

Pediatric Gastrointestinal Disorders: Diagnosis and Treatment

Kavya S. Iyer*

Department of Pediatric Gastroenterology, Valley Institute of Medical Sciences, Pune, India

DESCRIPTION

Pediatric gastrointestinal disorders encompass a wide range of conditions that affect the digestive system in infants, children, and adolescents. These disorders can involve the oesophagus, stomach, intestines, liver, pancreas, and biliary system, and they may present with symptoms such as abdominal pain, vomiting, diarrhoea, constipation, poor growth, and feeding difficulties. The complexity of gastrointestinal physiology in children, combined with developmental variations and diverse etiologies, makes diagnosis and treatment a challenging but essential aspect of pediatric care.

One of the most common gastrointestinal complaints in children is recurrent abdominal pain, which may have functional or organic causes. Functional abdominal pain is often related to stress, dietary habits, or gut motility issues and does not involve structural abnormalities. In contrast, organic causes include infections, inflammatory bowel disease, food intolerances, or anatomical abnormalities. Careful clinical evaluation is essential to differentiate between these conditions. Management of functional abdominal pain often involves reassurance, dietary modifications, and psychological support, while organic causes require targeted treatment.

Gastroesophageal reflux disease is another frequently encountered condition in pediatric practice, particularly in infants. It is characterized by the backward flow of stomach contents into the oesophagus, leading to symptoms such as regurgitation, irritability, feeding difficulties, and poor weight gain. In most infants, physiological reflux resolves spontaneously with maturation of the gastrointestinal tract. However, in cases of pathological reflux, medical intervention may be required. Treatment options include positional therapy, dietary changes, and pharmacological agents that reduce acid production or improve gastric motility. In severe cases, surgical intervention may be considered.

Diarrheal diseases remain a major cause of morbidity in children worldwide and can be acute or chronic in nature. Acute diarrhoea is most commonly caused by viral infections such as rotavirus, while bacterial and parasitic infections also contribute

significantly. Chronic diarrhoea may result from malabsorption syndromes, food allergies, or inflammatory bowel disease. The primary concern in acute diarrhoea is dehydration, which can be life-threatening if not managed promptly. Oral rehydration therapy has revolutionized the treatment of diarrhoea and remains the cornerstone of management. In severe cases, intravenous fluids may be required. Identifying and treating the underlying cause is essential in chronic cases.

Constipation is another common gastrointestinal disorder in children and often has functional origins. It may be associated with painful defecation, stool withholding behavior, and dietary factors such as low fibre intake or inadequate fluid consumption. Chronic constipation can lead to complications such as faecal impaction and encopresis. Education of both children and caregivers is important to ensure adherence to treatment and prevent recurrence.

Inflammatory bowel disease, including Crohn's disease and ulcerative colitis, is increasingly recognized in pediatric populations. These chronic conditions involve immune-mediated inflammation of the gastrointestinal tract and present with symptoms such as abdominal pain, diarrhoea, weight loss, and growth failure. Diagnosis requires a combination of clinical evaluation, laboratory tests, endoscopy, and imaging studies. Treatment involves anti-inflammatory medications, immunosuppressive agents, and biologic therapies. Nutritional support and regular monitoring are essential components of long-term management. Early diagnosis is particularly important to prevent growth impairment and disease complications.

Celiac disease is a chronic autoimmune disorder triggered by gluten ingestion in genetically susceptible individuals. It leads to damage of the small intestinal mucosa, resulting in malabsorption and nutritional deficiencies. Common symptoms include chronic diarrhoea, abdominal distension, poor growth, and anaemia. Diagnosis is based on serological tests such as anti-tissue transglutaminase antibodies and confirmed by intestinal biopsy in many cases. The primary treatment is a strict gluten-free diet, which leads to mucosal healing and symptom resolution. Long-term adherence to dietary restrictions is essential to prevent complications.

Correspondence to: Kavya S. Iyer, Department of Pediatric Gastroenterology, Valley Institute of Medical Sciences, Pune, India E-mail: kavya.iyer@vims-pune.edu.in

Received: 01-May-2026, Manuscript No. CPOA-26-41906; **Editor assigned:** 04-May-2026, PreQC No. CPOA-26-41906 (PQ); **Reviewed:** 18-May-2026, QC No. CPOA-26-41906; **Revised:** 25-May-2026, Manuscript No. CPOA-26-41906 (R); **Published:** 31-May-2026, DOI: 10.35841/2572-0775.26.10.335

Citation: Iyer KI (2026). Pediatric Gastrointestinal Disorders: Diagnosis and Treatment. Clin Pediatr. 10:335.

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Hepatobiliary disorders in children include conditions such as neonatal jaundice, hepatitis, biliary atresia, and metabolic liver diseases. Neonatal jaundice is common and often physiological, but pathological causes such as haemolysis or liver dysfunction must be excluded. Biliary atresia is a serious condition that requires early surgical intervention to restore bile flow and prevent liver damage. Viral hepatitis, particularly hepatitis A and B, remains an important cause of liver disease in children, although vaccination has significantly reduced its incidence. Management of liver disorders requires specialized care and may include medical therapy, surgical intervention, or liver transplantation in severe cases.

Pancreatic disorders, although less common in children, include conditions such as pancreatitis and exocrine pancreatic insufficiency. Acute pancreatitis may present with abdominal pain, vomiting, and elevated pancreatic enzymes, and it often requires hospitalization and supportive care. Chronic pancreatitis can lead to long-term complications such as malabsorption and diabetes. Pancreatic enzyme replacement therapy is an important component of treatment in cases of exocrine insufficiency.

Food allergies and intolerances also contribute significantly to pediatric gastrointestinal symptoms. Conditions such as cow's milk protein allergy can cause vomiting, diarrhea, blood in stools, and poor growth. Diagnosis is based on clinical history, elimination diets, and sometimes allergy testing. Management involves avoidance of the offending food and nutritional substitution to ensure adequate growth and development.

Advances in diagnostic techniques have greatly improved the evaluation of pediatric gastrointestinal disorders. Endoscopy allows direct visualization of the gastrointestinal tract and enables biopsy for histological examination. Imaging modalities such as ultrasound, computed tomography, and magnetic resonance imaging provide valuable information about structural abnormalities. Laboratory tests, including stool analysis, blood tests, and genetic studies, aid in identifying underlying causes and guiding treatment.

Treatment of pediatric gastrointestinal disorders is often multidisciplinary, involving pediatricians, gastroenterologists, dietitians, surgeons, and psychologists. Nutritional support plays a central role in many conditions, particularly those involving malabsorption or chronic inflammation. Psychosocial support is also important, as chronic gastrointestinal diseases can significantly impact a child's emotional well-being and quality of life.

CONCLUSION

Pediatric gastrointestinal disorders represent a diverse group of conditions with varying etiologies, clinical presentations, and treatment approaches. Early diagnosis and appropriate management are essential to prevent complications and ensure healthy growth and development. Advances in diagnostic tools and therapeutic strategies have significantly improved outcomes in many conditions. However, challenges remain in terms of early detection, access to specialized care, and long-term disease management.