

# Constipation in older adults

## Stepwise approach to keep things moving

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Constipation is a common complaint and challenge for older adults. The prevalence of constipation increases with age and differs among settings. In individuals 65 years of age or older in the community, the prevalence is 26% for women and 16% for men.<sup>1</sup> This rate increases to 34% for women and 26% for men in those 84 years of age and older.<sup>1</sup> For long-term care residents, the prevalence is as high as 80%.<sup>1,2</sup>

The objective of this article is to discuss a stepwise approach for the management of constipation in older adults. Clinical pearls for successful nonpharmacologic or lifestyle measures and pharmacotherapeutic tips are provided.

### Case

Mrs N.M. is an 88-year-old woman who is new to your practice and is brought in today by her daughter. She would like help regarding constipation, which is not new for her. She states that a few months ago she had gone to the local emergency department with abdominal cramping and bloating. After a thorough assessment and abdominal x-ray scan she was diagnosed with fecal impaction secondary to psyllium fibre supplement use with low fluid intake. She was treated with an enema, instructed to take 17 g of polyethylene glycol 3350 (PEG 3350) daily, and educated on lifestyle changes to reduce constipation. (In this article, PEG 3350 is without electrolytes, unless otherwise stated.)

Three months ago she fell in her bungalow and fractured a rib. She is now living in a seniors' apartment building and gets help from her daughter who lives nearby. Today, upon questioning, Mrs N.M. describes her bowel movements as infrequent (2 to 3 times per week), with hard lumpy stools and some straining. She denies having any nausea, vomiting, blood in the stool, rectal bleeding, fever, weight loss, or appetite change. Her past medical history includes osteoarthritis of her shoulders, knees, and hips. She also has hypertension, chronic atrial fibrillation, type 2 diabetes mellitus, osteoporosis, and depression. Her past surgical history includes cholecystectomy and appendectomy. She is a social drinker and denies any history of smoking. There are no concerns regarding her cognition. There is no personal or family history of colon cancer.

She occasionally tries to walk for exercise but is unable to do so on a daily basis owing to her

arthritis. When asked about her dietary and fluid intake, she states that she likes freshly baked bread, pasta, cheese, and yogurt. She eats 2 servings each of fruit and vegetables daily. She drinks 2 cups of coffee each day but is afraid to drink too much water as she would like to avoid urinating often.

On physical examination she is found to be overweight, with a body mass index of 28 kg/m<sup>2</sup>, and she is in no obvious distress. Her blood pressure is 140/90 mm Hg with no postural change; her heart rate is 85 beats/min and is irregularly irregular. Her abdomen is soft and nondistended, with no palpable tenderness. There is no organomegaly and bowel sounds are present in all 4 quadrants. On rectal examination some stool is felt, with no palpable mass or blood seen on the glove. There are no anal fissures, rectoceles, or hemorrhoids.

Her current list of medications includes 10 mg of citalopram daily, 5 mg of warfarin daily, 0.125 mg of digoxin daily, 25 mg of metoprolol twice a day, 12.5 mg of hydrochlorothiazide daily, 500 mg of metformin twice a day, 70 mg of alendronate once a week, 500 mg of calcium twice a day, 1000 IU of vitamin D daily, 17 g of PEG 3350 daily, 1 to 2, 325-mg acetaminophen tablets as needed, 25 mg of amitriptyline at bedtime, and 25 mg of dimenhydrinate as needed to help with sleep.

Her recent bloodwork shows normal complete blood count, thyroid and renal function, and liver enzyme levels. Her hemoglobin A<sub>1c</sub> level is 7%.

### Stepwise approach to constipation

The following stepwise approach can be used when managing a patient with constipation. A systematic approach is especially important in older adults with multiple comorbidities and medications.

**Step 1: Establish that the patient is suffering from constipation and identify the predominant symptom.** Several definitions and tools are available for diagnosing constipation (**Box 1**),<sup>1,3-5</sup> but simply put, constipation is unsatisfactory defecation owing to infrequent stools or difficult or incomplete evacuation.<sup>4,6</sup> Constipation is symptom-based and subjective, as what is "normal" in terms of bowel movements varies among individuals. While researchers and health care providers often rely on the frequency or consistency of bowel movements to define constipation, patients

tend to use symptoms such as straining, hard stools, and bloating.<sup>2,6,7</sup>

Straining is often the predominant symptom in the elderly. It occurs in up to 65% of community-based individuals older than 65 years of age, and hard stools are reported in approximately 40% of these individuals.<sup>1,8</sup> Stool frequency and consistency, along with symptoms (ie, straining), are used to confirm constipation in Mrs N.M. The patient and her daughter are able to provide this information; however, older individuals with impaired cognition or ability to communicate might present with nonspecific symptoms (eg, agitation, anorexia, or decline in function).<sup>9</sup>

**Step 2: Conduct a physical examination and rule out alarm features.** A visual and digital anal-rectal examination is recommended for identifying local anorectal disease, which can contribute to pelvic floor dysfunction. During the digital rectal examination, feel for masses or strictures, note sphincter tone, and rule out fecal impaction, which is particularly important in patients with dementia or who are bedridden. Negative digital rectal examination findings do not rule out a proximal impaction, and an abdominal x-ray scan is necessary when there is a high degree of suspicion. In older adults presenting with loose stools, digital rectal examination is also useful for assessing overflow incontinence due to fecal impaction. A misdiagnosis can lead to erroneous treatment with antidiarrheal medications that will worsen the condition.

Patients should also be assessed for alarm features (**Box 2**) that require additional investigations to rule out structural diseases (eg, colon cancer).<sup>10,11</sup> Mrs N.M. does not have any alarm features.

**Step 3: Identify and treat reversible causes.** A number of diseases and conditions have been suspected of causing constipation (**Box 3**).<sup>2,11,12</sup> Optimizing the management of these diseases, when possible, should be attempted in an effort to lessen or resolve the constipation.<sup>11</sup> However, constipation is often multifactorial, especially in the elderly, and laxatives might still be required.

Mrs N.M.'s older age along with her history of diabetes and depression might all be contributing to her constipation. There is no evidence to suggest that gastrointestinal transit time is slower with increasing age, except in the frail elderly, particularly in those who are bed-bound.<sup>2,13</sup> The higher prevalence of constipation in older individuals is thought to be owing to a greater number of diseases and medications in this population.<sup>2</sup> The exact mechanism of diabetes-induced constipation is unclear, but it appears to have a stronger link to poor glycemic control versus the presence of autonomic neuropathy.<sup>12</sup> Mrs N.M.'s diabetes is under control, and her most recent hemoglobin A<sub>1c</sub> level was 7%.

### Box 1. Definitions and tools for diagnosing constipation

The Rome III Criteria for Adults<sup>3</sup> are often cited in the literature for diagnosing constipation, but are used more in research than in clinical practice. Constipation is diagnosed when

- 25% of bowel movements are associated with at least 2 of the following symptoms, occurring in the previous 3 mo with an onset of symptoms of at least 6 mo:
  - straining
  - hard or lumpy stools
  - a sense of incomplete evacuation
  - a sense of anorectal obstruction
  - the need for manual maneuvers
  - fewer than 3 defecations per wk
- loose stools are rarely present without the use of laxatives
- there are insufficient criteria for irritable bowel syndrome

The Canadian Association of Gastroenterology defines constipation as symptom based, including a combination of fewer than 3 stools per wk, stool form that is mostly hard or lumpy, and difficult stool passage (need to strain or incomplete evacuation) for more than 6 mo.<sup>3</sup>

Questions to ask your patients to determine whether they are constipated

- What do you mean by constipation?
- How long have you had your symptoms?
- What about your symptoms worries you the most?
- What do you hope to gain or achieve?

The Bristol Stool Scale<sup>5</sup> is a validated tool that correlates stool consistency with colonic transit time. The scale can be helpful for patient assessment and monitoring, and as a clinical communication aid to help patients discuss their bowel movements with their physicians. The Bristol Stool Scale is available from CFPlus.\* Stool types 1 and 2 indicate constipation, with types 3 and 4 being the ideal stools (especially the latter), as they are easy to defecate while not containing any excess liquid. Types 5, 6, and 7 tend toward diarrhea.

The link between depression and constipation is not fully understood. It might be attributed to the effect depression has on lifestyle (eg, loss of appetite, decreased activity) or the anticholinergic properties of certain antidepressants (eg, tricyclic antidepressants, paroxetine). Mrs N.M. is taking citalopram and her depression is in remission.

**Step 4: Identify medications that might cause constipation.** Balance the risk of constipation versus the benefit of the medications. If possible, decrease the dose,

\*The **Chronic Insomnia in Older Adults** document, the **Constipation in Older Adults** document, and the **Bristol Stool Scale** are available at [www.cfp.ca](http://www.cfp.ca). Go to the full text of the article online and click on **CFPlus** in the menu at the top right-hand side of the page.

### Box 2. Alarm features of constipation

Most important questions to ask your patient:

- Have you had any fever, had unintentional weight loss, had blood in or on your stool, felt any masses (abdominal or rectal), had night symptoms, or had any other unexplained symptoms?
- Are you vomiting?
- Do you have a lot of abdominal pain?
- Are you still passing gas?
- Do you have a family history of colon cancer or inflammatory bowel disease?

Other alarm features:

- Age older than 50 y with recent onset of symptoms
- Abnormal laboratory bloodwork results (eg, anemia or iron deficiency)

discontinue the medication, or switch to another agent with a lower incidence of constipation.

Numerous prescription and over-the-counter medications can cause or contribute to constipation (**Box 4**).<sup>1,4,8,14</sup> The Beers and STOPP (Screening Tool of Older Persons' Potentially Inappropriate Prescriptions) criteria are often used to identify medications that might be unsuitable for elderly patients.<sup>15-17</sup> Both lists include medications that can cause or exacerbate constipation in older adults.<sup>15-17</sup>

Mrs N.M. is currently taking 5 medications that can contribute to constipation: amitriptyline, calcium, dimenhydrinate, metoprolol, and hydrochlorothiazide. Amitriptyline and dimenhydrinate are listed in the Beers and STOPP criteria as medications to avoid in the elderly owing to the increased risk of constipation, cognitive impairment, and other anticholinergic side effects.<sup>15,17</sup> Mrs N.M. is taking amitriptyline and dimenhydrinate as sleep aids. She agrees to taper both of these medications and is provided with information on sleep hygiene. (Suggestions for managing insomnia in older adults are available from **CFPlus**.\*)

An online calcium calculator<sup>18</sup> is used to assess Mrs N.M.'s dietary calcium intake. She agrees to add 1 daily serving of calcium-rich food to her diet, which allows a reduction in her calcium supplement to 500 mg once daily. Her metoprolol and digoxin were prescribed for heart rate control secondary to atrial fibrillation. Dihydropyridine calcium channel blockers might be used for the same indication; however, these agents cause more constipation (1% for metoprolol vs 2% to 4% for diltiazem or 12% for verapamil)<sup>19-21</sup> and are also listed in the Beers criteria.<sup>15</sup> As such, her metoprolol is continued.

Theoretically, diuretics can cause constipation secondary to fluid loss.<sup>13,14</sup> Hydrochlorothiazide causes diuresis during the first 4 to 6 weeks of therapy.<sup>22</sup> Plasma volume and extracellular fluid normalizes after this point and antihypertensive properties of the medication are maintained by other mechanisms.<sup>22</sup> Mrs N.M. confirms

that she has been taking hydrochlorothiazide for years; therefore there is no need to change this medication with regard to her constipation.

### Box 3. Diseases and conditions that can cause constipation

Causes of constipation

- Cancer or cancer-related causes: colorectal cancer, dehydration, intestinal radiation, tumour compression of large intestine
- Endocrine causes: hormonal changes, hypothyroidism, diabetes, hyperparathyroidism
- Gastrointestinal disorders: diverticulosis, Hirschsprung disease, irritable bowel syndrome, megacolon, pelvic floor dysfunction, rectoceles, strictures
- Metabolic causes: hypercalcemia, hypocalcemia, hypokalemia, hypomagnesemia, hypopituitarism, panhypopituitarism, uremia
- Neurologic causes: autonomic neuropathy, dementia, multiple sclerosis, muscular dystrophies, pain secondary to anal fissures or hemorrhoids, Parkinson disease, spinal cord lesions, stroke
- Psychological causes: anxiety, depression, eating disorders
- Other causes: older age, chronic kidney disease, pregnancy, systemic sclerosis, sexual abuse, lack of privacy or time

Data from Fleming and Wade,<sup>2</sup> Bharucha et al,<sup>11</sup> and Andrews and Storr.<sup>12</sup>

### Box 4. Examples of medications that can cause constipation

Medications that can cause constipation:

- Analgesic drugs: nonsteroidal anti-inflammatory drugs, opioids (25% to 40% in noncancer patients and ≤90% in cancer patients)
- Anticholinergic drugs: antipsychotic drugs, benztropine, oxybutynin
- Anti-Parkinson drugs: amantadine, bromocriptine, pramipexole
- Anticonvulsant drugs: gabapentin, phenytoin, pregabalin
- Antidepressant drugs: tricyclic antidepressants, paroxetine
- Antidiarrheal drugs: diphenoxylate, loperamide
- Antiemetic drugs: dimenhydrinate, ondansetron, prochlorperazine, promethazine, scopolamine
- Antihistamine drugs: diphenhydramine, hydroxyzine
- Antihypertensive drugs:  $\alpha$ -adrenergic agonists (eg, clonidine),  $\beta$ -blockers, calcium channel blockers (especially verapamil), diuretics
- Antispasmodic drugs: dicyclomine
- Cation agents: aluminum, bismuth, barium, calcium, iron
- Chemotherapy: vincristine, cyclophosphamide
- Resins: cholestyramine, sodium polystyrene sulfonate

Data from Gallegos-Orozco et al,<sup>1</sup> Gray,<sup>4</sup> Gandell et al,<sup>8</sup> and Branch and Butt.<sup>14</sup>

**Step 5: Recommend lifestyle changes (ie, activity, fibre and fluid intake, regular toilet routine) for patients with deficiencies (eg, low fibre or fluid intake, inactivity) and when interventions are safe.** There is limited evidence that lifestyle changes resolve constipation, but it is universally accepted as a first-line approach. Studies assessing the effect of physical activity on constipation in the elderly were unable to show an improvement in bowel movements; however, exercise has been shown to enhance quality of life in this population.<sup>23</sup> Low fluid intake has been associated with constipation in nursing home residents,<sup>24</sup> but there was no association in older individuals from a variety of settings.<sup>25</sup> Increasing fluid intake can be recommended for patients with low intake or who are taking bulk-forming agents, provided there are no fluid restrictions (eg, heart or kidney failure); however, there is little guidance on how much fluid should be consumed. Apple, pear, and prune juices contain sorbitol and might assist with laxation.

The studies that assessed dietary fibre in the elderly reported mixed results and were of low quality.<sup>2,10</sup> Soluble fibre (eg, psyllium) has better evidence than insoluble fibre (eg, bran) and is preferred.<sup>10</sup> Fibre should be titrated gradually (eg, increased by 5 g per week) to minimize gastrointestinal side effects (eg, flatulence, bloating) to up to 20 to 30 g per day.<sup>2,10</sup> Patients with confirmed slow-transit constipation or pelvic floor dyssynergia respond poorly to a high-fibre diet and fibre supplements. Minimize dietary fibre intake in these individuals and encourage them to purée or thoroughly cook and chew fibre-rich foods.<sup>1</sup> One randomized crossover trial compared 50 g of prunes twice a day (approximately 12 prunes, which is equal to 6 g of fibre per day and 14.7 g of sorbitol per day) to 11 g or 1 tablespoon of psyllium twice a day (6 g of fibre per day) over 8 weeks (n=40, mean age 38 years).<sup>10,26,30</sup> The prunes resulted in 1 extra bowel movement per week and improved stool consistency, but there was no difference in straining between the treatment arms, although both groups improved compared with baseline.<sup>10,26,27</sup> Of note, 50 g of prunes per day equates to 120 calories.

A regular toilet routine is also recommended for elderly individuals suffering from constipation. For example, recommend that within 1 hour of waking patients engage in mild physical activity (eg, walking, swimming, yoga, tai chi) and consume a hot beverage (preferably caffeinated) and a fibre cereal. They should also have regular toileting in the morning, even without urge, and end the day with a fibre supplement.<sup>1</sup>

Mrs N.M.'s mobility is limited owing to her arthritis. She agrees to reschedule her acetaminophen (1300 mg every 12 hours) in an effort to optimize her pain management, which might in turn increase her activity level. She is encouraged to increase her dietary fibre

by eating more fruit (including prunes), vegetables, and bran. Regarding her concern about water consumption and voiding, she is instructed to limit caffeinated and alcoholic beverages, which have a diuretic effect, and to increase the amount of water and juice she drinks.

**Step 6: Initiate or alter laxative therapy and monitor efficacy and safety.** There are no studies assessing a stepwise approach to laxative therapy. It is recommended that therapy begin with a bulk-forming agent, then an osmotic laxative followed by a stimulant laxative, if needed.<sup>10,23</sup> There is insufficient evidence to recommend docusate for the prevention or treatment of constipation<sup>10,28</sup>; anecdotal experience suggests it might alleviate straining in selected patients (eg, those who recently underwent rectal surgery or had myocardial infarction). The Beers criteria state that mineral oil should be avoided in older adults owing to concerns about aspiration; safer alternatives are available.<sup>15</sup>

Recommendations for laxatives in older adults are similar to those used in the general adult population.<sup>2</sup> Bulking agents (eg, psyllium) are effective in the management of constipation in patients who can drink 1 glass of water with each dose. Mrs N.M. has tried psyllium, which resulted in fecal impaction due to low fluid intake. Treatment of impaction would include manual disimpaction using 2% lidocaine gel to anesthetize and lubricate the rectum and anus.<sup>29</sup> A mineral oil enema would be preferred over a sodium phosphate enema. Repeat mineral oil enemas daily, for up to 3 days if required.

If the stool is located higher up in the intestine and manual disimpaction and enemas are ineffective, try 2 L of oral PEG 3350 with electrolytes for 1 to 2 days<sup>30</sup> or 1 L of oral PEG 3350 with electrolytes for 3 days.<sup>31,32</sup> Additional laxatives (oral or suppositories) or dose adjustments to maintenance therapy might be required. Avoid bulk-forming laxatives in the setting of impaction.

The next step for patients with inadequate response to a bulking agent, or in those who have contraindications to this class, is the addition of an osmotic laxative such as lactulose or PEG 3350.<sup>10,27</sup> Polyethylene glycol 3350 is considered to be more effective (number needed to treat [NNT] of 3) than lactulose (NNT of 4)<sup>33-35</sup> for stool frequency per week, form of stool, relief of abdominal pain, and the need for additional laxatives.<sup>33</sup>

Mrs N.M. is currently taking PEG 3350, an osmotic laxative. Stimulant laxatives are recommended if constipation continues despite taking osmotic laxatives (NNT of 3)<sup>33</sup>; however, there is limited evidence to support routine use.<sup>1</sup> Bisacodyl and sodium picosulfate are considered effective, but be cautious with the use of sodium picosulfate in the elderly. Mrs N.M. agrees to add a stimulant laxative (eg, a 5-mg bisacodyl tablet at bedtime 3 times a week), but questions whether her

**Table 1. Features of laxatives used in older adults**

LAXATIVE TYPE	FEATURES
Bulk forming <ul style="list-style-type: none"> <li>• Psyllium</li> <li>• Inulin</li> <li>• Guar gum</li> <li>• Calcium polycarbophil</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used for the prevention and treatment of constipation</li> <li>• Onset of action: 12–72 h</li> <li>• Available in multiple dosage forms (powders, wafers, chewable tablets, capsules)</li> <li>• Might not aid constipation due to slow transit, pelvic floor dysfunction, or medication</li> <li>• Must be taken with ≥250 mL water or juice to prevent fecal impaction and esophageal obstruction</li> <li>• Avoid in patients with cognitive impairment, fluid restrictions, dehydration, dysphagia, or esophageal strictures, or in those who are bedridden</li> <li>• Suggested to space by 2 h from all other medications</li> </ul>
Osmotic <ul style="list-style-type: none"> <li>• PEG 3350 without electrolytes</li> <li>• Lactulose</li> <li>• Glycerin suppositories</li> </ul>	<ul style="list-style-type: none"> <li>• PEG 3350 and lactulose can be used for the prevention and treatment of constipation; glycerin suppositories can be used for the treatment of constipation</li> <li>• Onset of action: PEG 3350 48–96 h; lactulose 24–48 h; glycerin 15–60 min</li> <li>• Neither PEG 3350 nor lactulose is absorbed and both lack electrolytes; therefore, these are good options for patients with renal impairment, cardiac dysfunction, or diabetes</li> <li>• Lactulose by-products (1 tbsp has &lt;1.6 g galactose and &lt;1.2 g lactose) are not absorbed; however, encourage patients with diabetes to report any signs or symptoms of hyperglycemia</li> <li>• Dose-dependent nausea, abdominal bloating, cramping, diarrhea, and flatulence can occur with both PEG 3350 and lactulose; however, PEG 3350 has a higher incidence of diarrhea in elderly patients but a lower incidence of flatulence</li> <li>• Some find lactulose too sweet, but the taste can be masked by diluting it in water, fruit juice, milk, or desserts</li> <li>• PEG 3350 is a tasteless, odourless powder that is dissolved in 250 mL of water, juice, coffee, or tea</li> <li>• Lactulose is less expensive at starting doses (15 mL every night costs \$13/mo) compared with PEG 3350 (\$24/mo)</li> <li>• Glycerin is less effective if stool is dry and hard</li> </ul>
Stimulant <ul style="list-style-type: none"> <li>• Bisacodyl</li> <li>• Sennosides</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used for the prevention and treatment of constipation</li> <li>• Onset of action: 6–12 h</li> <li>• Might provide benefit in neurogenic or slow-transit constipation</li> <li>• Tolerance can occur with slow-transit constipation but it is rare</li> <li>• Senna might discolour urine or feces yellow-brown or red-violet</li> <li>• Side effects include abdominal pain and cramping</li> </ul>
Unique mechanism of action <ul style="list-style-type: none"> <li>• Prucalopride</li> <li>• Linaclotide</li> </ul>	<ul style="list-style-type: none"> <li>• Have only been studied for the treatment of refractory constipation</li> <li>• Onset of action: prucalopride 2–3 h; not reported for linaclotide (bowel movements reached maximal peak within first wk of use)</li> <li>• Have only been evaluated against placebo so the exact role of these new agents is unknown</li> <li>• Requires a prescription and might not be covered by provincial drug formularies (cost about \$80/mo to \$240/mo)</li> <li>• Side effects include diarrhea, abdominal pain, and nausea</li> </ul>

PEG—polyethylene glycol.  
Data from Kosar and Schuster.<sup>42</sup>

**Table 2. Laxatives to avoid or use with caution for elderly patients**

LAXATIVE	PRECAUTIONS
Docusate	<ul style="list-style-type: none"> <li>• Lacks evidence for prevention and treatment of constipation (ie, no harm, but ineffective)</li> </ul>
Magnesium	<ul style="list-style-type: none"> <li>• Avoid in individuals with cardiac or renal dysfunction</li> </ul>
Mineral oil	<ul style="list-style-type: none"> <li>• Oral mineral oil should be avoided for older adults owing to concerns about aspiration (safer alternatives are available)</li> </ul>
Soapsuds enema	<ul style="list-style-type: none"> <li>• Risk of colonic mucosa irritation</li> </ul>
Sodium phosphate enema	<ul style="list-style-type: none"> <li>• As a purgative, avoid owing to serious electrolyte, renal, cardiovascular, and neurological concerns</li> <li>• As a laxative, avoid in individuals with dehydration, renal impairment, cardiac dysfunction, or electrolyte disturbances</li> </ul>
Picosulfate, magnesium oxide, and citric acid	<ul style="list-style-type: none"> <li>• Risk of electrolyte imbalance</li> <li>• Avoid for patients with renal impairment (creatinine clearance &lt;30 mL/min)</li> </ul>
Polyethylene glycol 3350 with electrolytes	<ul style="list-style-type: none"> <li>• Avoid if patient has impaired gag reflex, is prone to aspiration or regurgitation, is semiconscious, has a risk of electrolyte imbalance, has severe renal dysfunction (creatinine clearance &lt;30 mL/min), or has congestive heart failure</li> </ul>

Data from Kosar and Schuster.<sup>42</sup>

bowels will become dependent on them. Myenteric plexus or smooth muscle damage due to stimulant laxatives is rare, and it is unclear if this is due to constipation rather than laxative use.<sup>35</sup> The prevailing opinion is that stimulant laxatives are safe to use up to 3 times per week, when fibre or osmotic laxatives have failed to provide a sufficient response (the exception would be daily stimulant laxative use for opioid-induced constipation).<sup>36-38</sup> Chronic laxative use might potentially alter electrolytes, but data are limited. Older adults with a history of electrolyte imbalances should use laxatives with caution. Other side effects specific to stimulants include potential abdominal cramping, bloating, and nausea. Some patients might not be able to control or predict the need to defecate; therefore, caution should be used when prescribing stimulant laxatives to elderly patients who have mobility issues and risk of falls.

Newer agents available in Canada to treat constipation include linaclotide and prucalopride. Linaclotide is an intestinal secretagogue that has been studied for chronic constipation and constipation-predominant irritable bowel syndrome in women.<sup>39</sup> Prucalopride is a highly selective serotonin agonist (5-HT<sub>4</sub>) that stimulates gastrointestinal motility. It is officially indicated for chronic idiopathic constipation in women in whom laxatives failed to provide adequate relief.<sup>40</sup> Both agents have only been compared with placebo, have limited evidence for use in older adults, and should be reserved for patients who have failed to respond to standard therapy prescribed by a clinician with experience in treating chronic constipation.<sup>41</sup>

**Table 1** lists laxatives that can be used in older adults, and **Table 2** lists laxatives to avoid or use with caution in this population.<sup>42</sup>

## Conclusion

Constipation is a common concern in older adults. A stepwise approach is especially important given the multiple risk factors, comorbidities, and medication-induced causes. Management of medication-induced causes, lifestyle modification, and nonpharmacologic therapies should be the first step to avoiding unnecessary drug therapy. There is limited evidence to guide the order in which the agents should be used, but often initiation of a bulk-forming agent would be first, except in those who are bedridden, are cognitively impaired, or have other contraindications. For patients with a contraindication or lack of response to a bulking agent, the initiation or addition of an osmotic agent, such as PEG 3350 or lactulose, is indicated. Patient preferences such as taste, cost, and tolerance for flatulence might guide selection of lactulose versus PEG 3350. Optimize the dose of an osmotic agent, then add a stimulant laxative if necessary, with

the goal of preventing and treating constipation and avoiding fecal impaction.

The Geri-RxFiles section on the management of constipation in older adults is available from **CFPlus**.<sup>\*</sup> Geri-RxFiles is an RxFiles initiative that focuses on drug therapy in older adults and long-term care residents. 🌿

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