

Constipation: What Can Sisyphus Teach Us About Regularity?

By Gary H. Hoffman, MD

Remember Sisyphus, the Greek king of Ephyta? Punished for his hubris, he was condemned to roll a boulder uphill for eternity. Just before reaching the top of the hill, the boulder would roll down to the bottom and Sisyphus would have to begin anew. Interminable activities often are described as Sisyphean. And so it is with constipation: It seems interminable and unbearable.

Everyone claims to be constipated at some time. The constipation may be an acute episode or a chronic condition. Yet, ask the average person to describe constipation and all the answers are different. Does a rock-hard bowel movement or a sense of fullness after evacuation qualify? What about straining to have a bowel movement? To further complicate matters, when science defines constipation few people meet the criteria. Are constipation sufferers doomed to the Sisyphean struggle of pushing rocks? Can the full feeling and inability to go be remedied?

Am I Constipated?

An acute change in bowel habits requires an explanation. Finding none, constipation is diagnosed when a patient reports having less than three bowel movements per week, with severe constipation diagnosed with less than one bowel movement per week. Statisticians tell us the 95% of adults have between three and 21 bowel movements per week. The median is one bowel movement per day. Unfortunately, one bowel movement per day seems to be the “holy grail” of bowel movements frequency and patients often are frustrated in their attempts to achieve this average. In fact, natural irregularity is the true normal.

Most true constipation has an idiopathic etiology and the treatment of the psychological and physical distress associated with idiopathic constipation is usually in the form of symptomatic relief. What is available for those patients who must “do something” about their bowel habits?

A Kind Word Might Help

The first step in relieving patient anxiety is through education, with an effort to dispel the myth of stool regularity. Verbal reassurance is the best first medicine. “What does in will come out...relax.” This advice actually helps occasionally.

Failing this advice, patient education will allow the seeker to choose from a panoply of available options. It is important that the patient discuss all of the following options with a physician before beginning any treatment programs. Some of these preparations can decrease the absorption of important prescription medications and alter their effectiveness.

What the Hulk? Eat the Bulk!

In our Westernized diet, we often fall short of the recommended consumption of 25 g of fiber per day, but this requirement varies with age and gender. Fiber binds up to 30 times its own weight in water and allows for a bulkier, softer, and easier movement. Fiber is found in fruits and vegetables or in bran, and when ingested in sufficient quantities, often relieves constipation. Some cereals contain 15 g of fiber per half cup. Some actually taste good. As patients see dietary changes as “natural”, the psychological burden of having to take a daily “medication” is avoided. Not uncommonly, side effects such as abdominal bloating and flatulence may occur.

Different preparations affect individuals differently, both in stool bulk and flatulence. A trial-and-error approach is used. Patience is advised as the body begins to adjust. Water must be consumed with each preparation. Excessive flatulence may be removed by rectal transport or by ingesting a different fiber

preparation.

Psyllium seeds are derived from plants. When taken as 7 g per serving with 8 ounces of water three times a day, the seeds absorb water and increase bulk. The seeds and the stool become surrounded by mucilage, a thick glue-like substance, promoting softening. Psyllium preparations are marketed under brand names such as Fiberall, Konsyl, Metamucil, Modane Bulk or Serutan. Benefiger contains wheat and dextrin, a type of sugar and also a bulking agent.

Cellulose is found in the cell walls of green plants. Methylcellulose is a synthetic compound created from cellulose. Methylcellulose strongly attracts and holds water, bulking and softening the stools. It is marketed under the brand name of Citrucel, and also is available in generic form. It must be taken with water.

Polycarbophil is a synthetic chemical that also attracts water, increasing stool bulk and softness. It is marketed as Equilactin, Fibercon or Konsyl Fiber. As always, it should be ingested with at least 8 ounces of water.

Lubricants

Mineral oil serves as an excellent facilitator of bowel movements. The oil coats the stool and traps water within it, promoting soft bulk. The various commercial preparations are supplied as the plain oil or as an emulsion of oil and water.

There are several potential problems with ingestion mineral oil preparations. The first is that fat-soluble vitamins may become dissolved in the oil rather than being absorbed, and patients taking oil on a long-term basis might become deficient in vitamins A,D,E or K. Lipoid pneumonia might occur of patients, especially the elderly, aspirate the oil preparation when taking it at bedtime. Both of these complications may be more of a theoretical concern than a true hazard. Taking large doses of mineral oil may lead to an embarrassing rectal leakage of the oil. Finally, there are reports of oil interactions with warfarin, and birth control pills, with the effect that both of these medications may exhibit decrease effectiveness.

Emollients: Gentle but Unpredictable

Emollients are wetting agents or chemical substances that lower the surface tension of liquids such as water and increase their spreading and penetrating properties. As a result, water more easily penetrates and softens the stool. The most common chemical in this class of softeners is docusate (butanedioic acid, sulfo-1, 4-bis [2-ethylhexyl] sulfo-succinate, or $C_{20}H_{37}NaO_7S$). It can be found in Colace, Surfak, Dialose, Docusate, and other commercially available preparations, which may cause bloating and flatulence. Results are not as predictable as with other medications and dosing may be changed to achieve the desired effect. This class of compounds often is used to soften the stool in patients with painful anal fissures and after various anal operations.

Hyperosmolar Laxatives: Hold Your Water

The best-known preparations in this group of laxatives are Miralax and glycolax, which contain polyethylene glycol (PEG) powder that is mixed with liquid. Taken on a regular basis, they promote the retention of stool water. PEG is not digested or absorbed and does not alter electrolyte balance. Lactulose and sorbitol, both sugars, function in a similar manner. Bloating and flatulence are not uncommon side effects, and are dose-related.

Saline Laxatives: Potentially Harmful

Phosphate, citrate, magnesium and sulfate are ions that cause water to be drawn into the stool, resulting in softening and bulking. They are rapid acting and also are used in bowel cleansing before colonoscopy or colonic operations. Serious, potentially life-threatening electrolyte disturbances, dehydration and

hypovolemia may occur. The phosphate preparations also are associated with rare nephrocalcinosis and renal failure, especially in those patients taking angiotensin-converting enzyme inhibitors or angiotensin receptor blockers. Preparations include Fleet Phosphosoda, which has been recalled, and the pill form of the compound Visicol, which has fallen out of favor because of potential renal side effects. Other saline laxatives are marketed under the names of Milk of Magnesia, Magnesium Citrate and others.

Stimulants: Popular, but Not Advised for Regular Use

Stimulants stimulate. Stimulants are chemicals. They work by increasing the rate and intensity of intestinal peristalsis and they promote water secretion into the small intestine. They also may increase the amount of water in the stool by decreasing water absorption.

Dulcolax and Correctol contain bisacodyl (triphenylmethane). Cascara, Aloe, Senna, Senokot and Ex-Lax contain the organic hydrocarbon anthraquinone. Castor oil contains ricinoleic acid. Prunes contain the stimulant phenolphthalein but also may promote peristalsis through the osmolar action of sorbitol.

Prolonged usage of these compounds may lead to peristaltic dependence and should be avoided. Melanosis coli is seen endoscopically in the colon. It is a brown-spotted, benign discoloration of the mucosa and is an indicator of chronic stimulant use.

Herbs? No!

Most herbal or “natural” products (including green tea) contain a polyphenol stimulant laxative or an anthranoid stimulant. These can lead to colonic peristaltic dependence. Herbal preparations may promote secretion of water into the small intestine or reduce water absorption in the colon. These are not recommended for regular use as laxatives.

The Bottom Line? Listen to Your Father

Most people are not truly constipated. For those wishing to avoid the uncomfortable feeling associated with a lack of regularity, numerous preparations are available. Some are innocuous and some must be used with caution. However, the best bowel movement is a natural bowel movement, delivered on nature’s time table. Remember, “What goes in will come out...relax.”

Treatment Option	Pros	Cons
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Lubricants/Mineral oils	<ul style="list-style-type: none"> • Facilitates bowel movements • Promotes soft bulk 	<ul style="list-style-type: none"> • Fat-soluble vitamins may not be absorbed • Patient may become deficient in vitamins A, D, E, K • Larger doses may cause rectal leakage • Oil may interact with warfarin and birth control pills
Emollients (Colace, Dialose, Docusate, Surfak)	<ul style="list-style-type: none"> • Penetrates, wets stool • Often effective for painful anal fissures 	<ul style="list-style-type: none"> • May cause bloating and flatulence
Hyperosmolar Laxatives (GlycoLax, lactulose, Miralax, sorbitol)	<ul style="list-style-type: none"> • Promotes water retention in stool • Does not alter electrolyte balance 	<ul style="list-style-type: none"> • May cause bloating and flatulence
Saline Laxatives (Fleet, Milk of Magnesia, Magnesium Citrate, Visicol)	<ul style="list-style-type: none"> • Softens, bulkens stool • Rapid acting, used in bowel cleansing 	<ul style="list-style-type: none"> • Potentially dangerous electrolyte disturbance, dehydration or hypovolemia
Stimulants (Aloe, Cascara, Castor oil, Correctol, Dulcolax, Ex-Lax, prunes, Senna, Senokot)	<ul style="list-style-type: none"> • Increase water in stool 	<ul style="list-style-type: none"> • Prolonged use may lead to peristaltic dependence
Herbs (Green tea)	<ul style="list-style-type: none"> • May contain polyphenol stimulant laxative or anthranoid stimulant 	<ul style="list-style-type: none"> • May lead to colonic peristaltic dependence • May reduce water absorption in colon
Bulking Agents (Benefiber, Citrucel, Equilactin, Fiberall, Fibercon, Konsyl Fiber and Metamucil, Modane Bulk, psyllium, Serutan)	<ul style="list-style-type: none"> • Often relieves constipation • Absorbs water, bulkens and softens stool 	<ul style="list-style-type: none"> • Abdominal bloating, flatulence