1. Symptoms of dyspepsia
- Predominant (>1 month):
  - Epigastric discomfort / pain
  - Upper abdominal bloating

2. Is it GERD?
- Predominant symptoms of heartburn +/- regurgitation
- Yes → Follow GERD pathway
- No

3. Alarm features (one or more)
- • Age >60 with new and persistent symptoms (>3 months)
- • GI bleeding (melena or hematemesis) or anemia -- do CBC, INR, PTT as part of referral
- • Progressive dysphagia
- • Persistent vomiting (not associated with cannabis use)
- • Unintended weight loss (≥5-10% of body weight over 6 months)
- • Personal history of peptic ulcer disease
- • First degree relative with history of esophageal or gastric cancer

4. Medication and lifestyle review
- Engage nursing, dietitian, pharmacist or other support, as appropriate

5. Baseline investigations
- CBC, ferritin, celiac serology
- Consider: ALT, ALP, bilirubin, lipase, abd u/s if considering hepatobiliary or pancreatic disease

6. Test for H. pylori infection (HpSAT / UBT)
- Positive → Follow H. pylori pathway
- Abnormal → Other diagnosis

7. Pharmacologic therapy
- PPI trial: Once daily for 4-8 weeks
- Inadequate response → Optimize PPI: Twice daily for 4-8 weeks
- Inadequate response → Consider investigations not completed in 5. and 6
  - Abnormal
  - No significant findings
  - Consider domperidone trial (weak evidence) (if patient is age <60, QT interval is normal, no family history of sudden cardiac death) start 5mg TID, increase to 10mg TD max
  - Or → Consider low-dose tri-cyclic antidepressant trial (weak evidence)
- Symptom resolve → PPI maintenance
  - Lowest effective dose
  - Consider annual trial of deprescribing
- Discontinue or titrate down to lowest effective dose → Symptoms return → Other diagnosis

Ongoing symptoms or no obvious findings → Referral for consultation / gastroscopy
PATHWAY PRIMER

- Although the causes of dyspepsia include esophagitis, peptic ulcer disease, Helicobacter 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 is incompletely 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, please follow GERD pathway.
  - Dyspepsia also overlaps with irritable bowel syndrome, where 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.

EXPANDED DETAILS

1. Symptoms of 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, please refer to the GERD pathway.

3. Alarm features (warranting consideration of referral for consultation/endoscopy)
   - 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, when considering whether referral for consultation/endoscopy is appropriate.
   - Age >60 with new and persistent symptoms (>3 months)\(^1\)
   - 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)

---

\(^1\) 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.
*Note: FIT testing is neither required nor suggested; FIT has only been validated for screening in asymptomatic individuals

- Progressive dysphagia
- Persistent vomiting (not associated with cannabis use)
- Unintended weight loss (≥ 5-10% of body weight over 6 months)
- Personal history of peptic ulcer disease
- First degree relative with history of esophageal or gastric cancer

**Primer on black stool**

- Possible causes of black stool
  - Upper GI bleeding
  - Slow right-sided colonic bleeding
  - Epistaxis or hemoysis 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, Pepto Bismol, 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

**4. Medication & lifestyle review**

- Medication Review
  - Common culprits include ASA/NSAIDs/COX-2 inhibitors, corticosteroids, bisphosphonates, calcium channel blockers, antibiotics, 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 indiscretions, alcohol intake, weight management, stress, caffeine intake, and smoking status.
  - Engage other health professionals as appropriate (nurse, dietitian, pharmacist, etc.)
  - Heavy cannabis use can be associated with persistent vomiting and should be considered and addressed if appropriate.
5. Baseline investigations

- Baseline investigations to identify concerning features or clear etiologies include CBC, ferritin, celiac serology.
- 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 \( \geq 3 \) times upper normal limit may be indicative of acute pancreatic disease).
- 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 *Helicobacter Pylori* Infection

- See [H. pylori pathway](#).

7. Pharmacologic therapy

- In the absence of *H. pylori* infection, or if symptoms continue despite *H. pylori* eradication, a trial of PPI may benefit some patients.
- 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.
  - 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 (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 (2018)(^2)</th>
<th>Coverage(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabeprazole</td>
<td>20mg</td>
<td>$25</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
</tr>
<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>
<td>20mg</td>
<td>$55</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
</tr>
<tr>
<td>Lansoprazole</td>
<td>30mg</td>
<td>$60</td>
<td>Covered by Blue Cross/non-insured health benefits</td>
</tr>
<tr>
<td>Dextlansoprazole</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>$230</td>
<td>Not covered by Blue Cross/non-insured health benefits</td>
</tr>
</tbody>
</table>

- If ineffective after 4-8 weeks at higher dosage, consider discontinuing PPI, and initiating a trial of domperidone, a prokinetic agent that can help with gastric emptying (*Note: evidence is weak*).
  - The Canadian Association of Gastroenterology suggests domperidone for patients under age 60 as a conditional recommendation with very low-quality evidence.
  - **Prior to initiating domperidone, a careful review of contraindications is required.** Ensure the QT interval is normal, no family history of sudden cardiac death, and no medications that may prolong the QT interval. *The American College of Gastroenterology recommends a baseline electrocardiogram and withholding of treatment.*

---


\(^3\) 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.
with domperidone if the corrected QT is >470 ms in male and 450 ms in female patients. Follow-up electrocardiogram on treatment with domperidone is also advised.

- Details on domperidone and potential risks/contraindications can be found at [https://myhealth.alberta.ca/Health/medications/Pages/conditions.aspx?hwid=fdb6090](https://myhealth.alberta.ca/Health/medications/Pages/conditions.aspx?hwid=fdb6090)
- Domperidone can be used in escalating dosages, suggest starting at 5mg TID-AC, titrating up to 10 mg TID-AC as a 2-4-week trial.

- A trial of low-dose TCA therapy can also be considered. The Canadian Association of Gastroenterology suggests TCA therapy as a conditional recommendation with low quality evidence.
- 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.

**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 task 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 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 Calgary Zone primary care pathways, and their impact on timely access to quality care, in 2017 the Digestive Health Strategic Clinical Network led an initiative to validate the applicability of the pathways for Alberta and to spread availability and foster adoption of pathways across the province.

**Authors and conflict of interest declaration**

- This pathway was reviewed and revised under the auspices of the Digestive Health Strategic Clinical Network in 2018, by a multi-disciplinary team led by family physicians and gastroenterologists. Names of participating reviewers and their conflict of interest declarations are available on request.

**Pathway review process, timelines**

- 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 February 2022. We welcome feedback; please email comments to Digestivehealth.SCN@ahs.ca.

**Copyright information**

This work is licensed under a Creative Commons Attribution-Non-commercial-Share Alike 4.0 International license. You are free to copy, distribute and adapt the work for non-commercial purposes, as long as you attribute the work to Alberta Health Services and Primary Care Networks and abide by the other license terms. If you alter, transform, or build upon this work, you may distribute the resulting work only under the same, similar, or compatible license. The license does not apply to content for which Alberta Health Services is not the copyright owner.
**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 [http://www.albertanetcare.ca/documents/Getting-Started-Advice-Requests-FAQs.pdf](http://www.albertanetcare.ca/documents/Getting-Started-Advice-Requests-FAQs.pdf) for more information.

- In the Calgary Zone, [specialistlink.ca](http://specialistlink.ca) connects family physicians and specialists in real time via a tele-advice line. Family physicians can request non-urgent advice from a gastroenterologist online at [specialistlink.ca](http://specialistlink.ca) or by calling **403-910-2551**. The service is available from 8 a.m. to 5 p.m., Monday to Friday (excluding statutory holidays). Calls are returned within one hour.

- Family physicians in the Edmonton Zone can request tele-advice via [ConnectMD](http://connectmd.ca), which is available by calling **1-844-633-2263**.

---

**Resources, references**

<table>
<thead>
<tr>
<th>Reference</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ansari S, Ford AC. Initial management of dyspepsia in primary care: an evidence-based approach. Br J Gen Pract.</td>
<td><a href="https://bjgp.org/content/63/614/498">https://bjgp.org/content/63/614/498</a></td>
</tr>
<tr>
<td>Diagnosis and Treatment of Chronic Undiagnosed Dyspepsia in Adults.</td>
<td><a href="http://www.topalbertadoctors.org/cpgs/11950971">http://www.topalbertadoctors.org/cpgs/11950971</a></td>
</tr>
<tr>
<td>PPI co-decision making tool</td>
<td><a href="https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-decision-tool.pdf">https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-dh-ppi-decision-tool.pdf</a></td>
</tr>
</tbody>
</table>
# PATIENT RESOURCES

## Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>General information on dyspepsia (Canadian Digestive Health Foundation)</td>
<td><a href="https://cdhf.ca/digestive-disorders/dyspepsia/what-is-dyspepsia/">https://cdhf.ca/digestive-disorders/dyspepsia/what-is-dyspepsia/</a></td>
</tr>
<tr>
<td>Information on domperidone (MyHealth.Alberta.ca)</td>
<td><a href="https://myhealth.alberta.ca/Health/medications/Pages/conditions.aspx?hwid=fdb6090">https://myhealth.alberta.ca/Health/medications/Pages/conditions.aspx?hwid=fdb6090</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 (Alberta Healthy Living Program - AHS)</td>
<td><a href="https://www.albertahealthservices.ca/info/page13984.aspx">https://www.albertahealthservices.ca/info/page13984.aspx</a></td>
</tr>
<tr>
<td>Supports to quit smoking (Alberta Quits)</td>
<td><a href="https://www.albertaquits.ca/">https://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="https://www.albertahealthservices.ca/info/Page15163.aspx">https://www.albertahealthservices.ca/info/Page15163.aspx</a></td>
</tr>
</tbody>
</table>