Gastroenterology

Description:

The resident will be exposed to various clinical symptoms and diseases of the gastrointestinal tract which are commonly seen by the gastroenterologist. The resident will be exposed to various diagnostic tools which are currently utilized for the the diagnosis and treatment of various GI diseases including endoscopic procedures, pH monitoring, rectal biopsies, PEG placement, etc. Topics which will be discussed will be closely related to the patients seen during the rotation. The resident can specifically ask for any GI subject he/she is interested in learning. Subjects for future clinical/basic science research are also encouraged.

Note:

The goals and objectives described in detail below are not meant to be completed in a single one month block rotation but are meant to be cumulative, culminating in a thorough and complete Pediatric Gastroenterology experience at the end of residency.

Primary Goals for this Rotation
GOAL. Food Allergy. Understand the role of the general pediatrician in the assessment and management of patients with food allergy.
Identify the signs and symptoms of food allergy and differentiate food allergy from other causes of skin rash, and GI or pulmonary symptoms.
Differentiate IgE-mediated food allergy from non-IgE mediated food allergy.
List the foods and formulas most commonly associated with food allergy.
Discuss the indications, clinical significance, and limitations of diagnostic tests and procedures to diagnose food allergies and interpret the results of skin testing, RAST testing, elimination diets, food challenges.
Explain the natural history of food allergies, including when suspected allergens may be introduced into the diet.
Create a treatment plan for a child with food allergies that includes food avoidance, food challenges, management of allergic symptoms, and emergencies.
Identify the indicators that would lead to subspecialist referral for a child with food allergy.
GOAL: Prevention, Counseling and Screening. Understand the role of the pediatrician in preventing gastrointestinal disease or nutritional deficiencies, and in counseling and screening individuals at risk for these diseases.
Provide routine preventive counseling on nutrition and GI health to all parents and patients that addresses: 1. Good nutrition--breast feeding and age-appropriate diet, good eating habits, food safety (choking, food preparation, and storage), prevention of dietary

deficiencies or excesses, prudent diet to reduce risks of cardiovascular disease or cancer in adulthood, and safe methods of weight gain or weight loss
2. Bowel training and dietary prevention of constipation
3. Prevention of hepatitis A and B through immunization
4. Good hand washing and food preparation techniques for the prevention of gastrointestinal infections

Provide counseling to parents and patients with specific GI conditions that addresses:

1. Importance of compliance with medications for inflammatory bowel and liver disease
2. Need for surgery in specific gastroenterology conditions (ulcerative colitis, Peutz Jaeger's, etc.)
3. Need for specialized diets in certain gastroenterology conditions (IBD, celiac disease, failure to thrive, obesity, lactose intolerance, etc.)
4. Dealing with abdominal pain of apparent psychosomatic origin

As part of regular GI screening, plot growth parameters using appropriate growth charts (e.g., charts for Down's, achondroplasia, Turner, prematurity), and measure BMI to monitor trends suggestive of failure to thrive, overweight and obesity.

GOAL: Normal Vs. Abnormal. Differentiate between normal and pathological states related to gastroenterology.

Describe the normal eating patterns from birth through adolescence, including expected weight gain and typical feeding behaviors.

Describe normal developmental patterns in gastrointestinal development, including gastro-esophageal reflux, bowel habits, and stool color and consistency.

Explain the findings on clinical history and examination that suggest gastrointestinal disease needing further evaluation and/or treatment. Such findings include symptomatic gastro-esophageal reflux, vomiting, diarrhea, constipation, abdominal pain, hematemesis, hematochezia, melena and weight loss.

Differentiate transient and functional abdominal pain from pathologic abdominal pain.

Discuss the evaluation of liver function and liver abnormalities, and differentiate transient elevation of liver enzymes from serious liver disease.

GOAL: Undifferentiated Signs and Symptoms. Evaluate, treat, and/or refer patients with presenting signs and symptoms that suggest a gastrointestinal disease process.

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 or referral:

1. Fatigue
2. Vomiting
3. Growth failure, weight loss, failure to thrive
4. Diarrhea
5. Constipation
6. Abdominal pain
7. Jaundice

8. Obesity
9. Colic
10. Chest pain
11. Sore throat

Describe the evaluation and management of a child with possible psychosomatic abdominal pain.

GOAL: Common Conditions Not Referred. Diagnose and manage patients with gastrointestinal conditions generally not requiring referral.

Diagnose, explain, and manage the following gastrointestinal conditions:

1. Diarrhea due to infectious causes, including bacterial enteritis, giardiasis and viral gastroenteritis
2. Diarrhea due to non-infectious causes, including chronic nonspecific diarrhea, milk protein intolerance, and lactose intolerance
3. Common nutritional deficiencies
4. Constipation, encopresis
5. Exogenous obesity
6. Gastroesophageal reflux
7. Non-specific intermittent abdominal pain
8. Irritable bowel syndrome
9. Jaundice associated with breast feeding
10. Transient hematemesis due to a Mallory Weiss tear
11. Viral hepatitis, uncomplicated

GOAL: Conditions Generally Referred. Recognize and initiate management of patients with gastrointestinal conditions that generally require referral.

Identify, explain, provide initial management, and obtain consultation or refer the following gastrointestinal conditions:

1. Gastrointestinal conditions generally not referred, if severe or if management is unsuccessful
2. Conditions warranting urgent surgical or gastroenterology evaluation, such as: suspected appendicitis, abdominal mass, bowel obstruction, volvulus, intussusception, pyloric stenosis, foreign bodies lodged in esophagus, caustic ingestions (including watch batteries), biliary atresia/stones, congenital GI bleeding, persistent hematemesis due to a Mallory Weiss tear and blunt abdominal trauma
3. Hepatobiliary diseases, including: neonatal, chronic, or persistent hepatitis, direct or conjugated neonatal hyperbilirubinemia or hyperbilirubinemia outside the neonatal period; alpha 1 antitrypsin deficiency; pancreatitis; and/or hepatosplenomegaly
4. Severe acute or chronic intestinal conditions, including: suspected inflammatory bowel disease, colitis, non-infectious gastrointestinal bleeding
5. Nutritional deficiencies that are severe or uncommon, including: rickets, kwashiorkor, and/or marasmus
6. Chronic diarrhea with or without malabsorption, including: suspected celiac disease, cystic fibrosis, Schwachman's syndrome, gastrointestinal infection with prolonged diarrhea, and/or undiagnosed diarrhea
7. Gastrointestinal entities requiring special evaluation and follow-up, including: morbid obesity, anorexia nervosa, bulimia, severe failure to thrive

Identify the role and general scope of practice of gastroenterology; recognize situations where children benefit from the skills of specialists trained in the care of children; and work effectively with these professionals to care for children's gastroenterology and nutrition disease processes.
GOAL: Vomiting. Diagnose and manage vomiting.
Differentiate normal infant spitting up and functional asymptomatic gastroesophageal reflux from vomiting disorders requiring evaluation and treatment.
Describe both common and serious disorders leading to vomiting (both intestinal and extraintestinal) 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 and course.
Recognize signs and symptoms of dehydration in a child with vomiting. Calculate fluid deficits based on weight and clinical symptoms and manage rehydration using IV fluids or oral rehydration solutions.
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.
Identify the indicators for a gastroenterology consultation or referral of a child with vomiting.
GOAL: Abdominal Pain. 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 (including stool size, pattern, and consistency), psychosocial history, rectal exam and an age/gender-dependent pelvic exam.
Develop a diagnostic and treatment plan for a patient with abdominal pain that uses step-wise evaluation and treatment.
Identify indicators that suggest need for a gastroenterology or surgery consultation or referral for a child with abdominal pain.
Counsel parents about possible behavioral and psychological sources of abdominal pain, and how to handle a child with recurrent psychosomatic pain.
GOAL: Diarrhea. 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 (including stool size, pattern, and consistency), 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.
Recognize signs and symptoms of dehydration in a child with diarrhea. Calculate fluid deficits based on weight and clinical symptoms and manage rehydration using IV fluids or oral rehydration solutions.
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.
Counsel parents about possible behavioral and psychological causes of diarrhea, and explain how to handle a child with recurrent diarrhea of apparent psychosomatic origin.
GOAL: Nutrition. Understand principles of nutrition important to the general pediatrician.
Conduct an age-appropriate nutritional history and exam for nutritional disorders.
List conditions that may present with malnutrition or which commonly occur in combination with malnutrition.
Compare and contrast the major components (e.g., carbohydrate, protein, fat sources) of the following milk types: human breast milk, cow's milk-based infant formula, soy formula, specialized formulas, and whole milk.
List common signs and symptoms of deficiency in the following nutritional components, and identify children at high risk for deficiency. Describe the adequate dietary requirements and dietary source for each component. 1. B12 2. Calcium 3. Calorie 4. Fat 5. Fluoride 6. Folate 7. Iron 8. Protein 9. Vitamins A, C, D, K, E 10. Zinc
Provide informative and accurate nutritional counseling to parents and patients suspected of a nutritional deficiency or with exogenous obesity.

Describe intervention approaches with proven efficacy in helping children, adolescents and families alter their eating and exercise habits, in order to reduce obesity and its attendant lifelong health risks.
Discuss nutritional supplements that can be added to children's diets to increase caloric and nutritional content. 1. Describe the forms of parenteral nutrition (i.e. peripheral and total parenteral nutrition) and situations that warrant the use of each. 2. Explain the components of peripheral parenteral nutrition or total parenteral nutrition, including protein, glucose, electrolytes, vitamins, minerals and lipid, and describe how to determine what is needed by the patient.
Describe the typical monitoring of a child on TPN; identify the indicators that would lead you to a nutrition consultation or referral for a child with suspected or identified nutritional deficiency and/or exogenous obesity.
Identify conditions in which weight alteration may be necessary and provide guidelines for safe weight gain or loss.
Discuss the presentation, diagnosis and management of eating disorders.
GOAL: Cystic Fibrosis. Understand the general pediatrician's role in the management of cystic fibrosis.
Discuss the presenting signs and symptoms of cystic fibrosis and refer the patient for appropriate confirmatory testing, education, and treatment. Discussion should include high-risk populations, associated symptoms, treatment options and expected course of the disease.
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. Discuss the multidisciplinary approach to cystic fibrosis care and the role of the general pediatrician.
Identify indicators that signify an exacerbation of pulmonary symptoms. Provide appropriate initial treatment and referral to a specialty center for further evaluation and treatment.
GOAL: Pediatric Competencies. Demonstrate high standards of professional competence while working with patients under the care of a subspecialist.
Competency 1: Patient Care. Provide family-centered patient care that is development- and age-appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.
1. Use a logical and appropriate clinical approach to the care of patients presenting for gastroenterology care, applying principles of evidence-based decision-making and problem-solving.
Describe general indications for gastroenterology procedures and interpret results for families.
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. Acquire, interpret and apply the knowledge appropriate for the generalist regarding the core content of gastroenterology.
2. Critically evaluate current medical information and scientific evidence related to gastroenterology and modify your knowledge base accordingly.
Competency 3: Interpersonal Skills and Communication. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.
1. Provide effective patient education, including reassurance, for a condition(s) common to gastroenterology
2. Communicate effectively with primary care and other physicians, other health professionals, and health-related agencies to create and sustain information exchange and teamwork for patient care.
3. Maintain accurate, legible, timely and legally appropriate medical records, including referral forms and letters, for gastroenterology patients in the outpatient and inpatient setting.
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. Identify standardized guidelines for diagnosis and treatment of conditions common to gastroenterology and adapt them to the individual needs of specific patients.
2. Identify personal learning needs related to gastroenterology; systematically organize relevant information resources for future reference; and plan for continuing acquisition of knowledge and skills.
Competency 5: Professionalism. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
1. Demonstrate personal accountability to the well-being of patients (e.g., following up on lab results, writing comprehensive notes, and seeking answers to patient care questions).
2. Demonstrate a commitment to carrying out professional responsibilities.
3. Adhere to ethical and legal principles, and be sensitive to diversity.
Competency 6: Systems-based Practice. Understand how to practice high-quality health care and advocate for patients within the context of the health care system.
1. Identify key aspects of health care systems as they apply to gastroenterology, including the referral process, and differentiate

	between consultation and referral.
	2. Demonstrate sensitivity to the costs of clinical care in gastroenterology, and take steps to minimize costs without compromising quality
	3. Recognize and advocate for families who need assistance to deal with systems complexities, such as the referral process, lack of insurance, multiple medication refills, multiple appointments with long transport times, or inconvenient hours of service.
	4. Recognize one's limits and those of the system; take steps to avoid medical errors.

Rotation Specific Competencies

Patient Care:

1. Understands and weighs alternatives for diagnosis and treatment
2. Elicits subtle findings on physical examination
3. Obtains a precise, logical, and efficient history
4. Is able to manage multiple problems at once
5. Develops and carries out management plans
6. Competently understands/performs/interprets procedures:
   _____ Radiology Interpretation: Abdominal x-ray, CT scan, US
   _____ Endoscopies: Indications, Risks, Benefits
   _____ Rectal Exam
   _____ PH Probe: Indications, Risks, Benefits

Medical Knowledge:

1. Is aware of indications, contraindications, and risks of commonly used medications and procedures
2. Applies the basic science, clinical, epidemiologic, and social-behavioral knowledge to the care of the patient

Interpersonal Skills and Communication:

1. Creates and sustains therapeutic and ethically sound relationships with patients and families
2. Provides education and counseling to patients, families, and colleagues
3. Works effectively as a member of the health care team

Practice-based Learning and Improvement:

1. Undertakes self-evaluation with insight and initiative
2. Facilitates that learning of students and other health care professionals

Professionalism:

1. Is honest, reliable, cooperative, and accepts responsibility
2. Shows regard for opinions and skills of colleagues
3. Is responsive to needs of patients and society, which supersedes self-interest

Systems Based Practice:

1. Applies knowledge of how to partner with health care providers to assess, coordinate and improve patient care
2. Advocates for high quality patient care and assists patients in dealing with system

complexity
References: 1. American Board of Pediatrics, Content Specification, 2007 2. Ambulatory Pediatric Association 3. Association of Pediatric Program Directors 4. Pediatric RRC, January 2006

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