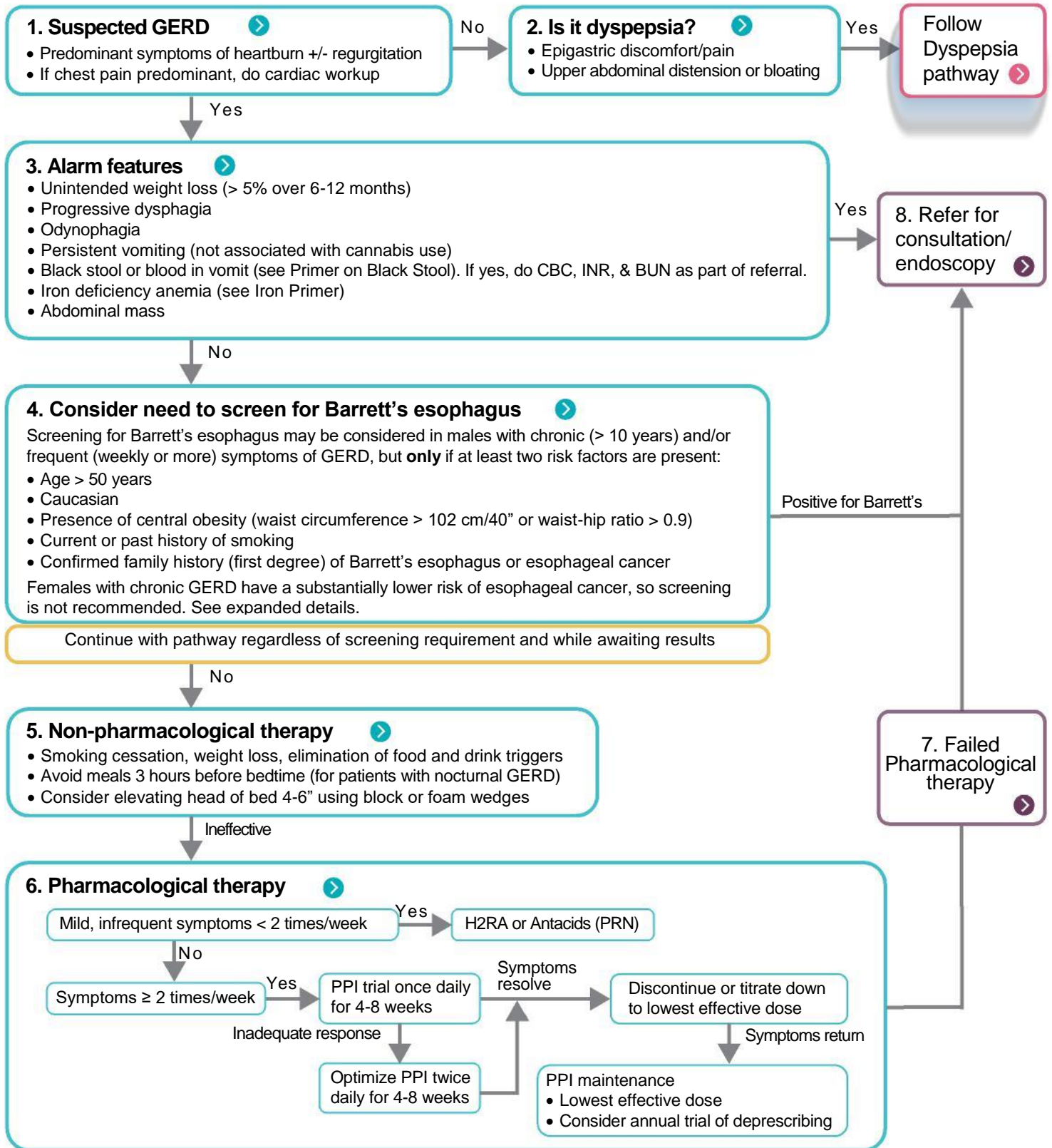


GERD Primary Care Pathway



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 in Calgary Alberta and includes input from multidisciplinary teams. 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>

GERD PATHWAY PRIMER

- The reflux of gastric contents into the esophagus is a normal physiological phenomenon.
 Reflux is deemed pathological when it causes esophageal injury or produces symptoms that are troublesome to the patient (typically heartburn and/or regurgitation). This is a condition known as gastroesophageal reflux disease (GERD).
- A diagnosis of GERD can be made in patients with any of the clinical symptoms described above (without alarm features). Generally, no investigations are required as part of the initial workup.
- Treatment at the primary care level is focused on lifestyle, smoking cessation, dietary modifications to avoid GERD triggers and achieve a healthy body weight, and optimal use of proton pump inhibitors (PPI), if needed.
- Screening for *H. pylori* is not recommended in GERD. Most patients with GERD do not have *H. pylori* and will have improvement or resolution of symptoms through lifestyle and dietary modifications or when treated with a PPI or H₂RA.
- Endoscopy is warranted in patients presenting with dysphagia or other alarm features and in those refractory to adequate initial and optimized PPI treatments. Esophageal pH or impedance-pH reflux monitoring studies are sometimes arranged by GI after endoscopy.
- GERD can be complicated by Barrett’s esophagus, esophageal stricture, and, rarely, esophageal cancer.

Checklist to guide in-clinic review of your patient with GERD	
<input type="checkbox"/>	Diagnostic criteria: Predominant heartburn +/- regurgitation.
<input type="checkbox"/>	Confirm absence of alarm features (see algorithm Box 3). If alarm features are identified, refer for specialist consultation.
<input type="checkbox"/>	Consider screening for Barrett’s esophagus in males with chronic (> 10 years) and/or frequent (weekly or more) symptoms of GERD, but only if at least two risk factors are present (see algorithm Box 4). If appropriate, consider specialist consultation.
<input type="checkbox"/>	Identification and adjustment of medication and lifestyle factors that may cause or contribute to GERD.
<input type="checkbox"/>	If unsatisfactory response to management and / or inclusion of pharmacologic therapy (see algorithm Box 6), consider using an advice service before referring. Otherwise, continue care in the Patient Medical Home.

EXPANDED DETAILS

1. Suspected GERD

- A diagnosis of GERD can be made in patients with predominant symptoms of heartburn and/or regurgitation.
- In some patients, GERD has a wider spectrum of symptoms including chest pain, dysphagia, globus sensation, odynophagia, nausea, and water brush.
- If patients with suspected GERD have chest pain as a dominant feature, cardiac causes should first be excluded. GERD treatment can be started while doing cardiac investigations.

2. Is it dyspepsia?

- If the patient’s predominant symptom is epigastric pain and/or upper abdominal bloating, refer to the [Dyspepsia 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.

- Unintended weight loss (> 5% over 6-12 months)
- Progressive dysphagia
- Odynophagia
- Persistent vomiting (not associated with cannabis use)
- Black stool or blood in vomit (see [Primer on Black Stool](#)). If yes, do CBC, INR, and BUN as part of referral.
- Iron deficiency anemia (see [Iron Primer](#))
- Abdominal mass

4. Consider need to screen for Barrett's esophagus

- Males with chronic (> 10 years) and/or frequent (weekly or more) symptoms of GERD may be considered for a referral for screening for Barrett's esophagus, but **only** if at least two risk factors are present¹:
 - Age > 50 years
 - Caucasian
 - Presence of central obesity (waist circumference > 102 cm/40" or waist-hip ratio > 0.9)
 - Current or past history of smoking
 - Confirmed family history (first degree) of Barrett's esophagus or esophageal cancer
- Females with chronic GERD have a substantially lower risk of esophageal cancer (when compared with males), and therefore screening for Barrett's esophagus in females is not recommended¹. Screening could be considered in individual cases as determined by the presence of multiple risk factors as per above.
 - For females, central obesity = waist circumference > 88 cm/35" or waist-hip ratio > 0.8)
- These screening guidelines are based on the consensus opinions of subject matter experts after critical review of the available literature. Due to a lack of high quality study data, Barrett's screening has long been an area of controversy with some groups recommending against any screening and others advocating for a graded approach as reflected in this guiding document.
- Before screening is performed, the overall life expectancy of the patient should be considered, and subsequent implications, such as the need for periodic endoscopic surveillance and potential therapy, should be discussed with the patient.

5. Non-pharmacological therapy (see [Patient Resources](#))

- Smoking cessation is essential.
- Weight loss in patients who are overweight or who have recently gained weight (even if at a normal BMI).
- Elimination of food and drink triggers including alcohol, caffeine, carbonated beverages, chocolate, mint, and spicy/fatty/acidic foods, is reasonable but is not supported by clear evidence of physiological or clinical improvement of GERD.
- Avoid meals three hours before bedtime for patients with nocturnal GERD.
- Consider elevating the head of bed 4-6 inches using blocks or foam wedges. An extra pillow for sleeping is not sufficient.

¹ Shaheen, N. J., Falk, G. W., Iyer, P. G., & Gerson, L. B. (2016). ACG clinical guideline: diagnosis and management of Barrett's esophagus. *Official journal of the American College of Gastroenterology* | ACG, 111(1), 30-50.

6. Pharmacological therapy

Treatment Options	
Histamine H ₂ -receptor antagonists (H ₂ RAs)	<ul style="list-style-type: none"> ● Evidence: may improve GERD symptoms, but are less effective than PPIs. The relief of GERD symptoms with H₂RAs appears similar to antacids, but the duration of effect is longer.² ● Place in therapy: If symptoms are mild and infrequent (< 2 times per week), H₂RAs may provide rapid on-demand relief of heartburn and avoid prematurely committing some patients to long-term use of PPI. ● Consider addition to daytime PPI therapy in selected patients with objective evidence of nighttime reflux, if needed. ● Mechanism of action: Reduce gastric acid by blocking histamine receptors, which reversibly inhibit the action of the proton pump and prevents the movement of hydrogen ions into the stomach. ● Efficacy of H₂RAs may be limited by tachyphylaxis after several weeks.³ ● Available agents: Ranitidine, Famotidine.
Antacids	<ul style="list-style-type: none"> ● Evidence: may provide short-term relief from heartburn, but may not provide prolonged symptom relief or prevent GERD complications.³ ● Place in therapy: Relief of heartburn occurs in approximately 20% of patients and the esophagus is protected from gastric contents for roughly 1.5 hours. ● Adverse effects: Magnesium containing salts can cause diarrhea. Calcium containing salts can cause constipation. Caution in those with renal impairment. ● Available antacids (in order of acid-neutralizing potency):² <ul style="list-style-type: none"> ○ Calcium salts (most potent) - Roloids[®], Tums[®] ○ Sodium bicarbonate - Alka-Seltzer[®] ○ Magnesium salts - milk of magnesia ○ Aluminum salts (least potent) - Gaviscon[®]
Proton pump inhibitors (PPIs)	<ul style="list-style-type: none"> ● Evidence: PPI therapy is 1st line treatment for GERD if patient is experiencing symptoms ≥ 2 times per week.³ ● 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 8 weeks, step up to BID dosing, or switch to a different PPI. ● 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. <ul style="list-style-type: none"> ○ NOTE: patients with Barrett's esophagus require lifetime daily PPI, regardless of whether symptoms continue. ● PPI deprescribing resources are available on the Digestive Health Strategic Clinical Network website. <hr/> <ul style="list-style-type: none"> ● There are no major differences in efficacy between PPIs. ● Commonly prescribed agents: <ul style="list-style-type: none"> ○ Rabeprazole - 10 mg ○ Pantoprazole - 40 mg ○ Dexlansoprazole - 30 mg ○ Omeprazole - 20 mg ○ Lansoprazole - 30 mg ○ Esomeprazole - 40 mg

² CPS [Internet]. Ottawa (ON): Canadian Pharmacists Association; c2015 [cited 2021 June 11]. Available from: <http://www.e-therapeutics.ca>.

³ DynaMed. Gastroesophageal Reflux Disease (GERD). EBSCO Information Services. Accessed June 11, 2021. <https://www.dynamed-com.ahs.idm.oclc.org/condition/gastroesophageal-reflux-disease-gerd>

	<ul style="list-style-type: none"> • It is estimated that 1/3 of patients with GERD will not adequately respond to PPI. Factors that predict PPI failure include obesity, poor adherence to PPI treatment, and psychological factors. • Patient non-adherence to treatment with PPI is common. Confirm that the patient has taken the intended dose of PPI on a daily basis, 30 minutes before breakfast. • Patients with persistent, troublesome GERD symptoms, in spite of optimized use of PPI, should be referred for diagnostic evaluation (endoscopy ± pH/impedance reflux monitoring) to discern GERD from non-GERD etiologies. • There is weak/unclear evidence about familial association for esophageal or gastric cancer. If there is family history (first degree relative), a lower threshold for referral of patients unresponsive to therapy may be warranted.
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7. When to refer for consultation and/or endoscopy

- If alarm features are identified
- If positive screening for Barrett’s esophagus
- If unsatisfactory response to pharmacologic 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 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 recorded⁴.

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.

⁴Friedemann 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.

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.

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 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.
- 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 2024.

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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 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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Resources for appropriate PPI prescribing. Alberta Health Services – Digestive Health Strategic Clinical Network website.	
<ul style="list-style-type: none"> • 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 	
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Resources	
Poverty: A Clinical Tool for Primary Care Providers (AB)	cep.health/media/uploaded/Poverty_flowAB-2016-Oct-28.pdf
Nutrition Guidelines: Household Food Insecurity	ahs.ca/assets/info/nutrition/if-nfs-ng-household-food-insecurity.pdf

PATIENT RESOURCES

Information

Description	Website
General information on GERD (Canadian Digestive Health Foundation)	cdhf.ca/digestive-disorders/gerd/what-is-gastroesophageal-reflux-disease-gerd/
General information on GERD (UpToDate® – <i>Beyond the Basics</i> Patient information)	uptodate.com/contents/search
	Search: GERD
Nutrition Education Material	ahs.ca/NutritionResources



Your Pathway for Managing Gastroesophageal Reflux Disease (adults)

What is GERD?

- Acid reflux is when stomach acid moves back up the tube (esophagus) that leads from the stomach to the throat. This can cause a sour taste in your mouth and discomfort or burning pain in your chest or stomach. This is also known as heartburn.
- Occasional heartburn is common.
- When you suffer from heartburn or acid reflux often and for long periods of time.
- Caused by unwanted relaxation of the muscle which normally closes off the esophagus from the stomach.
- Usually cared for by healthcare providers in your family doctor's office.

What is the GERD patient pathway?

It is a map for you and your healthcare providers to follow. It makes sure the care you are getting for GERD 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

- Heartburn or acid reflux that occurs often and for long periods of time
- Heartburn can feel like burning, warmth, or pain just behind the breastbone or upper stomach area and typically occurs after meals

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 meals throughout the day
- Lose weight, if you need to
- Stop or reduce the use of tobacco, alcohol, and caffeine
- Wait 2-3 hours after you eat before you lie down

3. Tests that may be done

- Tests are rarely needed
- Blood tests
- Some people who have had GERD for more than 10 years may need a gastroscopy (insertion of a special camera down the throat to look at your stomach in detail)

Tell your healthcare providers if you have these symptoms:

- Family history of cancer in the esophagus or stomach
- Stool that is black in colour or has blood in it
- Trouble swallowing or pain while swallowing food
- Vomiting that doesn't stop
- Vomiting with blood in it
- Losing weight without meaning to
- Lump in the stomach area

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

- Prescription acid blockers or non-prescription antacids can be used to improve your symptoms
- Talk with your healthcare providers about what medicines may be right for you

What do I need to know about my symptoms and Gastroesophageal Reflux Disease?

Working through the GERD 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 decide to try certain diet changes and medicines to help treat your symptoms.
- Most people need acid blockers for a short period of time, some may need them for longer.

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 (e.g. tomatoes, citrus fruit), coffee, mint, and chocolate can be causes of symptoms.
- Stop or reduce the use of alcohol, tobacco, and caffeine.
- Lose weight, if you need to. Losing just 3-5 kg (7-11 lbs) can help.
- Raise the head of your bed 4-6 inches with blocks or foam wedges if you find symptoms occur at bedtime.

Seeing a specialist is only recommended if:

- Your symptoms continue or get worse after following treatment and management options in the GERD 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 GERD

Write any notes or questions you may have here:



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