INDIAN JOURNAL OF PRACTICAL PEDIATRICS

- **IJPP is a quarterly subscription journal of the Indian Academy of Pediatrics committed to presenting practical pediatric issues and management updates in a simple and clear manner**
- **Indexed in Scopus, CABI Publishing and EMCare.**

Vol.27 No.1 (JAN.- MAR.) 2025

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ACKNOWLEDGEMENT

IJJP whole heartedly thank Dr. Malathy Sathiyasekaran and Dr. M.S. Viswanathan, Consultant Pediatric Gastroenterologists - Chennai for having consented to be the coordinating content editors (expert) for this issue.

GASTROENTEROLOGY

CONGENITAL DIARRHEAS AND ENTEROPATHIES

***Prachi Karnik**
****Aditi Dharap**

Abstract: *Congenital diarrheas and enteropathies are a diverse group of congenital disorders, many of which are autosomal recessive monogenic defects affecting intestinal digestion and/or absorption of nutrients or causing abnormal secretion of electrolytes, presenting with early onset diarrhea and often associated with failure to thrive. The overlapping clinical features necessitate a thorough, systematic investigational approach culminating in genetic testing whenever available. Fluid, electrolyte and nutritional management are the cornerstone of treatment and differ significantly in each condition. Some require specific drugs including immunosuppression. Delay in diagnosis can be detrimental, even life threatening, as initiation of definitive intervention is hindered.*

Keywords: *Diarrhea, Enteropathy, Congenital, Monogenic.*

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Points to Remember

- ***CODEs are a rare cause of early onset chronic diarrhea. Commoner causes such as infectious, allergic and anatomic conditions must be ruled out first.***
- ***Pointers towards CODEs including certain historical red flags and suggestive examination findings must be actively looked for.***
- ***Genetic testing, the standard of care, may be done early especially where clinical suspicion is strong.***
- ***Correction of dehydration, electrolyte and acid-base abnormalities along with diet modifications forms the mainstay in most disorders, few requiring long-term parenteral nutrition.***
- ***The specific therapeutic intervention is guided by the definitive molecular diagnosis.***

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Cite as: Prachi Karnik, Aditi Dharap, Congenital diarrheas and enteropathies, Indian J Pract Pediatr. 2025; 27(1): 5-13.

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GASTROENTEROLOGY

CORROSIVE INJURY TO GASTROINTESTINAL TRACT

***Viswanathan M Sivaramakrishnan**
****Aditi Kumar**

Abstract: *Corrosive poisoning in children is definitely an avoidable injury, with an emphasis on primary prevention. Injuries in children are primarily unintentional, while ingestion in adolescents may be for self-harm. The unintentional ingestion leads to a spectrum of acute manifestations ranging from no symptoms to, mild or severe stridor, drooling and persistent vomiting. Secondary prevention or a close follow-up is mandatory. It requires multidisciplinary team and evidence-based management to lessen the misery and improve outcomes of affected children.*

Keywords: *Corrosive / Caustic ingestion, Esophagogastroduodenoscopy, Zargar grading, Strictures.*

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Points to Remember

- ***Early recognition of airway compromise and perforation is essential for survival.***
- ***Blind nasogastric tube insertion and decontamination procedures like lavage, emesis, charcoal and milk administration are to be avoided after corrosive injury.***
- ***Esophagogastroduodenoscopy is indicated in all symptomatic children with corrosive injury who are hemodynamically stable with no evidence of perforation.***
- ***Endoscopic assessment of the severity of mucosal injury directs early management and predicts the likelihood of strictures.***
- ***Steroids are indicated only in cases of airway edema; existing data is insufficient to support the use of systemic corticosteroids for the prevention of strictures. They are only recommended for stage IIb injuries after assessment by pediatric gastroenterologist.***
- ***Rules governing the concentration of household caustics and child-resistant packaging of corrosives should be strictly implemented for primary prevention.***

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Cite as: Viswanathan M Sivaramakrishnan, Aditi Kumar, Corrosive injury to gastrointestinal tract, Indian J Pract Pediatr. 2025; 27(1):14-20.

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GASTROENTEROLOGY

FOREIGN BODIES IN THE GASTROINTESTINAL TRACT

**** Malathi Sathiyasekaran***
*****Ramaswamy Ganesh***

Abstract: *Foreign body ingestion is a common accidental and preventable global problem seen in children in the age group of 6 months to 3 years Though, most of the foreign bodies are passed out spontaneously from the gastrointestinal tract, few may require endoscopic or at times surgical interventions. The intervention depends upon the type of foreign body ingested, its location, clinical presentation, time since ingestion and other factors. These foreign bodies when impacted if not removed may result in significant morbidity. This manuscript highlights the various types of foreign bodies in the gastrointestinal tract, its pathophysiology, clinical features and management guidelines.*

Keywords: *Foreign body, Gastrointestinal tract, Children, Endoscopy.*

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Points to Remember

- ***FB ingestion is a preventable problem more common in children 6 months - 3years of age.***
- ***Most of the FBs pass out of the GIT spontaneously; few require endoscopic/surgical interventions.***
- ***A plain X ray of the neck, chest and upper abdomen should be taken as soon as the child comes to the ER***
- ***It is advisable to keep the child nil per oral and refer to pediatric gastroenterologist.***
- ***Button batteries are associated with high morbidity especially if present in the esophagus.***
- ***All esophageal FBs require emergent removal, even if they are asymptomatic.***

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GASTROENTEROLOGY

LIVER TRANSPLANTATION IN CHILDREN: RECENT ADVANCES

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*****Naresh P Shanmugam**

Abstract: *Liver transplantation has evolved into a standard treatment for acute liver failure, end-stage liver disease, and certain metabolic liver diseases in children. Pediatricians play an important role in identifying prospective patients, early referrals to specialized centres, and providing crucial pre- and post-transplant care. Management strategies vary, based on the specific liver disease, emphasizing the need for multidisciplinary collaboration and tailored approaches. Successful outcomes rely on early detection, comprehensive support, and family counselling throughout the liver transplantation process.*

Keywords: *Liver transplant, Acute liver failure, Metabolic liver disease, End stage liver disease.*

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Points to Remember

- ***Liver transplantation (LT) in children is a life-saving intervention for acute liver failure (ALF), end-stage liver disease (ESLD), metabolic liver diseases (MLDs), and unresectable tumours.***
- ***Actively search for and treat underlying causes like Wilson's disease (with chelators) and autoimmune hepatitis (with immunosuppression) as early as possible, as timely intervention may halt or reverse cirrhosis.***
- ***LT can function as a form of gene therapy in MLDs, providing the missing enzymes. The type and extent of metabolic derangement has implications for LT outcome.***
- ***APOLT may be indicated for non-cirrhotic metabolic disorders.***
- ***Pediatricians should focus on stabilizing patients, managing complications (like infections and metabolic crises) and ensuring appropriate nutritional support and vaccinations.***

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Cite as: Jagadeesh Menon, Akhil Raj MS, Naresh P Shanmugam, Liver transplantation in children: Recent advances, Indian J Pract Pediatr. 2025; 27(1):29-34.

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GASTROENTEROLOGY

METABOLIC DYSFUNCTION - ASSOCIATED STEATOTIC LIVER DISEASE

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Abstract: *Metabolic dysfunction-associated steatotic liver disease, formerly known as non-alcoholic fatty liver disease, represents the hepatic manifestations of metabolic syndrome, commonly associated with obesity and insulin resistance. Pediatric metabolic dysfunction-associated steatotic liver disease has become an alarming public health issue driven primarily by rising obesity rates in children.Given the potential for progression to serious liver pathology, early recognition and interventions are critical in improving long-term outcomes. Hence, awareness among pediatricians about the condition is of paramount importance. This review provides a brief understanding of metabolic dysfunction-associated steatoticliver disease in the pediatric population and discusses the latest recommendations in diagnosis and management.*

Keywords: *Pediatric metabolic dysfunction-associated steatotic liver disease, Non-alcoholic fatty liver disease, Metabolic syndrome, Pediatric liver disease.*

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Points to Remember

- ***All obese and overweight children with additional risk factors should be screened for MASLD.***
- ***Serum ALT and/or USG abdomen are recommended as initial screening tools for MASLD.***
- ***MASLD is a diagnosis of exclusion, hence first-line lab investigations are to be done to rule out other causes of hepatic steatosis.***
- ***A strong suspicion ofother diseases with etiology other than MASLD should be kept in mind when red flags are present.***
- ***Transient elastography is the preferred non-invasive tool for the assessment of hepatic steatosis/ fibrosis and its severity grading, by a pediatric gastroenterologist/hepatologist's supervision is essential.***
- ***Liver biopsy, though gold standard for diagnosis of MASLD, given its invasive nature, is usually recommended only if there is diagnostic uncertainty or suspicion of advanced disease.***
- ***Lifestyle modifications, including weight loss regimes utilizing dietary and exercise measures, remain the cornerstone of management along with medication whenever feasible.***

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Cite as: Kalpana Panda, Vikrant Sood, Metabolic dysfunction - Associated steatotic liver disease, Indian J Pract Pediatr. 2025; 27(1):35-46.

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GASTROENTEROLOGY

PANCREATITIS IN CHILDREN - AN UPDATE

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Abstract: *Pancreatitis is becoming a common entity in children in the recent years. The etiology and the disease course are different from the adults; hence, a high level of suspicion and a meticulous approach are required in children with pancreatitis. Early diagnosis, supportive treatment, close monitoring and prevention of complications are crucial in reducing the morbidity and mortality. A notable number of children may develop acute recurrent pancreatitis and chronic pancreatitis and related complications like endocrine and exocrine pancreatic insufficiency. With advances in diagnostic and treatment techniques, endoscopic management has become the standard of care in managing complications of pancreatitis and surgical treatment is reserved for those not responding to medical and endoscopic management. In this article, we review the updates in the management of pancreatitis in children.*

Keywords: *Pancreatitis, Children, Pancreatic fluid collections, Management.*

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Points to Remember

- ***Acute pancreatitis in children is becoming increasingly common and should be considered in the differential diagnosis of children with abdominal pain.***
- ***Early identification and appropriate management of pancreatitis in children reduces the morbidity and mortality.***
- ***Close monitoring, judicious use of IV fluids, adequate pain control and early nutrition are key to achieving better outcomes.***
- ***Prophylactic antibiotics are not routinely recommended in children with pancreatitis. Antibiotics are reserved for infected pancreatic fluid collection and septic complications.***
- ***Endoscopic techniques such as EUS, ERCP should be the preferred mode of treatment of late complications of pancreatitis or acute biliary pancreatitis before surgical intervention.***

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Cite as: Arul Premanand Lionel Baskaran, Leenath TV, Jayendra Seetharaman, Pancreatitis in children - An update, Indian J Pract Pediatr. 2025; 27(1):47-57.

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GASTROENTEROLOGY

PRIMARY EOSINOPHILIC GASTROINTESTINAL DISORDERS - A PRACTICAL REVIEW

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Abstract: *Primary eosinophilic gastrointestinal disorders include eosinophilic esophagitis and non-esophageal forms such as eosinophilic gastritis, eosinophilic enteritis and eosinophilic colitis. They are characterized by chronic, eosinophil-rich inflammation of the gastrointestinal tract mucosa. They can present non-specifically with feeding difficulties, vomiting/ choking, abdominal pain, bloating or regurgitation, diarrhea and weight loss. Eosinophilic gastrointestinal disorders specifically can manifest as dysphagia and food impaction. The gold standard for diagnosis is intraepithelial eosinophils demonstrated on endoscopic mucosal biopsy. For eosinophilic gastrointestinal disorders, the treatment modalities include dietary modifications in the form of elimination diet or elemental diet, topical steroids or proton pump inhibitors. For non- esophageal eosinophilic gastrointestinal disorders, the data is scarce, but oral and topical steroids, and dietary modifications have been tried. The overall prognosis is good but long-term maintenance therapy is required and relapses are commonly seen.*

Keywords: *Eosinophilic esophagitis, Non-eosinophilic esophagitis, Eosinophilic gastrointestinal disorders, Food impaction, Dysphagia, Topical steroids.*

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Points to Remember

- ***EGIDs are antigen-mediated, chronic inflammatory diseases, diagnosed by symptoms of esophageal dysfunction and other gastrointestinal symptoms along with histopathological evidence of eosinophil-predominant inflammation of GI mucosa, after excluding other causes of eosinophilia.***
- ***High peripheral absolute eosinophil count may indicate EoE. Endoscopic mucosal biopsy showing intraepithelial eosinophils remains the gold standard for diagnosis.***
- ***Treatment options include topical or oral steroids, dietary modifications and PPIs. The response to therapy should be assessed periodically by endoscopic mucosal biopsy.***
- ***There have been no reported premalignant associations with EGIDs. With treatment, the prognosis is good, although relapses are commonly seen.***

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Cite as: Rimjhim shrivastava, Primary eosinophilic gastrointestinal disorders - A practical review, Indian J Pract Pediatr. 2025; 27(1):58-63.

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GASTROENTEROLOGY

RECENT UPDATES IN DIETARY AND MEDICAL MANAGEMENT OF CLASSIC PEDIATRIC INFLAMMATORY BOWEL DISEASE

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Abstract: *Pediatric inflammatory bowel disease is increasing in prevalence and incidence in rapidly industrializing countries in Southeast Asia including India. The rapid emergence of inflammatory bowel disease in children has placed exigent demands on the general pediatrician to be cognizant of the presenting symptoms, principles and goals of therapy to ensure timely referral and optimal management of children with this complex condition. The clinical presentation and therapeutic modalities differ based on the age of onset of inflammatory bowel disease. Classically, pediatric inflammatory bowel disease has onset in the second decade of life. This review focusses on the recent updates in dietary and medical management of classical pediatric inflammatory bowel disease.*

Keywords: *Pediatric inflammatory bowel disease, Medical management, Diet, Nutrition.*

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Points to Remember

- ***Pediatric IBD is increasing worldwide including in India with Crohn's disease being the predominant phenotype***
- ***PIBD can present with vague and nonspecific symptoms. Early recognition, diagnosis and timely initiation of optimal therapy results in favourable outcomes***
- ***Treat-to-target approach is the most recent evidence-based approach to management of PIBD which includes achieving not only symptom response and resolution but also normalization of inflammatory markers, endoscopic healing, restoration of normal growth in children and improved quality of life.***
- ***Exclusive enteral nutrition (EEN) is the first line of induction for active luminal pediatric Crohn's disease. No other dietary therapy can presently be recommended.***
- ***Biologics such as anti-TNFα are recommended in high-risk Crohn's disease and acute severe colitis as top-down therapy.***

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GENERAL ARTICLE

MICRONUTRIENTS IN CLINICAL PRACTICE

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Abstract: *Micronutrient deficiencies represent a significant public health concern in India, affecting growth, cognitive development, health and immunity of the entire population. 'Hidden Hunger' denotes micronutrient deficiencies of minerals and vitamins, majority of which are subclinical and do not evoke 'hunger', in the setting of deficiency. In addressing micronutrient deficiencies and excesses in clinical practice, nutritional interventions tailored to individual needs are recommended. To optimise micronutrient status of our children, it warrants a multi-faceted approach integrating public health initiatives with emphasis on anticipatory nutrition guidance, and policy reforms. Advances in technology and research enable healthcare providers to assess individual needs and undertake personalised interventions.*

Keywords: *Hidden hunger, Micronutrient malnutrition, Micronutrient excess, Estimated average requirements, Tolerable upper limits*

To quote *- Kul C Gautam, former deputy executive director of UNICEF,*

The 'hidden hunger due to micronutrient deficiency does not produce hunger as we know it. You might not feel in the belly, but it strikes at the core of your health and vitality'. It is a true and emphatic statement as regards to micronutrients in health and disease.

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Points to Remember

- ***Micronutrient malnutrition is a spectrum of conditions, ranging from, both 'hidden and overt' micronutrient deficiency to excess, that represent a significant public health concern, leading to impairment in growth, cognitive development, immunity and health.***
- ***Recognising and diagnosing multiple micronutrient deficiencies is often difficult when compared to single micronutrient deficiencies, due to lack of suitable tests and interference from plasma protein acute phase reactant levels.***
- ***National programmes and consensus, addressing at least seven micronutrients of public health importance are in place, like dietary diversity, supplementation and bio-fortification, but without substantial success.***
- ***Nutritional interventions tailored to individual patient needs are essential in addressing micronutrient malnutrition in clinical practice.***

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DRUG PROFILE

PLASMA-DERIVED THERAPEUTIC PROTEINS THERAPY IN PEDIATRICS - PART 1

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Abstract: *Plasma protein derivatives and their recombinant analogues are unique biologicals useful in therapies for life-threatening disorders and illnesses by replacing missing or deficient plasma proteins. These children with such disorders generally rely on plasma protein therapies as regular infusions or injections throughout their lifetime. Safety and quality are prime requirements for production of such biologicals. A free, confidential 24-hr Patient Notification System,provides all patients who register with information on withdrawals or recalls of the product at any time. Out of the 9 plasma-derived therapeutic proteins used in children, factor VIII and factor IX, human albumin and immunoglobulins are discussed in this article*

Keywords: *Plasma protein therapy, Children, Factor VIII, Factor IX, Human Albumin, Immunoglobulins.*

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CASE REPORT

INTERMITTENT UPPER AIRWAY OBSTRUCTION IN A NEONATE- TERATOMA OF NASOPHARYNX

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******* Sumaiya Aladdin***

Abstract: *Congenital teratomas are extragonadal germ cell tumours occurring mostly in the sacrococcygeal region in neonates. Other less commonly involved sites include the nasopharynx, eustachian tube, tonsils, tongue, palate, sinonasal cavity, the ear and the temporal bone. Here we report a case of nasopharyngeal teratoma extending to the eustachian tube and middle ear cavity, in a neonate where total excision could not be made in one sitting due to its anatomical location and needed multiple staged surgeries.*

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