



# Entrustable Professional Activities

## EPA 1 for Pediatric Gastroenterology

### EPA 1: Care of Infants, Children, and Adolescents with Acute and Chronic Gastrointestinal Disorders

#### 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 conveyed for most simple and some complex cases
4. Trusted to execute with indirect supervision but may require discussion of information conveyed for a few complex cases
5. Trusted to execute without supervision

#### Description of the Activity

Practicing subspecialists must be trained to care for children and adolescents with acute and chronic gastrointestinal disorders. These disorders include a wide variety of conditions including mucosal diseases such as Inflammatory Bowel Disease (IBD), esophagitis, eosinophilic and allergic GI disorders, celiac disease, and a wide variety of other mucosal disease processes. In addition, these conditions include congenital disorders, intestinal failure/short bowel syndrome, and GI infections. Pediatric gastroenterologists need to be familiar with classic understanding of disease processes but also differences that occur with disease in the pediatric population compared to adults. Additionally, subspecialists should be able to manage acute issues as well as long-term chronic management including transition of care. This requires a multitude of competencies across domains of competence.

The specific functions which define this EPA include:

1. Knowing, understanding, and applying epidemiology, pathophysiology, pathogenesis, and natural history of acute and chronic GI disorders to the care of patients
2. Interpreting and applying basic/translational and clinical research to care of patients with GI disorders and applying evidence-based medicine to the care of patients
3. Recognizing and diagnosing children with suspected GI disorders in a variety of clinical presentations
4. Managing children and adolescents with GI disorders including the acute presentations and emergencies as well as long-term management of complex chronic diseases
5. Educating parents and children on GI diseases including cause, treatment, and clinical course
6. Leading and coordinating care for children/adolescents with GI diseases within the medical system and the community

#### Judicious Mapping to Domains of Competence

- Patient Care
- Medical Knowledge
- Practice-Based Learning and Improvement
- Interpersonal and Communication Skills



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- Professionalism  
 Systems-Based Practice  
 Personal and Professional Development

### Competencies Within Each Domain Critical to Entrustment Decisions

PC 7:	Developing management plans
MK 1:	Demonstrate knowledge
MK 2:	Practicing EBM
PBLI 3:	Performing learning activities
ICS 1:	Communicating with patients/families
ICS 3:	Communicating with health professionals
SBP 2:	Coordinating care

### Context for the EPA

**Rationale:** Pediatric gastroenterologists must be able to diagnose and manage acute and chronic diseases of the gastrointestinal tract. They work collaboratively with primary care providers who refer patients for diagnosis and management of the patient's GI problems or co-manage patients along with primary care providers. Working collaboratively with an interdisciplinary team, such as nutritionists and case managers, is also critically important.

**Scope of Practice:** Pediatric gastroenterologists care for patients from infancy to adulthood with acute GI disorders that span the inpatient and outpatient setting. Furthermore, many acute GI issues become chronic GI diagnoses which require ongoing management. The diagnosis and management of acute and chronic GI disorders includes management of GI emergencies, acute inpatient management, and long-term management of GI diseases including inflammatory bowel disease, eosinophilic esophagitis, reflux esophagitis, celiac disease, and a variety of other mucosal diseases.

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

1. Knowing, understanding, and applying epidemiology, pathogenesis, and natural history of acute and chronic GI disorders to the care of patients
  - Knows and understands the clinical science of inflammatory bowel disease (IBD) including epidemiology, natural history, clinical presentation, and features, including similarities and differences between Crohn's Disease (CD) and ulcerative colitis (UC)
  - Knows and understands the evolving pathogenesis, genetics, microbiome, and mucosal immunology of IBD, including similarities and differences between CD and UC
  - Knows and understands the emerging data on the pathogenesis, genetics, epidemiology, natural history, and role of the immune system in celiac disease, eosinophilic gastrointestinal diseases (EGIDs), eosinophilic esophagitis (EoE), and other mucosal diseases
  - Knows and understands the pathogenesis and epidemiology of congenital GI issues and the risk of short-bowel syndrome



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- Knows and understands common GI infections, epidemiology, pathogenesis, natural history, and treatment, if applicable, of various infections
  - Knows and understands acute and chronic gastrointestinal disorders associated with other system conditions
  - Knows and understands complex motility disorders including their epidemiology and pathogenesis
2. Interpreting and applying basic/translational and clinical research to care of patients with GI disorders and applying evidence-based medicine to the care of patients
- Analyzes, interprets, and applies translational research in IBD, mucosal disease, congenital issues, short bowel syndrome, GI infections, and complex motility disorders
  - Identifies key gaps in medical knowledge, treatment, and outcomes within EGIDs, celiac disease, and other mucosal diseases, IBD, congenital issues, short bowel syndrome, GI infections, and complex motility disorders
3. Recognizing and diagnosing children with suspected GI disorders in a variety of clinical presentations
- IBD
    - Recognizes and identifies red flags for systemic autoimmune and immune deficiency syndromes which may have similar manifestations and findings as IBD and can co-exist with IBD
    - Performs an appropriate history and physical examination in a child with suspected IBD
    - Performs an appropriate initial workup and appropriate use of diagnostic labs, serology, stool, procedures (endoscopy), and other studies (including histology and imaging) for a child with suspected IBD
    - Develops an initial diagnosis and treatment strategy focused on inducing remission
  - Other mucosal diseases
    - Identifies the classic clinical presentation and diagnosis of other GI mucosal diseases with a special emphasis on eosinophilic esophagitis, EGID, celiac disease, and other mucosal diseases including diagnostic criteria and unusual presentations
    - Demonstrates knowledge of diagnostic tests including stool exams for pathogens, occult blood, and assessment of malabsorption and intestinal inflammation
    - Identifies similarities and differences between non-IgE mediated gastrointestinal food hypersensitivity (food protein induced enterocolitis syndrome [FPIES]) and EGIDs
    - Knows and understands the different allergy testing methods (specific IgE blood tests-radioallergosorbent test [RAST], skin prick, patch, etc.)
    - Interprets different serologic testing for celiac disease and management of celiac disease with a gluten-free diet
    - Performs an appropriate initial workup for a child with suspected EGIDs, celiac disease, and other mucosal diseases
  - Short bowel syndrome, congenital issues, infections
    - Gathers essential and accurate information about the patient



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- Interviews patients and families to obtain a complete picture of congenital issues, nutritional intake, infection signs/symptoms, and medical history, including prenatal and surgical history
- Makes informed decisions in diagnostic work up for congenital disorders, congenital diarrhea, short bowel syndrome (SBS), and GI/Central Venous Line infections
- Demonstrates knowledge of diagnostic tests including stool exams for pathogens, occult blood, and assessment of malabsorption and intestinal inflammation
- Identifies most effective imaging modalities for detecting anatomical abnormalities of the GI tract
- Knows and understands the variety of congenital anatomic abnormalities, their presentation, treatment, and major complications including but not limited to gastroschisis, trachea-esophageal fistula, and VACTERL anomalies
- Explains types of congenital diarrhea including osmotic vs. secretory diarrheas and steatorrhea
- Complex motility disorders
  - Gathers essential and accurate information about the patient through medical history and physical exam
  - Makes informed decisions in diagnostic workup for complex motility disorders
  - Knows and understands complex motility disorders and their complex diagnosis through history and a variety of procedural testing including advanced motility studies
  - Explains types of motility disorders to patients, families, and other medical providers
- 4. Managing children and adolescents with GI disorders including the acute presentations and emergencies as well as long-term management of complex chronic diseases
  - IBD
    - Recognizes a disease exacerbation and performs appropriate tests to differentiate a disease exacerbation from symptoms of other etiology
    - Develops a treatment plan for disease exacerbations and maintenance therapy
    - Performs standard endoscopy for the diagnosis of CD and UC (see Gastroenterology EPA 5)
    - Distinguishes imaging modalities for small and large bowel evaluation in IBD including but not limited to abdominal radiography, upper gastrointestinal series (UGI) with small bowel follow through, ultrasonography, CT or MR enterography, and video capsule endoscopy
    - Knows and applies knowledge to prescribe treatment modalities for CD and UC including:
      - Steroids
      - Immunomodulators, including thiopurine methyltransferase and use of metabolites to optimize dose
      - Biologics including use of levels and antibody testing
      - Oral, enteral, and parenteral nutrition
      - Other medications and supplements (probiotics, fish oil, etc.)
      - Surgical treatment
      - Evolving and new treatment modalities, including, but not limited to, fecal transplant and alternative medicine
    - Applies disease activity indices and phenotypic classifications for CD and UC
    - Recognizes extra-intestinal manifestations of IBD (primary sclerosing cholangitis [PSC], joints, etc.)
    - Interprets endoscopy and pathology findings including knowing differences between CD and UC



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- Diagnoses and treats penetrating or fistulizing Crohn's disease including perianal disease, intra-abdominal abscess, fistulizing disease, and stricturing disease
- Knows and understands health care maintenance and vaccinations in children with IBD
- Recognizes and manages relevant problems associated with IBD such as malnutrition, anemia, osteopenia, and psychosocial concerns
- Knows and understands the mechanism of action, side effects, and other complications of medications and treatments for IBD, including steroids, immunomodulators, biologics, nutrition therapy and other medications
  
- Other mucosal diseases
  - Involves appropriate health care professionals within the medical team once a diagnosis is confirmed (e.g., allergist for EoE, nutritionist for EoE/celiac, etc.)
  - Discusses treatment options for newly diagnosed EoE including allergy testing directed modification of diet, food elimination diets, use of corticosteroids (oral, budesonide slurry, swallowed aerosolized steroids) and other emerging therapeutic options
  - Discusses the gluten-free diet with parents and children
  - Performs appropriate monitoring of mucosal diseases through growth, labs, and/or regular endoscopy
  - Knows and understands treatment options for EGIDs including use of corticosteroids, food elimination diets, biologic medications, and emerging treatments for EGIDs
  - Knows and understands the progression of esophagitis from inflammation (esophagitis) to Barrett's Esophagus and treatment modalities (medical, endoscopic, surveillance, etc.)
  
- Short bowel syndrome, congenital issues, infections
  - Demonstrates knowledge of the pathophysiology of short bowel syndrome and associated issues, such as dumping syndrome, malabsorption, small intestinal bacterial overgrowth, and D-lactic acidosis
  - Knows and applies the management of intestinal failure, the principles of intestinal rehabilitation, indications for intestinal transplant, and subsequent management
  - Initiates recommendations for management and treatment of GI infections
  - Provides anticipatory guidance for expected course of treatment plan
  
- Complex motility disorders
  - Demonstrates knowledge of the pathophysiology of intestinal motility and its associated disorders
  - Initiates recommendations for management and treatment of motility disorders
  - Provides anticipatory guidance for expected course of treatment plan
  
- 5. Educating parents and children on GI diseases including cause, treatment, and clinical course
  - Educates parents and children on the diagnosis, treatment plan, and potential complications of acute and chronic GI diseases
  - Educates parents and children on medication interactions and side effects
  - Educates parents and children regarding clinical course, concerning symptoms and when to seek medical advice



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6. Leading and coordinating care for children/adolescents with GI diseases within the medical system and the community
  - Coordinates care for children with IBD including referral to surgery, nutritional management with a dietician, and other ancillary services when necessary
  - Coordinates care of patients with EGID, mucosal diseases, and other short bowel syndrome including close management with a dietician on diet, formula, and total parenteral nutrition when necessary (see nutrition EPA) as well as multidisciplinary teams with other health care professionals when necessary (i.e., allergist, surgery, neonatology)
  - Prepares for transition and appropriately transitions care from the pediatric to adult health care systems.
  - Recognizes issues that may contribute to poor compliance or noncompliance and is able to recruit necessary resources to address these issues (i.e., health educator for health literacy issues, psychiatry/social work for depression, etc.)

Types of problems that **generally** require further consultation:

- Surgical intervention
  - Congenital anomalies requiring surgical treatment
  - Obstruction of the intestinal tract requiring surgery
  - IBD requiring surgical intervention
  - Short bowel syndrome and CVL placement
  - Surgical gastrostomy tube or anti-reflux surgery
- Nutrition consult for joint management
  - Total Parental Nutrition (TPN)
  - Tube feeds
  - Complex failure to thrive/eating disorders
- Psychiatry/psychology/pain medicine/social work
  - Anxiety/depression
  - Chronic pain

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