Provincial Gastric Cancer Prevention, Screening & Diagnosis Primary Care Pathway

Quick Links: Primer & Expanded details | Provider resources | Patient resources | Provide feedback

Gastric Cancer is often diagnosed at advanced stage. Early identification and management of modifiable risk factors, timely recognition of alarm symptoms, and appropriate referrals for specialist evaluation are essential to improving prognosis. This clinical pathway is designed to support primary care providers in three key areas:

1. Promoting **primary prevention** strategies for all patients
2. Identifying **high-risk individuals** who may benefit from targeted screening
3. Guide the **evaluation and management** of patients presenting with dyspepsia

Primary Prevention for ALL

Test and Eradicate H. pylori (in individuals from endemic regions or with HP positive household members)

H. Pylori Pathway

Modifiable risk factor reduction:

- Smoking cessation
- Alcohol moderation
- Diet:
  ↑ fibre-rich foods, fruits and vegetables, and lean meats
  ↓ salt intake, red meat, processed meat and processed foods

Targeted Screening of Asymptomatic Patients

Risk Assessment for Targeted Gastric Cancer Screening:

Consider screening endoscopy in those ≥ 50 + ≥ 1 gastric cancer risk factor(s)

- Immigrant (1st generation) from high-risk region (East Asia, Eastern Europe, Central/South America)
- 1st degree relative with gastric or esophageal cancer*
- Chronic H. pylori + one or more of (smoking >20 PY, high salt, red meat, processed meat, and processed foods, low socioeconomic status)
- Hereditary GI polyposis/cancer syndromes (See Table 1)
- Personal history pernicious anemia
- Personal history gastric atrophy/metaplasia
- Chronic atrophic gastritis

** ≥ age 50 or 10 years earlier than family member diagnosed with gastric or esophageal cancer (whichever comes first)*

No

Gastric Cancer Screening **NOT** indicated. Counsel on primary prevention and reassess if symptoms develop.

Yes

Investigation of Symptomatic Patients

Patient describes symptoms of **dyspepsia** (> 1 month)

- Epigastric pain/discomfort
- Upper abdominal distention or bloating
- Early satiety

Assess as per **Dyspepsia Pathway**

Assess for Alarm Features:

- Family History (first-degree relative) of esophageal or gastric cancer
- Personal history of peptic ulcer disease
- Age >60 with new and persistent symptoms (>3 months)
- Unexplained weight loss (≥5% over 6-12 months)
- Progressive Dysphagia
- Persistent Vomiting (not associated with cannabis use)
- GI Bleeding
- Iron Deficiency Anemia

Yes

No

Continue to manage within primary care as per dyspepsia pathway

Refer to Local GI/ Endoscopy Provider

Note: If esophageal cancer is identified, the endoscopist is responsible for arranging:

- Staging CT chest/abdomen/pelvis
- Concurrent referral to surgery and medical oncology as per local process

If your patient is diagnosed with advanced cancer, consider: **Integrating An Early Palliative Approach to Advanced Cancer Care (Shared Care)**

Cancer Care Alberta | Primary Care Alberta

Call to Action: We need your feedback during this **new** pathway's initial testing phase!

Alberta's Pathway Hub | Advice options | Background

This primary care pathway was co-designed provincially by Primary Care Providers, Patient and Family Advisors, Gastroenterologists/Endoscopists, General and Thoracic Surgeons, Medical Oncologists, Radiologists, Registered Nurses, Dietitians, Supportive Care Services, Operational Managers and the Cancer System Innovation and Integration Team. It is intended to be used in conjunction with specialty advice services, when required, to support care within the medical home.

EXPANDED DETAILS

Pathway Primer

- Gastric cancer (GC) remains a significant global health concern. Although age-standardized incidence rates have declined, the absolute number of new cases is expected to increase due to the aging population. In Canada, GC is projected to affect approximately 4000 individuals in 2024, disproportionately impacting males who have nearly twice the incidence compared to females (age-standardized incidence rate 11.3 vs 5.6 per 100,000, respectively) [1].
- Survival is strongly linked to the disease stage at diagnosis, with five-year survival rates exceeding 90% when detected early but declining to less than 30% with advanced disease [2,3].
- Primary care providers are pivotal in identifying patients at elevated risk, facilitating timely referral, and implementing effective strategies for primary prevention and early detection.

Pathogenesis and Risk Factors

- GC typically arises through a well-described sequence of histological changes, beginning with chronic gastritis, progressing to gastric atrophy, intestinal metaplasia, and dysplasia, before ultimately developing into invasive adenocarcinoma.
- Gastric intestinal metaplasia (GIM) is a critical precursor lesion in this cascade, often resulting from chronic mucosal injury driven primarily by *Helicobacter pylori* infection or, less commonly, by autoimmune gastritis. The extent and distribution of GIM correlate strongly with cancer risk, with extensive and multifocal disease conferring the highest likelihood of progression to GC.
- In addition to *H. pylori* infection – the strongest modifiable risk factor – other important risk factors include smoking, heavy alcohol use, and diets high in salt, red meat, processed meat, and processed food.
- Additional non-modifiable risk factors include advanced age (a surrogate marker of cumulative risk exposure), male sex, immigration from high-prevalence regions, and a family history of GC.
- Several hereditary GI polyposis and cancer syndromes also increase GC risk. See **Table 1** for details.

Prevention Strategies and Indications for Targeted GC Screening

- Primary prevention of GC should focus on broadly applied modifiable risk factors reduction [3]. This includes opportunistic H. pylori testing and eradication therapy for individuals from or with family origins in endemic regions (Southeast Asia, Eastern Europe, Latin America, Africa). Additionally, consider familial-based testing in adult household members who test positive for H. pylori.
- Nutrition counselling should focus on increasing intake of fibre-rich foods, fruits, vegetables and lean meats while reducing the intake of salt, red meat, processed meat, and processed food.
- Health professionals should provide counselling in support of smoking cessation while encouraging limited alcohol consumption or abstinence.

Indications for Screening

- Consider targeted screening for gastric cancer in the following patient groups:

  Individuals ≥ age 50 and 1 or more additional risk factor(s) from:

  - Immigrant (first generation) from high-risk region (East Asia, Eastern Europe, Central/South America)
  - First degree relative with gastric cancer (screen at age 50 or 10 years earlier than family member with gastric cancer, whichever comes first)
  - Chronic *H. pylori* infection, which is any ongoing, untreated infection (diagnosed by current positive testing) regardless of exact duration, plus one or more of:
    - Smoking > 20 Pack Years
    - High salt, red meat, processed meat or processed foods
    - Low socioeconomic status
  - Hereditary GI polyposis/cancer syndromes (see **Table 1**)
  - Personal history pernicious anemia
  - Personal history gastric atrophy/metaplasia
  - Chronic atrophic gastritis

Table 1: Risk Factors to Identify Individuals for Gastric Cancer Screening
(Adapted from the AGA Clinical Practice Update)[3]

Risk Factor
First-generation immigrants from regions with moderate-to-high gastric cancer incidence (East Asia, Eastern Europe, Central and South America)
Family history of gastric cancer in a first-degree relative (consider screening 10 years earlier than youngest affected relative)
History of chronic *Helicobacter pylori* infection, when accompanied by at least one of: • Smoking (>20 pack-years) • High intake of salt, red meat, or smoked/processed foods • Living conditions associated with low socioeconomic status or persistent poverty
Certain hereditary gastrointestinal polyposis syndromes and cancer syndromes including: • Familial adenomatous polyposis (FAP) • Peutz-Jeghers syndrome • Juvenile polyposis • MUTYH-associated polyposis • Lynch syndrome • Li-Fraumeni syndrome • Hereditary diffuse gastric cancer (HDGC) / CDH1 gene mutation

In the Western world, where the incidence of GC is relatively low, population-based screening programs have generally not been feasible or widely accepted. Instead, secondary prevention strategies emphasize a tailored approach based on individualized risk. For individuals with one or more risk factors for GC, referral to gastroenterology (or local endoscopy provider) for elective screening can be considered – beginning at age 50 or 10 years earlier than the age at diagnosis of GC in a first-degree relative, whichever comes first. High-definition endoscopy is the preferred modality for screening and surveillance in individuals at increased risk. It allows direct visualization of the gastric mucosa to identify and stage areas suspicious of neoplasia and facilitates targeted biopsies for histological evaluation. Both endoscopic and histological staging are essential for accurate risk stratification and for guiding the need and appropriate interval for continued surveillance.

Clinical Presentation and Indications for Specialist Referral

- Gastric cancer frequently presents late in its course, highlighting the importance of timely recognition of symptoms that warrant prompt specialist referral
- **Alarm features** suggestive of gastric malignancy include:
    - Family history (first degree relative) of gastric or esophageal cancer
    - Personal history of peptic ulcer disease
    - Age over 60 with new or persistent symptoms (>3 months)
    - Unexplained body weight (≥5% total body weight over 6-12 months)
    - Progressive dysphagia
    - Persistent vomiting (not associated with cannabis use)
    - Black stool or blood in vomit
    - Iron deficiency anemia
- Physical examinations are usually unremarkable except for in late-stage or metastatic disease. Findings are rare but may include supraclavicular lymphadenopathy (Virchow's node), a periumbilical nodule (Sister Mary Joseph nodule), or a mass of the rectovesical/rectovaginal pouch on direct rectal or vaginal exam (Blumer's shelf).
- Abnormal diagnostic imaging that may raise suspicion of gastric cancer
    - Upper GI series (barium-swallow) may demonstrate gastric wall thickening, ulceration or other irregular filling defect
    - CT may demonstrate gastric mass (with or without gastric outlet obstruction), peri-gastric lymphadenopathy, or adjacent organ invasion
- When alarm features or concerning imaging findings are identified, expedited referral to gastroenterology for endoscopic evaluation is essential as detection may facilitate curative intervention, significantly improving prognosis

Management Options

- Gastric cancer management is complex and best guided by a multidisciplinary team; detailed treatment recommendations are outside of the scope of this pathway.
- For early-stage disease, confined to the mucosa or superficial submucosa, endoscopic submucosal dissection (ESD) may offer a curative, organ sparing therapy.
- More advanced localized tumours typically require subtotal or total gastrectomy with lymphadenectomy, often combined with chemotherapy.
- Metastatic or unresectable disease is managed with systemic therapy and palliative interventions.

Advice Options

If this patient needs to be directed to hospital through RAAPID or the ER, call RAAPID for on-call Gastroenterologist or 911.

Zone	Program	Online Request	Phone Number
Urgent Telephone			
All Zones	RAAPID	N/A	**North:** 1-800-282-9911 or 780-735-0811 **South:** 1-800-661-1700 or 403-944-4486
Non-Urgent Electronic			
All Zones	Netcare eReferral		N/A
Non-Urgent Telephone on next page			
Calgary	Specialist Link	Online Request	403-910-2551
Edmonton, North	ConnectMD	Online Request	1-844-633-2263

When to refer for consultation and/or endoscopy

- If **alarm features** are identified
- If unsatisfactory response to management and/or pharmacological therapy
    - **Note:** Consider using an advice service before referring
- 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.

Referral Process (Gastroenterology or Local Endoscopy Service)

1. North Zone FAST Team – Fax: 1-833-627-7025
2. Edmonton Zone GI CAT – Fax: 1-780-826-7384 Gastroenterology/Endoscopy Referral
3. Central Zone GI CAT – Fax: 1-403-476-4736 Gastroenterology/Endoscopy Referral
4. Calgary Zone GI CAT – Fax: 1-403-944-6540
5. South Zone FAST Team – Fax: 1-833-627-7024

PROVIDER RESOURCES

Nutrition Services:

To refer your patient to a Registered Dietitian:

- Visit Alberta Referral Directory - Main Search and search for nutrition counselling.
- To learn more about programs and services offered in your area, visit: ahs.ca/Nutrition
- Health Link has Registered Dietitians available to answer nutrition questions. If a patient has a nutrition question, they can complete a self-referral at ahs.ca/811 or call 811 and ask to talk to a dietitian.

Integrating an Early Palliative Approach to Advanced Cancer Care:

Integrating an Early Palliative Approach into Advanced Cancer Care
Introducing Early Palliative Care: Tips for Healthcare Professionals

Resources for Household Food Insecurity:

- Household Food Insecurity: Actions in Healthcare | Alberta Health Services

  Call, text, or chat with 211 Alberta (ab.211.ca) to find out about financial benefits, programs, and services

PATIENT RESOURCES

This section is intended to list resources that primary care providers may find useful to share with patients to help support self-management and care in the medical home.

Resource	**Link**
Cancer Care Information (AB)	www.ahs.ca/cancer
Health information and tools for all Albertans	Stomach Cancer: Care Instructions (MyHealth Alberta)
Living well with cancer supports and resources	www.wellspring.ca
Smoking Cessation	https://albertaquits.healthiertogether.ca
General information on weight management	https://myhealth.alberta.ca/Health/pages/conditions.aspx?hwid=center1038
Nutrition Services	**Link**
Nutrition Handouts	www.ahs.ca/NutritionResources
Nutrition Workshops & Classes	www.ahs.ca/NutritionWorkshops
Ask a Dietitian a Nutrition Question	Complete a self-referral at www.ahs.ca/811 or call 811 and ask to talk to a dietitian
Patient Pathway	Dyspepsia Primary Care Patient Pathway

BACKGROUND

About this pathway

- This pathway primer was developed in collaboration with primary care providers, gastroenterologists, thoracic and general surgeons, medical oncologists, radiologists, patient and family advisors, registered nurses, dietitians, supportive care services, operational managers and the Cancer System Innovation and Integration Team.
- Condition-specific clinical pathway primers are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

Authors and conflict of interest declaration

The authors represent a multi-disciplinary team. Names of the content creators and their conflict-of-interest declarations are available on request by emailing AlbertaPathways@primarycarealberta.ca.

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 November 2028. However, we welcome feedback at any time.

DISCLAIMER

This pathway represents evidence-based best practice but does not override the individual responsibility of healthcare 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 healthcare professional. It is expected that all users will seek advice of other appropriately qualified and regulated healthcare providers with any issues transcending their specific knowledge, scope of regulated practice or professional competence.

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