1. Symptoms of GERD
   Predominant heartburn +/- regurgitation
   If chest pain predominant, do cardiac workup

2. Is it dyspepsia?
   • Epigastric discomfort/pain
   • Upper abdominal bloating

3. Alarm features (one or more)
   • GI bleeding (hematemesis or melena) or anemia (if yes, CBC, INR, PTT as part of referral)
   • Progressive dysphagia
   • Odynophagia
   • Persistent vomiting (not associated with cannabis use)
   • Unintended weight loss (≥5-10% of body weight over 6 months)
   • Abdominal mass
   • First degree relative with history of esophageal or gastric cancer

4. Consider need to screen for Barrett’s esophagus
   Screening for Barrett’s esophagus may be considered in males with chronic (>5 years) poorly controlled GERD symptoms AND two or more risk factors:
   • Age >50 years
   • Caucasian
   • Presence of central obesity (waist circumference >102cm/40” or waist-hip ratio >0.9)
   • Current or past history of smoking
   • Confirmed family history of Barrett’s esophagus or esophageal cancer

Given substantially lower risk in females with chronic GERD, screening for Barrett’s esophagus in females is not recommended. Could be considered in individual cases as determined by the presence of multiple risk factors.

5. Non-pharmacological principles
   • Smoking cessation
   • Weight loss
   • Elimination of food / drink triggers

6. Pharmacological therapy
   Mild, infrequent symptoms < 2 times/week
   Yes to H2RA or Antacids (PRN)

   Symptoms ≥ 2 times/week
   Yes to PPI trial once daily for 4-8 weeks
   Symptoms resolve
   Discontinue or titrate down to lowest effective dose
   PPI maintenance
   • Lowest effective dose
   • Consider annual trial of deprescribing

   Inadequate response
   Optimize PPI twice daily for 4-8 weeks
   PPI maintenance
   • Lowest effective dose
   • Consider annual trial of deprescribing

   Inadequate response
   Inadequate response
GERD 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) -- 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.

<table>
<thead>
<tr>
<th>Checklist to guide in-clinic review of your patient with GERD</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Diagnostic criteria: Predominant heartburn +/- regurgitation</td>
</tr>
<tr>
<td>□ Absence of alarm features (see algorithm Box 3). If identified, recommend specialist consultation.</td>
</tr>
<tr>
<td>□ If a male patient, with chronic (&gt; 5 years) poorly controlled GERD, consider the need to screen for Barrett’s esophagus (see algorithm Box 4). If appropriate, consider specialist consultation.</td>
</tr>
<tr>
<td>□ Identification and adjustment of medication and lifestyle factors that may cause or contribute to GERD.</td>
</tr>
<tr>
<td>□ If symptoms resolve with management, continue care in the Patient Medical Home. If not, recommend specialist consultation.</td>
</tr>
</tbody>
</table>

EXPANDED DETAILS

1. Symptoms of 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 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.

2. Is it dyspepsia?
   - If the patient’s predominant symptom is epigastric pain and/or upper abdominal bloating, please refer to the Dyspepsia pathway.

3. Alarm features (warranting consideration of referral for consultation and/or endoscopy)
   - GI bleeding (hematemesis or melena – see primer on black stool on page 3) or anemia (if yes, complete CBC, INR, PTT as part of referral)
   - Progressive dysphagia
   - Odynophagia
   - Persistent vomiting (not associated with cannabis use)
   - Unintended weight loss (≥ 5-10% of body weight over 6 months)
• Abdominal mass

Primer on Black Stool

• Possible causes of black stool
  o Upper GI bleeding
  o Slow right-sided colonic bleeding
  o Epistaxis or hemoptysis with swallowed blood
• Melena is dark/black, sticky, tarry, and has a distinct odour
• Patient history should include:
  o Any prior GI bleeds or ulcer disease
  o Taking ASA, NSAIDs, anticoagulants, Pepto Bismol, or iron supplements
  o Significant consumption of black licorice
  o Significant alcohol history or hepatitis risk factors
  o Any other signs of bleeding (e.g. coffee ground emesis, hematemesis, hematochezia, or bright red blood per rectum)
  o 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.

4. Consider need to screen for Barrett’s esophagus

• Males with long-term (>5 years) poorly controlled GERD may be considered for a referral for screening for Barrett’s esophagus, but only if at least two risk factors are present:
  o Age >50 years
  o Caucasian
  o Presence of central obesity (waist circumference > 102cm/40” or waist-hip ratio > 0.9)
  o Current or past history of smoking
  o Confirmed family history 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. Screening could be considered in individual cases as determined by the presence of multiple risk factors as per above.
  o For females, central obesity = waist circumference > 88 centimetres/35 inches or waist-hip ratio > 0.8).
• 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 therapy, if BE with dysplasia is diagnosed, should be discussed with the patient.

5. Non-pharmacological principles of GERD management (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 GERD 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.

6. Pharmacologic therapy
• If symptoms are mild and infrequent (<2 times per week), histamine H₂-receptor agonists or antacids (Ca/Mg/Al salts) are recommended. These provide rapid on-demand relief of heartburn and avoid prematurely committing some patients to long-term use of PPI.
• If symptoms are ≥ 2 times per week, a trial of PPI is recommended.
• Initial PPI therapy should be once daily, 30 minutes before breakfast on an empty stomach.
  o If there is inadequate response after 4-8 weeks, step up to BID dosing for another 4-8 weeks.
  o 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.
  o 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 (DHSCN) website (poster, guideline, co-decision making tool for patients and health care providers).
• There are no major differences in efficacy between PPIs.

<table>
<thead>
<tr>
<th>PPI</th>
<th>Dosage</th>
<th>Estimated 90-day cost (2019)¹</th>
<th>Coverage²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabeprazole</td>
<td>10mg</td>
<td>$20</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
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<tr>
<td>Pantoprazole</td>
<td>40mg</td>
<td>$30</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
</tr>
<tr>
<td>Omeprazole</td>
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<td>$35</td>
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<tr>
<td>Lansoprazole</td>
<td>30mg</td>
<td>$60</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
</tr>
<tr>
<td>Dexlansoprazole</td>
<td>30mg</td>
<td>$230</td>
<td>Not covered by Blue Cross/non-insured health benefits</td>
</tr>
<tr>
<td>Esomeprazole</td>
<td>40mg</td>
<td>$200</td>
<td>Not covered by Blue Cross/non-insured health benefits</td>
</tr>
</tbody>
</table>

• 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.
  o 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.

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 led an initiative to

² Drug plans will only pay the cost of rabeprazole 10mg for low dose PPI and will only pay the cost of pantoprazole for high dose PPI.
validate the applicability of the pathways for Alberta and to spread availability and foster adoption of the pathways across the province.

Authors & Conflict of Interest Declaration
This pathway was reviewed and revised under the auspices of the Digestive Health Strategic Clinical Network in 2019, by a multi-disciplinary team led by family physicians and gastroenterologists. For more information, contact the DHSCN at Digestivehealth.SCN@ahs.ca.

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. However, we welcome feedback at any time. Please email comments to Digestivehealth.SCN@ahs.ca.

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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
Non-urgent advice is available to support family physicians.

- Gastroenterology advice is available across the province via Alberta Netcare eReferral Advice Request (responses are received within five calendar days). Visit www.albertanetcare.ca/documents/Getting-Started-Advice-Requests-FAQs.pdf 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 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 one (1) hour.
  - In the Edmonton Zone by calling 1-844-633-2263 or visiting www.pcnconnectmd.com. This service is available from 8:00 a.m. to 6:00 p.m., Monday to Friday (excluding statutory holidays and Christmas break). Calls are returned within two (2) business days.
## Resources and References

<table>
<thead>
<tr>
<th>Reference</th>
<th>Details</th>
<th>URL</th>
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<tbody>
<tr>
<td>Resources for appropriate PPI prescribing. Alberta Health Services – Digestive Health Strategic Clinical Network website.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• PPI guideline</td>
<td></td>
<td><a href="http://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-guideline.pdf">www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-guideline.pdf</a></td>
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<tr>
<td>• PPI co-decision making tool</td>
<td></td>
<td><a href="http://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-decision-tool.pdf">www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-decision-tool.pdf</a></td>
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<td>• PPI patient poster</td>
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<td><a href="http://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-patient-poster.pdf">www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-patient-poster.pdf</a></td>
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</table>
# PATIENT RESOURCES

## Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Website</th>
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<tbody>
<tr>
<td>General information on GERD (MyHealth.Alberta.ca)</td>
<td>myhealth.alberta.ca/health/pages/conditions.aspx?Hwid=hw99177</td>
</tr>
<tr>
<td>General information on GERD (Canadian Digestive Health Foundation)</td>
<td>cdhf.ca/digestive-disorders/gerd/what-is-gastroesophageal-reflux-disease-gerd/</td>
</tr>
<tr>
<td>General information on GERD (UpToDate® – Beyond the Basics Patient information)</td>
<td><a href="http://www.uptodate.com/contents/acid-reflux-gastroesophageal-reflux-disease-in-adults-beyond-thebasics?source=search_result&amp;search=GERD+beyond+the+basics&amp;selectedTitle=2~150">www.uptodate.com/contents/acid-reflux-gastroesophageal-reflux-disease-in-adults-beyond-thebasics?source=search_result&amp;search=GERD+beyond+the+basics&amp;selectedTitle=2~150</a></td>
</tr>
<tr>
<td>General information on weight management (MyHealth.Alberta.ca)</td>
<td>myhealth.alberta.ca/health/pages/conditions.aspx?Hwid=aa122915</td>
</tr>
<tr>
<td>Online learning module on weight management (MyHealth.Alberta.ca)</td>
<td>myhealth.alberta.ca/learning/modules/Weight-Management</td>
</tr>
<tr>
<td>Resources on healthy eating (Alberta Health Services)</td>
<td><a href="http://www.albertahealthservices.ca/nutrition/Page11115.aspx">www.albertahealthservices.ca/nutrition/Page11115.aspx</a></td>
</tr>
</tbody>
</table>

## Services available

<table>
<thead>
<tr>
<th>Description</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services for patients with chronic conditions, including how to achieve a healthy weight (Alberta Healthy Living Program - AHS)</td>
<td><a href="http://www.albertahealthservices.ca/info/page13984.aspx">www.albertahealthservices.ca/info/page13984.aspx</a></td>
</tr>
<tr>
<td>Supports to quit smoking (Alberta Quits)</td>
<td><a href="http://www.albertaquits.ca">www.albertaquits.ca</a></td>
</tr>
<tr>
<td>Supports for working towards healthy lifestyle goals and weight management (Weight Management – AHS)</td>
<td><a href="http://www.albertahealthservices.ca/info/Page15163.aspx">www.albertahealthservices.ca/info/Page15163.aspx</a></td>
</tr>
</tbody>
</table>
A Patient’s Pathway for Managing GERD

What is Gastroesophageal Reflux Disease (GERD)?

Acid reflux is when stomach acid and juices move back up the tube (esophagus) that leads from the throat to the stomach. 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 and/or acid reflux often and for long periods of time.

GERD is caused by unwanted relaxation of the muscle which normally closes off the esophagus from the stomach.

GERD is usually cared for by healthcare provider(s) in your family doctor’s office.

What is the GERD patient pathway?

It is a map for you and your healthcare provider(s) to follow. It makes sure the care you are receiving for GERD is safe and effective to manage your symptoms.

You and your healthcare provider(s) may modify the pathway to best suit your healthcare needs.

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

1. Check your symptoms

- Heartburn and/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)

- Track and avoid foods that make your symptoms worse
- Eat smaller, more frequent meals
- Lose weight, if you need to
- Stop or limit use of tobacco, alcohol, and/or caffeine
- Do not lie down for 2-3 hours after eating

3. Tests that may be done

- Tests are rarely needed
- Your healthcare provider may choose to order some blood work
- 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)

4. Medicine that may be tried

- Prescription acid blockers and/or non-prescription antacids can be used to improve your symptoms
- Be sure to talk with your healthcare provider(s) about what medicines may be right for you

Be sure to tell your healthcare provider(s) if you have:

- Personal and/or 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 or has blood in it
- Unexpected weight loss
- Lump in the stomach area

If your symptoms don’t improve, get worse, or keep interfering with your everyday activities, talk to your healthcare provider(s).

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 improve your health.
What do I need to know about my symptoms and GERD?

Working through the GERD patient pathway can take several months:

- Your healthcare provider(s) will ask you questions about your health, including reviewing medicines you are taking and do a physical exam.
- They may suggest certain tests to learn more about possible causes of your symptoms.
- They will talk with you about lifestyle changes that you can make to help you feel better (see below).
- You may find it helpful to record information about your symptoms and foods that trigger your symptoms, which can assist you and your healthcare provider(s) in planning your care.
- 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 for longer, your healthcare provider will help you decide

To manage your symptoms consider:

- Eat smaller, more frequent meals instead of 2 or 3 large meals.
- Wait 2 to 3 hours after you eat before you lie down.
- Avoid foods that make your symptoms worse. Common foods that trigger symptoms are fatty foods, spicy foods, foods with a lot of acid in them (e.g. tomatoes, citrus fruit), coffee, mint, and chocolate.
- Stop or reduce the use of alcohol, tobacco, and/or caffeine.
- Lose weight, if you need to. Losing just 3 to 5 kg (7 to 11 lbs) can help.
- Try raising the head of your bed 4 to 6 inches with blocks or foam wedges if you find symptoms occur at bedtime.

Seeing a specialist is only recommended if:

- Symptoms continue or get worse after following treatment and management options in the GERD pathway.
- Concerning test results or symptoms are identified by you and your healthcare provider(s).

You can find more information in the great resources below:

Canadian Digestive Health Foundation  
[www.cdhf.ca](http://www.cdhf.ca) * search GERD

My Health Alberta  
[myhealth.alberta.ca](http://myhealth.alberta.ca) * search IBS

Nutrition Education Materials  
[www.albertahealthservices.ca/nutrition/Page11115.aspx](http://www.albertahealthservices.ca/nutrition/Page11115.aspx)  
- See: Gastrointestinal → Managing Acid Reflux

Write any notes or questions you may have here:

If you have any feedback about this patient pathway, contact us at  
[Digestivehealth.SCN@ahs.ca](mailto:Digestivehealth.SCN@ahs.ca)