Provincial Esophageal Cancer Prevention, Screening & Diagnosis Primary Care Pathway

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

Esophageal Cancer often presents 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. Guiding the **evaluation and management** of patients presenting with esophageal dysphagia

Esophageal Dysphagia refers to difficulty swallowing caused by impaired passage of solids or liquids through the esophagus. *This pathway does NOT address* **oropharyngeal dysphagia**, which refers to difficulty initiating swallowing and transferring food from the oropharynx into the esophagus.

Primary Prevention for ALL

Manage **GERD** if present:
- Diet and lifestyle modification
- +/- pharmacologic therapy

Modifiable risk factor reduction:
- Smoking cessation
- Alcohol moderation

GERD Pathway

Targeted Screening for Barrett's Esophagus (precursor condition of esophageal adenocarcinoma)

Risk assessment for Barrett's esophagus:

Consider one-time screening endoscopy in those with **chronic GERD (> 5 years) and/or frequent symptoms of GERD (weekly or more) + ≥ 3 risk factors** from:

- Male Sex
- Age > 50
- Caucasian
- Current or past history of tobacco smoking
- Central Obesity (waist circumference > 88 cm in women and > 102 cm in men)
- Family History of esophageal cancer

Consider screening in those with **sleeve gastrectomy**

No → Screening for Barrett's Esophagus **NOT** indicated. Counsel on primary prevention and reassess if symptoms of dysphagia develop or meet screening criteria.

Yes → Shared Decision Making about BE Screening

Investigation of Symptomatic Patients

Patient describes symptoms of **Esophageal Dysphagia:**
- Difficulty/discomfort during swallowing
- Sensation of food getting "stuck" in esophagus/chest

Assess for alarm symptoms:
- Progressive dysphagia
- Odynophagia
- Unexplained weight loss (≥5% total body weight over 6-12 months)
- GI bleeding
- Iron deficiency anemia
- Concerning exam or diagnostic findings

Yes →

Refer to Local 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)**

No →

Non-progressive dysphagia
- Trial PPI as outlined in GERD pathway

GERD Pathway

Response to PPI Trial

Yes → Continue to manage in Primary Care

No →

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 primer was co-designed provincially by Primary Care Providers, Patient and Family Advisors, Gastroenterologists/Endoscopists, General and Thoracic Surgeons, Medical Oncologists, Radiologists, Registered Nurses, Dieticians, 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

- Esophageal cancer remains a significant public health concern in Canada, with an estimated incidence rate of 6 new cases per 100,000 individuals in 2024, disproportionately affecting males compared to females (9 vs 2 per 100,000 respectively) [1].
- The overall prognosis remains poor, with 5-year survival rates of approximately 15% [2]. Adenocarcinoma has emerged as the most predominant histological subtype of esophageal cancer in North America over the last 40 years, while the incidence of squamous cell carcinoma has declined [3]. The shift reflects changing risk factor profiles - particularly the increase prevalence of gastroesophageal reflux disease (GERD), obesity, and Barrett's esophagus (BE), which are strongly associated with adenocarcinoma, alongside a decline in tobacco use, historically linked to squamous cell carcinoma.
- As primary care providers play a pivotal role at the front lines of patient care, they are strategically positioned to mitigate risk through early identification and management of modifiable risk factors, identification of select patients who may benefit from screening strategies, timely recognition of alarm symptoms, and appropriate initiation of referral for specialist evaluation.

Pathogenesis and Risk Factors

- **Esophageal cancer** develops predominantly from two histological subtypes – adenocarcinoma and squamous cell carcinoma – each with distinct pathogenesis.
- **Esophageal adenocarcinoma (EAC)** is the most common subtype in Canada. It typically arises in the distal esophagus and is strongly associated with GERD [2]. Chronic exposure of esophageal mucosa to gastric acid leads to the metaplastic transformation, resulting in Barrett's esophagus (BE) - a precancerous condition characterized by the replacement of normal squamous epithelium with intestinal-type columnar epithelium containing goblet cells. Over time, BE may progress sequentially from low-grade dysplasia to high-grade dysplasia and, ultimately, to EAC. In addition to chronic reflux, predisposing risk factors include male sex, abdominal obesity, advanced age, smoking history, family history, and Caucasian ethnicity. Risk is multiplicative, with each additional risk factor increasing the prevalence of BE by 1.2% [4].
- **Esophageal squamous cell carcinoma (ESCC)** arises in the proximal and mid-esophagus and is closely related to chronic mucosal irritation from tobacco use, alcohol consumption, dietary deficiencies, environmental factors (ionizing radiation, caustic agents, polycyclic aromatic hydrocarbons) and esophageal stasis seen in achalasia patients [5]. ESCC has decreased in incidence in Canada over recent decades, reflecting reductions in smoking rates [2].

Esophageal Cancer Prevention Strategies

- Prevention of esophageal cancer primarily focuses on the management of modifiable risk factors.
- Patients should be counseled on weight management, smoking cessation, moderating alcohol consumption, and managing GERD with diet, lifestyle, and, when necessary, pharmacologic agents such as over-the-counter antacids and/or proton pump inhibitors (PPIs).
- See GERD pathway for details.

Indications for Targeted Screening for Barrett's Esophagus

- Consider one-time screening for Barrett's esophagus in the following patient groups:
    - Individuals with **chronic GERD (≥5 years**) and/or frequent (weekly or more) symptoms of GERD but only if **3 or more additional risk factors are present** from:
        - Male sex
        - Age > 50 years
        - Caucasian
        - Current or past history of tobacco smoking
        - Central obesity — waist circumference >88 cm (women) or >102 cm (men)
        - Family history of esophageal adenocarcinoma in a first-degree relative
    - Individuals who have undergone **sleeve gastrectomy** (without surgical conversion to a Roux-en-Y gastric bypass (RYGB))

Significant variability in screening recommendations for esophageal adenocarcinoma exists between major guidelines, reflecting the uncertainty of clinical benefit. The Canadian Task Force on Preventative Health Care explicitly recommends against routine screening for Barrett's esophagus or esophageal adenocarcinoma, even among patients with chronic GERD symptoms, citing very low-certainty evidence that screening improves mortality and noting the potential for harm from unnecessary interventions and resource implications [3]. Conversely, the American College of Gastroenterology, cautiously endorses screening but specifically in higher-risk populations – those with chronic GERD symptoms combined with multiple additional risk factors [4]. This difference arises because the AGA emphasizes epidemiological associations and potential benefits of early dysplasia detections, despite a lack of robust trial evidence showing a definitive reduction in mortality. For patients who meet epidemiologic criteria and undergo a negative initial endoscopy, repeat testing is not indicated.

Sleeve gastrectomy (SG) is increasingly recognized as a potential risk factor for BE, with evidence suggesting that it can develop postoperatively even in the absence of GERD symptoms. A systematic review and meta-analysis reported a pooled prevalence of BE of approximately 12% up to 10 years following SG [6]. The International Federation for the Surgery of Obesity recommends consideration of endoscopic screening at one-year post-SG, with repeat surveillance every 2–3 years [7]; however, the optimal timing and frequency of surveillance remain uncertain. Routine BE screening is likely not required in patients who have converted from SG to Roux-en-Y gastric bypass, though ongoing evaluation may be warranted in those with persistent symptoms or other risk factors.

- Given the uncertainty and the divergence in expert opinions, shared decision-making is essential when considering referring patients for BE screening.
- Clinicians should transparently discuss the uncertain mortality benefits, potential risks, patient values, and resource considerations to guide individualized decisions on esophageal cancer screening.
- The screening guidelines presented herein represent the consensus opinions of subject matter experts after critical review of the available literature.

Barrett's Esophagus Surveillance

- For individuals with a confirmed diagnosis of BE, surveillance is essential to detect dysplastic changes early and enable timely endoscopic intervention before progression to invasive cancer.
- The interval for endoscopic surveillance is guided by histopathologic findings; for non-dysplastic BE, this is typically **every 3–5 years**. Adjunctive chemoprevention with PPIs and adherence to structured endoscopic surveillance protocols remain the cornerstone strategies for reducing the risk of neoplastic progression in patients with BE.

Clinical Presentation and Indications for Specialist Referral

- Esophageal cancer frequently presents late in its course, highlighting the importance of timely recognition of symptoms that warrant prompt specialist referral.
- **Alarm features** suggestive of esophageal malignancy include:
    - Progressive dysphagia (initially solids, then liquids)
    - Odynophagia
    - Unexplained weight loss ($\geq$ 5% total body weight over 6-12 months)
    - Recurrent regurgitation/vomiting
    - Iron deficiency anemia
    - Signs of gastrointestinal bleeding such as melena or hematemesis
- Physical examinations are usually unremarkable except for in late-stage or metastatic disease. Findings may include left supraclavicular lymphadenopathy (Virchow's node), hepatomegaly, and pleural effusion.
- An upper GI series (barium-swallow) may demonstrate esophageal stricture, ulceration, or mass.
- When alarm features or concerning imaging findings are identified, expedited referral to gastroenterology for endoscopic evaluation is essential, as early detection may facilitate curative intervention, significantly improving prognosis.

Management Options

- The management of esophageal cancer depends on tumour stage, histology, and patient factors, but generally involves a combination of endoscopic, surgical, and oncologic therapies.
- For early-stage diseases, particularly high-grade dysplasia and intramucosal adenocarcinoma, endoscopic eradication therapies such as endoscopic mucosal resection (EMR) and radiofrequency ablation (RFA) are often curative and preferred over esophagectomy due to lower morbidity.
- More advanced cancers typically require esophagectomy with or without neoadjuvant chemoradiotherapy. Definitive chemoradiotherapy may be considered for unresectable squamous cell carcinoma.
- Detailed treatment planning is multidisciplinary and beyond the scope of this primer, but early specialist referral is critical to optimize outcomes.

Advice Options

If this patient needs to be directed to hospital through RAAPID or the ED, Call RAAPID for on-call Gastroenterology 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 into 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	www.albertahealthservices.ca/cancer
Health information and tools for Albertans	Learning About Esophageal Cancer (MyHealthAlberta)
Living well with cancer supports and resources	www.wellspring.ca
Smoking Cessation	www.albertaquits.healthiertogether.ca
General information on weight management	myhealth.alberta.ca/health/healthy-living/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 - GERD	GERD 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, dieticians, support 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 here.

References

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[2] Canadian Cancer Statistics Advisory Committee. *Canadian Cancer Statistics 2019*. Toronto: Canadian Cancer Society; 2019.

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