

Pulmonary Goals	Objectives by Competency and Level of Training			Assessment Methods
	PL-1	PL-2	PL-3	
GOAL 1: Prevention, Counseling and Screening. Understand the role of the pediatrician in preventing pulmonary disease, and in counseling and screening individuals at risk for these diseases. 1. Apparent life threatening event (initial work-up and management) 2. Asthma (mild intermittent and mild persistent) 3. Bronchiolitis 4. Bronchitis 5. Chest pain 6. Croup 7. Follow up of apnea of prematurity 8. Uncomplicated pneumonia (bacterial, viral) a patient with congenital heart disease)	Patient Care: 1. Provide routine pulmonary counseling to all parents and patients about: <ul style="list-style-type: none"> •The hazards of cigarette smoke, including passive smoke, and available resources for smoking cessation •The hazards of inhaled agents in home, school or work environments and in recreational exposure and abuse •Significance of noisy breathing (e.g., stridor and snoring) •The impact of obesity on risk for sleep-disordered breathing •Risks of aspiration of foreign bodies (e.g., peanuts, candies) 2. Explain the findings on clinical history and examination that suggest pulmonary disease requiring further evaluation and treatment	Patient Care: 1. Provide counseling to parents and patients with specific pulmonary diseases, addressing: <ul style="list-style-type: none"> •Treatment and expected course of a patient with chronic lung disease, and access to support groups •Annual influenza immunization for patients with chronic lung disease •Prevention of exposure of high-risk patient to respiratory syncytial virus (RSV) 2. Identify system conditions that may present with respiratory symptoms or lead to pulmonary disease, including swallowing dysfunction, immunodeficiency and restrictive orthopedic conditions	Patient Care: Identify indications and limitations of clinical and laboratory tests used to identify pulmonary-based disease and respiratory failure. Interpret the following tests: chest X-ray, pulmonary function test reports (e.g., spirometry and lung volume determinations), polysomnography reports, pulse oximetry, blood gas determination, sweat chloride testing, exercise challenge and bronchial provocation studies	Direct Observation Global Eval
	Medical Knowledge: Describe normal rates and patterns of breathing, including normal variations with sleep (e.g., brief apnea, periodic breathing), anxiety and fever	Medical Knowledge: Differentiate normal variations in chest wall anatomy (e.g., pectus excavatum) from those that impair ventilation (e.g., scoliosis).adopted from other countries		Direct Observation In-Training Exam Global Eval
	Systems Based Practice 1. Identify appropriate referral sources for children traveling internationally who may need additional vaccinations 2. Discuss principles of hospital-based infection control and employee health issues (as addressed by OSHA)	Systems Based Practice 1. Identify reliable sources for up-to-date information on new vaccines and recommended administration 2. Explain the three forms of isolation precautions (contact, droplet, and airborne) and discuss which infections require which precaution 3. Describe and follow current guidelines for infectious disease exclusion policies in school and daycare and explain their rationale 4. Recognize illnesses potentially associated with outbreaks (e.g., meningococemia, E. coli O157:H7, cholera, measles, pertussis) and report confirmed or suspected cases to the local public health authorities	Systems Based Practice 1. Describe current federal laws related to immunization of children and the requisite office documentation (including National Childhood Vaccine Injury Act and Vaccine Adverse Event Reporting System (VAERS)) 2. Describe quality control measures for effective office administration of common vaccines 3. Explain effective methods to increase vaccination rates among children 4. Describe effective infection control procedures appropriate for day care, school and household settings 5. Recognize illnesses consistent with bioterrorism (e.g., smallpox, anthrax) and report suspected cases to the local public health authorities	360° Eval Global Eval
GOAL 2: Diagnose and manage pulmonary conditions that do not require referral. 1. Apparent life threatening event (initial work-up and management) 2. Asthma (mild intermittent and mild persistent) 3. Bronchiolitis 4. Bronchitis 5. Chest pain 6. Croup 7. Follow up of apnea of prematurity 8. Uncomplicated pneumonia (bacterial, viral) a patient with congenital heart disease)	Patient Care: 1. Obtain accurate, relevant history efficiently, demonstrating a developmentally appropriate and prioritized approach 2. Perform accurate, targeted but thorough PE which is developmentally appropriate 3. Synthesize all available clinical information into a treatment plan 4. Identify the signs, symptoms, and pathophysiology of asthma, and differentiate asthma from other causes of cough, wheezing, shortness of breath and exercise intolerance 5. Classify the baseline disease severity of a patient with asthma according to current national guidelines, e.g., mild-intermittent, mild-persistent, moderate-persistent or severe-persistent	Patient Care: 1. Obtain relevant historical subtleties that inform and prioritize differential diagnoses and diagnostic information 2. Accurately track changes in PE over time 3. Develop a prioritized differential diagnosis and diagnostic and therapeutic plan 4. Discuss the indications, clinical significance, and limitations of diagnostic tests and procedures for asthma. Interpret the results of these tests and procedures: arterial blood gas, pulse oximetry, chest X-ray, pulmonary function testing, peak flow monitoring, spirometry, inhaler use (MDI, DPI), spacing devices (e.g. aerometers, inspirase,etc.), nebulizers, and asthma action plans	Patient Care: 1. Role model gathering subtle and reliable information from patient and family 2. Routinely identify subtle or unusual PE findings, demonstrating an understanding of how they influence clinical decision making 3. Modify differential diagnosis and therapy based upon clinical course 4. Recognize disease patterns which deviate from common patterns and require complex decision making 5. Identify associated diseases or comorbid conditions related to asthma (e.g., GER, allergic rhinitis, etc.)	Direct Observation Global Eval
	Systems-Based Practice 1. Compare the indications, effectiveness, side effects and costs of the different pharmacologic agents used in the treatment of asthma, and discuss "reliever" and "controller" therapy 2. Educate a patient and family about all aspects of asthma, including course of disease, quality of life, risk factors for sudden death, strategies to improve adherence to treatment, trigger avoidance, symptom recognition and monitoring, asthma action plans, medications and delivery systems, and seeking professional medical care	Systems-Based Practice Based on a patient's symptoms and disease severity classification, develop a written asthma action plan for home and school. Include assessment and recognition of asthma symptoms (e.g., symptom-driven vs. peak flow assessments), a step-wise pharmacological approach to the management of acute symptoms ("reliever" therapy) and chronic symptoms ("controller" therapy), and instructions about when to seek professional medical care.	Systems-Based Practice Discuss the factors that affect patient/family and school adherence to treatment protocols and the key role of support services in reducing barriers to care	360° Feedback Direct Observation Global Eval
GOAL 3: Recognize and initiate therapy in patients with pulmonary conditions that require consultation or referral. 1. <u>Upper respiratory:</u> mastoiditis 2. <u>Oral/pharyngeal:</u> peritonsillar, retropharyngeal and dental abscesses 3. <u>Middle airway:</u> epiglottitis, bacterial tracheitis, pertussis (symptoms requiring further evaluation and/or admission) 4. <u>Lower airway:</u> fungal pneumonia, severe or complicated pneumonia, parapneumonic effusion, empyema and lung abscess 5. <u>Heart:</u> endocarditis, thrombophlebitis, pericarditis, myocarditis, mediastinitis and acute rheumatic fever 6. <u>GI tract:</u> hepatic abscess, cholangitis/cholecystitis, chronic hepatitis B, C and D, hemolytic uremic syndrome, pancreatitis, appendicitis, peritonitis and abscess 7. Renal and perinephric abscesses 8. <u>Genital:</u> complicated PID and tubo-ovarian abscess 9. <u>Musculoskeletal:</u> osteomyelitis, septic arthritis, discitis and pyomyositis 10. <u>CNS:</u> complicated bacterial meningitis, brain abscess, epidural, subdural and paraspinal abscesses, encephalitis, transverse myelitis, peripheral neuropathies (diphtheria, botulism, tetanus), acute cerebellar ataxia not associated with varicella and Guillain-Barre, acute disseminated encephalomyelitis (ADEM), and partially treated meningitis 11. <u>Soft tissue:</u> staphylococcal scalded skin, toxic epidermal necrolysis, fasciitis 12. <u>Eyes:</u> orbital cellulitis, keratitis and endophthalmitis 13. Systemic: zoonoses/arthropod borne disease (brucella, leptospirosis, cat scratch, Ehrlichia, tularemia, Lyme, Rocky Mountain spotted fever) and Kawasaki disease 14. <u>Intrauterine infections:</u> CMV, rubella, parvovirus B19, syphilis, toxoplasmosis, herpes simplex virus (HSV) and varicella 15. <u>Other:</u> prenatal exposure to or congenital human immunodeficiency virus, acquired immunodeficiency syndrome, tuberculosis, systemic fungal infections, disseminated gonococcal infection, endotoxin shock, toxic shock, fever of unknown origin, fever and neutropenia, fever in immunocompromised patients 16. <u>Immunocompromised hosts:</u> acquired immunodeficiency syndrome, chemotherapy, steroid suppression, primary immunodeficiency, and organ or stem cell transplant recipient 17. <u>Newborn:</u> perinatal herpes, perinatal systemic fungal, varicella and enteroviral sepsis	Patient Care: 1. Create a strategy to determine if the following signs and symptoms are caused by an abnormality of the respiratory system and determine if the patient needs treatment or referral: <ul style="list-style-type: none"> •Cough, both acute and chronic •Wheezing •Tachypnea •Shortness of breath/dyspnea •Exercise intolerance •Recurrent pneumonia •Failure to thrive •Chest pain •Apnea •Noisy breathing (e.g., stridor or snoring) •Digital clubbing •Hemoptysis •Cyanosis •Sleep disturbances 2. Collaborate with a pulmonologist to execute a respiratory management plan as part of the coordination of care for a child with chronic lung disease 3. Recognize the presenting signs and symptoms of cystic fibrosis and refer the patient for appropriate confirmatory testing, education, and treatment 4. Recognize conditions that result in upper airway obstruction	Patient Care: 1. Identify, explain, provide initial management and support, and seek urgent referral when these conditions are suspected 2. Identify indicators that signify a worsening pulmonary condition in a child with CLD and may require a pulmonary referral and re-evaluation 3. Participate in development and implementation of a coordinated pulmonary and nutritional treatment plan for a patient with cystic fibrosis, including recognition and treatment of acute episodic illnesses, nutritional deficiencies, intestinal obstruction and psychosocial issues 4. Know indication for and demonstrate use of oropharyngeal airway vs. nasal trumpet	Patient Care: 1. Recognize immediate life-threatening complications associated with the diagnosis and treatment of pulmonary disorders. Refer for intensive care as indicated 2. Develop a comprehensive plan for preventive care of children with CLD, including influenza vaccination and RSV prevention and prophylaxis 3. Identify indicators that signify an exacerbation of pulmonary symptoms in CF patients. Provide appropriate initial treatment and referral to a specialty center for further evaluation and treatment 4. Recognize tracheostomy obstruction; demonstrate proficiency in replacement of a tracheostomy tube	Direct Observation Global Eval