



Constipation

It is normal to have a bowel movement (defecate) anywhere from three times a day to three times a week, as long as the stool is soft and comfortable to pass. For those experiencing constipation, bowel movements tend to be less frequent, and they can be hard or lumpy and difficult to pass. Chronic constipation affects 15-30% of Canadians and is especially common in young children and the elderly, occurring more frequently in females than in males.

Constipation occurs when food passes through the digestive system too slowly. The duration between when food enters the mouth and when leftover waste finally passes out as stool is known as transit time. The transit time of a typical meal, from when you eat it to when you have a bowel movement, could take anywhere from 12-72 hours. Each person is unique; a normal bowel movement pattern for one person may be very different from those of family members or friends. Some individuals have an irregular pattern, never knowing what to expect.

Typically, before food enters the colon, most of the nutrients have been absorbed into the body and the colon's role is to remove water. If someone has a long transit time, meaning food passes slowly through the colon, then too much water is absorbed, hardening the stool.

Factors that can contribute to constipation, often by altering transit time, include:

- medication side effects (e.g., some narcotics, antidepressants, codeine, calcium or iron supplements, and medications that affect the nervous system)
- diseases in which there is a physiological change to some tissue or organ of the body (e.g., radiation therapy, inflammatory bowel disease, colon cancer, diabetes, stroke, hypothyroidism, or Parkinson's disease)
- functional disorders, such as irritable bowel syndrome
- intestinal obstructions or strictures resulting from surgery
- diet and lifestyle factors, such as consuming a diet too low in fibre and fluid, insufficient physical activity, and chronic use of laxatives, suppositories, or enemas

Symptoms/Complications

When stool remains in the colon for too long, it can cause increased pressure on the bowel, leading to abdominal cramping and bloating. Bowel movements might occur infrequently, resulting in hard, lumpy, dry stool that resembles either many small pellets or one solid, hard, sausage-shaped piece. Rectal pressure or fullness, bloating, abdominal pain, and a sensation of incomplete evacuation are common symptoms of constipation. The slow transit time might also cause poor appetite, back pain, and general malaise.

Most complications result from the intense straining needed to pass stool. These include hemorrhoids, anal fissures, diverticular disease, rectal bleeding, and a condition in which the rectal wall pushes out through the anus (rectal prolapse). Ask for our pamphlets on *Hemorrhoids* or *Diverticular Disease* if you would like more information on either of these topics.

Diagnosis

A panel of experts developed the main diagnostic criteria for functional constipation and they continue to update them regularly. Below are the current Rome IV diagnostic criteria*.

1. must include two or more of the following:
 - straining during more than one-fourth (25%) of defecations
 - lumpy or hard stools (Bristol stool form scale 1 or 2) more than one-fourth (25%) of defecations
 - sensation of incomplete evacuation more than one-fourth (25%) of defecations
 - sensation of anorectal obstruction/blockage more than one-fourth (25%) of defecations
 - manual manoeuvres to facilitate more than one-fourth (25%) of defecations (such as digital evacuation, or support of the pelvic floor)
2. fewer than 3 spontaneous bowel movements per week. Loose stools are rarely present without the use of laxatives
3. insufficient criteria for irritable bowel syndrome (IBS)

*Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis.

A physician may request blood tests to check for abnormal levels of thyroid hormone, electrolytes, or glucose, and a stool sample to examine for hidden (occult) blood. Other tests include a sigmoidoscopy or colonoscopy, which are examinations involving an instrument that allows a physician to see the inside of the rectum and colon.

It is important to differentiate between temporary (acute) constipation and chronic constipation, as the treatments and recommendations may differ.

Management

Always check with your healthcare provider before making major changes to your treatment plan and be sure these actions won't interfere with other conditions you might have.

Dietary and Lifestyle Modifications

Diet: Eating regular, well-balanced meals and snacks high in fibre, as outlined in *Canada's Food Guide*, available on the Health Canada website, and maintaining an adequate fluid intake, is the recommended approach to prevent and manage constipation. High fibre foods include whole vegetables and fruit with the skin, nuts and seeds, legumes (chickpeas, lentils, black beans), popcorn, and whole grains (oats, brown rice, rye bread, whole wheat pasta, quinoa, teff, buckwheat groats). For more information on dietary fibre, contact our office.

Exercise: Exercise helps move food through the colon more quickly. Aerobic exercise, such as brisk walking and bicycling, accelerates your heart and breathing rates, and helps to stimulate the natural contractions of intestinal muscles. Aim for 150 minutes of moderate to vigorous exercise per week.

Physiotherapy: Pelvic dysfunction physiotherapy may include bowel retraining, electrical stimulation, and posture correction.

Medication Therapy

If constipation does not improve with diet and lifestyle changes, then there are supplements and medications available.

Bulk Forming Agents: These are made of indigestible fibre, which absorbs and retains fluid and helps to form a soft, bulky stool (e.g., Benefibre®, Metamucil®, Prodiem®). While not quick-acting, they are safe for long-term use. Add these to your diet gradually and increase your fluid intake at the same time.

Enemas: An enema involves insertion of a liquid, usually water, into the rectum via the anus. Typically, after holding the liquid in place for a few minutes, there is an intense urgency to move the bowels.

Stool Softeners: These products work by holding water in the stool (e.g., Colace®). They are safe for long-term use and for pregnant women and the elderly.

Lubricants: Lubricant laxatives coat the colon and stool in a waterproof film, allowing it to remain soft and slip easily through the intestine, usually within 6-8 hours. Don't use these products for longer than a week, as some have been shown to cause vitamin deficiencies and medication interactions. An example of a lubricant laxative is mineral oil. Mineral oil is not recommended for pregnant women or for persons who have difficulty swallowing.

Stimulants: These laxatives increase muscle contractions to move food along the digestive tract more quickly (e.g., Ex-lax®, Dulcolax®, castor oil, senna tea, and Senokot®). While helpful for constipation, they can come with abdominal cramping, pain or discomfort, diarrhea, electrolyte abnormalities, including low potassium (hypokalemia), and nausea. Therefore, stimulants are typically recommended for short-term use. However, in some individuals, constipation does not resolve with dietary adjustments, exercise, or short-term laxative use. For those with persistent or difficult constipation, physicians might suggest long-term laxative use, so it is important to check with your doctor if you need ongoing stimulant assistance for a bowel movement. These are not recommended for pregnant women.

Hyperosmotics: Osmotic laxatives encourage bowel movements by drawing water into the bowel from nearby tissue (intestinal lumen), thereby softening stool. Some of these laxatives can cause electrolyte imbalances if they draw out too many nutrients and other substances with the water. They can increase thirst and dehydration. There are four main types of hyperosmotics:

- **Saline** laxatives are salts dissolved in liquid; they rapidly empty all contents of the bowel, usually working within 30 minutes to 3 hours. Examples of saline laxatives are citrate salts, magnesium preparations (e.g., Phillips'® Milk of Magnesia), sulfate salts, and sodium phosphate. They are not intended for long-term use or for pregnant women.
- **Lactulose** laxatives are sugar-like agents that work similarly to saline laxatives but at a much slower rate and are sometimes used to treat chronic constipation. They take 6 hours to 2 days to produce results.
- **Polymer** laxatives consist of large molecules that cause the stool to hold and retain water. They are usually non-gritty, tasteless, and are well tolerated for occasional constipation. Results can be expected within 6 hours, but it can take longer depending on the dose. An example of a polymer laxative is polyethylene glycol (e.g., PegaLAX®).
- **Glycerine** is available as a suppository and mainly has a hyperosmotic effect, but it may also have a stimulant effect from the sodium stearate used in the preparation. Glycerine is available through several manufacturers.

Enterokinetic: Prucalopride succinate (Resotran®) works by

targeting the serotonin (5-HT₄) receptors in the digestive tract to stimulate motility (muscle movement). It has Health Canada approval for the treatment of chronic idiopathic constipation in women for whom laxative treatment has failed to provide relief. Resotran® usually produces a bowel movement within 2-3 hours and then spontaneous complete bowel movements typically begin occurring within 4-5 days of starting treatment. Side effects may include nausea, diarrhea, abdominal pain, and headache, mostly following the initial dose and then subsiding with ongoing treatment.

Guanylate cyclase-C agonist: Linaclotide (Constella®) works by increasing intestinal fluid secretion, which helps ease the passage of stool through the digestive tract, relieving associated symptoms and has Health Canada approval for the treatment of chronic idiopathic constipation in adults. In clinical trials, Constella® showed a statistically significant improvement compared with placebo for complete spontaneous bowel movements. The results occurred within the first week, often on the first day, of dosing and were sustained over the 12-week treatment period. Diarrhea is the most commonly noted side effect.

Outlook

Constipation can occur for many reasons, so treatment often requires trial and error. An individual may experience a short bout of constipation and return to a normal routine, or it may be an ongoing health issue. With diet and lifestyle changes, and the proper use of supplements and medications, most forms of constipation are manageable. If your bowel habits change drastically for no apparent reason, be sure to consult your physician.

About the Gastrointestinal Society

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