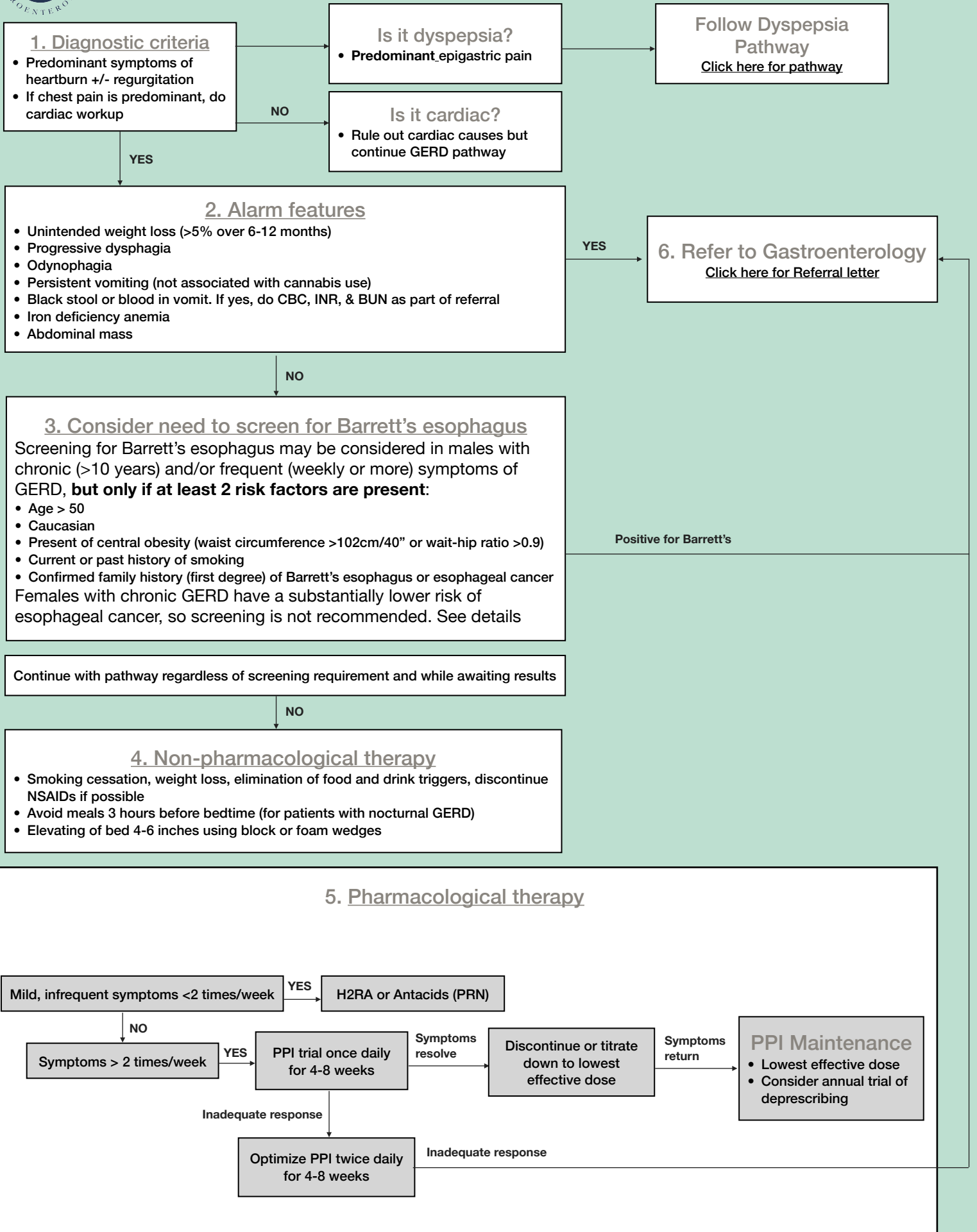




# GERD PRIMARY CARE PATHWAY



## TABLE OF CONTENTS

<b>Page 1</b>	GERD Clinical Care Pathway
<b>Page 2</b>	GERD information and checklist for patient management
<b>Page 3-5</b>	Details on the GERD clinical pathways
<b>Page 6</b>	More Information on Black Stools and Iron Deficiency
<b>Page 7</b>	Additional Information about this Pathway
<b>Page 8</b>	Patient Information Sheet for Managing GERD

## GERD - What is it?

- 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).
- In some patients, GERD has a wider spectrum of symptoms including chest pain, dysphagia, globus sensation, odynophagia, nausea, and water brash.
- 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.
- Is it dyspepsia? If the patient's predominant symptom is epigastric pain and/or upper abdominal bloating, refer to the Dyspepsia Pathway.
- 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. A barium swallow is **not** recommended for evaluation.
- 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 H<sub>2</sub>RA.
- 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; if present then refer to specialist for 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. 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 consider using an advice service before referring. Otherwise, continue care in the Patient Medical Home  |

# Expanded Details of GERD Clinical Pathway

## 2. Alarm features

- If any of the following alarm features are identified consider referring to a specialist 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 information on Iron)
  - Abdominal mass

## 3. 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 present:
  - 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 o 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 recommended<sup>1</sup> . 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.

## 4. Non-pharmacological therapy

- 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 nighttime GERD symptoms.
- Consider elevating the head of bed 4-6 inches using blocks or foam wedges. An extra pillow for sleeping is not sufficient.

## 5. Pharmacological therapy

TREATMENT OPTIONS (PHARMACOLOGICAL)							
<p><b>Histamine H2-receptor antagonists (H2RAs)</b></p>	<ul style="list-style-type: none"> <li>• <b>Evidence:</b> 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.</li> <li>• <b>Place in therapy:</b> If symptoms are mild and infrequent (&lt; 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.</li> <li>• Consider addition to daytime PPI therapy in selected patients with objective evidence of nighttime reflux, if needed.</li> <li>• <b>Mechanism of action:</b> 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.</li> <li>• Efficacy of H2RAs may be limited by tachyphylaxis after several weeks.</li> <li>• <b>Available agents:</b> Ranitidine, Famotidine.</li> </ul>						
<p><b>Antacids</b></p>	<ul style="list-style-type: none"> <li>• <b>Evidence:</b> may provide short-term relief from heartburn, but may not provide prolonged symptom relief or prevent GERD complications.</li> <li>• <b>Place in therapy:</b> Relief of heartburn occurs in approximately 20% of patients and the esophagus is protected from gastric contents for roughly 1.5 hours.</li> <li>• <b>Adverse effects:</b> Magnesium containing salts can cause diarrhea. Calcium containing salts can cause constipation. Caution in those with renal impairment.</li> <li>• <b>Available antacids (in order of acid-neutralizing potency):</b> <ul style="list-style-type: none"> <li>• Calcium salts (most potent) - Roloids®, Tums®</li> <li>• Sodium bicarbonate - Alka-Seltzer®</li> <li>• Magnesium salts - milk of magnesia</li> <li>• Aluminum salts (least potent) - Gaviscon®</li> </ul> </li> </ul>						
<p><b>Proton pump inhibitors (PPIs)</b></p>	<ul style="list-style-type: none"> <li>• <b>Evidence:</b> PPI therapy is 1st line treatment for GERD if patient is experiencing symptoms <math>\geq 2</math> times per week.</li> <li>• <b>Mechanism of action:</b> Suppresses gastric acid secretion by inhibiting the parietal cell H<sup>+</sup> /K<sup>+</sup> ATP pump.</li> <li>• Initial PPI therapy should be once daily, 30 minutes before breakfast on an empty stomach.</li> <li>• If there is inadequate response after 8 weeks, step up to BID dosing, or switch to a different PPI.</li> <li>• 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.</li> <li>• NOTE: patients with Barrett's esophagus require lifetime daily PPI, regardless of whether symptoms continue.</li> <li>• There are no major differences in efficacy between PPIs.</li> <li>• <b>Commonly prescribed agents:</b> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td>Rabeprazole - 10 mg</td> <td>Pantoprazole - 40 mg</td> <td>Dexlansoprazole - 30 mg</td> </tr> <tr> <td>Omeprazole - 20 mg</td> <td>Lansoprazole - 30 mg</td> <td>Esomeprazole - 40 mg</td> </tr> </table> </li> <li>• 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.</li> <li>• 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.</li> <li>• Patients with persistent, troublesome GERD symptoms, in spite of optimized use of PPI, should be referred for diagnostic evaluation (endoscopy <math>\pm</math> pH/impedance reflux monitoring) to discern GERD from non-GERD etiologies.</li> <li>• 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.</li> </ul>	Rabeprazole - 10 mg	Pantoprazole - 40 mg	Dexlansoprazole - 30 mg	Omeprazole - 20 mg	Lansoprazole - 30 mg	Esomeprazole - 40 mg
Rabeprazole - 10 mg	Pantoprazole - 40 mg	Dexlansoprazole - 30 mg					
Omeprazole - 20 mg	Lansoprazole - 30 mg	Esomeprazole - 40 mg					

**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 recorded . 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.

# More Information on Black Stools and Iron Levels

## Black Stool

- Possible causes of black stool
  - Upper GI bleed
  - Slow right-sided colonic bleed
  - Epistaxis or hemoptysis with swallowed blood
- Melena is dark/black, sticky, tarry, and has distinct odour
- Patient history should include:
  - Any prior GI bleed or ulcer disease
  - Taking ASA, NSAIDs, anticoagulants, antiplatelets, Pesto Bismol, SSRIs, or iron supplements
  - Significant consumption of black liquorice
  - Significant alcohol history of hepatitis factors
  - Any other signs of bleeding (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

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 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 their ferritin is low, it is diagnostic of iron deficiency with high specificity (98%)
- 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 ferrite is less than 100ug/L and there is no concurrent significant chronic renal insufficient, iron deficiency is very unlikely - even in the contact of acute inflammation/infection

The second step is to evaluate **transferritin 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 (less than 10%) demonstrate low iron stores in conjunction with a ferritin less than 100ug/L
- In the absence of abnormal iron indices, anemia may be from other causes other than GI (occult) blood loss (bone marrow sources, thalassemia, and sickle cell anemia)

# Additional Information About this Pathway

## About this pathway

This primary care pathway was created using resources from Alberta Health Services and Alberta Primary Care Networks and further adapted by gastroenterologists at Kelowna Gastroenterology Associates from Kelowna, British Columbia. 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.

- 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 GI and the Calgary Zone's speciality integration group, which includes medical leadership and staff from Calgary and area Primary Care Networks, the Department of Family Medicine and Alberta Health Services.
- This pathway has been reviewed by the Kelowna Gastroenterology Associates and its physicians for content and use.

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# Patient Information Sheet for Managing GERD

## 1. 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.
- GERD is when you suffer from heartburn or acid reflux often and for long periods of time.
- Acid reflux is caused by unwanted relaxation of the muscle which normally closes off the esophagus from the stomach.
- Most often GERD is cared for by healthcare providers in your family doctor's office.

## 2. 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.

## 3. Make lifestyle changes to manage symptoms

- 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, 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.
- 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. Tests that may be done

- Tests are rarely needed.
- 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).

## 5. Medicine that may be tried

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

## 6. Tell your healthcare provider 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 do not improve, get worse, or keep interfering with your everyday activities.

## 7. Talk to your primary care provider about being referred to a specialist if:

- Your symptoms continue or get worse after following treatment and management options
- You and your healthcare provider identify concerning symptoms

## You can find more information at:

- Dietician services <https://www.healthlinkbc.ca/health-services/healthlink-bc-811-services/dietitian-services>
- Health Link BC <https://www.healthlinkbc.ca/tests-treatments-medications/surgery/gerd-which-treatment-should-i-use>
- Canadian Digestive Health <https://cdhf.ca/en/digestive-conditions/gerd/>
- Up to Date <https://www.uptodate.com/contents/gastroesophageal-reflux-disease-in-adults-beyond-the-basics>

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