Upper Gastrointestinal Cancer – Part 1

Effective Date: X, 2025

SCOPE

Part 1 of this 2-part guideline outlines recommendations for the prevention, screening, diagnosis, management and follow-up of upper gastrointestinal (GI) cancer in adults, including cancer of the esophagus and stomach. The primary audience for this guideline is family physicians (FPs) and nurse practitioners (NPs) providing first contact of primary healthcare, as well as general practitioners in oncology (GPOs) and emergency room physicians.

METHODOLOGY

The development of this guideline was sponsored by BC Cancer, Provincial Health Services Organization (PHSA). The recommendations were developed by a working group including family physicians/nurse practitioner (with representation from rural, urban, and Indigenous clinical practice), a general practitioner in oncology, medical oncology, gastroenterology, surgery, and radiology.

The development of the recommendations in this guideline was through careful consideration of the clinical evidence, as well as the application of clinical expertise including a peer review process, in order to arrive at consensus for each recommendation.

A systematic and reproducible approach to the evidence was used, including a rapid review of clinical evidence from 2016 to November/December 2024. The following databases were searched: Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Ovid MEDLINE(R) and Embase. For a detailed list of the research questions applied, search terms used, and the results including a PRISMA table and evidence summary for this rapid review, please contact the Primary Care Program – Family Practice Oncology Network at BC Cancer.

KEY RECOMMENDATIONS

- Screening for upper GI cancer (e.g., with endoscopy, imaging or tumour markers) is not recommended for asymptomatic patients at average risk.
- Alarm symptoms (i.e., weight loss, dysphagia) and persistence of symptoms despite optimal treatment (i.e., 4-6 weeks of proton pump inhibitors (PPIs)) should prompt a referral to a surgeon or gastroenterologist for urgent assessment.
- Patients presenting with symptoms indicative of upper GI cancer should be referred urgently to a specialist.

- *Helicobacter pylori* (*H. pylori*) is a significant risk factor for gastric neoplasia and should be treated and tested for cure.[1]
- Patients facing potentially life-limiting conditions may benefit from advance care planning.

PREVENTION

The risk of esophageal cancer drops with reduced use of and exposure to tobacco and cigarette smoke.[2] Preventative measures include reducing alcohol intake, maintaining a healthy weight, and increasing the consumption of dietary fruits and vegetables.[2,3,4] The risk of stomach cancer is reduced with diets that are low in salt, smoked, or pickled foods.[5,6,7]

Patients with *H. pylori* should be treated with a combination of antibiotics and antacids.[8,9] After an adequate course of eradication, follow-up testing is recommended to ensure eradication is successful. Refer to the University of British Columbia, Continuing Professional Development (UBC-CPD) recommendations on *Management of Helicobacter pylori in 2023: who should be tested, treated, and how* (see *Resources*).

Patients with Barrett's esophagus should be treated to prevent or reduce reflux and should undergo regular surveillance endoscopy.[10] Long-term treatment with PPIs should be strongly considered.[11]

SCREENING

The age-standardized incidence rate for esophageal cancer is low in British Columbia (B.C.) (8.8 for males and 2.9 for females, per 100,000).[12] There are currently no recommended screening guidelines for esophageal cancer in asymptomatic patients.[13]

Screening in asymptomatic patients is not recommended, but could be considered in patients with chronic gastroesophageal reflux disease (GERD) and multiple risk factors associated with esophageal adenocarcinoma including:[14]

- Precancerous conditions (e.g., Barrett's esophagus, esophageal dysplasia)
- Older age (≥50 years)
- GERD
- Male sex
- Family history
- White race or ethnicity
- Abdominal obesity
- Smoking

The age-standardized incidence rate for stomach cancer is also low (10.8 for males and 5.9 for females, per 100,000 population).[12] As the effectiveness of gastric screening is uncertain in the Western population, screening for gastric cancer in asymptomatic patients is not recommended.[15,16]

Risk factors for stomach cancer include:[5]

- Family history of stomach cancer
- Gastric adenoma or intestinal metaplasia with dysplasia[17]
- Birth in a country where gastric cancer is common (e.g., Japan, China, Korea)
- Previous partial gastrectomy
- *H. pylori* [1,8,9]

Immigrants from high-risk regions (e.g., Korea, Japan, China) could be considered for an endoscopy referral, especially if there is a family history of gastric cancer in a first-degree relative.[18,19]

Refer patients with suspected familial syndrome to the Hereditary Cancer Program (HCP) at BC Cancer, for counselling and genetic testing (see Resources). The HCP provides genetic counselling and genetic testing for patients who may have inherited an increased risk for certain types of cancer. Information and resources are available for health professionals to use when discussing hereditary cancer assessment with patients/families (see *Resources*).

Some patients with a personal history of cancer are eligible for "mainstreamed" hereditary cancer testing, and primary care providers can order testing and disclose results to patients without a referral. Hereditary cancer syndromes of upper gastrointestinal origin include familial pancreatic cancer, hereditary diffuse gastric cancer, Li-Fraumeni syndrome, Peutz-Jeghers syndrome and others.

DIAGNOSIS

Endoscopy is the assessment of choice for esophageal or stomach related symptoms. Patients referred for an endoscopy may continue any acid suppression medication, including PPIs or H_2-receptor antagonists. Check with your local endoscopy clinic with respect to recommendations for other medications including anticoagulation, diabetes medication, etc.

Indications for Urgent Referral to a Specialist

The presence of the following ***alarm symptoms***–alone or in combination–should prompt urgent referral to a specialist:

- (Progressive) difficulty in swallowing
- Pain on swallowing
- Food obstructions
- Early satiety
- Persistent vomiting
- Unexplained weight loss
- Hematemesis/melena
- Unexplained iron deficiency anemia (refer to the clinical practice guideline on *Iron Deficiency – Diagnosis and Management – 2019* (see *Resources*).

Consider Referral to a Specialist

The presence of the following symptoms should prompt a ***non-urgent referral*** to a specialist:

- Older age (≥50 years)[14] with persistent or progression of heartburn
- Persistent or progression of abdominal pain

Referral not Recommended

For younger patients (≤50 years)[14] with dyspepsia and no ***alarm symptoms***, a referral to a specialist is not recommended.

Investigations for Esophageal and Stomach Cancer

Most of these investigations will be arranged by the consulting physician or primary care provider. It is preferable to have the following tests ordered at the time of referral, so that the results are available at the time of consultation:

- ***Endoscopy is the assessment of choice*** for esophageal or stomach related symptoms.
- Ultrasound (US) of the abdomen may be considered as the initial ***imaging*** modality.[20]
- Computed tomography (CT) of the abdomen and pelvis are the next ***imaging*** modality if US is inconclusive.[20]
- X-ray (XR) if US or CT are not available.[20]
- The Canadian Association of Radiologists (CAR) Gastrointestinal Expert Panel advise that a fluoroscopic upper GI series is ***not recommended***.[20]
- Laboratory testing should include a complete blood count (CBC), ferritin, estimated glomerular filtration rate (eGFR), liver function, and international normalized ratio (INR).
- Referral to a swallowing assessment and management service (*where available*) is indicated for patients with symptoms of suspected oropharyngeal dysphagia (see *Resources*).
- Primary care providers should refer patients to 811 for dietary recommendations and for physiotherapy for exercise recommendations (see *Resources*).

Equity and Access

Consider regional limitations in accessing services and individual patient barriers to care. Consider the applicability of a trauma-informed approach for patients who may require additional support in order to feel safe, or to develop trusting relationships with healthcare services or providers.[21] A trauma-informed approach may enable practitioners to work in partnership with patients and to empower them to make choices about their health and wellbeing.[21]

BC Cancer has created tumour specific clinical care pathways including a Gastric/Gastroesophageal Junction (GEJ) Pathway and an Esophageal/GEJ Pathway (see *Resources*). These pathways are designed to support all health professionals to guide best practice, and to ensure that quality care is provided equitably to all patients across the province. These pathways support communication and decision-making within healthcare teams, to guide the development of clinical benchmarks and performance indicators, and to enable tumour-specific reporting. Healthcare providers are encouraged to use these resources to guide patients along the cancer trajectory for tumour-specific cancer care.

Provincial Language Services (Provincial Health Services Authority (PHSA)) provides language services to health authorities, family practice practitioners, specialist offices and other allied health professionals in B.C. (see Resources). Interpreting services are intended to reduce or eliminate language barriers wherever possible and are designed to enable two-way communication that optimizes the delivery of safe and equitable care. Services are provided in more than 200 languages and are available 24/7 at no charge to patients and/or their families. Sign language interpreting, intervenor, and Communication Access Realtime Translation (CART) services are available for deaf, deaf-blind and hard-of-hearing patients when accessing most healthcare services in B.C.

Indigenous Patient Navigators

Indigenous patient navigators (IPNs) are available at PHSA to support culturally safe experiences for Indigenous Peoples. Indigenous patient navigators (IPNs) collaborate with Indigenous Peoples and

their families to ensure access to high-quality care that is trauma-informed, culturally safe and free of racism and discrimination. For more information about IPNs or for information on how patients can self-refer for their services, refer to the *Resources* section.

STAGING

The TNM (tumour-node-metastasis) classification system is the international standard.[22] Refer to BC Cancer for a link to staging diagrams and definitions for T, N, and M descriptors (see *Resources*).

TREATMENT

Treatment will be recommended by the surgeon and the oncologist/BC Cancer team:

- ***Esophageal Cancer***
    - Early referral to a thoracic surgeon, medical or radiation oncologist is strongly recommended to plan optimal therapy.
    - Acid-reducing agents (i.e., PPIs) can reduce symptoms and heal erosive esophagitis; however, their effect on the progression to dysplasia or cancer is unclear.[11,23]
    - Endoscopic therapy may be considered for patients with Barrett's Esophagus complicated by dysplasia or early esophageal cancer.[24]
    - Surgically unresectable or metastatic disease presents an incurable situation, and palliative measures are then appropriate.
- ***Stomach Cancer***
    - As relapse rates remain high, referral to a multidisciplinary team for consideration of perioperative or post-operative treatment is highly recommended.
    - Symptom management can be determined by medical oncology, radiation oncology, gastroenterology, and surgical oncology.
    - In metastatic disease, bypass of the primary tumour is reserved for those with significant bleeding or obstruction (radiation therapy may be considered for bleeding).[25]
    - In the case of unresectable or metastatic disease, proceed to palliative management.
- ***Gastrointestinal Stromal Tumours***
    - Treatment is dependent on the stage of the tumour, the patient's risk profile, and the presence of metastases.
    - The standard treatment is surgical resection for localized disease.
    - Targeted therapy may be prescribed before and may be continued after surgery in patients at higher risk of recurrence.
    - Palliative radiotherapy may be of benefit in unresectable disease where bleeding or pain is problematic.
- ***Gastrointestinal Lymphoma***
    - The GI tract is a frequent site of involvement with lymphoma; it usually involves the stomach, less frequently the small intestine and rarely the colon or esophagus

- Management is dependent on type, stage and age.
- Resection of GI lymphoma is no longer recommended as earlier diagnosis and current management techniques have reduced the risk of hemorrhage or perforation. Resection is only recommended when it is necessary to establish a definite diagnosis, or to control the complications of hemorrhage, perforation or obstruction.
- There is a strong association between *H. pylori* and gastric lymphoma (mucosa-associated lymphoid tissue type (MALT)).[26] Antibiotics are recommended to eradicate *H. pylori* in all patients with gastric lymphoma (as primary treatment or after completion of planned chemotherapy and/or radiation) regardless of *H. pylori* testing status.[26]

Recommend discussing patient preferences, prognosis and quality of life factors with the patient and family prior to endoscopic palliation for malignancy. Treatment on a clinical trial may be considered. Symptom management, best supportive care, and involvement of palliative care services are recommended as indicated by the patient's clinical status.[27,28,29]

FOLLOW-UP

Patients who have completed treatment may be returned to the care of their primary care provider who will be asked to manage their follow-up care. Follow-up care may include:

- Surveillance for recurrent disease or late effects of treatment when indicated
- Monitoring and treating complications and/or side effects
- Providing patient support
- Symptom management, best supportive care, and the involvement of palliative services

Patients with a life-limiting disease or illness may benefit from the development of an advance care plan (ACP) that incorporates the patient's values and personal goals, indicates potential outcomes, and outlines linkages with other healthcare professionals that would be involved in the care, and their expected roles. The ACP is an opportunity to also identify the patient's alternate substitute decision maker or legal health representative.

Below are general follow-up recommendations. ***Specific recommendations will be provided on the patient's discharge letter.*** At any time, the patient and/or primary care provider may consult with the BC Cancer for any follow-up questions or concerns.

Table 1- General Follow-up for Esophageal and Stomach Cancer

Investigation	Recommendation
Endoscopic surveillance	Follow-up endoscopy is at the recommendation of the endoscopist.
Radiation or surgery	Patients who develop esophageal strictures as a result of radiation or surgery may be referred for consideration for dilation or stenting.[30]
Routine imaging or laboratory investigations	There is no evidence that routine imaging or laboratory investigations are useful in detecting

	recurrences or metastases at a stage where they can be cured.[31,32,33] Early detection of asymptomatic metastases does not enhance survival.[31,32,33] Investigations should be performed based on the clinical presentation of a patient who is suspected of having recurrent or metastatic disease.[31,32,33]
Nutrition	Patients post gastric and esophageal cancer surgery are at risk for nutritional deficiencies. The most common ones are iron, vitamin A, B12 and D (see patient resources in *Resources*).[34] Testing for these should be considered with subsequent supplementation.[32] In the case of iron and B12 – absorption may be an issue and therefore subcutaneous B12 and intravenous iron may need to be considered.

Follow-up for Gastric MALT Lymphoma

After treatment with antibiotics for *H. pylori*, patients should undergo repeat gastroscopy every six months for the first 2 years, and then annually for the next 3 years, with biopsies taken each time to examine for lymphoma and *H. pylori*.[35] If *H. pylori* persists then one retreatment should be tried.[35]

If lymphoma persists or recurs more than six months (and up to one year) after eradication of *H. pylori*, the patient should be treated with upper abdominal irradiation or treated for drug-resistant *H. pylori*.[35]

Patients should be encouraged to keep their immunizations up to date (see *Resources)*.

RESOURCES

➢ REFERENCES

Placeholder

➢ HEALTHCARE PROVIDER AND PATIENT RESOURCES

- **BC Cancer**
  - **Carcinoma of the Esophagus/Cardia (Esophagogastric Junction) Staging Diagram**, available at www.bccancer.bc.ca/books/Documents/Gastrointestinal/EsophagusCardiaStagingDiagramRevised13Aug2012.pdf
  - **Hereditary Cancer Program**, referrals, Vancouver: 604-877-6000 (ext. 672198), Abbotsford: 604-851-4710 local 645174
    - Fraser Health Authority, **(F) 604.851.4720**, (T) 604.851.4710 local 645174
    - All other BC/Yukon, **(F) 604.707.5931**, (T) 604.877.6000 local 672198
  - HCP referral form, available at www.bccancer.bc.ca/coping-and-support-site/Documents/Hereditary%20Cancer%20Program/HCP_Form-ReferralForm.pdf
  - HCP Mainstream Genetic Testing: information and requisition, available at

https://cancergeneticslab.ca/genes/hereditary-cancer-panel/

- **Gastrointestinal Tumour Group Clinical Pathways**, http://www.bccancer.bc.ca/health-professionals/professional-resources/clinical-care-pathways/tumour-specific-pathways
  - *Esophageal/GEJ Pathway*, available at *www.bccancer.bc.ca/books/Documents/Clinical%20Care%20Pathways/Esophageal%20Clinical%20Pathway_Published.pdf*
  - *Gastric/GEJ Pathway*, available at www.bccancer.bc.ca/books/Documents/Clinical%20Care%20Pathways/Gastric%20Clinical%20Pathway_Published_V1.pdf

- **BC Centre for Disease Control**
  - Guidelines for the immunization of individuals at high risk for vaccine-preventable diseases, available at www.bccdc.ca/health-professionals/clinical-resources/communicable-disease-control-manual/immunization/immunization-of-special-populations

- **BC Guidelines**
  - *Iron Deficiency – Diagnosis and Management***,** available at www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/iron-deficiency

- **Canadian Cancer Society**
  - Supportive care (physical, practical, emotional and spiritual) resources:
    - Supportive care for esophageal cancer, available at https://cancer.ca/en/cancer-information/cancer-types/esophageal/supportive-care
    - Supportive care for stomach cancer, available at https://cancer.ca/en/cancer-information/cancer-types/stomach/supportive-care

- **Trauma-Informed Care Resources**
  - Trauma-Informed Practice (TIP) – Resources, available at www2.gov.bc.ca/gov/content/health/managing-your-health/mental-health-substance-use/child-teen-mental-health/trauma-informed-practice-resources
  - *Trauma-Informed Approaches in the Context of Cancer Care in Canada and the United States: A Scoping Review*, available at https://pmc.ncbi.nlm.nih.gov/articles/PMC10594848/

- **British Columbia Ministry of Health**
  - *My Voice–Expressing My Wishes for Future Health Care Treatment–Advance Care Planning Guide*, available at www2.gov.bc.ca/assets/gov/people/seniors/health-safety/pdf/myvoice-advancecareplanningguide.pdf
  - Provincial advance care planning resources, available at www.gov.bc.ca/advancecare

- **HealthLink BC**, www.healthlinkbc.ca, 8-1-1 (toll free in B.C.), 7-1-1 (deaf and hearing-impaired)
  - Recommended vaccines for adults, including patients with immunocompromising conditions, available at www.healthlinkbc.ca/health-library/immunizations/schedules/recommended-vaccines-adults
  - Find health care near you, access virtual health services, learn about primary care in British Columbia, or register for a family doctor or nurse practitioner, www.healthlinkbc.ca/find-care

- **Indigenous Cancer Control**, Improving Cancer Control for Indigenous People, www.bccancer.bc.ca/our-services/services/indigenous-cancer-control
  - Indigenous patient navigators (IPNs) by PHSA site – information is available at www.phsa.ca/our-

services/programs-services/indigenous-health#Programs--&--services

- IPNs at BC Cancer – information is available at www.bccancer.bc.ca/our-services/services/indigenous-cancer-control#Indigenous--Patient--Navigators

- **Patient Resources**
  - BC Cancer – Supportive Care, available at www.bccancer.bc.ca/our-services/services/supportive-care
    - Nutrition Services, www.bccancer.bc.ca/our-services/services/supportive-care/nutrition
  - Canadian Association of Gastroenterology – Other GI Organizations
    - Canadian Nutrition Society/la Société canadienne de nutrition (CNS/SCN), available at https://cns-scn.ca
  - My Gut Feeling – Stomach Cancer Foundation of Canada, available at www.mygutfeeling.ca
- **Pathways™**
  - Medical Care Directory, available at https://pathwaysmedicalcare.ca
  - Community Service Directory, available at https://pathwaysbc.ca/community
- **Primary Care Networks**, information is available at https://fpscbc.ca/what-we-do/system-change/primary-care-networks
- **Provincial Health Services Authority**
  - Indigenous Health, Patient Navigators, information available at www.phsa.ca/our-services/programs-services/indigenous-health
  - Provincial Language Service, (T) 604-297-8400, 1-877-BC Talks (228-2557) (toll free in B.C.), (F) 604-297-9304, available at www.phsa.ca/health-professionals/professional-resources/language-services
- **Swallowing Intervention Services**
  - Fraser Health Authority, www.fraserhealth.ca/Service-Directory/Services/Clinics/swallowing-intervention-service
  - Interior Health Authority, www.interiorhealth.ca/services/swallowing-intervention-services/locations
  - Vancouver Coastal Health Authority, www.vch.ca/en/service/outpatient-swallowing-clinic
- **University of British Columbia, Continuing Professional Development (UBC-CPD)**
  - *Management of Helicobacter pylori in 2023: who should be tested, treated, and how,* available at https://thischangedmypractice.com/management-of-helicobacter-pylori/

➢ ABBREVIATIONS

ACP – advance care plan
B.C. – British Columbia
CAR – Canadian Association of Radiologists
CART – Communication Access Realtime Translation
CBC – complete blood count
CT – computerized tomography
eGFR – estimated glomerular filtration rate
FPs – family physicians
GEJ – gastroesophageal junction
GERD – gastroesophageal reflux disease

GI – gastrointestinal
GPOs – general practitioners in oncology
H. pylori – *Helicobacter pylori*
HCP – Hereditary Cancer Program
INR – international normalized ratio
IPNs – Indigenous patient navigators
MALT – mucosa-associated lymphoid tissue type
NPs – nurse practitioners
PHSA – Provincial Health Services Authority
PPIs – proton pump inhibitors
TIP – trauma-informed practice
TNM – tumour-node-metastasis
US – ultrasound
XR – x-ray
UBC-CPD – University of British Columbia, Continuing Professional Development

➢ ASSOCIATED DOCUMENTS

The following document accompanies this guideline:

- Upper Gastrointestinal Cancer – Part 2, available at www.bccancer.bc.ca/health-professionals/networks/family-practice-oncology-network#Guidelines--and--Resources

DISCLAIMER

This guideline is intended to provide guidance to primary healthcare providers in B.C. on the clinical management of upper gastrointestinal cancer. This guideline is not designed to replace professional judgment of a healthcare professional and is not to be considered a standard of care.

[1] Ford AC, Yuan Y, Moayyedi P. Long-Term Impact of *Helicobacter pylori* Eradication Therapy on Gastric Cancer Incidence and Mortality in Healthy Infected Individuals: A Meta-Analysis Beyond 10 Years of Follow-Up. Gastroenterology [Internet]. 2022 Sep [cited 2024 Apr 26];163(3):754-756.e1. Available from: https://doi.org/10.1053/j.gastro.2022.05.027

[2] Zhang Y. Epidemiology of esophageal cancer. World J Gastroenterol [Internet]. 2013 [cited 2025 Mar 29];19(34):5598-606. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3769895/

[3] Boeing H, Dietrich T, Hoffmann K, Pischon T, Ferrari P, Lahmann P, et al. Intake of fruits and vegetables and risk of cancer of the upper aero-digestive tract: the prospective EPIC-study. Cancer Causes Control [Internet]. 2006 [cited 2025 Apr 30];17(7):957-69. Available from: https://doi.org/10.1007/s10552-006-0036-4

[4] Freedman ND, Park Y, Subar AF, Hollenbeck AR, Leitzmann MF, Schatzkin A, et al. Fruit and vegetable intake and esophageal cancer in a large prospective cohort study. Int J Cancer [Internet]. 2007 [cited 2025 Apr 30];121(12):2753-60. Available from: https://doi.org/10.1002/ijc.22993

[5] Yoon H, Kim N. Diagnosis and management of high-risk group for gastric cancer. Gut Liver [Internet]. 2015 [cited 2025 Apr 30];9(1):5-17. Available from: https://doi.org/10.5009/gnl14118

[6] Islami F, Ren JS, Taylor PR, Kamangar F. Pickled vegetables and the risk of oesophageal cancer: a meta-analysis. Br J Cancer [Internet]. 2009 [cited 2016 Apr 30];101(9):1641-7. Available from: https://doi.org/10.1038/sj.bjc.6605372

[7] Jakszyn P, González CA. Nitrosamine and related food intake and gastric and oesophageal cancer risk: a systematic review of the epidemiological evidence. World J Gastroenterol [Internet]. 2006 [cited 2016 Jan 30];12(27):4296-303. Available from: //doi.org/10.3748/wjg.v12.i27.4296

[8] Cavaleiro-Pinto M, Peleteiro B, Lunet N, Barros H. *Helicobacter pylori* infection and gastric cardia cancer: systematic review and meta-analysis. Cancer Causes Control [Internet]. 2011 [cited 2016 Jan 30];22(3):375-87. Available from: https://doi.org/10.1007/s10552-010-9707-2

[9] Pasechnikov V, Chukov S, Fedorov E, Kikuste I, Leja M. Gastric cancer: prevention, screening and early diagnosis. World J Gastroenterol [Internet]. 2014 [2016 Jan 30];20(38):13842-62. Available from: https://doi.org/10.3748/wjg.v20.i38.13842

[10] Hvid-Jensen F, Pedersen L, Drewes AM, Sørensen HT, Funch-Jensen P. Incidence of adenocarcinoma among patients with Barrett's esophagus. N Engl J Med [Internet]. 2011 [cited 2016 Jan 30];365(15):1375-83. Available from: https://doi.org/10.1056/nejmoa1103042

[11] Singh S, Garg SK, Singh PP, Iyer PG, El-Serag HB. Acid-suppressive medications and risk of oesophageal adenocarcinoma in patients with Barrett's oesophagus: a systematic review and meta-analysis. Gut [Internet]. 2014 [cited 2016 Jan 30];63(8):1229-37. Available from https://doi.org/10.1136/gutjnl-2013-305997

[12] BC Cancer Registry. Cancer Surveillance and Outcomes, Data and Analytics. Age-standardized Cancer Incidence Rates (ASIR) per 100,000 and Average Annual Percent Change (AAPC) – Esophagus [Internet]. BC Cancer (Canada); 2022 [updated 2024 August 16, cited 2025 Apr 29]. Available from https://bccandataanalytics.shinyapps.io/BCSummary/

[13] Yang S, Wu S, Huang Y, Shao Y, Chen XY, Xian L, et al. Screening for oesophageal cancer. Cochrane Database Syst Rev [Internet]. 2012 [cited 2015 Dec 6]. Available from: https://doi.org/10.1002/14651858.CD007883.pub2

[14] Groulx S, Limburg H, Doull M, Klarenbach S, Singh H, Wilson BJ, et al. Guideline on screening for esophageal adenocarcinoma in patients with chronic gastroesophageal reflux disease. CMAJ [Internet]. 2020 Jul [cited 2025 Apr 30];192:E768–E777. Available from: https://doi.org/10.1503/cmaj.190814

[15] Karimi P, Islami F, Anandasabapathy S, Freedman ND, Kamangar F. Gastric cancer: descriptive epidemiology, risk factors, screening, and prevention. Cancer Epidemiol Biomarkers Prev [Internet]. 2014;23(5):700-13. Available from: https://doi.org/10.1158/1055-9965.EPI-13-1057

[16] O'Connor A, McNamara D, O'Moráin CA. Surveillance of gastric intestinal metaplasia for the prevention of gastric cancer. Cochrane Database Syst Rev [Internet]. 2013 [cited 2025 Apr 26]. Available from: https://doi.org/10.1002/14651858.CD009322.pub2

[17] de Vries AC, van Grieken NCT, Looman CWN, Casparie MK, de Vries E, Meijer GA, et al. Gastric Cancer Risk in Patients with Premalignant Gastric Lesions: A Nationwide Cohort Study in the Netherlands. Gastroenterology [Internet]. 2008 [cited 2025 Apr 30];134(4):945–952. Available from: https://doi.org/10.1053/j.gastro.2008.01.071

[18] Kim GH, Bang SJ, Ende AR, Hwang JH. Is screening and surveillance for early detection of gastric cancer needed in Korean Americans? Korean J Intern Med [Internet]. 2015 [cited 2025 Apr 30];30(6):747-58. Available from:

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4642004/
[19] Lin JT. Screening of gastric cancer: who, when, and how. Clin Gastroenterol Hepatol [Internet]. 2014 [cited 2025 Apr 30];12(1):135-8. Available from: https://doi.org/10.1016/j.cgh.2013.09.064
[20] Hamel, C., Avard, B., Belanger, C., Chatterjee, A., Hartery, A., Lim, H., … Fung, C. Canadian Association of Radiologists Gastrointestinal Imaging Referral Guideline. Can Assoc Radiol J [Internet]. 2024 [cited 2025 Apr 30];75(3):462–472. https://doi.org/10.1177/08465371231217230
[21] Office for Health Improvement and Disparities, Department of Health and Social Care, United Kingdom. Guidance – Working definition of trauma-informed practice [Internet]. United Kingdom: Government of United Kingdom; November 2, 2022 [cited 2025 Apr 26]. Available from: www.gov.uk/government/publications/working-definition-of-trauma-informed-practice/working-definition-of-trauma-informed-practice
[22] Union for International Cancer Control. TNM Classification of Malignant Tumours. 7th ed. Hoboken, NJ (US): Wiley-Blackwell; 2010. Available from: http://ca.wiley.com/WileyCDA/WileyTitle/productCd-1444332414.html
[23] Hvid-Jensen F, Pedersen L, Funch-Jensen P, Drewes AM. Proton pump inhibitor use may not prevent high-grade dysplasia and oesophageal adenocarcinoma in Barrett's oesophagus: a nationwide study of 9883 patients. Aliment Pharmacol Ther [Internet]. 2014 [cited 2025 Apr 30];39(9):984-91. Available from: https://doi.org/10.1111/apt.12693
[24] Shaheen NJ, Falk GW, Iyer PG, Souza RF, Yadlapati RH, Sauer BG, et al. Diagnosis and Management of Barrett's Esophagus: An Updated ACG Guideline. Am J Gastroenterol [Internet]. 2022 [cited 2025 Apr 26];117(4):559–587. https://doi.org/10.14309/ajg.0000000000001680
[25] Ajani JA, D'Amico TA, Bentrem DJ, Chao J, Cooke D, Corvera C. et al. Gastric Cancer, Version 2.2022. JNCCN J Natl Compr Canc Netw [Internet]. 2022 [cited 2025 Apr 26];20:167–192. Available from: https://doi.org/10.6004/jnccn.2022.0008
[26] Zullo A, Hassan C, Cristofari F, Andriani A, De Francesco V, Ierardi E, et al. Effects of *Helicobacter pylori* eradication on early-stage gastric mucosa–associated lymphoid tissue lymphoma. Clin Gastroenterol Hepatol [Internet]. 2010 [cited 2025 Apr 30];8(2):105-10. Available from: https://doi.org/10.1016/j.cgh.2009.07.017
[27] Maltoni M, Scarpi E, Dall'Agata M, Schiavon S, Biasini C, Codecà C, et al. Systematic versus on-demand early palliative care: A randomised clinical trial assessing quality of care and treatment aggressiveness near the end of life. Eur J Cancer [Internet]. 2016 [cited 2025 Apr 30];69:110–118. Available from https://doi.org/10.1016/j.ejca.2016.10.004
[28] Temel JS, Greer JA, El-Jawahri A, Pirl WF, Park ER, Jackson VA, et al. Effects of early integrated palliative care in patients with lung and gi cancer: A randomized clinical trial. J Clin Oncol [Internet]. 2017 [cited 2025 Apr 30];35(8):834–841. Available from https://doi.org/10.1200/JCO.2016.70.5046
[29] Franciosi V, Maglietta G, Esposti CD, Caruso G, Cavanna L, Bertè R, et al. Early palliative care and quality of life of advanced cancer patients-a multicenter randomized clinical trial. Ann Palliat Med [Internet]. 2019 [cited 2025 Apr 30];8(4): 381–389. Available from https://doi.org/10.21037/apm.2019.02.07
[30] Spaander, MCW, Van Der Bogt RD, Baron TH, Albers D, Blero D, De Ceglie A. et al. Esophageal stenting for benign and malignant disease: European Society of Gastrointestinal Endoscopy (ESGE) Guideline - Update 2021. Endoscopy [Internet]. 2021 [cited 2025 Apr 30];53:751–762. https://doi.org/10.1055/a-1475-0063
[31] BC Cancer. Cancer management guidelines – Gastrointestinal cancer – Esophageal and esophagogastric junction [Internet]. Vancouver: BC Cancer (Canada); 2013 March [cited 2025 April 19]. Available from: http://www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-manual/gastrointestinal/esophageal-esophagogastric-junction
[32] BC Cancer. Cancer management guidelines – Gastrointestinal cancer – Stomach [Internet]. Vancouver: BC Cancer (Canada); 2013 [cited 2025 Apr 19]. Available from: http://www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-manual/gastrointestinal/stomach
[33] Baiocchi, GL, D'Ugo D, Coit D, Hardwick R, Kassab P, Nashimoto A. Follow-up after gastrectomy for cancer: the Charter Scaligero Consensus Conference. Gastric Cancer [Internet]. 2016 Jan [cited 2025 Apr 30]; 19(1):15-20. https://doi.org/10.1007/s10120-015-0513-0
[34] Teixeira Farinha H, Bouriez D, Grimaud T, Rotariu AM, Collet D, Mantziari S, et al. Gastro-Intestinal Disorders and Micronutrient Deficiencies following Oncologic Esophagectomy and Gastrectomy. Cancers [Internet]. 2023 [cited 2025 Apr 30];15. Available from: https://doi.org/10.3390/cancers15143554
[35] Lemos FFB, de Castro CT, Calmon MS, Luz MS, Pinheiro SLR, dos Santos CFSM, et al. Effectiveness of *Helicobacter pylori* eradication in the treatment of early-stage gastric mucosa-associated lymphoid tissue lymphoma: An up-to-date meta-analysis. World J Gastroenterol [Internet]. 2023 [cited 2025 Apr 26];29(14):2202–2221. Available from https://doi.org/10.3748/WJG.V29.I14.2202