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

1. Gather essential and accurate information from the medical history, family history, review of systems, diet history, physical examination, adequate diagnostic studies from children presenting with gastrointestinal, hepatic or nutritional conditions.
2. Plot growth parameters using appropriate growth charts, and measure BMI to monitor trends suggestive of failure to thrive, overweight and obesity as part of regular screening of patients.
3. Develop a differential diagnosis for patients with GI problems using standard information (as above).
4. Order and interpret appropriate laboratory and imaging studies based on differential diagnoses formed. Know the indications for specific tests/procedures including: esophago-gastroduodenoscopy, colonoscopy and liver biopsies.
5. Diagnose, explain and manage common gastrointestinal conditions generally not requiring referral including:
   ♦ Diarrhea due to infectious causes, including bacterial enteritis, parasites and viral gastroenteritis.
   ♦ Diarrhea due to non-infectious causes, including chronic nonspecific diarrhea, milk protein intolerance, and lactose intolerance
   ♦ Common nutritional deficiencies
   ♦ Constipation, encopresis
   ♦ Exogenous obesity
   ♦ Gastro-esophageal reflux
   ♦ Non-specific intermittent abdominal pain
   ♦ Irritable bowel syndrome
   ♦ Jaundice associated with breast feeding
   ♦ Hepatitis A, uncomplicated
6. Identify, explain, provide consultation for the following gastrointestinal conditions:
   ♦ Gastrointestinal conditions generally not referred, if severe or management is unsuccessful.
   ♦ Conditions warranting urgent surgical or gastroenterology evaluation, such as: abdominal mass, bowel obstruction, volvulus, intussusceptions, pyloric stenosis, foreign bodies lodged in esophagus, caustic ingestion, biliary atresia, biliary stones, congenital GI bleeding, persistent hematemesis.
   ♦ Hepatobiliary disease, including, neonatal, chronic or persistent hepatitis, direct or conjugated neonatal hyperbilirubinemia or hyperbilirubinemia outside the neonatal period, pancreatitis, hepatosplenomegaly, fulminant hepatic failure.
   ♦ Severe acute or chronic intestinal conditions, including: suspected inflammatory bowel disease, colitis, non-infectious gastrointestinal bleeding.
   ♦ Nutritional deficiencies which are severe or uncommon, including: rickets, kwashiorkor and/or marasmus.
   ♦ Chronic diarrhea with or without malabsorption, including: suspected celiac disease, cystic fibrosis, Schwachman’s syndrome, gastrointestinal infection with prolonged diarrhea, and/or undiagnosed diarrhea.
♦ Gastrointestinal entities requiring special evaluation and follow up, including: morbid obesity, anorexia nervosa, bulimia, severe failure to thrive.

7. Diagnose and manage vomiting.
♦ Differentiate normal infant spitting up and functional asymptomatic gastro esophageal reflux from vomiting disorders requiring evaluation and treatment.
♦ Describe both common and serious disorders leading to vomiting (both intestinal and extra intestinal) and the appropriate use of laboratory and imaging studies to aid in diagnosis.
♦ Recognize symptoms and urgently refer children with vomiting caused by intestinal obstruction.
♦ Describe the typical presentation and suspected course of viral gastroenteritis and evaluate vomiting that does not conform to this presentation.
♦ Develop an evidence-based plan, based on etiology, for withholding, feeding or reintroducing solid foods during and after vomiting.
♦ Discuss common remedies and medications used to treat vomiting, along with indications, limitations and potential adverse effects.

8. Diagnose and manage abdominal pain.
♦ Compare the common causes of abdominal pain and describe signs and symptoms that differentiate recurrent (functional) abdominal pain of childhood from other organic causes that require further evaluation and treatment.
♦ Explain the key components of a complete history and physical examination for abdominal pain. These should include pain patterns, weight loss, complete diet history, elimination history, psychosocial history, rectal exam.
♦ Identify indicators that suggest need for a gastroenterology or surgery consultation or referral for a child with abdominal pain.

9. Diagnose and manage diarrhea.
♦ Compare and contrast the infectious and non-infectious causes of diarrhea. Describe signs and symptoms that differentiate self-limiting diarrhea from diarrhea requiring further evaluation and treatment.
♦ Explain the key components of a complete history and physical examination for diarrhea, including a complete diet history, length of illness, elimination history, and travel history, in order to classify a diarrheal illness as acute or chronic.
♦ Describe the appropriate diagnostic work up for a patient with acute or chronic diarrhea, including factors that suggest celiac disease or cystic fibrosis.
♦ Develop an evidence-based plan that is based on etiology for withholding, feeding or reintroducing solid foods during and after a diarrheal illness.
♦ Discuss common remedies and medications used for diarrhea, along with indications, limitations and potential adverse effects.
♦ Identify the indicators for a gastroenterology consultation or referral of a child with diarrhea.

10. Understand principles of nutrition important to the general pediatrician.
♦ Conduct an age-appropriate nutritional history and exam for nutritional disorders.
♦ Discuss nutritional supplements that can be added to children’s diets to increase caloric and nutritional content.
♦ Describe the forms of parenteral nutrition.
♦ Describe the typical monitoring of a child on TPN.
♦ Recognize signs and symptoms of deficiency in the following nutritional components, and identify children at high risk for deficiency.
   o Vit B12
Discuss the presentation, diagnosis and management of eating disorders.

11. Understand the general pediatrician’s role in the diagnosis and management of childhood obesity.
   ♦ Explain the findings on history and physical examination that lead to a diagnosis of overweight or obesity in a child or adolescent. These findings should include calculation and plotting of body mass index.
   ♦ Identify the risk factors for developing obesity, including family history of obesity, lack of excessive, sedentary behaviors, socioeconomic status, diet of high calorie food, and other environmental influences.
   ♦ Develop an anticipatory guidance plan to counsel patients and families on lifestyle changes that may prevent or reduce obesity.

12. Provide gastroenterology counseling to parents and patients with specific GI conditions that addresses:
   ♦ Importance of compliance with medications for inflammatory bowel and liver disease.
   ♦ Need for specialized diets in certain gastroenterology conditions, e.g. IBD, celiac disease, failure to thrive, obesity, etc.
   ♦ Dealing with abdominal pain of apparent psychosomatic origin.

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.

1. Describe the normal eating patterns at different ages, including expected weight gain and typical feeding behaviors.
2. Describe normal developmental patterns in gastrointestinal development, including gastro-esophageal reflux, bowel habits and stool color and consistency.
3. Explain the findings on clinical history and examination that suggest gastrointestinal disease that requires further evaluation and/or treatment. Such findings include symptomatic gastro-esophageal reflux, vomiting, diarrhea, constipation, abdominal pain, hematemesis, hematochezia, melena and weight loss.
5. Discuss the evaluation of liver function and liver abnormalities, and differentiate transient elevation of liver enzymes from serious liver disease.
6. Create a strategy to determine if the following presenting signs and symptoms are caused by a gastrointestinal disease process and decide if the patient needs treatment.
   ♦ Fatigue
   ♦ Vomiting
   ♦ Growth failure/weight loss/failure to thrive
   ♦ Diarrhea
   ♦ Constipation
   ♦ Abdominal pain
   ♦ Jaundice
7. Understand the epidemiology, etiology, pathophysiology, clinical manifestations, differential diagnosis as well as principles of diagnosis and therapy of common mouth and esophageal disorders including:
- Disorders of deglutition.
- Normal function of suck and swallow, the development stage of infant feeding introduction of solids in relation to oral motor development.
- Swallowing in coordination: recognition and evaluation.
- Gastro esophageal reflux
  - Differentiate the physiologic from the pathologic.
  - Know the sensitivity and specificity of radiologic evaluation, ph measurement and endoscopy in the evaluation of gastro esophageal reflux.
  - Know the potential complications of chronic gastro esophageal reflux
  - Know the general principles of medical treatment and the indications for surgical therapy.
  - Recognize conditions that make patients at higher risk of GER (TEF, Down syndrome, CNS static encephalopathy, congenital malformation of the esophagus, esophageal atresia and tracheoesophageal fistula).

8. Know the epidemiology, etiology, pathophysiology, clinical manifestations, differential diagnosis as well as principles of diagnosis and therapy of common disorders of the stomach and duodenum.
- Anatomical disorders:
  - Pyloric stenosis.
  - Gastric volvulus
  - Duodenal stenosis and atresia.
- Gastritis and peptic ulcer disease
  - Stress related.
  - Drug related
  - Know the significance of Helicobacter pylori in the pediatric and adolescent population and the value of serum titers.
- Gastropathies
  - Menetriers Disease
  - Disorders affecting gastric motility: postviral gastroparesis, gastroparesis of prematurity, drug associated gastroparesis.

9. Demonstrate knowledge of the epidemiology, etiology, pathophysiology, clinical manifestations, differential diagnosis as well as principles of diagnosis and therapy of common disorders of the intestine.
- Congenital anomalies.
  - Hirschsprung’s disease
  - Intestinal malrotation
  - Intestinal duplication
- Intestinal infections
  - Viral including: Rotavirus, Norwalk virus, Adenuvirus
  - Bacterial including: Salmonella, Shigella, Campylobacter, Yersinia, Cholera, Escherichia coli (EPEC, ETEC, O157:H7 its relation to HUS) Clostriridium difficile
  - Parasitic infections including: Giardiasis, Cryptosporidium, Amebas
Gastrointestinal manifestations of immunodeficiencies
- Bacterial overgrowth, risk factors.
- Short bowel syndrome
- Inflammatory bowel disease.
  - Crohn’s disease, describe clinical and laboratory findings suggestive of.
  - Ulcerative colitis, describe clinical and laboratory findings suggestive of.
- Enteroctopathies
  - Celiac disease, know the sensitivity and specificity of diagnostic tests (serology, endoscopy).
  - Allergic enteropathy
  - Eosinophilic gastroenteritis
- Intestinal polyps and polyposis syndromes.
  - Know the risk for malignancy of the polyposis disorders.
- Intussusceptions in Infants and Children

10. Demonstrate a basic understanding of the epidemiology, possible etiology, pathophysiology, clinical manifestations, differential diagnosis as well as principles of diagnosis and therapy of common liver disorders in children and adolescents
- Infant cholestasis, know the importance of recognizing biliary atresia before 12 weeks of age
- Postnatal infections of the liver
- Viral hepatitis. Interpretation of hepatitis test results, HAV, HBV, HCV, CMV, EBV
- Metabolic hepatic disorders
  - Disorders of carbohydrate metabolism
  - Alfa one anti trypsin deficiency
  - Wilson’s disease
- Recognition and immediate management of fulminant hepatic failure.
- Gallbladder disease in children and adolescent.

11. Know the epidemiology, possible etiology, pathophysiology, clinical manifestations, differential diagnosis as well as principles of diagnosis and therapy of common pancreatic disorders in children and adolescents
- Acute pancreatitis
- Chronic pancreatitis
- Exocrine pancreatic dysfunction
  - Cystic fibrosis
  - Schwachman’s Syndrome

12. Describe the indications, contraindications, and possible adverse effects of nutritional therapies.
- Parenteral nutrition including the types (peripheral, central), components, including protein, glucose, electrolytes, vitamins, minerals and lipid and describe how to determine what is needed by the patient.
- Tube feedings. Continuous vs bolus.
- Elemental diet.

13. Describe the mechanism of action and side effects of medications commonly use in gastroenterology including:
- Prokinetics: Metoclopramide, erythromycin
- Acid Neutralization agents
- Acid secretion inhibitors: ranitidine, famotidine, proton pump inhibitors
- Immunosupresants: steroids, 6 mercaptopurine, imuran, cyclosporine, inflixamid
- Bile flow stimulants: ursodeoxicholic acid, Phenobarbital
ASA compounds: Sulfasalazine, Pentasa, Asacol.
- Probiotics
- Antidiarrheal agents
- Laxative agents

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

1. Communicate effectively with patients and parents in order to obtain adequate history.
2. Make patients and parents comfortable in order to perform an adequate physical exam and explain the indications and prepare the family for uncomfortable parts of a physical exam like a rectal examination.
3. Present the history, physical findings and data from studies in a systematic and organized fashion including the differential diagnosis.
4. Include the child in discussions with the parents in an age appropriate manner
5. Discuss with the parents and child about differential diagnosis without causing panic
6. Assist the gastroenterologist in discussing with parents about findings from procedures and/or laboratory results.
7. Write comprehensive consultations and maintain clear, legible and accurate medical records.

**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.

1. Use an evidence-based medicine approach to interpret journal articles, the importance of their objectives, and the value of the results as well as their application to clinical practice update knowledge and improve patient care.
2. Identify standardized guidelines for diagnosis and treatment of gastrointestinal diseases and learn the rationale for adaptations that optimize treatment.
3. Perform literature searches and access information on particular gastrointestinal problems to improve one’s knowledge base and ability to provide care to patients.
4. Discuss gastrointestinal problems with attendings and colleagues to improve one’s fund of knowledge.
5. Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement.

**COMPETENCY 5. Professionalism.** Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity.

1. Demonstrate personal responsibility and accountability to the well being of patients by following up on lab results, writing comprehensive notes, keeping good communication with the attending physician and other personnel taking care of the patient.
2. Obtain the family’s respect and trust as well as from healthcare providers involved in the patient care, by being honest, showing respect for confidentiality, wearing proper attire, being courteous and having integrity in one’s professional duties.
3. Learn to manage time effectively in order to be efficient
4. Meet high standards of legal and ethical behavior when caring for patients and when interacting with other healthcare providers.
COMPETENCY 6. System-Based Practice. Understand how to practice quality health care and advocate for patients within the context of the health care system.

1. Know the cost of care, hospitalization, and recommended diagnostic studies for one’s patients.
2. Know how HMO’s and insurance companies work, as well as Public Aid.
3. Be aware of support groups available for families with children with different chronic gastrointestinal conditions, local and nationwide including summer camps.
4. Interact with social workers and case managers to learn about patient access to care outside the hospital.