

# Chronic Constipation Primary Care Pathway

Quick links:

[Pathway primer >](#)

[Expanded details >](#)

[Advice options >](#)

[Patient pathway >](#)

## 1. Diagnostic criteria >

Presence of at least 2 symptoms for at least 3 of the last 6 months:

- $\leq 3$  spontaneous bowel movements per week
- Hard or lumpy stool (Bristol type 1-2) for  $> 25\%$  of defecations
- Straining during  $> 25\%$  of defecations
- Sensation of incomplete evacuation for  $> 25\%$  of defecations
- Sensation of anorectal blockage for  $> 25\%$  of defecations
- Manual maneuvers needed to facilitate  $> 25\%$  of defecations

## 2. Medical history >

- Duration and progression of symptoms - the trend is key
- Frequency of bowel movements
- Symptoms of abdominal pain, bloating, and/or distention
- Precipitating events (change in diet, fluid intake, travel, physical activity, new medication introduced)
- Past use of laxatives or other agents
- Factors that may indicate defecatory dysfunction (traumatic perineal injury, sense of "blockage" at the outlet, having to rotate or "wiggle" on the toilet to pass stool)

## 3. Is it IBS-C? >

Predominant symptoms of pain and/or bloating

Yes

Follow IBS pathway >

No

## 4. Physical examination >

- Abdomen
- Digital anorectal examination

## 5. Alarm features >

- Family history (first-degree relative) of colorectal cancer
- Unintended weight loss ( $> 5\%$  over 6-12 months)
- Sudden or progressive change in bowel habits
- Visible blood in stool
- Suspicious mass or irregularity of anal canal on exam
- Iron deficiency anemia (see Iron Primer)

Yes

9. Refer for consultation/endoscopy >

If unsatisfactory response to management, consider using an advice service before referring >

No

## 6. Optimize management of secondary causes >

- Medication history, including OTCs and supplements
- Underlying medical conditions, limited physical activity, attention to diet/fluid intake, bowel regimen (especially in the elderly)

## 7. Baseline investigations >

There is little evidence to support routine investigations

- CBC (if no recent result)
- Glucose, creatinine, calcium/albumin, TSH, celiac disease screen
- Abdominal radiograph (may be useful in elderly)

## 8. Management >

- Education, reassurance, and expectations management
- Fibre and fluids
- Physical activity
- Laxatives (bulk-forming, osmotics, stimulants)
- Linaclotide
- Prucalopride
- Plecanatide
- Probiotics

Management "failure" is subjective. Suggest at least 3-6 months of titrated, multi-pronged therapy that mixes various treatment approaches to improve symptoms.

This primary care pathway was co-developed by primary and specialty care and includes input from multidisciplinary teams. It is intended to be used in conjunction with specialty advice services, when required, to support care within the medical home. Wide adoption of primary care pathways can facilitate timely, evidence-based support to physicians and their teams who care for patients with common low-risk GI conditions and improve appropriate access to specialty care, when needed. To learn more about primary care pathways, check out this [short video](#).

## CHRONIC CONSTIPATION PATHWAY PRIMER

- Chronic constipation is a common gastrointestinal disorder, affecting approximately 3-27% of the general population. Prevalence increases with age and is more common among women.
- Chronic constipation is most often a functional bowel disorder caused by a number of physiologic factors, including motility, secretion, and sensation abnormalities.
  - Symptoms and possible patterns of defecation include difficulty with defecation (straining) and/or unsatisfactory, incomplete, or infrequent evacuation for longer than 3 months.
  - Abdominal pain and/or bloating may be present in patients with chronic constipation, but it is not the major symptom. Predominant abdominal pain and/or bloating is more consistent with Irritable Bowel Syndrome - Constipation predominant (IBS-C), a diagnosis for which symptoms and treatment significantly overlap with chronic constipation.
    - For additional information about IBS-C, refer to the [IBS pathway](#).
- The diagnosis of chronic constipation can often be made **based on symptoms alone**.
  - Given the mostly benign nature of constipation, diagnostic colonoscopy under age 50 is not recommended in the absence of alarm features<sup>1</sup>.

| Checklist to guide in-clinic review of your patient with Chronic Constipation |   |
|---|---|
| <input type="checkbox"/>  | Diagnostic criteria: Presence of at least 2 of these symptoms for at least 3 of the last 6 months <ul style="list-style-type: none"> <li>≤ 3 spontaneous bowel movements per week</li> <li>Straining during &gt; 25% of defecations</li> <li>Sensation of anorectal blockage &gt; 25% of the time</li> <li>Hard or lumpy stools (Bristol type 1-2) &gt; 25% of the time</li> <li>Sensation of incomplete evacuation &gt; 25% of the time</li> <li>Manual maneuvers needed to facilitate defecation</li> </ul> |
| <input type="checkbox"/>  | Complete detailed medical history (see algorithm Box 2).  |
| <input type="checkbox"/>  | Complete detailed abdominal and anorectal examination.  |
| <input type="checkbox"/>  | Confirm absence of alarm features (see algorithm Box 5).<br>If alarm features are identified, refer for specialist consultation.  |
| <input type="checkbox"/>  | Identification and adjustment of medication and lifestyle factors that may cause/contribute to constipation.  |
| <input type="checkbox"/>  | Complete baseline investigations confirming no underlying condition is causing constipation (see algorithm Box 7).  |
| <input type="checkbox"/>  | If unsatisfactory response to management (see algorithm Box 8), consider using an advice service before referring. Otherwise, continue care in the Patient Medical Home.  |

## EXPANDED DETAILS

### 1. Diagnostic criteria

- The diagnosis of chronic constipation is based on more than stool frequency. It includes the presence of at least 2 symptoms for at least 3 of the last 6 months.
  - ≤ 3 spontaneous bowel movements per week
  - Hard or lumpy stool for > 25% of defecations (Type 1-2 on the [Bristol Stool Chart](#))
  - Straining during > 25% of defecations
  - Sensation of incomplete evacuation for > 25% of defecations

<sup>1</sup> [choosingwiselycanada.org/gastroenterology](https://choosingwiselycanada.org/gastroenterology)



- Sensation of anorectal blockage for > 25% of defecations
- Manual maneuvers needed to facilitate > 25% of defecations
- A careful history and personal concerns are important to understand challenges and impact of the condition on the patient's quality of life.
- Chronic constipation can be classified as primary, secondary, or related to defecatory dysfunction. Determining the difference does not influence management.
  - **Primary** chronic constipation can be sub-classified into normal-colonic transit times ("idiopathic") and slow-colonic transit times.
  - **Secondary** chronic constipation is the result of extrinsic factors such as underlying medical conditions or, more commonly, medications (see [Table 1](#) and [Table 2](#) below).
    - Examples of underlying systemic illness include: scleroderma (rare), neurologic causes (e.g. Parkinson's disease), metabolic causes (e.g. diabetes), mechanical obstruction (e.g. diverticular stricture, colon cancer).
    - Mechanical or structural causes of constipation (e.g. mass, stricture) are relatively rare and can usually be discerned by history, red flags, blood work (anemia), or physical findings (mass) on abdominal and/or anorectal exams.
    - There is no long-term increase in prevalence of colorectal cancer in patients with chronic constipation. A sudden and persistent/progressive change in bowel habit that is refractory to treatment may warrant further investigation with colonoscopy. Stable chronic constipation of > 1 year in duration is unlikely to be caused by colon cancer.
  - **Defecatory dysfunction** (aka pelvic floor dyssynergia) can be challenging to diagnose.
    - This condition may be related to discoordination of the pelvic floor muscles and their innervation, but is often multifactorial and incompletely understood.
    - Complete evaluation requires specialty input, with possible tests, including anal manometry and defecography.

## 2. Medical history

Patient history should include:

- Duration and progression of symptoms (longstanding and stable vs. more recent onset and worsening). The trend is key.
- Frequency of bowel movements.
- Associated symptoms of abdominal pain, bloating, and/or distention.
- Precipitating events such as changes in diet, fluid intake, travel, physical activity, and/or medications introduced around symptom onset.
- Laxatives or other agents tried or used in the past, noting type, duration, and combination of agents tried. This helps discern undertreated chronic constipation from treatment resistant cases.
- Factors that may indicate defecatory dysfunction such as:
  - History of traumatic perineal injury (e.g. traumatic vaginal delivery, significant perineal tears, episiotomy, assault).
  - Persistent and severe sense of incomplete evacuation.
  - Sense of "blockage" at the outlet.
  - Having to rotate or "wiggle" on the toilet in order to pass stool.

## 3. Is it IBS-C?

If the assessment identifies predominant symptoms of pain and/or bloating, refer to the [IBS pathway](#).

## 4. Physical examination

- **Abdomen:** noting distention, focal discomfort, palpable mass, inguinal lymphadenopathy
- **Digital anorectal examination:** noting stricture, rectal mass or irregularity of anal canal, or prolapse



## 5. Alarm features

If any of the following alarm features are identified, refer for consultation/endoscopy. Include any and all identified alarm features in the referral to ensure appropriate triage.

- Family history (first-degree relative) of colorectal cancer
- Unintended weight loss (> 5% over 6-12 months)
- Sudden or progressive change in bowel habits
- Visible blood in stool
- Suspicious mass or irregularity of anal canal on physical exam
- Iron deficiency anemia (see [Iron Primer](#))

## 6. Optimize management of secondary causes

Chronic constipation is often caused or compounded by secondary causes (see [Table 1](#) and [Table 2](#) below).

- Review medication history
  - Focus on those associated with time of onset of constipation
  - Don't forget to ask about OTC medications and supplements
  - [Netcare](#) can be a good source of information.
    - Access by choosing *Medication Profile > All > Summary Report* for a chronological list of medications.
- Chronic constipation in older adults can be challenging to assess and treat. Secondary causes are common in the elderly and may include:
  - Underlying medical conditions
  - Medications that predispose to chronic constipation
  - Limited physical activity
  - Less control of, or attention to, diet and fluid intake
  - Failure to maintain a bowel regimen or recognize the call to defecate

Table 1. Common medications to consider as secondary causes

| Class                        | Common Culprits  |
|------------------------------|--|
| Antacids                     | calcium containing salts such as CaCO <sub>3</sub> (Tums®)   |
| Anticholinergics             | antihistamines (diphenhydramine), antispasmodics (scopolamine), antidepressants (e.g. TCAs), oxybutynin, tolterodine |
| Anticonvulsants              | phenytoin  |
| Anti-diarrheal agents        | loperamide, lomotil, bismuth subsalicylate (Pepto Bismol®)   |
| Antiemetics                  | 5-HT <sub>3</sub> antagonists (e.g. Ondansetron), dimenhydrinate   |
| Antihypertensives            | calcium channel blockers   |
| Antiparkinsonian agents      | levodopa, carbidopa, amantadine, benztropine, trihexyphenidyl  |
| Antipsychotics               | clozapine, quetiapine, olanzapine  |
| Bile acid sequestrants       | cholestyramine, colestipol   |
| Bisphosphonates              | zoledronic acid  |
| Iron and calcium supplements |  |
| NSAIDs                       |  |
| Opioids                      |  |
| Vinca alkaloids              | vincristine  |

Table 2. Common medical conditions/physiological states to consider as secondary causes

| Medical conditions / physiological states to consider as secondary causes |                                |                    |
|---|--------------------------------|--------------------|
| Anorexia nervosa  | Hypercalcemia and hypocalcemia | Multiple sclerosis |
| Autonomic neuropathy  | Hyperparathyroidism            | Obesity            |



|                               |                                |                     |
|-------------------------------|--------------------------------|---------------------|
| Cerebrovascular disease       | Hypomagnesemia and hypokalemia | Parkinson's disease |
| Cognitive impairment / Stroke | Hypothyroidism                 | Pregnancy           |
| Depression                    | Lupus                          | Renal dysfunction   |
| Diabetes mellitus             | Muscular dystrophies           |                     |

## 7. Baseline Investigations

- There is little evidence to support routine investigations for chronic constipation.
- Patient history, medication review, and physical examination should guide the use of select laboratory tests, particularly in the presence of new symptoms or alarm features.
  - CBC should be tested, if not performed recently.
  - Ferritin and/or transferrin saturation should be ordered if iron deficiency anemia is suspected (see [Iron Primer](#)).
  - Consider glucose, creatinine, calcium/albumin, TSH, and/or a celiac disease screen for assessment of secondary causes.
  - An abdominal radiograph may be useful in elderly patients with episodic diarrhea and fecal incontinence to evaluate the possibility of severe constipation with overflow and reduce risk of erroneous prescription of antidiarrheals.

## 8. Management

Consider a multi-disciplinary approach to management, including pharmacist, dietitian, physiotherapist, nursing, and/or geriatric resources, as appropriate and available.

**Management “failure” is subjective. Suggest at least 3-6 months of titrated, multi-pronged therapy that mixes various treatment approaches to improve symptoms.**

| Treatment options (non-pharmacological)   |   |
|---|---|
| Modification of lifestyle factors is the first-line approach to symptomatic constipation. Patients gain comfort in knowing that altered bowel function often improves with simple interventions. Dietary modifications (high fibre diet and fluid supplementation) are recommended as initial management. |   |
| Patient education, reassurance, and management of expectations  | <ul style="list-style-type: none"> <li>• Reassure patients that there is a wide range of what is considered to be normal bowel function. Normal bowel movements can be anywhere from 3 times/day to once every 2–3 days.</li> <li>• Variability of stool form and frequency can be expected.               <ul style="list-style-type: none"> <li>○ Normal stool form is considered to be Type 3-4 on the <a href="#">Bristol Stool Chart</a></li> </ul> </li> <li>• Encourage patients to incorporate time for a bowel routine. Ignoring the urge for a bowel movement can cause the stool to become hard and dry, making it difficult to pass.</li> <li>• Patient adherence to principles of constipation treatment tends to be low, so they often need frequent monitoring, reinforcement, and encouragement.</li> <li>• Most individuals with constipation do not require extensive investigations.</li> <li>• <b>Colonoscopy rarely helps to explain motility disorders and should be avoided in the absence of alarm features.</b></li> </ul> |
| Fibre and fluids  | <ul style="list-style-type: none"> <li>• <b>Total fibre:</b> Adults are recommended to consume 14 g/1000 kcal of fibre per day. Suggest about 21-38 g/day for most adults.</li> <li>• <b>Two types of fibre:</b> <ul style="list-style-type: none"> <li>○ Insoluble fibre is found in wheat bran, the skin of fruits, and many raw vegetables. It adds bulk to the stool and contributes greatly to daily total fibre requirements. It may not add therapeutic health benefits like soluble fibre.</li> <li>○ Soluble fibre is found in psyllium, oats, barley, fruit, and seeds. It absorbs water in the intestine to form a viscous gel that thickens the stool and stimulates peristalsis.</li> </ul> </li> </ul>  |



|                            |   |
|----------------------------|---|
| Fibre and fluids<br>cont'd | <ul style="list-style-type: none"> <li>○ There is a dose-response relationship between fibre plus fluid intake and stool output. This is important to quantify, as patients whose fibre and fluid intake is inadequate are most likely to benefit from this intervention. Fibre acts as a sponge, so it is important to <b>combine</b> fluid and fibre. Increased fluid intake on its own will only result in increased urination.</li> <li>● <b>Soluble fibre supplementation:</b> <ul style="list-style-type: none"> <li>○ May provide symptom relief for patients with IBD, IBS, constipation, and diarrhea. The therapeutic goal is 5-10 g/day of soluble fibre from foods and supplements including: <ul style="list-style-type: none"> <li>▪ 1 tbsp. psyllium husk or powder supplement - 3.0 grams</li> <li>▪ 2 tbsp. ground flaxseed - 1.8 grams</li> <li>▪ ½ cup kidney beans - 2.8 grams</li> <li>▪ 1 pear - 2.2 grams</li> </ul> </li> </ul> </li> <li>● <b>General care:</b> <ul style="list-style-type: none"> <li>○ Increasing fibre intake may result in negative side-effects that can be minimized or avoided. <ul style="list-style-type: none"> <li>▪ Slowly increase fibre to prevent gas, abdominal pain, and bloating. Start with a third of a dose and determine tolerance.</li> <li>▪ Drink additional fluid (water) to compliment a high fibre diet. Inadequate fluid may lead to constipation, hardening of stool, bloating, and abdominal pain.</li> <li>▪ Caution soluble fibre intake for people with, or at risk of, a bowel obstruction or narrowing of the esophagus, stomach, or intestine.</li> <li>▪ Fibre supplements may reduce or delay absorption of certain medications.</li> </ul> </li> <li>○ See <a href="#">Patient Resources</a> section for more information on fibre supplementation.</li> </ul> </li> <li>● <b>Ensure adequate fluids:</b> 2 L/day for females, 3 L/day for males.</li> </ul> |
| Physical activity          | <ul style="list-style-type: none"> <li>● 20+ minutes of physical activity/day, aiming for 150 min/week is known to be an effective strategy for stress reduction.</li> <li>● Physical activity also improves defecation patterns and colonic transit time.</li> <li>● See the <a href="#">Canadian 24-Hour Movement Guidelines</a>.</li> </ul>  |

| Treatment options (pharmacological) |  |
|-------------------------------------|--|
| Bulk-forming laxatives              | <ul style="list-style-type: none"> <li>● <b>Evidence:</b> Effective for prevention and treatment of constipation.</li> <li>● <b>Mechanism of action:</b> By absorbing water in the intestine to form a viscous liquid which increases fecal mass and stimulates.</li> <li>● <b>Place in therapy:</b> Can be safely used for long-term therapy but must be taken with adequate fluids. Patients with pelvic floor dysfunction and slow transit constipation may respond poorly to fibre supplementation.</li> <li>● <b>Adverse effects:</b> Abdominal cramping, bloating, flatulence.</li> <li>● Do not take within 2 hours of taking other medications.</li> <li>● Take with plenty of fluids (at least 250 mL) to prevent esophageal obstruction and/or fecal impaction.</li> </ul> <p><b>Recommended Medications</b></p> <ul style="list-style-type: none"> <li>● Psyllium (Metamucil®) - Start with lower dose and titrate to effect, following product instructions (~\$20/month, not covered by insurance).</li> <li>● Methylcellulose (Citrucel®) - 2 caplets once daily QID. Onset of action 12-72 hours. Less bloating and flatulence than other agents. (\$10-40/month).</li> <li>● Calcium Polycarbophil (Prodiem®) - 2 caplets once daily QID. Less bloating and flatulence than other agents. (\$5-20/month).</li> <li>● Inulin (Benefibre®) – 1-2 tsp daily TID. Onset of action 24-48 hours. (\$10-20/month).</li> </ul> |



|                          |   |
|--------------------------|---|
| Osmotic laxatives        | <ul style="list-style-type: none"> <li>• <b>Evidence:</b> Osmotic laxatives such as polyethylene glycol (PEG) or lactulose are considered appropriate management for chronic constipation.</li> <li>• <b>Mechanism of action:</b> Poorly-absorbable or non-absorbable sugars that draw water into the bowel to loosen stool and increase frequency.</li> <li>• <b>Place in therapy:</b> PEG should be considered first line for the treatment of chronic constipation. Compared to lactulose, PEG results in greater improvements in stool frequency and form, relieves abdominal pain, and reduces the need for additional laxatives. Magnesium citrate, magnesium hydroxide, magnesium sulfate, and sodium phosphates are less frequently recommended.<sup>2</sup></li> <li>• <b>Adverse effects:</b> Flatulence, diarrhea, nausea, abdominal pain, bloating.</li> </ul> <p><b>Recommended Medications</b></p> <ul style="list-style-type: none"> <li>• Polyethylene glycol (PEG 3350) - Start with 17 g at night dissolved in 250 mL of liquid. Titrate to effect or max 34 g/day. Onset of action 48-96 hours. Safe for long-term use. (\$25-50/month).</li> <li>• Lactulose - 15-30 mL daily TID. Onset of action 24–48 hours. (\$10-20/month).</li> <li>• Milk of Magnesia (various brands) - Follow instructions on product. Onset of action 30 min–3 hours. Avoid in renal failure due to risk of hypermagnesemia. Decreases absorption of quinolones and tetracyclines (administer at separate times).<sup>3</sup> (\$10-20/month).</li> </ul> |
| Stimulant laxatives      | <ul style="list-style-type: none"> <li>• <b>Evidence:</b> May be used for opioid-induced constipation or short term relief.</li> <li>• <b>Mechanism of action:</b> Increase secretory and propulsive activity in the intestine by altering electrolyte transport in the gut mucosa.</li> <li>• <b>Place in therapy:</b> Second-line therapy reasonable for short-term use.<sup>3</sup> Prescribe for a limited duration only as long-term safety has not been established and can cause electrolyte disturbances such as hypokalemia and hyponatremia.</li> <li>• <b>Adverse effects:</b> Commonly associated with abdominal cramping and diarrhea. Habituation may become an issue.</li> </ul> <p><b>Recommended Medications</b></p> <ul style="list-style-type: none"> <li>• Bisacodyl (Dulcolax®) - PO: 5-10 mg daily or PRN, PR: 10 mg daily or PRN. Onset 6-12 hours (PO), 15 min-1 hr (PR).</li> <li>• Sennosides (Senokot®) - 2-4 tablets PO at bedtime (max 8 tabs/day). Onset 6-12 hours. Discolours urine/feces.</li> </ul>   |
| Linaclotide (Constella®) | <ul style="list-style-type: none"> <li>• <b>Mechanism of action:</b> A guanylate cyclase agonist which increases chloride and bicarbonate secretion from enterocytes, and increases intestinal transit. May decrease visceral pain by reducing pain-sensing nerve activity.<sup>2</sup></li> <li>• <b>Place in therapy:</b> As the cost is relatively high, linaclotide should be used when responses to traditional laxatives such as PEG and bisacodyl have failed.<sup>3</sup></li> <li>• <b>Adverse effects:</b> Diarrhea, upper abdominal pain.</li> <li>• <b>Dose:</b> 72-145 mcg daily 30 minutes before the first meal of the day (\$40-80/month).</li> </ul>   |
| Prucalopride (Resotran®) | <ul style="list-style-type: none"> <li>• <b>Evidence:</b> Shown to be effective in idiopathic constipation, there is less evidence of the effect of prucalopride in IBS-C. Has not been studied for use in men.<sup>2</sup></li> <li>• <b>Mechanism of action:</b> Through 5-HT<sub>4</sub> receptor agonism, leading to prokinetic activity.</li> <li>• Prucalopride is best reserved for initiation by a clinician with experience in treating chronic constipation when conventional laxatives from at least 2 different classes fail to adequately relieve symptoms.</li> <li>• <b>Adverse effects:</b> Nausea, diarrhea, abdominal pain, headache.</li> </ul>  |

<sup>2</sup> CPS [Internet]. Ottawa (ON): Canadian Pharmacists Association; c2015 [cited 2021 June 10]. Available from: [www.e-therapeutics.ca](http://www.e-therapeutics.ca).

<sup>3</sup> DynaMed. Constipation in Adults. EBSCO Information Services. Accessed June 14, 2021. <https://www.dynamed-com.ahs.idm.oclc.org/condition/constipation-in-adults>





|                                       |   |
|---------------------------------------|---|
| Prucalopride<br>(Resotran®)<br>cont'd | <ul style="list-style-type: none"> <li>• <b>For constipation:</b> 2 mg PO daily. Reduce dose to 1 mg PO daily if (\$120/month): <ul style="list-style-type: none"> <li>○ &gt; 65 years old</li> <li>○ CrCl <math>\leq</math> 30 mL/min</li> <li>○ Severe hepatic impairment</li> </ul> </li> <li>• Discontinue therapy if no benefit provided with 4 weeks of treatment.</li> </ul>   |
| Plecanatide<br>(Trulance®)            | <ul style="list-style-type: none"> <li>• <b>Evidence:</b> AGA Clinical Practice Guideline on the Pharmacological Management of IBS-C suggests using plecanatide in patients with IBS-C (condition recommendation, moderate certainty).</li> <li>• <b>Mechanism of action:</b> Plecanatide and its active metabolite bind and agonize guanylate cyclase-C on the luminal surface of the intestinal epithelium. Intracellular and extracellular cGMP concentrations are subsequently increased resulting in chloride and bicarbonate secretion into the intestinal lumen. Intestinal fluid increases and GI transit time is accelerated.</li> <li>• <b>Adverse effects:</b> Diarrhea, abdominal distention, abdominal tenderness, flatulence, nausea, UTI, increase liver enzymes, dizziness, URTI.</li> <li>• <b>Dose:</b> (adult, IBS-C or CIC) 3mg po daily. No dosage adjustments for renal or hepatic impairment.</li> </ul>   |
| Probiotics                            | <ul style="list-style-type: none"> <li>• <b>Evidence:</b> Data to support clinical effectiveness of probiotics for chronic constipation is limited and costs may be prohibitive. Decisions regarding use of probiotics for these indications should be shared between the patient and provider.<sup>4</sup></li> <li>• <b>Mechanism of action:</b> Postulated that creating and maintaining a healthy gut microflora can help improve normal gut function.<sup>5</sup></li> <li>• The most effective probiotic strain is unknown. Patients should be encouraged to select products that are licensed by Health Canada's Natural and Non-prescription Health Products Database. Refer to the <a href="#">Clinical Guide to Probiotic Products Available in Canada – Probiotic Applications in Adult Health Chart</a> for up to date evidence. These strains have the most evidence to support benefits (a one month trial is reasonable). Probiotics have not been conclusively shown to improve symptoms of IBS.<sup>4</sup></li> </ul> <p><b>Recommended Strains with the Most Evidence</b></p> <ul style="list-style-type: none"> <li>• Activia® - 1 serving/day (\$64/month).</li> <li>• BioGaia® Protectis Chew tab - 1 tablet/2x day (\$60/month).</li> <li>• Visbiome® - 1-4 sachets daily (\$99-396/month).</li> </ul> |

## 9. When to refer for consultation and/or endoscopy

- If alarm features are identified
- If investigations reveal a positive celiac disease screen
- If recommended strategies have led to unsatisfactory treatment or management of symptoms
  - **Note:** Consider using an advice service before referring
- Provide as much information as possible on the referral form, including identified alarm feature(s), important findings, and treatment/management strategies trialed with the patient.

## Still concerned about your patient?

The primary care physician is typically the provider who is most familiar with their patient's overall health and knows how they tend to present. Changes in normal patterns, or onset of new or worrisome symptoms, may raise suspicion for a potentially serious diagnosis, even when investigations are normal and typical alarm features are not present.

<sup>4</sup> Su, G. L., Ko, C. W., Bercik, P., Falck-Ytter, Y., Sultan, S., Weizman, A. V., & Morgan, R. L. (2020). AGA Clinical Practice Guidelines on the Role of Probiotics in the Management of Gastrointestinal Disorders. *Gastroenterology*.

<sup>5</sup> Natural Medicines Comprehensive Database. Therapeutic Research Centre 2020. [Internet]. [Cited: 2020] Available from: [naturaldatabase.therapeuticresearch.com/](http://naturaldatabase.therapeuticresearch.com/)





There is evidence to support the importance of the family physician's intuition or "gut feeling" about patient symptoms, especially when the family physician is worried about a sinister cause such as cancer. A meta-analysis examining the predictive value of gut feelings showed that the odds of a patient being diagnosed with cancer, if a GP recorded a gut feeling, were 4.24 times higher than when no gut feeling was recorded<sup>6</sup>.

When a "gut feeling" persists in spite of normal investigations, and you decide to refer your patient for specialist consultation, document your concerns on the referral with as much detail as possible. Another option is to seek specialist advice (see [Advice Options](#)) to convey your concerns.

## PRIMERS

### Iron Primer

Evaluation of measures of iron storage can be challenging. Gastrointestinal (occult) blood loss is a common cause of iron deficiency and should be considered as a cause when iron deficiency anemia is present. Menstrual losses should also be considered.

There are two serological tests to best evaluate iron stores (ferritin, transferrin saturation) - neither of which are perfect.

The first step is to evaluate **ferritin**:

- If the ferritin is below the lower limit of normal (lower limit of normal is 30 µg/L for men and 20 µg/L for women), it is diagnostic of iron deficiency with high specificity (98% specificity).
- Ferritin is an acute phase reactant which may be elevated in the context of acute inflammation and infection. If ferritin is normal or increased, and you suspect it may be acting as an acute phase reactant, order a transferrin saturation test (see below).
  - However, if the ferritin is > 100 µg/L and there is no concurrent significant chronic renal insufficiency, iron deficiency is very unlikely - even in the context of acute inflammation/infection.

The second step is to evaluate **transferrin saturation**:

- The transferrin saturation is a calculated ratio using serum iron and total iron binding capacity. Serum iron alone does **not** reflect iron stores.
- Low values (< 16%) demonstrate low iron stores in conjunction with a ferritin < 100 µg/L.

In the absence of abnormal iron indices, anemia may be from other causes other than GI (occult) blood loss (e.g. bone marrow sources, thalassemia, and sickle cell anemia).

## BACKGROUND

### About this Pathway

- Digestive health primary care pathways were originally developed in 2015 as part of the Calgary Zone's Specialist LINK initiative. They were co-developed by the Department of Gastroenterology and the Calgary Zone's specialty integration group, which includes medical leadership and staff from Calgary and area Primary Care Networks, the Department of Family Medicine, and Alberta Health Services.
- The pathways were intended to provide evidence-based guidance to support primary care providers in caring for patients with common digestive health conditions within the Patient Medical Home.
- Based on the successful adoption of the primary care pathways within the Calgary Zone, and their impact on timely access to quality care, in 2017 the Digestive Health Strategic Clinical Network (DHSCN) led an initiative to validate the applicability of the pathways for Alberta and to spread availability and foster adoption of the pathways across the province.

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<sup>6</sup> Friedemann Smith, C., Drew, S., Ziebland, S., & Nicholson, B. D. (2020). Understanding the role of General Practitioners' gut feelings in diagnosing cancer in primary care: A systematic review and meta-analysis of existing evidence. *British Journal of General Practice*, 70(698), e612-e621.



## Authors & Conflict of Interest Declaration

This pathway was reviewed and revised under the auspices of the DHSCN in 2020 by a multi-disciplinary team led by family physicians and gastroenterologists. For more information, contact the DHSCN at [Digestivehealth.SCN@ahs.ca](mailto:Digestivehealth.SCN@ahs.ca).

## Pathway Feedback and Review Process

Primary care pathways undergo scheduled review every three years, or earlier, if there is a clinically significant change in knowledge or practice. The next scheduled review is June 2023, however, we welcome feedback at any time. Click on the Provide Feedback button to provide your feedback.

Provide Feedback 

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## Disclaimer

This pathway represents evidence-based best practice, but does not override the individual responsibility of healthcare professionals to make decisions appropriate to their patients using their own clinical judgment given their patients' specific clinical conditions, in consultation with patients/alternate decision makers. The pathway is not a substitute for clinical judgment or advice of a qualified healthcare professional. It is expected that all users will seek advice of other appropriately qualified and regulated healthcare providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

## PROVIDER RESOURCES

### Advice Options

Non-urgent advice is available to support family physicians.

- Non-urgent gastroenterology electronic advice is available across the province via Alberta Netcare eReferral eConsult (responses are received within five calendar days). View the [eReferral Learning Centre](#) for more information.
- Non-urgent telephone advice connects family physicians and specialists in real time via a tele-advice line. Family physicians can request non-urgent advice from a gastroenterologist:
  - In the Calgary Zone at [specialistlink.ca](https://specialistlink.ca) or by calling 403-910-2551. This service is available from 8:00 a.m. to 5:00 p.m. Monday to Friday (excluding statutory holidays). Calls are returned within two (2) hours.
  - In the Edmonton and North Zones by calling 1-844-633-2263 or visiting [pcnconnectmd.com](https://pcnconnectmd.com). This service is available from 9:00 a.m. to 6:00 p.m. Monday to Thursday and from 9:00 a.m. to 4:00 p.m. Friday (excluding statutory holidays and Christmas break). Calls are returned within two (2) business days.

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| <b>Resources</b>  |  |
| Poverty: A Clinical Tool for Primary Care Providers (AB)  | <a href="http://cep.health/media/uploaded/Poverty_flowAB-2016-Oct-28.pdf">cep.health/media/uploaded/Poverty_flowAB-2016-Oct-28.pdf</a>                         |
| Nutrition Guidelines: Household Food Insecurity   | <a href="http://ahs.ca/assets/info/nutrition/if-nfs-ng-household-food-insecurity.pdf">ahs.ca/assets/info/nutrition/if-nfs-ng-household-food-insecurity.pdf</a> |



## PATIENT RESOURCES

### Information

| Description   | Website  |
|---|--|
| General information on chronic constipation (MyHealth.Alberta.ca)                 | <a href="http://myhealth.alberta.ca/health/Pages/conditions.aspx?hwid=sig57399">myhealth.alberta.ca/health/Pages/conditions.aspx?hwid=sig57399</a>   |
| General information on constipation (Canadian Digestive Health Foundation)        | <a href="http://cdhf.ca/digestive-disorders/constipation/">cdhf.ca/digestive-disorders/constipation/</a>   |
| Constipation in Adults (UpToDate® – <i>Beyond the Basics</i> Patient information) | <a href="http://uptodate.com/contents/constipation-in-adults-beyond-the-basics">uptodate.com/contents/constipation-in-adults-beyond-the-basics</a>   |
| Managing Constipation   | <a href="http://ahs.ca/assets/info/nutrition/if-nfs-managing-constipation.pdf">ahs.ca/assets/info/nutrition/if-nfs-managing-constipation.pdf</a>   |
| Fibre Facts   | <a href="http://ahs.ca/assets/info/nutrition/if-nfs-fibre-facts.pdf">ahs.ca/assets/info/nutrition/if-nfs-fibre-facts.pdf</a>   |
| Food, Lifestyle, and Symptom Diary  | <a href="http://ahs.ca/assets/info/nutrition/if-nfs-food-lifestyle-symptom-diary.pdf">ahs.ca/assets/info/nutrition/if-nfs-food-lifestyle-symptom-diary.pdf</a>   |
| Nutrition Education Material  | <a href="http://ahs.ca/NutritionResources">ahs.ca/NutritionResources</a>   |
| Gut Health Patient Journal (Physician Learning Program)                           | <a href="http://9c849905-3a37-465a-9612-7db1b9a0a69c.filesusr.com/ugd/7b74c1_81f1695f08214a66bc339462c52cd011.pdf">9c849905-3a37-465a-9612-7db1b9a0a69c.filesusr.com/ugd/7b74c1_81f1695f08214a66bc339462c52cd011.pdf</a> |

### Services Available

| Description  | Website   |
|--|---|
| Services for patients with chronic conditions (Alberta Healthy Living Program - AHS) | <a href="http://ahs.ca/ahlp">ahs.ca/ahlp</a>  |
| Referral to a Registered Dietitian   | <ul style="list-style-type: none"> <li>Visit <a href="#">Alberta Referral Directory</a> and search for nutrition counselling.</li> <li>To learn more about programs and services offered in your zone, visit <a href="#">Nutrition Services</a>.</li> <li><a href="#">Health Link</a> has Registered Dietitians available to answer nutrition questions. If a patient has nutrition-related questions, they can call 8-1-1 and ask to talk to a Dietitian.</li> <li>Patients can also complete the Health Link Dietitian <a href="#">Self-Referral Form</a>.</li> </ul> |

## PATIENT PATHWAY

- [Chronic constipation patient pathway](#)

