the newborn period

Objective 6.1: The resident will be able to evaluate maternal history for factors contributing to jaundice including Rh, blood type, gestational age, infection, family history of jaundice in infants, etc.

Objective 6.2: The resident will be able to evaluate infant's history for possible etiologies of jaundice including infrequent or ineffective breast feeding, poor urine or stool output, acholic stool, risk factors for infection, or metabolic disease.

Objective 6.3: The resident will be able to obtain and interpret a physical exam to assess for jaundice (e.g. skin color, sclera, bruising)

Objective 6.4: Understand the utility of obtaining laboratory tests for management of the jaundiced infant including blood type/Coomb's, total and fractionated bili, and hematocrit and interpret results in the clinical setting.

Objective 6.5: The resident will be able to counsel parents about types of jaundice such as physiologic, insufficient breast feeding, breast milk jaundice, and their natural history.

Objective 6.6: The resident will be able to counsel parents on when to be concerned about jaundice such as icterus beyond the face and chest, poor feeding, fever, and irritability.

Objective 6.7: Understand and be able to discuss the controversies regarding diagnosis and management of the jaundiced infant.

Objective 6.8: Understand and be able to discuss the medications used for phototherapy and method used in exchange transfusions.

Objective 6.9: Understand and be able to describe the mechanism of action of phototherapy and use in the hospital and the home and the potential risks including dehydration, eye injury, and disruption of breast feeding routines.

GOAL 7: Understand the indications, risks, and procedure used for circumcision of the newborn.

Objective 7.1: Be able to interview parents about circumcision and assess their understanding of the procedure, its indications, contraindications, advantages, disadvantages, risks, and complications.

Objective 7.2: Explain to parents the AAP's recommendation regarding circumcision.

Objective 7.3: The resident will be able to counsel parents on circumcision site care.

Objective 7.4: Understand and discuss approaches to pain control for neonatal circumcision.

GOAL 8: Understand how to provide anticipatory counseling at nursery discharge, which relates to newborn behavior, family adjustment, injury prevention, access to medical services, and selection of a Primary Care Provider.

Objective 8.1: The resident will be able to list resources that can be used to supplement counseling by the physician.

Objective 8.2: The resident will be able to provide routine counseling on topics such as:

1. Routine follow-up appointment time
2. Warning signs of jaundice, dehydration, and feeding problems
3. Need to repeat routine screening tests if newborn discharged early or with initial abnormal result.
4. Need for medical, social, and WIC services
5. Normal infant behaviors related to crying, sleep, wakefulness

6. Postpartum adjustment including need for rest, support, and potential for postpartum depression such as feelings of anxiety, resentment, fear, and inadequacy
7. Potential for sibling rivalry and methods to handle it
8. Injury prevention including crib safety, car seat requirements, water temperature settings, supervision of newborn with siblings, pets, and appropriate sleep position

Objective 8.3:The resident will provide written discharge instructions and documentation of immunization (HBV) given.

COMPETENCIES:

Competency 1: Patient Care. Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

1.1: Gather essential and accurate information using the following clinical skills: medical interviewing, physical examination, diagnostic studies and developmental assessments.

1.2: Make informed diagnostic and therapeutic decisions based on patient information, current scientific evidence and clinical judgment, using clinical problem-solving skills, recognizing the limits of one's knowledge and expertise, gathering appropriate information and using colleagues and consultants appropriately.

1.3: Develop and carry out patient care plans, using principles of evidence-based decision-making and appropriate prioritization, and taking into account the needs, beliefs and resources of patient and family.

1.4: Effectively use common therapies within the scope of general pediatric practice, including a variety of prescription and non-prescription medications, intravenous fluids, and inhalation treatments, as well as special diets and nutritional supplements. Be familiar with therapies commonly used by subspecialists and other professionals who care for children.

1.5: Prescribe and perform competently all medical procedures considered essential for the scope of general pediatric practice; be familiar with those procedures commonly used by subspecialists and other professionals who care for children.

1.6: Counsel patients and families in a supportive manner so they can understand their illness or injury and its treatment, share in decision-making, make informed consent and participate actively in the care plan.

1.7: Provide effective preventive health care and anticipatory guidance to patients and families.

Competency 2: Medical Knowledge. Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a pediatrician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.

2.1: Demonstrate that you know or can efficiently access the knowledge base needed for effective patient care.

2.2: Critically evaluate current medical information and scientific evidence and modify your knowledge base accordingly.

2.3: Recognize the limits of one's knowledge and expertise by seeking information needed to answer clinical questions and using consultants and referrals appropriately. Use this process to guide life-long learning plans.

2.4: Apply current medical information and scientific evidence effectively to patient care (e.g., use an open-minded, analytical approach, sound clinical judgment, and appropriate attention to priorities).

Competency 3: Communication Skills. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.

3.1: Communicate effectively in a developmentally appropriate manner with patients and families to create and sustain a therapeutic relationship across the broad range of socioeconomic and cultural backgrounds.

3.2: Communicate effectively with physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.

3.3: Develop effective approaches for teaching students, colleagues, other professionals and lay groups.

3.4: Work effectively as a member or leader of a health care team, and collaborate productively with professional organizations.

3.5: Serve as a consultant on pediatric matters to other physicians and health professionals.

3.6: Maintain comprehensive, timely and legible medical records.

Competency 4: Practice-based Learning and Improvement. Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.

4.1: Use scientific methods and evidence to investigate, evaluate and improve one's own patient care practice; continually strive to integrate best evidence into one's daily practice of medicine.

4.2: Systematically assess the health care needs of one's practice population, and use this information to direct population-based problem-solving, with special attention to preventable morbidity and risk.

4.3: Demonstrate willingness and capability to be a life-long learner by pursuing answers to clinical questions, using journal articles, texts, information resources, patients, colleagues and formal teaching conferences.

4.4: Be prepared to alter one's practice of medicine over time in response to new discoveries and advances in epidemiology and clinical care.

4.5: Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement (e.g., use evaluations provided by patients, peers, superiors and subordinates to improve patient care).

Competency 5: Professionalism. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.

5.1: Demonstrate commitment, responsibility, and accountability for patient care, including continuity of care.

5.2: Be honest and use integrity in your professional duties.

5.3: Consistently use compassion and empathy in one's role as a physician.

5.4: Maintain professional boundaries in one's dealings with patients, family, staff, and professional colleagues.

5.5: Place the needs of patients and society over your own self-interest.

5.6: Demonstrate sensitivity and responsiveness to patients' and colleagues' gender, age, culture, disabilities, ethnicity, and sexual orientation.

5.7: Meet high standards of legal and ethical behavior.

5.8: Develop a healthy lifestyle, fostering behaviors that help balance personal goals and professional responsibilities. Recognize and respond to personal stress and fatigue that might interfere with professional duties.

Competency 6: Systems-Based Practice. Understand how to practice quality health care and advocate for patients within the context of the health care system.

6.1: Know how types of medical practice and delivery systems differ from one another with respect to how they control health care costs, allocate resources, and assure quality.

6.2: Practice cost-effective health care and resource allocation that does not compromise quality of care.

6.3: Advocate for patients in one's practice by helping them with system complexities and identifying resources to meet their needs.

6.4: Work with health care managers and providers to assess, coordinate, and improve patient care, consistently advocating for high quality.

6.5: Advocate for the promotion of health and the prevention of disease and injury in populations.

6.6: Acknowledge medical errors and develop practice systems to prevent them.

PROCEDURES:

Technical and therapeutic procedures. Describe the following procedures, including how they work and when they should be used; competently perform those commonly used by the pediatrician in practice.

- Bladder: catheterization
- Breast pump use
- Capillary blood collection (PKU, Hct)
- Circumcision
- Conjunctival swab
- Gastric tube placement (OG/NG)
- Lumbar puncture
- Medication delivery: IM/SC/ID/IV
- Pulse oximeter: placement
- Suctioning: nares, oropharynx

Diagnostic and screening procedures. Describe the following tests or procedures, including how they work and when they should be used; competently perform those commonly used by the pediatrician in practice.

- Hearing screening
- Monitoring interpretation: pulse oximetry
- Radiologic interpretation: chest X-ray

Source. Kittredge, D., Baldwin, C. D., Bar-on, M. E., Beach, P. S., Trimm, R. F. (Eds.). (2004). APA Educational Guidelines for Pediatric Residency. Ambulatory Pediatric Association Website. Available online: www.ambpeds.org/egweb. [Accessed 07/21/2009]. Project to develop this website was funded by the Josiah Macy, Jr. Foundation 2002-2005.

SCHEDULE:

Residents will attend weekly assigned continuity clinic. Residents are required to attend all Grand Rounds, weekly didactic lectures, resident meetings, and participate in the regularly scheduled calls. Residents will give a presentation at the end of the rotation.

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	0900 Teaching/Work rounds	0900 Teaching/Work rounds	0900 Teaching/Work rounds	0730 Grand rounds 0900 Teaching rounds/Work rounds	0900 Teaching/Work rounds
PM	Weekly didactic lectures at residency suite	Newborn lecture series/Resident presentations /Deliveries with neonatologist/ Ancillary- Lactation, social work	Newborn lecture series/Resident presentations /Deliveries with neonatologist/ Ancillary- Lactation, social work	Newborn lecture series/Resident presentations /Deliveries with neonatologist/ Ancillary- Lactation, social work	Newborn lecture series/Resident presentations /Deliveries with neonatologist/ Ancillary- Lactation, social work

DIDACTIC SESSIONS:

- Breastfeeding
- Cardiac disease in newborn
- Circumcision
- Anticipatory guidance
- Hyperbilirubinemia
- Infant nutrition
- Neonatal drug withdrawal
- Neonatal sepsis
- Newborn issues and emergencies
- Newborn screening
- Prenatal screening and diagnosis
- Respiratory disorders and distress in newborn
- Newborn physiology
- Genetics and dysmorphology

EVALUATIONS:

The preceptor and resident will complete evaluation forms on the six core competencies via electronic evaluation form.

REFERENCES:

- Nelson's Textbook of Pediatrics, Behrman. W.B. Saunders, Philadelphia 2000
- Atlas of Pediatric Physical Diagnosis, Zitelli. Mosby-Wolfe, St. Louis 1997
- Neonatology, Gomella, Lippincott, Philadelphia 1994
- Selected articles