



# Entrustable Professional Activities

## EPA 1 for Pediatric Pulmonology

### EPA 1: Manage Patients with Acute Complex Respiratory Disease in an Ambulatory, Emergency, or Inpatient Setting

#### Supervision Scale for This EPA

1. Trusted to observe only
2. Trusted to execute with direct supervision and coaching
3. Trusted to execute with indirect supervision and discussion of information for most simple and some complex cases
4. Trusted to execute with indirect supervision but may require discussion of information for a few complex cases Trusted to execute without supervision
5. Trusted to execute without supervision

#### Description of the Activity

Children with acute complex respiratory illness pose a challenging but critical activity for the pulmonologist. This professional activity requires management of the patient with complicated or unusual respiratory disease and the patient with underlying complex multisystem disease. It requires engaging in sound clinical reasoning that drives the development of an appropriate differential diagnosis and workup and placing the patient at the center of all management decisions by engaging in bidirectional communication with patients and parents to provide patient and family centered care.

The specific functions which define this EPA include:

1. Utilizing specialized knowledge and experience to diagnose and determine the optimal course of treatment for acute manifestations of complex respiratory disease
2. Addressing comorbidities that often present in complex patients, particularly those affected by the acute process. This includes case management issues such as special resources required during and post- acute phase of illness
3. Coordinating care with the interdisciplinary health care team
4. Managing uncertainty (your own as well as that of the patient and family) as much of the care for these patients is not known or determined clearly by the existing evidence

#### Judicious Mapping to Domains of Competence

- Patient Care
- Medical Knowledge
- Practice-Based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-Based Practice
- Personal and Professional Development



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### Competencies Within Each Domain Critical to Entrustment Decisions

PC 2:	Organizing prioritizing responsibilities
PC 3:	Transferring care
PC 6:	Using optimal clinical judgment
PC 7:	Developing management plans
ICS 3:	Communicating with health professionals
ICS 5:	Consultative role
SBP 5:	Working in interprofessional teams
PPD 8:	Dealing with uncertainty

### Context for the EPA

**Rationale:** Pediatric pulmonologists must be able to recognize and manage acute simple and complex respiratory illnesses that occur in neonates through young adults in both out- and inpatient settings.

**Scope of Practice:** The patient population includes both term and pre-term infants through young adulthood. Care begins with the emergence of acute illness both in established patients with chronic respiratory illness and in new patients not previously established with the practice. Care can be administered in the role of primary provider or in consultation. It will occur in settings of home (via phone or electronic communication), clinic, emergency department, or intensive care unit. This document addresses the scope of knowledge and skills of the pediatric pulmonologist in a practice with access to support by both neonatal and pediatric intensive care units and an accredited sleep laboratory. In that case, care for critically ill patients is usually provided in a consultative manner to the intensivists. Those practicing in more rural areas may be called upon to have more of a role in the care of patients who are critically ill or have sleep disordered breathing, but the practitioner should recognize his/her own limitations and seek additional assistance from subspecialists as needed.

### Curricular Components That Support the Functions of the EPA

1. Utilizing specialized knowledge and experience to determine the optimal course of treatment for acute manifestations of complex respiratory disease
  - Recognizes the presence of impending respiratory failure in patients using clinical and laboratory data and identifies disorders in gas exchange and acid-base
  - Synthesizes clinical and laboratory findings into a unified diagnosis for simple and complex patients with acute respiratory disease
  - Determines the level and site of care required to support the patient (i.e., home, emergency department, intensive care unit)
  - Outlines and efficiently manages the therapeutic treatment plan including medications (oral and aerosolized), chest physiotherapy, and oxygen therapy
  - Knows the indications for and effectively manages invasive and noninvasive mechanical ventilation
  - Knows the indications for and accurately interprets laboratory, pulmonary function testing, imaging, and invasive procedures (including bronchoscopy) in the management of patients with acute respiratory diseases
  - Anticipates and manages complications of the disease process and therapy



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- Identifies and applies key evidence-based guidelines to the care of patients with acute manifestations of complex respiratory disease
2. Addressing comorbidities that often present in complex patients, particularly those affected by the acute process. This includes case management issues such as special resources required during and after the acute phase of illness
- Recognizes multi-organ system problems arising from the acute pulmonary process, managing simple problems and referring to subspecialists when more complex
  - Recognizes psychosocial, behavioral, and mental health problems (e.g., anxiety, depression) that may surface or worsen during acute exacerbations and manages or co-manages with other specialists/subspecialists
  - Transitions care effectively in a bidirectional manner between the acute setting and the primary care or chronic care provider
  - Seeks information regarding resources and services within catchment area
  - Transmits information about the acute course to primary providers
3. Coordinating care with the interdisciplinary health care team
- The complex child in the inpatient setting requires the input of the many professionals on the health care team (e.g., nutritionist, pharmacist, advanced practitioner, discharge planner, social worker); thus, the entrusted professional must be able to communicate and partner with both inter- and interprofessional teams
  - Communicates clinical recommendations effectively and succinctly to all members of the care team
  - Includes in recommendations the strength of the evidence on which they are based
  - Seeks input from nonphysician health professionals in managing patients
4. Managing uncertainty (your own as well as that of the patient and family) as much of the care for these patients is not known or determined clearly in the evidence
- Communicates the prognosis to patients and their families by assessing readiness for information and amount that can be digested at a given time, health literacy, and ability to tolerate risk/uncertainty
  - Delivers a message that focuses on both hope and support of the care team to the patient and family
  - Seeks additional resources when information is unclear
  - Follows up with patients and families when new information becomes available

Problems **generally** within the scope of the pulmonologist's practice (based on prevalence and potential morbidity) where the role of the pulmonologist is to recognize, evaluate, and treat including:

- Acute exacerbations of chronic diseases (e.g., bronchopulmonary dysplasia, cystic fibrosis, congenital central hypoventilation syndrome, ciliary dyskinesia, neuromuscular disorders, obstructive sleep apnea, interstitial lung disease, chronic respiratory failure)
- Aspiration (e.g., food, liquid, near drowning)
- Asthma exacerbation
- Acute bronchiolitis
- Central apnea



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- Cystic fibrosis complications
- Hypersensitivity pneumonitis
- Laryngotracheobronchitis
- Pneumonia (e.g., bacterial, viral, fungal, mycobacterial, pneumocystis jiroveci) in otherwise healthy as well as immunodeficient children
- Pulmonary embolism
- Pulmonary hemorrhage
- Simple pleural effusion
- Smoke inhalation

Problems that **generally** require consultation where the role of the pulmonologist is to recognize, provide preliminary evaluation, and refer/co-manage. This list depends greatly on the context in which one practices. Those pulmonologists practicing in areas where access to subspecialists is difficult will likely provide more of the care and may do so with telephone advice from a trusted subspecialist as needed.

- Acute respiratory distress syndrome
- Acute respiratory failure, particularly when requiring intensive care
- Cardiovascular instability (e.g., shock, sepsis)
- Complicated pleural effusion
- Complications in patients with lung transplantation
- Congenital disorders of the lower airway (pulmonary emphysema, congenital pulmonary airway malformation, bronchopulmonary sequestration)
- Foreign body aspiration
- Immunodeficiency (e.g., chronic granulomatous disease, immunoglobulin deficiency, acquired immunodeficiency)
- Infections of the upper airway which usually require intubation: epiglottitis, bacterial tracheitis.
- Pneumothorax
- Respiratory distress associated with cardiac disease (e.g., congestive heart failure, cor pulmonale, congenital heart disease, pulmonary hypertension)
- Respiratory disease with other system involvement (e.g., renal insufficiency, diabetes, adrenal insufficiency, malignancy, intestinal obstruction, severe gastroesophageal reflux, tracheoesophageal fistula, rheumatologic disorders)
- Upper airway obstruction due to anatomic abnormality (e.g., choanal atresia, craniofacial abnormalities with micrognathia, laryngeal web and cysts, subglottic stenosis, subglottic hemangioma, laryngotracheoesophageal cleft, congenital abnormalities of the tongue)

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