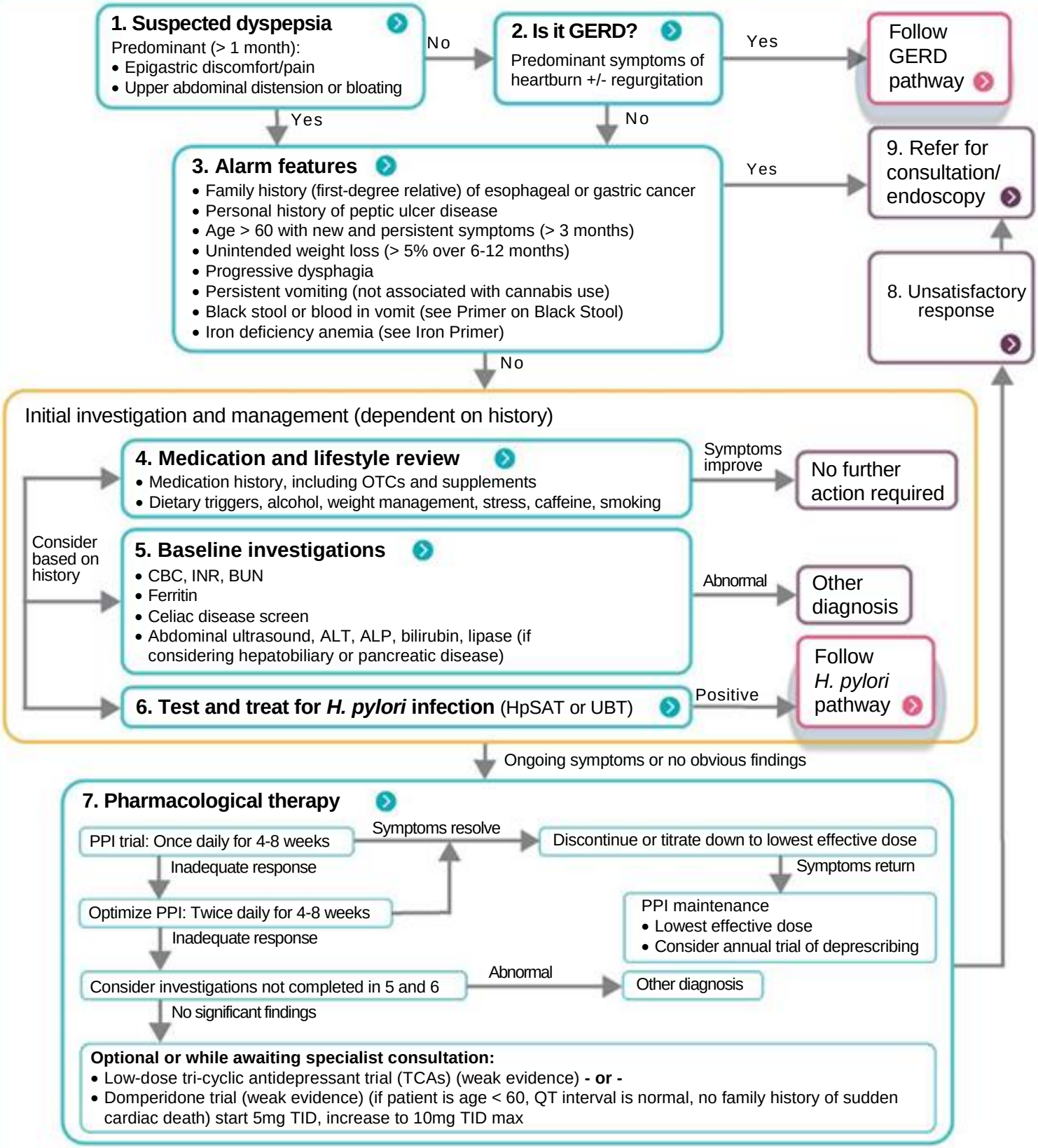
Dyspepsia Primary Care Pathway



Thank you to Alberta Health Services-GI Central Access and Triage for their contribution of this form

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 visit https://www.specialistlink.ca/clinical-pathways-and-specialty-access

DYSPEPSIA PATHWAY PRIMER

- Although the causes of dyspepsia include esophagitis, peptic ulcer disease, *Helicobacter pylori* (*H. pylori*) infection, celiac disease, and rarely neoplasia, most patients with dyspepsia have **no organic disease with a normal battery of investigations, including endoscopy**. Dyspeptic symptoms in the general population are common. Estimates are that as high as 30% of individuals experience dyspeptic symptoms, while few seek medical care.
- The mechanism of this symptom complex isn't completely understood, but likely involves a combination of visceral hypersensitivity, alterations in gastric accommodation and emptying, and altered central pain processing.
- Differential diagnosis
    - There is frequent overlap between dyspepsia and gastroesophageal reflux disease (GERD). If the patient has predominant heartburn symptoms, refer to the GERD pathway.
    - Dyspepsia also overlaps with irritable bowel syndrome (IBS), especially if upper abdominal bloating is a dominant symptom. In IBS, the predominant symptom complex includes bloating and relief after defecation.
    - **Biliary tract pain** should also be considered, with classic presentation being a post-prandial deep-seated crescendo-decrescendo right upper quadrant pain (particularly after a fatty meal) that builds over several hours and then dissipates. Often, it radiates to the right side towards the right scapula and may be associated with nausea and vomiting.

Checklist to guide in-clinic review of your patient with Dyspepsia	
☐	Diagnostic criteria - Predominant (> 1 month): • Epigastric discomfort/pain • Upper abdominal bloating
☐	Confirm absence of alarm features (see algorithm Box 3). If alarm features identified, refer for specialist consultation.
☐	Identification and adjustment of medication and lifestyle factors that may cause/contribute to dyspepsia
☐	Complete baseline investigations confirming no underlying medical condition causing dyspepsia (see algorithm Box 5).
☐	Confirm negative *H. pylori* testing. If positive, refer to the *H. pylori* pathway.
☐	If unsatisfactory response to management and / or inclusion of pharmacological therapy (see algorithm Box 7), consider using an advice service before referring. Otherwise, continue care in the Patient Medical Home.

EXPANDED DETAILS

1. Suspected dyspepsia

- Dyspepsia is characterized by epigastric pain or upper abdominal discomfort. It may be accompanied by a sense of abdominal distension or "bloating," early satiety, belching, nausea, and/or loss of appetite.
- The Rome IV committee on functional GI disorders defines dyspepsia as one or more of the following symptoms for three months prior, with symptom onset ≥ six months prior:
    - Postprandial fullness
    - Epigastric pain

- Epigastric burning
- Early satiety

2. Is it GERD?

- If the patient's predominant symptom is heartburn ± regurgitation, refer to the GERD pathway.

3. 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 esophageal or gastric cancer
- Personal history of peptic ulcer disease
- Age > 60 with new and persistent symptoms (> 3 months)[1]
- Unintended weight loss (> 5% over 6-12 months)
- Progressive dysphagia
- Persistent vomiting (not associated with cannabis use)
- Black stool or blood in vomit
- Iron deficiency anemia
- **Note:** FIT testing is not required or suggested. It has only been validated for screening in asymptomatic individuals

Stronger consideration should be given for symptoms that are > 3 months in duration and have failed a trial of PPI. Evidence suggests that alarm features poorly predict clinically significant pathology and should be factored into the entire patient presentation, not in isolation.

4. Medication and lifestyle review

- **Medication review**
  - Common culprits include ASA/NSAIDs/COX-2 inhibitors, corticosteroids, bisphosphonates, antibiotics, dabigatran, metformin, and iron or magnesium supplements.
  - Any new or recently prescribed or over the counter medications or herbal/natural products may be implicated, as virtually all medications can cause GI upset in some patients.
- **Lifestyle review**
  - Review and address lifestyle factors that may contribute to symptoms, including obvious dietary triggers, alcohol intake, weight management, stress, caffeine intake, and smoking.
  - Engage other health professionals, as appropriate (nurse, dietitian, pharmacist, etc.).
  - Heavy cannabis use can be associated with persistent vomiting/other GI symptoms and should be considered and addressed, if appropriate.

5. Baseline investigations

- Baseline investigations to identify concerning features or clear etiologies include CBC, INR, BUN (blood urea nitrogen), ferritin, and celiac disease screen.
- Upper GI series is not recommended for investigation of dyspepsia due to high rates of false positives and false negatives.
- If hepatobiliary or pancreatic disease is suspected, consider abdominal ultrasound, ALT, ALP, bilirubin, and lipase *(*lipase ≥ 3 times upper normal limit may be indicative of acute pancreatic disease*).*

~~1 There is some variation between guidelines~~ about the age at which dyspepsia symptoms are more concerning and warrant stronger consideration of gastroscopy. Choosing Wisely Canada now uses age 65. However, age is only one element of a risk assessment related to the need for gastroscopy to investigate dyspepsia symptoms.

- Pancreatic cancer should be considered in patients with dyspepsia and weight loss, especially if there is evidence of jaundice. The investigation of choice for suspected pancreatic cancer is an **urgent CT scan**.

6. Test and treat for *H. pylori* Infection

- See H. pylori pathway

7. Pharmacological therapy

<table>
<tr><th colspan="2">Treatment options (pharmacological)</th></tr>
<tr><td rowspan="2">Proton pump inhibitors (PPIs)</td><td>• Evidence: In the absence of H. pylori infection, or if symptoms continue despite H. pylori eradication, a trial of PPI may benefit some patients.
• Mechanism of action: Suppresses gastric acid secretion by inhibiting the parietal cell H^+/K^+ ATP pump.
• Initial PPI therapy should be once daily, 30 minutes before breakfast on an empty stomach.
• If there is inadequate response after 4-8 weeks, step up to BID dosing for another 4-8 weeks.
• If symptoms are controlled, it is advisable for most patients to titrate the PPI down to the lowest effective dose and attempt once yearly to taper or stop PPI use.
• PPI deprescribing resources are available on the Digestive Health Strategic Clinical Network website</td></tr>
<tr><td>• There are no major differences in efficacy between PPIs.
• Commonly prescribed agents:
o Rabeprazole - 10 mg
o Omeprazole - 20 mg
o Pantoprazole - 40 mg
o Lansoprazole - 30 mg
o Dexlansoprazole - 30 mg
o Esomeprazole - 40 mg</td></tr>
<tr><th colspan="2">Optional or while awaiting specialist consultation</th></tr>
<tr><td>Tricyclic antidepressants (TCAs)</td><td>• Evidence: Shown to reduce dyspepsia symptoms in RCTs for IBS.[2]
• Mechanism of action: Suggested to be beyond serotonin and norepinephrine, and as a result of blocking voltage-gated ion channels, opioid receptor activation and potential neuro-immunologic anti-inflammatory effects.[3]
• Place in therapy: If patient has no response to PPI therapy, the Canadian Association of Gastroenterology guidelines suggest a trial of a TCA prior to a prokinetic based on superior evidence available.[2]
• Adverse effects: Anticholinergic and antihistaminic (drowsiness/insomnia, xerostomia, palpitations, weight gain, constipation, urinary retention).[3]
• Use with caution in patients at risk of prolonged QT.
• It can take 2-3 months to reach maximum effect.
• The lowest effective dose should be used.
• Dose should be gradually reduced if discontinuing.
Recommended Medications
• Nortriptyline - 10-25 mg qhs. Increase dose by 10-25 mg every 3-4 weeks based on response and tolerability. May require 25-75 mg/day. Often takes 2-3 months for peak effect. ($20-60/month).
• Amitriptyline - 10-25 mg qhs. Increase dose by 10-25 mg every 3-4 weeks based on response and tolerability. May require 25-75 mg/day. Often takes 2-3 months for peak effect. ($15-20/month).
• Desipramine - 25 mg qhs. Increase based on response and tolerability (~$25/month).</td></tr>
</table>

2 Canadian Association of Gastroenterology. (2017). ACG and CAG Clinical Guideline: Management of Dyspepsia. Retrieved from: https://www.cag-acg.org/images/publications/CAG_CPG_Dyspepsia_AJG_Aug2017.pdf

3 Lexicomp, Inc., Lexi-Drugs Online, Hudson, Ohio: UpToDate, Inc; 2013; [cited 27 Apr 2021].

Domperidone	• **Evidence:** Prokinetic agents may reduce dyspepsia symptoms for some patients, however there is minimal evidence to support use as a first line agent.[2] • **Mechanism of action:** A prokinetic agent increases esophageal peristalsis, increases lower esophageal sphincter pressure, increases gastric motility and peristalsis, thus facilitating gastric emptying.[2] • **Place in therapy:** For patients < 60 who have failed PPI and TCA, a prokinetic agent may be offered.[2] • Prior to initiation, ensure patient has: o Normal QT interval (baseline ECG recommended) o No family history of sudden cardiac death o No current medications that increase the QT interval • Withhold treatment if: o QTc is > 470 ms in males o QTc is > 450 ms in females • Starting dose is 5 mg TID AC, titrating up to 10 mg TID AC as a 2-4 week trial.

- Domperidone and/or TCA trials are appropriate within primary care, but not required prior to making a referral. If deemed clinically appropriate, these trials could occur while awaiting specialist consultation.
- There is insufficient data to recommend the routine use of bismuth, antacids, simethicone, misoprostol, anti-cholinergics, anti-spasmodics, SSRIs, herbal therapies, probiotics, or psychological therapies in dyspepsia. However, these therapies may benefit some patients and, thus, a trial with assessment of response may be reasonable, if clinically appropriate, and could be undertaken while awaiting specialist consultation.

8. When to refer for consultation and/or endoscopy

- If alarm features are identified
- If unsatisfactory response to management and/or pharmacological therapy
- 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.

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

PRIMERS

Primer on Black Stool

- Possible causes of black stool
    - Upper GI bleeding
    - Slow right-sided colonic bleeding
    - Epistaxis or hemoptysis with swallowed blood
- Melena is dark/black, sticky, tarry, and has a distinct odour
- Patient history should include:
    - Any prior GI bleeds or ulcer disease
    - Taking ASA, NSAIDs, anticoagulants, antiplatelets, Pepto Bismol®, SSRIs, or iron supplements
    - Significant consumption of black licorice
    - Significant alcohol history or hepatitis risk factors
    - Any other signs of bleeding (e.g. coffee ground emesis, hematemesis, hematochezia, or bright red blood per rectum)
    - Any dysphagia, abdominal pain, change in bowel movements, constitutional symptoms or signs/symptoms of significant blood loss
- Physical exam should include vitals (including postural if worried about GI bleeding) and a digital rectal exam for direct visualization of the stool to confirm, in addition to the remainder of the exam.
- Initial labs to consider include CBC, BUN (may be elevated with upper GI bleeding), INR.
- If the patient is actively bleeding, suggest calling GI on call and/or the ED for assessment, possible resuscitation, and possible endoscopic procedure.

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 low, 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.

4 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.

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 (< 10%) 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 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.
- This pathway has been expanded to other provinces and has been reviewed by gastroenterology and the endoscopy group at the Thunder Bay Regional Health Sciences Centre

Authors & Conflict of Interest Declaration

This pathway was reviewed and revised under the auspices of the DHSCN in 2019, by a multi-disciplinary team led by family physicians and gastroenterologists.

Pathway 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 April 2022.

Copyright Information

Disclaimer

This pathway represents evidence-based best practice but does not override the individual responsibility of health care 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 health care professional. It is expected that all users will seek advice of other appropriately qualified and regulated health care providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

PROVIDER RESOURCES

Advice Options

The Ontario eConsult program is a secure web-based tool that allows physician or nurse practitioner timely access to specialist advice for all patients and often eliminates the need for an in-person specialist visit.:

- To sign up use your ONEID and get same day access, go to https://otnhub.ca visit the OTNhub sign up page https://otnhub.ca/signup-info to register.

- For physicians without a ONEID, you can register for one through your CPSO Member Portal. If you are a nurse practitioner or need assistance getting a ONEID please email us at eConsultCOE@toh.ca.

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Moayyedi, P. M., Lacy, B. E., Andrews, C. N., Enns, R. A., Howden, C. W., & Vakil, N. (2017). ACG and CAG clinical guideline: management of dyspepsia. *American Journal of Gastroenterology*, *112*(7), 988-1013. cag-acg.org/images/publications/CAGCPGDyspepsiaAJGAug2017.pdf
Dyspepsia resources from the Physician Learning Program albertaplp.ca/our-tools for promoting patient education and self-management.
• Poster #1 - albertaplp.ca/our-tools?lightbox=dataItem-knrlhq2h1
• Poster #2 - albertaplp.ca/our-tools?lightbox=dataItem-knrlhq2n2
• Gut Health Patient Journal - 9c849905-3a37-465a-9612-7db1b9a0a69c.filesusr.com/ugd/7b74c1 81f1695f08214a66bc339462c52cd011.pdf
Resources for appropriate PPI prescribing. Alberta Health Services – Digestive Health Strategic Clinical Network website.
• PPI guideline - ahs.ca/assets/about/scn/ahs-scn-dh-ppi-guideline.pdf
• PPI co-decision making tool - ahs.ca/assets/about/scn/ahs-scn-dh-ppi-decision-tool.pdf
• PPI patient poster - ahs.ca/assets/about/scn/ahs-scn-dh-ppi-patient-poster.pdf
van Zanten, S. J. V., Flook, N., Chiba, N., Armstrong, D., Barkun, A., Bradette, M., ... & Sinclair, P. (2000). An evidence-based approach to the management of uninvestigated dyspepsia in the era of Helicobacter pylori. *Canadian Medical Association Journal*, *162*(12 suppl), S3-S23. cmaj.ca/content/162/12 suppl/S3

Resources	
Poverty: A Clinical Tool for Primary Care Providers (AB)	cep.health/media/uploaded/Poverty flowAB-2016-Oct-28.pdf
Nutrition Guideline: Household Food Insecurity	ahs.ca/assets/info/nutrition/if-nfs-ng-household-food-insecurity.pdf

PATIENT RESOURCES

Information

Description	Website
General information on dyspepsia (Canadian Digestive Health Foundation)	cdhf.ca/digestive-disorders/dyspepsia/what-is-dyspepsia/
General information on dyspepsia (UpToDate® – *Beyond the Basics* Patient information)	uptodate.com/contents/search Search: Dyspepsia
Gut Health Patient Journal (Physician Learning Program)	9c849905-3a37-465a-9612-7db1b9a0a69c.filesusr.com/ugd/7b74c181f1695f08214a66bc339462c52cd011.pdf

Your Pathway for Managing Dyspepsia (adults)

What is dyspepsia?

- A word used to describe a group of upper belly symptoms that cause pain and discomfort (sometimes called indigestion).
- Many people will have symptoms of dyspepsia at some point in their lifetime.
- Usually cared for by healthcare providers in your family doctor's office.

What is the dyspepsia patient pathway?

It is a map for you and your healthcare providers to follow. It makes sure the care you are getting for dyspepsia is safe and helpful in managing your symptoms.

You and your healthcare providers may modify the pathway to best suit your healthcare needs.

If symptoms cannot be managed over time, you and your healthcare providers may decide a referral to a specialist would be helpful.

1. Check your symptoms

- Pain or discomfort in the upper part of the stomach, often after meals
- Feeling uncomfortably full after eating
- Nausea (feeling like throwing up)
- Loss of appetite
- Bloating

2. Make lifestyle changes to manage your symptoms (see over for details)

- Identify foods that cause symptoms and try to limit or avoid them
- Eat smaller, more frequent meals
- Lose weight, if you need to
- Stop or reduce the use of tobacco, alcohol, and cannabis
- Avoid wearing tight clothing around your midsection

3. Tests that may be done

- Blood tests
- Breath or stool tests for a bacterial infection in your stomach
- Other tests are rarely needed

Tell your healthcare providers if you have these symptoms:

- Stool that is black in colour or has blood in it
- Trouble swallowing or pain while swallowing food
- Feeling that food gets stuck while swallowing
- Vomiting that doesn't stop
- Vomiting with blood in it
- Losing weight without meaning to

Talk to your healthcare providers if your symptoms don't improve, get worse, or keep interfering with your everyday activities

Once you find something that works for you, stick with it.

You may need to keep trying other options to find what works best to manage your symptoms.

4. Medicine that may be tried

- Many options can be used to lower how much stomach acid your body makes, help digest food, or lower stomach pain
- Talk with your healthcare providers about what medicines may be right for you

What do I need to know about my symptoms and dyspepsia?

Working through the dyspepsia patient pathway can take several months:

- Your healthcare providers will ask you questions about your health and review any medicines you are taking.
- They may suggest certain tests to learn more about possible causes of your symptoms.
- They will talk to you about possible lifestyle habits that may be causing your symptoms and how you can make changes that could help you feel better.
- You may find it helpful to write down your symptoms and what seems to cause them (e.g. certain food or stress). You and your healthcare providers can make a plan to help manage your symptoms using this information.
- Together, you may decided to try certain medicines to help in treating your symptoms.
- You may use medicines for a short amount of time (or possibly longer) depending on whether your symptoms improve.

To manage your symptoms, try to:

- Eat smaller, more frequent meals instead of 2 or 3 large meals.
- Wait 2-3 hours after you eat before you lie down.
- Change what you eat or drink. Fatty foods, spicy foods, foods with a lot of acid in them, coffee, mint, and chocolate can be causes of symptoms.
- Avoid wearing tight clothing around your midsection.
- Stop or reduce the use of alcohol, tobacco, and cannabis.
- Lose weight, if you need to. Losing just 3-5 kg (7-11 lbs) can help.

Seeing a specialist is only recommended if:

- Your symptoms continue or get worse after following treatment and management options in the dyspepsia pathway.
- You and your healthcare providers identify concerning symptoms or test results.

You can find more information in the great resources below:

- Canadian Digestive Health Foundation
  cdhf.ca
  * search Dyspepsia

Write any notes or questions you may have here:

Physician Learning Program

Thunder Bay Regional Health Sciences Centre