

GUIDELINES & PROTOCOLS

ADVISORY COMMITTEE

Dyspepsia with or without *H. pylori* infection - Clinical Approach in Adults

Effective Date: To be determined

Scope

This guideline applies to non-pregnant adult patients with Dyspepsia. Dyspepsia is defined in this guideline as persistent or recurring symptoms consisting of upper abdominal pain, discomfort, nausea or bloating. Alarm features that require prompt investigation include: gastrointestinal blood loss, weight loss, early satiety, dysphagia, persistent vomiting, or symptom onset after the age of 55 years.¹ The search for and eradication of *Helicobacter pylori* (*H. pylori*) is also discussed.

For patients presenting predominantly with reflux symptoms, please refer to the Gastroesophageal Reflux Disease guideline (GERD).

Diagnostic Codes: 536-Dyspepsia; 535 or 537-Gastritis and Duodenitis

Prevention and Risk Factors

Many medications have been associated with dyspepsia, particularly acetylsalicylic acid (ASA) and non-steroidal anti-inflammatory drugs (NSAIDs).² If such medications are identified, then dose reduction or discontinuation should be considered as a first step. Emotional stress is not considered a risk factor for peptic ulcer disease, but may frequently be associated with functional (non-ulcer) dyspepsia.³ Lifestyle factors such as the use of alcohol and tobacco are potential triggers. Risk factors for being infected with *H. pylori* include immigration from a developing country, poor socioeconomic conditions, and family overcrowding.⁷

Management

Management of Dyspepsia with Alarm Features:

Alarm features consist of: gastrointestinal blood loss, weight loss, early satiety, dysphagia, persistent vomiting, or symptom onset after the age of 55 years.¹ Referral for upper gastrointestinal endoscopy is recommended.^{1,4}

Management of Dyspepsia without Alarm Features:

Patients with mild or infrequent symptoms can be managed without further investigation using non-prescription acid reducing agents.¹ Many medications can cause dyspeptic symptoms. A drug history including non-prescription medications is recommended.

For patients with more persistent symptoms, one of two approaches may be used:

1. Test and treat for *H. pylori* infection – see section below on management of *H. pylori* infection.

This approach is most appropriate for patients who have not been previously screened and is especially applicable in individuals who have an increased risk for *H. pylori* infection.

Individuals with dyspepsia who currently have an endoscopically or radiographically confirmed duodenal or gastric ulcer⁵, or have had one within the past five years, should be tested for *H. pylori* infection (see Table 1). This does not apply to patients in whom successful eradication has been previously confirmed.

2. Empiric Therapy

This approach is most appropriate for patients who are unlikely to have *H. pylori* infection or who have previously tested negative for *H. pylori*. A 4-8 week course of treatment with a proton pump inhibitor (PPI) or H₂-receptor antagonist (H₂RA) may be prescribed.

Management of *H. pylori* Infection:

- a) Test as per Table 1.
- b) Offer eradication treatment if the test is positive (see Table 2). Emphasize the importance of adherence to therapy.
- c) Confirmation of eradication is recommended in patients who have had a complicated duodenal ulcer (perforation or hemorrhage), gastric ulcer or mucosa associated lymphoid tissue (MALT) lymphoma. Persisting symptoms after eradication treatment should be followed by retesting or endoscopy. Retesting is otherwise not routinely required.
- d) An initial attempt to eradicate *H. pylori* may fail in as many as 20% of patients.⁶ Refractory *H. pylori* infection is seldom treated successfully by repeating the same regimen.⁵ A “rescue” or second line treatment is recommended (see Table 3).

Table 1: Tests for the diagnosis of *H. pylori* infection

Tests for <i>H. pylori</i>	Test identifies	Sensitivity	Specificity
C13 urea breath test* (UBT) (non-radioactive)	Active infection	High	High
Endoscopic gastric biopsy*	Active infection	High	High
Fecal antigen testing* (available in selected centres)	Active infection	High	High
Serology**	Antibody – (unable to differentiate active from past infection*)	High	Moderate

* Test results may be affected by medications such as antibiotics and acid lowering agents; therefore, it is essential that bismuth and antibiotics be withheld for at least 28 days and a PPI for 7-14 days prior to testing.^{5,11,15}

** Antibody tests will remain positive for several years following successful eradication, repeat serology testing is not recommended.

Table 2: First line *H. pylori* Treatment Regimens^{8,6,9}

Regimen	Agents used	Dose
P A C	PPI* amoxicillin clarithromycin	bid 1000 mg bid 500 mg bid } for 1 week**
P M C	PPI* metronidazole clarithromycin	bid 500 mg bid 250 mg bid } for 1 week**
P B M T	PPI* Pepto-Bismol® metronidazole tetracycline	bid 2 tabs qid 250 mg qid 500 mg qid } for 1 week**

Table 3: Second line *H. pylori* Treatment Regimens⁵

Regimen	Agents used	Dose
P B M T	PPI* Pepto-Bismol® metronidazole tetracycline	bid 2 tabs qid 250 mg qid 500 mg qid } for 2 weeks**
P L A	PPI* levofloxacin*** amoxicillin	bid 250 mg bid 1000 mg bid } for 10 days**

* PPI: rabeprazole 20 mg, lansoprazole 30 mg, omeprazole 20 mg, pantoprazole 40 mg, esomeprazole 20 mg.

** See rationale for discussion of treatment duration.

*** Levofloxacin has not been approved by Health Canada for this indication.

Note: In patients not allergic to penicillin, the PAC regimen is the preferred first line treatment because of high rates of metronidazole resistance.

Management of Chronic Dyspepsia:

Patients with chronic non-progressive symptoms previously investigated with negative results and no alarm symptoms, almost certainly have functional dyspepsia. This is a benign but chronic relapsing condition and does not require further investigation. It has not been established that long term pharmacotherapy improves outcomes for dyspepsia and its use should be reassessed periodically. Education, reassurance and support are the foundations of care.¹⁰

Rationale

Dyspepsia is a common clinical problem that seldom represents life-threatening disease. A description of the symptoms does not reliably differentiate ulcers from non ulcer disease. Functional dyspepsia is ultimately the most common diagnosis, but other possible diagnoses to consider include ulcer disease, gastroesophageal reflux disease and gastric cancer. Malignancy is an unlikely diagnosis in the absence of any alarm features, especially in patients under the age of 55 years.¹⁰

Alarm features suggest a higher risk of significant disease and require prompt investigation. Endoscopy is recommended to identify gastric and duodenal ulcers as well as esophageal and gastric cancers.^{11,10} Gastric ulcers are potentially malignant and require endoscopic biopsy.

Patients whose symptoms persist after an initial negative investigation are considered to have

functional dyspepsia. The association between *H. pylori* and functional dyspepsia is unclear, although a minority of patients (from 1% to 15%) may improve after eradication treatment.^{5,12} Dyspepsia continuing after treatment of *H. pylori* is more likely the result of GERD or functional dyspepsia.

Infection with *H. pylori* is a chronic indolent process that in the majority of patients causes asymptomatic gastritis. New infection or re-infection with *H. pylori* is an uncommon event (less than 2% per year); therefore, repeated screening is generally unnecessary.¹³ General population or family screening is not strongly supported by the literature.

Although *H. pylori* is the major cause of duodenal ulcer, gastric ulcer, gastric carcinoma and MALT lymphoma, these complications arise in a minority of infected patients.⁵ For patients with peptic ulcer disease, eradication of *H. pylori* reduces the rate of ulcer recurrence from 67 to 6 percent in duodenal ulcers and from 59 to 4 percent in gastric ulcers.¹¹ *H. pylori* testing (other than serology) will reliably confirm eradication.

The duration of treatment for *H. pylori* is somewhat controversial. While a 7 day treatment is most often recommended, a fourteen day treatment is thought to yield a 5 percent increase in eradication success rates.¹⁶ This increase must be weighed against added cost and risk of adverse events which include *Clostridium difficile* colitis, allergic reactions, and increased antibiotic resistance.⁵

NSAIDs are the second leading cause of gastric and duodenal ulcer and may be co-pathogenic with *H. pylori*.¹⁴

References

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List of Abbreviations

ASA	Acetylsalicylic acid
GERD	Gastroesophageal reflux disease
H ₂ RA	Histamine ₂ -receptor antagonist
MALT	Mucosa associated lymphoid tissue
NSAID	Non steroidal anti-inflammatory drugs
PPI	Proton pump inhibitor
UBT	Urea breath test

This guideline is based on scientific evidence current as of the Effective Date.

This guideline was developed by the Guidelines and Protocols Advisory Committee, approved by the British Columbia Medical Association and adopted by the Medical Services Commission.

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- recommend actions that are sufficient and efficient, neither excessive nor deficient
- permit exceptions when justified by clinical circumstances

DISCLAIMER

The Clinical Practice Guidelines (the "Guidelines") have been developed by the Guidelines and Protocols Advisory Committee on behalf of the Medical Services Commission. The Guidelines are intended to give an understanding of a clinical problem, and outline one or more preferred approaches to the investigation and management of the problem. The Guidelines are not intended as a substitute for the advice or professional judgment of a health care professional, nor are they intended to be the only approach to the management of clinical problems.