# DYSPEPSIA PRIMARY CARE PATHWAY

## 1. Diagnostic criteria

Greater than one month

- Epigastric pain / discomfort
- +/- Upper abdominal distension or bloating

NO → **Is it GERD?**
Predominant symptoms of heartburn and / or regurgitation

YES → **Follow GERD Pathway**
Click here for pathway

NO → **Pancreaticobiliary pain?**
Epigastric pain radiates through around to back, often post prandial

YES → Order CBC, lytes, Alt, Alk phosphate, bili, lipase
Arrange cross-sectional abdominal imaging (US or CT)

YES

## 2. Alarm features

- Family history (first-degree relative) or esophageal or gastric cancer
- Personal history of Peptic Ulcer Disease
- Above 60 years old with new symptoms for longer than 3 months
- Unintended weight loss of more than 5% over 6-12 months
- Progressive dysphagia
- Persistent vomiting (without cannabis association)
- Black stool or blood in vomit (see Information on Black Stool)
- Iron deficiency anemia (see Information on Iron)

YES → **5. Refer to Gastroenterology**
Click here for Referral letter

If unsatisfactory response

NO

## 3. Initial investigation and management

Please consider based on history

**Medication and lifestyle review**

- Medication history including OTC's and supplements
- Dietary triggers, alcohol, weight management, stress, caffeine, smoking

Symptoms improve → **No further action required**

**Baseline investigations**

- CBC, INR, BUN
- Ferritin
- Celiac disease screen
- Abdominal US, ALT, ALP, bilirubin, lipase (if considering hepatobiliary or pancreatic disease)

Abnormal → **Other diagnosis**

**Test and treat for H. pylori infection**

- Stool antigen test for H. pylori

Positive → **Follow H. *pylori* pathway**
Click here

Ongoing symptoms or no obvious findings

## 4. Pharmacological therapy

**PPI Trial**
Once daily for 4-8 weeks

Symptoms improve → **Discontinue or titrate down to lowest effective dose**

Symptoms return → **PPI maintenance**

- Lowest effective dose
- Consider annual trial of deprescribing

Inadequate response → **Optimize PPI**
Twice daily for 4-8 weeks

Inadequate response → **Referral to GI**

**Optional or while awaiting specialist consultation**

- Domperidone trial (if patient is under 60, QT interval is normal, no family history of sudden cardiac death) start 5mg TID, increase to 10mg TID max
- Low-dose tri-cyclic antidepressant trial (TCAs) (weak evidence)

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# Dyspepsia - What is it?

## 1. Diagnostic criteria

- 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 greater than or equal to six months prior.
    - Postprandial fullness
    - Epigastric pain/epigastric burning
    - Early satiety
- 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 symptoms. In IBS, the predominant symptom complex includes bloating and relief after defecation.
    - Biliary tract pain should also be considered, with classic presentation being post-prandial deep-seated crescendo-decrescendo right upper quadrant pain (particularly after a fatty meal) that build 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 for more than a month<br>• Epigastric discomfort / pain<br>• Upper abdominal bloating |
| ☐ | Confirm absence of alarm features, if present then refer to specialist for consultation |
| ☐ | Identification and adjustment of medication and lifestyle factors that may be contributing to the dyspepsia |
| ☐ | Complete baseline investigations confirming no underlying medical condition causing dyspepsia |
| ☐ | Confirm negative *H. pylori* testing, If positive, refer to the *H. pylori* pathway |
| ☐ | If unsatisfactory response to management and / or inclusion of pharmacological therapy, consider referral to specialist for consultation |

## 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.
    - Family history (first-degree relative) of esophageal or gastric cancer
    - Personal history of peptic ulcer disease
    - If patient is older than 60 and has had a new onset of symptoms for greater than 3 months
    - Unintended weight loss (more than 5% over the period of 6-12 months)
    - Progressive dysphagia
    - Anorexia
    - Odynophagia
    - Jaundice
    - Persistent vomiting (without cannabis involvement)
    - Black stool or blood in vomit (see Primer on Black Stool)
    - Iron deficiency anemia (see Iron Primer)
    - Please note that FIT test is **not** required or suggested. It has only been validated for screening in asymptomatic individuals

Stronger consideration should be given for symptoms that are greater than 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.**

## 3. Medication and lifestyle review

- Medication review
    - Common culprits include ASA/NSAIDs/COX-2 inhibitors, corticosteroids, biphosphonates, 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; obvious dietary triggers, alcohol intake, weight management, stress, caffeine intake, and smoking
    - Engage with other healthcare professionals as appropriate (nurse, dietician, etc)
    - Heavy cannabis use should be considered and addressed, if appropriate

## Baseline investigations

- Baseline investigations to identify concerning features or clear etiologies include CBC, INR, Blood Urea Nitrogen, ferritin, and celiac disease screen (anti TTG antibody, IgA)
- H*. pylori* testing (stool)
- Upper GI series is **not** recommended for investigation of dyspepsia due to high rates of false positives and false negatives

## Test and treat for *H. pylori* infection

- See *H. pylori* pathway

## 4. Pharmacological therapy

| TREATMENT OPTIONS (PHARMACOLOGICAL) | |
|---|---|
| **Proton Pump Inhibitors (PPIs)** | • **Evidence:** In the absence of *H. pylori* infection, or if symptoms continue despite *H. pylori* eradication, a trial of PPI may benefit some patients<br>• **Mechanism of action:** Suppresses gastric acid and secretion by inhibiting the parietal cell H/K ATP pump<br>• Initial PPI therapy should be once daily, 30 minutes before breakfast on an empty stomach<br>• If there is inadequate response after 4-8 weeks, step up to BID dosing for another 4-8 weeks<br>• If symptoms are controlled, it is advised to titrate the PPI down to the lowest effective dose and attempt once yearly to taper or stop PPI use<br>• **Commonly prescribed agents (no differences in efficacy)**<br>Rabeprazole (10mg) Pantoprazole (40mg) Dexlansoprazole (30mg)<br>Omeprazole (20mg) Lansoprazole (30mg) Esomeprazole (40mg) |
| **OPTIONAL OR WHILE AWAITING SPECIALIST CONSULTATION** | |
| **Domperidone** | • **Evidence:** Prokinetic agents may reduce dyspepsia symptoms for some patients, however, there is minimal evidence to support this as a first line agent<br>• **Mechanism of action:** A prokinetic agent increases esophageal peristalsis, increases lower esophageal spinchter pressure, increases gastric motility and peristalsis, thus facilitating gastric emptying<br>• **Place in therapy:** For patients less than 60 who have failed PPI and TCS, a prokinetic agent may be offered.<br>• Prior to initiation, ensure patient has:<br>Normal QT levels<br>No family history of sudden cardiac death<br>No current medications that increase the QT interval<br>• Withhold treatment if<br>QTc is greater than 470ms in males<br>QTC is greater than 450ms in females<br>• Starting dose is 5mg TID AC, titrating up to 10mg TIC AC as a 2-4 week trial |
| **Tricyclic antidepressants (TCAs)** | • **Evidence:** Shown to reduce dyspepsia symptoms in RCTs for IBS<br>• **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<br>• **Place in therapy:** If patient has no response to PPI therapy, the Canadian Association of GI guidelines suggest a trial of TCA prior to a pro kinetic based on superior evidence available<br>• **Adverse effects:** Anticholinergic and antihistaminic (drowsiness/insomnia, xerostomia, palpitations, weight gain, constipation, urinary retention)<br>• Use with caution in patients at risk of prolonged QT<br>• It can take 2-3 months to reach maximum effect<br>• The lowest effective dose should be used<br>• Dose should be gradually reduced if discontinuing<br>• **Recommended Medications**<br>Nortiptyline (10-25mg) qhs: Increase dose by 10-25mg every 3-4 weeks based on response and tolerability. May require 25-75mg/day. Takes 2-3 months for peak effect<br>Amitriptyline (10-25mg) qhs: Increase dose by 10-25mg every 3-4 weeks based on response and tolerability. May require 25-75mg/day. Takes 2-3 months for peak effect<br>Desipramine (25mg) qhs. Increase based on response and tolerability |

There is insufficient data to recommend the routine use of bismuth, antacids, simethicone, misoprostol, anticholinergics, anti-spasmodics, SSRIs, herbal therapies, probiotics, or psychological therapies in dyspepsia. However, these therapies may benefit from sone patients and, thus, a trial with assessment of response may be reasonable, if clinically appropriate, and could be undertaken while awaiting specialist consultation.

**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 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 do 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 Dyspepsia

## 1. What is Dyspepsia?

- A word used to describe a group of upper belly symptoms that cause pain and discomfort (indigestion)
- Many people will have symptoms of dyspepsia at some point in their lifetime
- Usually cared for by healthcare providers (General Practitioner, Nurse Practitioner, Urgent Care Center, etc.)

## 2. 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.

## 3. Check your symptoms

- Pain or discomfort in the upper part of the stomach, often after meals
- Feeling uncomfortably full after eating
- Nausea
- Loss of appetite
- Bloating

## 4. Tests that may be done

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

## 5. Make lifestyle changes to manage symptoms

- Identify foods that cause symptoms and try to limit or avoid them
- Eat smaller, more frequent meals
- Lose weight, if you are overweight
- Stop or reduce the use of tobacco, alcohol, and cannabis
- Avoid tight clothing around midsection
- Consider medication trial
- Wait 2-3 hours after eating before you lie down
- 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.

## 6. 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

## 7. Tell your healthcare provider 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 blood
- Losing weight without intention

You may want to write down your symptoms and what causes them so a plan can be made to manage them. Talk to your healthcare providers if your symptoms do not improve, get worse, or keep interfering with your everyday activities.

## You can find more information at:

- Dietician services https://www.healthlinkbc.ca/health-services/healthlink-bc-811-services/dietitian-services
- Canadian Digestive Health Foundation https://cdhf.ca/en/digestive-conditions/dyspepsia/
- Up to Date https://www.uptodate.com/contents/upset-stomach-functional-dyspepsia-in-adults-beyond-the-basics?source=search_result&search=dyspepsia%20patient%20info&selectedTitle=2~150