1. Title: Care of infants, children, and adolescents with pancreatic disorders

2. Description of Activity

Pediatric gastroenterologists must be trained to care for children and adolescents with pancreatic disorders as well as have a cognitive understanding of the spectrum of pancreatic disease including differences in the disease processes that are inherent to children compared to adults.

The functions required of this activity include:
1. Understand the normal anatomy of the pancreas, including embryology and congenital variants
2. Understand the epidemiology, etiology, pathophysiology, natural history, prevention and management of pancreatic disorders
3. Obtain accurate and complete information sufficient to develop a differential diagnosis and management plan
4. Communicate management plan to patients, their families and care givers
5. Educate patients, their families and care givers, and other health professionals about the disease process and management plan
6. Adapt management plan to changing clinical information
7. Communicate and provide consultation to referring physician and other health care providers.

3. Domains of Competence (Judicious Mapping)
   - Patient Care
   - Medical Knowledge and Diagnostic Skills Required (from Training Guidelines)
   - Practice Based Learning
   - Interpersonal Skills
   - Professionalism
   - System-based Practice
   - Personal and Professional Development

4. Competencies within each domain critical to entrustment decision (From Pediatric Milestones Document)

   PC 5, 9
   MK 1, 2
   PBLI 2, 8, 10
   ICS 2
   PPD 5, 8

5. List Specific Knowledge, skills and attitudes needed to execute EPA
**Knowledge:** Acute and chronic pancreatic diseases, including hereditary disorders occur in the pediatric population. Therefore trainees in pediatric gastroenterology require comprehensive exposure to the diagnosis and treatment of these disorders and their complications, as well as a thorough understanding of their pathophysiology. Trainees in pediatric gastroenterology should have a thorough cognitive understanding of the spectrum of pancreatic disease including epidemiology, etiology, pathophysiology, natural history and disease management. These diseases include acute pancreatitis and chronic pancreatitis, including hereditary and autoimmune pancreatitis. Genetic and metabolic pancreatic disorders that can affect both the endocrine and exocrine pancreatic function including cystic fibrosis, Schwachman-Diamond, and Johanson-Blizzard as well as other disorders of pancreatic dysfunction. In addition trainees must be familiar with the normal anatomy and embryology of the pancreas including structural variants (e.g. pancreatic divisum, annular pancreas and pancreatic agenesis).

**Skills:** The fellow must be able to care for pediatric patients of all ages with these conditions and unite a team of caregivers to provide exceptional patient care. The fellow must display skills of communication and life-long learning skills as it applies to pancreatic disease processes and disorders.

**Attitudes:** The trainee must be sensitive to a wide variety of patient’s backgrounds and beliefs in their caring for children with pancreatic disease. The trainee must demonstrate a caring and empathetic attitude towards patients and families.

**Patient Care**

1. Obtain a detailed, complete and accurate history of pancreatic disorders and presentation of common pancreatic disorders such as acute and chronic pancreatitis as well as disorders of pancreatic exocrine dysfunction.
2. Perform a physical exam that would appropriately identify signs of pancreatitis and/or pancreatic insufficiency and related systemic manifestations.
3. Accurately assess nature, acuity and severity of the clinical problem.
4. Provide a comprehensive assessment of the medical issues that must be addressed for each patient.
5. Order necessary and appropriate laboratory and diagnostic tests in light of the clinical presentation and formulate a treatment plan based on the diagnosis.
6. Perform continuing evaluation of patients to evaluate safety and efficacy of observations and treatment plan as instituted; order additional studies and/or adjust therapy as clinically indicated.
7. Develop and carry out patient management plans and communicate with patient, family, primary physician, resident physicians, nursing staff, nutrition support team and other ancillary health service providers.
8. Provide education to patients and families concerning the pathophysiology and manifestations of their gastrointestinal disease process. Discuss the proper use of prescribed medications and/or interventions (eg. ERCP) including potential adverse effects.

**Medical Knowledge**

1. Understand the normal anatomy of the pancreas and congenital variants.
2. Understand the physiology of pancreatic exocrine secretion of digestive enzymes, including the types of enzymes, their mechanisms of activation, regulation, and roles in digestion.
3. Demonstrate knowledge of established and evolving biomedical, clinical and epidemiological sciences of pancreatic disorders, as well as the application of this knowledge to patient care.
4. Understand the epidemiology, etiology, pathophysiology, natural history, and management of acute and chronic pancreatitis
5. Demonstrate a basic understanding of the molecular genetics of pancreatic disease including but not limited to gallstone pancreatitis, hereditary pancreatitis and cystic fibrosis, their diagnosis and management
6. Understand the indications for and be able to interpret laboratory results in the diagnosis and management of pancreatic diseases
7. Understand the principles, utility, indications for and basic interpretation of all radiographic studies of the pancreas including their potential risks and benefits
8. Recognize therapeutic options for the treatment of pancreatic disease including the role of nutritional therapy, pain management and endoscopic, radiographic and surgical intervention.
9. Recognize the indications for invasive testing of the pancreas including EUS, ERCP and endoscopic management of pancreatic diseases

Practice Based Learning
1. Demonstrate use of available evidence to investigate, evaluate and improve the care of patients with pancreatic disorders.
2. Understand principles of evidence-based medicine, as applied to children with pancreatic disorders.
3. Understand that clinical practice guidelines are suggestions for clinical care and may be flexible and evolve with time.
5. Explain clinical decisions in the context of evidence based medicine
6. Demonstrate knowledge of research that has been performed into patient care, diagnosis and pathophysiology in children with pancreatic disorders

Interpersonal Skills
1. Effectively communicate disease information, treatment plan and outcome to patients and their families
2. Effectively communicate with other medical professionals involved in the care of the patient
3. Work effectively as a member or leader of a health care team coordinating care of the patient

Professionalism
1. Demonstrate a commitment to carrying out professional responsibilities with adherence to ethical principles
2. Demonstrate good practices related to patient confidentiality.

System-based Practice
1. Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
2. Practice high-quality fiscally responsible and cost-effective health care by demonstrating consideration of costs to the patients’ families and the system in recommending diagnostic tests, treatments, and follow-up management

6. Assessment Procedure
### Quick Summary of EPA

<table>
<thead>
<tr>
<th>End-of-Training EPA</th>
<th>Step 1 Description and Tasks</th>
<th>Step 2 Domains of Competence and Competencies within each Domain Critical to Entrustment Decisions</th>
<th>Step 3 Assessment Methods/Tools</th>
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| 1. Care for children and adolescents with pancreatic disease and pancreatic disorders | Summary: Pediatric gastroenterologists entering into unsupervised practice are able to diagnose and manage pancreatic disease and pancreatic disorders The tasks required:  
- Understand the normal anatomy of the pancreas, including embryology and congenital variants  
- Understand the epidemiology, etiology, pathophysiology, natural history, prevention and management of pancreatic disorders  
- Obtain accurate and complete information sufficient to develop a differential diagnosis and management plan  
- Communicate management plan to patients, their families and care givers  
- Educate patients, their families and care givers, and other health professionals about the disease process and management plan  
- Adapt management plan to changing clinical information  
- Communicate and provide consultation to referring physician and other health care providers | Patient Care (PC) | 1, 4-7, 9 |
|  |  | Medical Knowledge (MK) | 1-2 |
|  |  | Practice-Based Learning & Improvement (PBLI) | 1, 3, 6 |
|  |  | Interpersonal & Communication Skills (ICS) | 1, 3, 4 |
|  |  | Professionalism (P) | 1, 2 |
|  |  | Systems-Based Practice (SBP) | 2 |
|  |  | Personal and Professional Development (PPD) |  |
### EPA Title: Care of Infants, Children, and Adolescents with Pancreatic Disorders

<table>
<thead>
<tr>
<th>Level 1</th>
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<th>Level 5</th>
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<td>Perform history and physical exam in children presenting with pancreatic disease</td>
<td>Understand anatomy and embryology of the pancreas and the complications with pancreatic anatomic abnormalities (divisum, annular pancreas, etc)</td>
<td>Understand physiology of the pancreas including pancreatic exocrine secretion of enzymes</td>
<td>Manage complex complications of pancreatitis including pseudocyst, hemorrhagic pancreatitis, necrotic pancreatitis</td>
<td>Participate in scholarly activity related to pancreatic disorders</td>
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<td>Develop a basic initial diagnostic plan including laboratory evaluation, imaging and other tests as needed for acute and chronic pancreatitis</td>
<td>Understands the natural history, epidemiology and pathogenesis of pancreatic disorders (pancreatitis, pancreatic insufficiency, pancreatic masses)</td>
<td>Understand the molecular genetics of pancreatic disease</td>
<td>Treat and monitor children with pancreatic insufficiency including those with CF</td>
<td>Perform ERCP and endoscopically manage pancreatic diseases</td>
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<td>Recognize signs and symptoms of pancreatic insufficiency</td>
<td>Develops an appropriate initial diagnostic and management plan for pancreatitis and interpret diagnostic tests</td>
<td>Continuously re-evaluate diagnosis and management plan based on patient clinical and therapeutic response</td>
<td>Lead a multi-disciplinary team – nutritionist, surgeon, nurses, psychologists, and support staff as applicable</td>
<td>Present research findings at a national meeting in oral format</td>
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<td>Differentiate endocrine and exocrine pancreatic functions</td>
<td>Basic education to families and children regarding diagnosis and treatment of pancreatitis</td>
<td>Advanced education to families and children regarding diagnosis and therapeutic options.</td>
<td>Apply QI, Best Practices, and scientific evidence</td>
<td>Be invited to speak at a regional meeting or grand rounds on pancreatic disorders</td>
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### Training / Expertise Level

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### Entrustment Level

- **Execution with direct proactive supervision**: ☐
- **Execution with reactive supervision (on request)**: ☐
- **Supervision at distance post hoc supervision**: ☐
- **Entrustment, ready for unsupervised practice**: ☐
- **Supervision of others junior colleagues**: ☐