

Laxatives	Dosage	Side effects/Issues
Osmotic Lactulose	1-3 mL/kg/day in divided doses; available as 70% solution.	Flatulence, abdominal cramps; hypernatremia has been reported when used in high dosage for hepatic encephalopathy; case reports of nontoxic megacolon in elderly
Sorbitol	1-3 mL/kg/day in divided doses; available as 70% solution	Same as above
Barley malt extract	2-10 mL/240 mL of milk or juice	Unpleasant odor. Suitable for infants drinking from a bottle
Magnesium hydroxide	1-3 mL/kg/day of 400 mg/5 mL.	Infants are susceptible to magnesium poisoning. Overdose can lead to hypermagnesemia, hypophosphatemia and secondary hypocalcemia
Magnesium citrate	<6 Years, 1-3 mL/kg/day; 6-12 years, 100-150 mL/day; 9-12 years, 150-300 mL/day; in single or divided doses.	Infants are susceptible to magnesium poisoning. Overdose can lead to hypermagnesemia, hypophosphatemia and secondary hypocalcemia.
PEG 3350	Disimpaction: 1-1.5 g/kg/day for 3 days, Maintenance 1 g/kg/day	
Osmotic enema Phosphate enemas	<2 Years old: to be avoided; >2 years old: 6 mL/kg up to 135 mL	Risk of mechanical trauma to rectal wall, abdominal distention or vomiting. May cause severe and lethal episodes of hyperphosphatemia hypocalcemia, with tetany
Lavage Polyethylene Glycolelectrolyte solution	For disimpaction: 25 mL/kg/hr (to 1000 mL/hr) by nasogastric tube until clear or 20 mL/kg/hr for 4 hr/day. For maintenance: (older children): 5-10 mL/kg/per day	Difficult to take. Nausea, bloating, abdominal cramps, vomiting, and anal irritation. Aspiration, pneumonia, pulmonary edema, allergy Weiss tear. Safety of long-term maintenance not well established
Lubricant Mineral oil	<1 Year old: not recommended. Disimpaction: 15-30 mL/yr of age, up to 240 mL daily. Maintenance: 1-3 mL/kg/day	Lipoid pneumonia if aspirated. Theoretical interference with absorption of fat/soluble substances, but there is no evidence in the literature. Foreign-body reaction in intestinal mucosa.
Stimulants Senna	2-6 years old: 2.5-7.5 mL/day; 6-12 years old: 5-15 mL/day.	Idiosyncratic hepatitis, Melanosis coli, Hypertrophic osteoarthropathy, analgesic nephropathy
Bisacodyl	2 Years old: 0.5-1 suppository 1-3 tablets per dose.	Abdominal pain, diarrhea and hypokalemia, abnormal rectal mucosa, and (rarely) proctitis. Case reports of urolithiasis
Glycerin suppositories		No side effects
Bulking Agent: Psyllium	Age (yrs) + 5 gms	

are conflicting reports about the role of dietary fiber, with evidence that constipated children have a lower, equivalent or higher intake of dietary fiber^{13,14,15,16}.

Behavioral Modification is a important component of treatment and it also includes a regular toilet habits. Unhurried time on the toilet after meals is recommended. As part of the treatment of constipation, it is usually helpful to have children and their caregivers keep diaries of stool frequency.

Medications are usually necessary to help constipated children achieve regular bowel movements. A prospective, randomized trial done showed that the addition of medications to behavior management in children with constipation is beneficial¹⁷. Children who received medications achieved remission significantly sooner than children who did not. The use of laxatives was most advantageous

for children until they were able to maintain regular toilet habits. Below is a list of commonly used laxatives with there does and specific side effects:

EDUCATION

The education of the family and giving an explanation of the pathogenesis of constipation, are the most important steps in treatment. If fecal soiling is present, would always attempt to remove negative attributions. It is especially important for parents to understand that soiling from overflow incontinence is not a willful and defiant maneuver. Parents are encouraged to maintain a positive and supportive attitude in all aspects of treatment.

FOLLOW UP

The successful management of functional constipation in childhood depends on close follow-up till normal bowel movement is achieved and this is flowed by a periodic revive every 2-3 months for next 2-3 years and then yearly afterwards.

REFERNCES

1. **Molnar D, Taitz LS, Urwin OM, Wales JK.** Anorectal manometry results in defecation disorders. *Arch Dis Child* 1983;58:257-61.
2. **Nyhan WE.** Stool frequency of normal infants in the first weeks of life. *Pediatrics* 1952; 10:414-25.
3. **Weaver LT, Steiner H.** The bowel habits of young children. *Arch Dis Child* 1983;59: 649-52.
4. **Hyams JS, Treem WR, Etienne NL, et al.** Effect of infant formula on stool characteristics of young infants. *Pediatr.* 1995;95:50-4.
5. **Baker SS, Liptak GS, Colletti RB et al.** Constipation in infants and children: evaluation and treatment. A medical position statement of the North American Society for Pediatric Gastroenterology and Nutrition. [erratum appears in *J Pediatr Gastroenterol Nutr* 2000; 30(1): 109]. *J Pediatr Gastroenterol Nutr* 1999; 29:612-626.
6. **Benninga M, Candy DC, Catto-Smith AG et al.** The Paris Consensus on Childhood Constipation Terminology (PACCT) Group. *J Pediatr Gastroenterol Nutr* 2005;40:273-275.
7. **Baucke VL.** Prevalence, symptoms and outcome of constipation in infants and Toddlers. *J Pediatr* 2005;146:359-363.
8. **Candy DCA, Edwards D.** The management of chronic constipation. *Current pediatrics* 2003;13:101-106.
9. **Rockney RM, McQuade WH, Days AL.** The plain abdominal roentgenogram in the management of encopresis. *Arch Pediatr Adolesc Med* 1995;149:623-7.
10. Evaluation and treatment of constipation in infants and children: Recommendation of North American society for pediatrics gastroenterology. *Journal of Pediatric Gastroenterology and Nutrition* 43:e1-e13.
11. **Papadopolou A, Clayden GS, Booth IW.** The clinical value of solid marker transit studies in childhood constipation and soiling. *Eur J Pediatr* 1994;153:560-4.
12. **Tolia V, Lin CH, Elitsur Y.** A prospective randomized study with mineral oil and oral lavage solution for treatment of faecal impaction in children. *Aliment Pharmacol Ther* 1993;7:523-9.
13. **Roma E, Adamidis D, Nikolara R, Constantopoulos A, Messariakakis J.** Diet and chronic constipation in children: the role of fiber. *J Pediatr Gastroenterol Nutr* 1999;28:169-74.
14. **Moaris MB, Vitolo MR, Aguirre ANC, Fagundes-Neto U.** Measurement of low-dietary fiber intake as a risk factor for chronic constipation in children. *P Pediatr Gastroenterol Nutr* 1999;29:132-5.
15. **Guimaraes EV, Goulart EMA, Penna FJ.** Dietary fiber intake, stool frequency and colonic transit time in chronic functional constipation in children. *Brazil J Med Biol Res* 2001;34:1147-53.
16. **Speridiao PGL, Tahan S, Fagundes-Neto U, Moaris MB.** Dietary fiber, energy intake and nutritional status during the treatment of children with chronic constipation. *Brazil J Med Biol Res* 2003;36:753-9.
17. **Nolan T, Debelle G, Oberklaid F, Coffey C.** Randomized trial of laxatives in treatment of childhood encopresis. *Lancet* 1991;338:523-7.

JIMSA is now IndMED indexed

The present issue marks the 25th year of publication of the *Journal International Medical Sciences Academy*. It is a matter of pride for all fellows/members that Journal Selection Committee (constituted by ICMR), in its meeting held on August 3, 2011, has approved the indexing of JIMSA in IndMED, the best known Indian Medical Database <http://indmed.nic.in>. The Journal will host full text of the articles at MedIND <http://medind.nic.in> and the readers will have access to the full text of articles from January-March 2003 onwards. These articles will be linked for IndMED to JIMSA website. I wish to express my gratitude for the help and guidance received from the Members of Board of Trustees and the Central Executive Committee members, of International Medical Sciences Academy, World Headquarters, New Delhi. I am also grateful for the valuable cooperation extended by the members of JIMSA Editorial and Advisory Boards; and also the peer reviewers, for their consistent and continuous effort and support to maintain a high standard of quality of the articles published in the journal.

Friends, this is an important milestone in the history of our journal; this will broaden accessibility to all published articles. The journal should now attract original articles of even better quality. We should enforce rigorous peer review of the submitted articles and also on time publication of the issue, every quarter.

Dr. P. D. Gulati, Editor, JIMSA