

NAME OF ROTATION: Pulmonology Rotation

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LOCATION: Children's Healthcare of Atlanta at Scottish Rite Hospital
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TRAINING LEVEL: PGY-2

LENGTH OF ROTATION: 1 month

COURSE DESCRIPTION:

The Pulmonary rotation is designed to provide the second year resident with a complete understanding of the various disease entities which present to a busy pediatric pulmonary practice. The resident will become well versed in the clinical presenting signs and symptoms, management options, and treatment of commonly encountered conditions including but not limited to asthma, allergies, immunological problems, Cystic Fibrosis, and BPD. The resident will participate as a member of the pulmonary staff as well as serve as a consultant when needed.

GOALS, OBJECTIVES, AND CORE CURRICULUM:

GOAL 1: Understand the appropriate diagnoses and management of pulmonology conditions which do not require referral.

Objective 1.1: Recognize and describe the pathophysiology and management of commonly encountered conditions including but not limited to:

1. Allergic rhinitis
2. Asthma
3. Atopic dermatitis
4. Urticaria

5. Insect sting bites
6. Drug allergies

GOAL 2: Understand how to identify and manage conditions which are commonly referred to a pulmonology specialist.

GOAL 3: Understand, diagnose, and manage allergic rhinitis and serum IgE levels.

Objective 3.1: Understand how to treat allergic rhinitis using appropriate drugs and provide effective patient education.

Objective 3.2: Discuss the approach to diagnosis and management of conjunctival infection versus allergic conjunctivitis.

Objective 3.3: Discuss the possible relationship between allergic rhinitis, otitis media, sinusitis, and asthma.

GOAL 4: Understand how to diagnose asthma and how to manage mild to moderate exacerbations.

Objective 4.1: The resident will be able to discuss the risk factors of the disease with the attending physician and family.

Objective 4.2: Recognize the initial presenting symptoms and educate the family on dangerous signs and acute methods of intervention

Objective 4.3: Explain the differential diagnoses of wheezing to the family.

Objective 4.4: Provide a methodical approach to pharmacological management of acute and chronic asthma and the associated side effects based upon evidence based medicine.

Objective 4.5: Describe the uses of diagnostic procedures including but not limited to arterial blood gases, peak flow meters, and pulmonary function testing.

Objective 4.6: Understand the role of prevention related to allergies and asthma including breast feeding, smoking, allergen avoidance, and lay support groups.

GOAL 5: Understand the role of the general pediatrician versus the Pulmonary specialist in the assessment and management of immunodeficiency.

Objective 5.1: Define the specific immunodeficiency diseases by pathophysiology and etiology and be able to list symptoms and signs of commonly presenting illnesses.

GOAL 6: Understand the management and recognition of urticaria, angioedema, and anaphylaxis.

GOAL 7: Understand how to distinguish normal from abnormal pulmonary conditions.

Objective 7.1: Recognize and be able to comprehensively discuss normal patterns of breathing, including variations with sleep, anxiety, and fever.

Objective 7.2: Differentiate normal variations in chest wall anatomy including pectus excavatum from those which impair ventilation.

GOAL 8: Understand how to identify, diagnose, and manage common pulmonary problems including but not limited to asthma, bronchiolitis, bronchitis, chest pain, croup, pneumonia, and apnea of prematurity.

GOAL 9: Understand how to identify, diagnose, and manage conditions generally referred to a general pulmonologist including but not limited to airway obstruction, ALTE, BPD, cystic fibrosis, empyema, refractory asthma, and pulmonary complications of HIV.

COMPETENCIES:

Upon completion of the Pulmonology rotation, the resident will be well versed in the following Pediatric Competencies in Brief: Pediatric Subspecialties.

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

1.1: Use a logical and appropriate clinical approach to the care of patients presenting for specialty care, applying principles of evidence-based decision-making and problem-solving.

1.2: Describe general indications for subspecialty procedures and interpret results for 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: Acquire, interpret and apply the knowledge appropriate for the generalist regarding the core content of this subspecialty area.

2.2: Critically evaluate current medical information and scientific evidence related to this subspecialty area and modify your knowledge base accordingly.

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

3.1: Provide effective patient education, including reassurance, for a condition(s) common to this subspecialty area.

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

3.3: Maintain accurate, legible, timely and legally appropriate medical records, including referral forms and letters, for subspecialty patients in the outpatient and inpatient setting.

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: Identify standardized guidelines for diagnosis and treatment of conditions common to this subspecialty area and adapt them to the individual needs of specific patients.

4.2: Identify personal learning needs related to this subspecialty; systematically organize relevant information resources for future reference; and plan for continuing acquisition of knowledge and skills.

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

5.1: Demonstrate personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes, and seeking answers to patient care questions).

5.2: Demonstrate a commitment to carrying out professional responsibilities.

5.3: Adhere to ethical and legal principles, and be sensitive to diversity.

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

6.1: Identify key aspects of health care systems as they apply to specialty care, including the referral process, and differentiate between consultation and referral.

6.2: Demonstrate sensitivity to the costs of clinical care in this subspecialty setting, and take steps to minimize costs without compromising quality.

6.3: Recognize and advocate for families who need assistance to deal with systems complexities, such as the referral process, lack of insurance, multiple medication refills, multiple appointments with long transport times, or inconvenient hours of service.

6.4: Recognize one's limits and those of the system; take steps to avoid medical errors.

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.

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.

- Chest physiotherapy
- Medication delivery: inhaled
- Pulmonary function tests: peak flow meter
- Pulmonary function tests: spirometry
- Pulmonary function tests: perform
- Pulse oximeter: placement
- Suctioning: tracheostomy
- Thoracentesis
- Tracheostomy tube: replacement
- Ventilation: bag-valve-mask
- Ventilation support: initiation

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.

- Bronchoalveolar lavage
- Monitoring interpretation: pulse oximetry
- Monitoring interpretation: respiratory
- Pulmonary function tests: interpretation
- Radiologic interpretation: chest X-ray

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SCHEDULE:

This rotation has inpatient and outpatient components. Residents will complete 2 weeks inpatient at Scottish Rite and 2 weeks outpatient at the Lake Hearn office. Residents will rotate at other specialty clinics at the Scottish Rite MOB (described below). 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.

Outpatient

Lake Hearn Pulmonary Clinic: Residents work with attendings designated to perform new patient evaluations and follow ups. This experience includes History and Physical, formulation of differential diagnosis, interpretation of PFTs and Radiographs, familiarization with the use of our electronic medical record (EMR), development of management plans including the unique personalized asthma action plan where applicable and patient/family education.

Cystic Fibrosis Clinic – This is a multidisciplinary clinic for patients with cystic fibrosis including pulmonary, nutrition, GI, psychosocial and utilization management, and interpretation of PFTs.

Tech Dependent Clinic—This is a multidisciplinary clinic addressing needs of Tech Dependent patients (tracheostomy and ventilator/CPAP/PS- dependent, tracheostomy- dependent) with pulmonary, nutrition, psychosocial and utilization management, blood gas analysis, outpatient ventilator management and weaning protocols, tracheostomy and gastrostomy tube care.

Sickle Cell Pulmonary Clinic—This is a unique clinic with Hematologists and Pulmonologists interacting to address the overexpression of an asthma phenotype in SCD patients, Sickle chronic lung disease, nocturnal hypoxemia, pulmonary hypertension, use of chronic transfusion therapy, use of hydroxyurea, interpretation of PFTs and polysomnographic sleep study data.

Inpatient

Scottish Rite—busy consultative and attending service, wide range of pulmonary disorders and conditions, 1/2 to 2/3 of patient load is ICU, daily radiographic (CXR and CT) interpretation, PFT interpretation, blood gas analysis, history and physicals on complex patients, interaction with intensivist, hematologists, gastroenterologists, neurologists, pediatric and subspecialty surgeons on medically complex patients in addition to primary management of pneumonia, asthma and more common respiratory disorders.

DIDACTIC SESSIONS:

Didactic sessions will be arranged by the attending physician. Residents will give a presentation at the end of the rotation to the preceptors, nurse practitioners and staff.

EVALUATIONS:

Residents and preceptors will be evaluated on the six core competencies by electronic evaluation form.

REFERENCES:

—Nelson’s Textbook of Pediatrics