

Esophagogastroduodenoscopy (EGD), UGI Endoscopy

ACG: A-0203 (AC)

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Clinical Indications

- Esophagogastroduodenoscopy (UGI endoscopy) may be indicated for **1 or more** of the following(1)(2):
 - Achalasia (eg, onabotulinumtoxinA injection, balloon dilation)(4)(5)(6)(7)[N](#)
 - ☐ Atrophic gastritis, gastric intestinal metaplasia, or gastric dysplastic lesion on prior biopsy and **1 or more** of the following(14)(15)(16)(17)(18)(19):[N](#)
 - Advanced atrophic gastritis^[A] in patient with first-degree relative^[B] with gastric cancer, and no UGI endoscopy in last 1 year
 - Advanced atrophic gastritis^[A] and no UGI endoscopy in last 3 years
 - Dysplastic lesion with biopsy indefinite for dysplasia on previous endoscopy: repeat UGI endoscopy with enhanced imaging and extensive biopsy sampling, then follow-up UGI endoscopy after 3 to 12 months
 - Dysplastic lesion with high-grade dysplasia^[C] on previous endoscopy, managed with complete endoscopic resection: repeat UGI endoscopy every 3 to 6 months for 1 to 2 years

- Dysplastic lesion with high-grade dysplasia^[C] on previous endoscopy, managed with incomplete endoscopic resection: repeat UGI endoscopy within 3 months
- Dysplastic lesion with low-grade dysplasia^[D] on previous endoscopy, managed with complete endoscopic resection: repeat UGI endoscopy after 6 to 12 months, then follow-up UGI endoscopy every 1 year⁽²²⁾
- Dysplastic lesion with low-grade dysplasia^[D] on previous endoscopy, managed with incomplete endoscopic resection: repeat UGI endoscopy within 6 months
- Dysplastic lesion with nonvisible dysplasia on previous endoscopy: repeat UGI endoscopy with systemic biopsies every 3 to 12 months
- Gastric intestinal metaplasia and increased risk of gastric cancer (eg, first-degree relative^[B] with gastric cancer, incomplete gastric intestinal metaplasia, gastric intestinal metaplasia involving corpus, persistent *Helicobacter pylori* gastritis), and no UGI endoscopy in last 3 years^[E]
- Gastric polyp on previous endoscopy: repeat UGI endoscopy with enhanced imaging and extensive biopsy sampling
- Atypical chest pain, after cardiac disease has been ruled out⁽²³⁾⁽²⁴⁾^[N]
- ☐ Barrett esophagus^[F] and **1 or more** of the following⁽²⁷⁾⁽³¹⁾⁽³²⁾⁽³³⁾⁽³⁴⁾⁽³⁵⁾⁽³⁶⁾:^[N]
 - Barrett esophagus indefinite for dysplasia on previous endoscopy: repeat UGI endoscopy at 3 to 6 months, then annually if repeat UGI endoscopy is indefinite for dysplasia
 - Barrett esophagus, nondysplastic (metaplastic columnar or glandular epithelium), on previous endoscopy: repeat UGI endoscopy at 3 to 5 years
 - Barrett esophagus with low-grade dysplasia on previous endoscopy, managed with endoscopic eradication therapy: repeat UGI endoscopy intervals individualized (every 6 months to 3 years)^{[G](32)(35)(42)(43)}
 - Barrett esophagus with low-grade dysplasia on previous endoscopy, managed with surveillance: repeat UGI endoscopy at 6 months to reconfirm diagnosis, at 12 months after diagnosis, and then annually⁽⁴²⁾
 - Endoscopic resection and/or ablation (ie, cryoablation, radiofrequency, or photodynamic therapy) for identification of dysplasia or treatment of positive (ie, low-grade or high-grade) dysplasia associated with Barrett esophagus⁽³⁰⁾⁽⁴³⁾⁽⁴⁴⁾⁽⁴⁵⁾⁽⁴⁶⁾⁽⁴⁷⁾
- ☐ Cancer, known or suspected, and **1 or more** of the following:
 - ☐ Cancer, and need for evaluation and treatment, as indicated by **1 or more** of the following⁽²⁷⁾⁽⁴⁸⁾⁽⁴⁹⁾:^[N]
 - Ablation or resection of polyp, tumor, or other lesions⁽⁵⁰⁾⁽⁵⁸⁾⁽⁵⁹⁾⁽⁶⁰⁾⁽⁶¹⁾
 - Ampulla of Vater tumor, and need for **1 or more** of the following⁽⁶²⁾⁽⁶³⁾⁽⁶⁴⁾:
 - Endoscopic resection
 - Initial evaluation or staging with biopsies, as indicated
 - Post-treatment surveillance
 - Dilation of malignant stricture⁽⁶⁵⁾
 - Esophageal or esophagogastric junction cancer, and need for **1 or more** of the following⁽⁶⁶⁾:
 - Assessment of response or surveillance after chemoradiation or systemic therapy (eg, immune checkpoint inhibitors)
 - Endoscopic mucosal resection or submucosal dissection of esophageal or esophagogastric junction cancer (high-grade dysplasia (Tis), carcinoma limited to lamina propria or muscularis mucosa (T1a), or superficial submucosa carcinoma (T1b) without lymphovascular invasion)⁽³⁵⁾⁽⁴⁶⁾⁽⁴⁷⁾⁽⁵⁵⁾⁽⁶⁷⁾⁽⁶⁸⁾⁽⁶⁹⁾
 - Evaluation of suspected recurrence
 - Initial evaluation, staging with biopsies, or treatment planning (eg, radiation dose planning, tissue biopsy for testing for targeted therapy)⁽⁷⁰⁾
 - Surveillance after local or regional therapy (eg, endoscopic resection and/or ablation, esophagectomy, chemoradiation): every 3 to 6 months for first 2 years, then annually⁽²²⁾⁽⁴³⁾⁽⁶⁷⁾⁽⁷¹⁾⁽⁷²⁾
 - Gastric cancer, and need for **1 or more** of the following⁽⁷³⁾⁽⁷⁴⁾:
 - Assessment of response or surveillance after systemic therapy (eg, immune checkpoint inhibitors)

- Dysplastic lesion with biopsy indefinite for dysplasia on previous endoscopy: repeat UGI endoscopy with enhanced imaging and extensive biopsy sampling, then follow-up UGI endoscopy after 3 to 12 months
 - Endoscopic mucosal resection or submucosal dissection of gastric carcinoma (carcinoma in situ (Tis) or well-differentiated or moderately differentiated carcinoma confined to mucosa (T1a) or submucosa (T1b) without evidence of lymph node metastases or lymphovascular invasion)(47)(67)(68)(75)(76)(77)(78)(79)
 - Initial evaluation, staging with biopsies, or treatment planning
 - Surveillance after therapy for gastric cancer or dysplasia[H]
- Gastrointestinal neuroendocrine tumor, for **1 or more** of the following(15)(53)(54)(80)(81)(82):
 - Endoscopic resection(51)(53)(83)
 - Initial evaluation or staging with biopsies, as indicated
 - Surveillance of nonresected tumor or post-treatment surveillance
- Gastrointestinal stromal tumor, for **1 or more** of the following(54)(84)(85):
 - Biopsy for treatment planning (eg, molecular testing for selection of targeted therapy)
 - Endoscopic resection(53)(83)(86)(87)
 - Initial evaluation with biopsies, as indicated
 - Surveillance of nonresected tumor
- Gastrointestinal subepithelial lesion,[I] for **1 or more** of the following(51)(52)(53):
 - Endoscopic resection needed for tissue acquisition or to treat symptoms (eg, gastrointestinal bleeding)(83)
 - Surveillance of asymptomatic esophageal or gastric subepithelial lesion without definitive diagnosis(54)
- Lymphoma (eg, MALT (mucosa-associated lymphoid tissue) lymphoma), for **1 or more** of the following(79)(88)(89):
 - Diagnosis, including endoscopic biopsy as needed for tissue diagnosis
 - Evaluation of response to therapy or restaging after initial therapy (eg, *Helicobacter pylori* treatment, rituximab)
 - Initial staging
 - Post-treatment surveillance
- Small bowel tumor (eg, adenoma, adenocarcinoma), for **1 or more** of the following(90):
 - Diagnosis, including endoscopic biopsy as needed for tissue diagnosis(61)(91)(92)
 - Endoscopic resection for nonmalignant duodenal adenoma or polyp(61)(92)(93)
 - Evaluation of post-treatment recurrence (eg, because of symptoms or serial biomarker (carcinoembryonic antigen or CA 19-9) elevation)
 - Initial staging
 - Post-treatment surveillance(93)
- Stent placement for treatment of malignant fistula or obstruction due to intrinsic or extrinsic compression(94)(95)(96)(97)(98)(99)(100)
- Thyroid cancer, and need for evaluation of suspected upper digestive tract involvement (eg, dysphagia, hemoptysis, imaging findings consistent with esophageal invasion)(101)(102)(103)(104)
- Tumor debulking or ablation (eg, electrocautery, laser, chemical)(105)
- ☐ Cancer screening[J] in patient at increased risk, as indicated by **1 or more** of the following(27)(108)(109):N
 - High-risk family history, as indicated by **1 or more** of the following:
 - Family history suggestive of gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS)[K]: screening frequency is individualized starting at age 15 years.(113)(114)
 - Family history suggestive of hereditary diffuse gastric cancer or hereditary lobular breast cancer[L] in patient without known pathogenic CDH1 mutation: screening every 1 year(117)(118)(119)(120)
 - Family member with Lynch syndrome (ie, hereditary nonpolyposis colorectal cancer): screening is individualized.[M](116)(122)

- Family member with MUTYH-associated polyposis, and individual not tested for known MUTYH mutation, and **ALL** of the following(116):
 - Age 30 years or older
 - No UGI endoscopy in past 3 years
- Family member with Peutz-Jeghers syndrome[N] and **ALL** of the following(124)(125):
 - Age 8 years or older(126)
 - No UGI endoscopy in past 2 years
- Family member with tylosis[O]: screening frequency is individualized starting at age 20 years.
- First-degree relative[B] with gastric cancer and **ALL** of the following(16)(19):
 - Age appropriate for screening, as indicated by **1 or more** of the following:
 - Age 45 years or older
 - Age is 10 years younger than youngest diagnosis of gastric cancer in family, or older.
 - No UGI endoscopy in past 3 years
- High-risk personal history, as indicated by **1 or more** of the following:
 - History of achalasia: screening frequency is individualized.(112)(127)
 - History of autoimmune gastritis: screening frequency is individualized.(15)(16)(18)
 - History of caustic injury to esophagus: screening frequency is individualized.(112)
 - History of chronic (5 years or more) gastroesophageal reflux disease and one or more risk factors for Barrett esophagus and esophageal adenocarcinoma (ie, male sex, age 50 years or older, obesity, history of tobacco smoking, first-degree relative[B] with Barrett esophagus or esophageal adenocarcinoma)(32)(33)(109)(111)(128)(129)
 - History of classical or attenuated familial adenomatous polyposis or colonic adenomatous polyposis of unknown etiology[P]: screening starting at age 18 to 25 years (baseline endoscopy may be offered at earlier age if colectomy performed before age 18 years), with repeat UGI endoscopy every 3 years or more frequently if duodenal or gastric polyps are present(113)(116)(124)(130)(131)
 - History of esophageal atresia or tracheoesophageal fistula: screening frequency is individualized.(5)(132)(133)(134)(135)(136)
 - History of pernicious anemia: single endoscopy is indicated.(15)(16)(18)
 - History of sleeve gastrectomy 3 or more years previously, and **1 or more** of the following(129)(137):
 - No UGI endoscopy in past 5 years
 - No UGI endoscopy since sleeve gastrectomy
 - Personal history of constitutional mismatch repair deficiency[Q] and **ALL** of the following(139)(140)(141)(142):
 - Age 6 years or older
 - No UGI endoscopy in past year
 - Personal history of gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS)[K]: screening frequency is individualized. (113)(114)
 - Personal history of hereditary cancer predisposition syndrome associated with esophageal cancer (eg, Bloom syndrome, familial Barrett esophagus, Fanconi anemia, tylosis)(143)
 - Personal history of hereditary diffuse gastric cancer, hereditary lobular breast cancer, or heterozygous pathogenic CDH1 mutation[R] in patient who has not undergone gastrectomy: screening every 6 months(116)(117)(119)(120)
 - Personal history of heterozygous pathogenic CTNNA1 mutation: screening every 1 year[R](117)(119)(143)
 - Personal history of homozygous MUTYH pathogenic mutations and **ALL** of the following(113)(116)(123):
 - Age 30 years or older
 - No UGI endoscopy in past year
 - Personal history of juvenile polyposis syndrome[S] and **ALL** of the following(116)(123)(147):

- Age 12 years or older
 - No UGI endoscopy in past year
 - Personal history of Li-Fraumeni syndrome^[T] and **ALL** of the following(144)(148)(149):
 - Appropriate at-risk age, as indicated by **1 or more** of the following:
 - Age 25 years or older
 - Age is 5 years younger than earliest age of diagnosis of gastric cancer in family, or older.
 - No UGI endoscopy in past 2 years
 - Personal history of Lynch syndrome (ie, hereditary nonpolyposis colorectal cancer): screening is individualized.^[M](116)(121)(150)(151)(152)(153)
 - Personal history of Peutz-Jeghers syndrome^[N] and **ALL** of the following(123)(147):
 - Age 8 years or older
 - No UGI endoscopy in past year
 - Personal history of POLD1 or POLE polymerase proofreading-associated polyposis and **ALL** of the following(116):
 - Age 25 years or older
 - No UGI endoscopy in past 3 years
- ☐ Cancer surveillance in patient with prior nonmalignant or premalignant gastrointestinal lesion,^[J] as indicated by **1 or more** of the following:^[N]
- Adenomatous polyposis syndrome (ie, classical or attenuated familial adenomatous polyposis syndrome, colonic adenomatous polyposis of unknown etiology,^[P] MUTYH-associated polyposis, or POLD1 or POLE polymerase proofreading-associated polyposis): subsequent surveillance intervals based on modified Spigelman score of UGI endoscopy duodenal polyposis findings, as indicated by **1 or more** of the following(113)(116)(123)(124)(131)(154):
 - Spigelman stage 0 and no UGI endoscopy in past 3 years
 - Spigelman stage I and no UGI endoscopy in past 2 years
 - Spigelman stage II and no UGI endoscopy in past 1 year
 - Spigelman stage III and no UGI endoscopy in past 6 months
 - Spigelman stage IV and no UGI endoscopy in past 3 months^[U]
 - Esophageal dysplasia, low-grade, on prior biopsy, managed with endoscopic resection, and no UGI endoscopy in past 6 months; subsequent UGI endoscopy at 12 months post resection and every 1 year thereafter(22)
 - History of duodenal adenomatous polyp: status post polyp removal, and no UGI endoscopy in past 3 months; if no recurrence, subsequent UGI endoscopy at 3-month to 1-year intervals(58)(63)(93)
 - History of gastric adenomatous polyps: status post gastric adenomatous polyp removal, and no UGI endoscopy in past 1 year; if subsequent UGI endoscopy negative, then surveillance at 3-year to 5-year intervals(108)
 - History of gastric polyp (including fundic gland polyp, pyloric gland adenoma, or tubular adenoma) in individual with classical or attenuated familial adenomatous polyposis, status post polyp removal, as indicated by **1 or more** of the following(113)(155):
 - Fundic gland polyp less than 1 cm and no UGI endoscopy in past 3 years
 - Gastric adenoma or pyloric gland adenoma less than 1 cm and no UGI endoscopy in past 1 year
 - Gastric polyp 1 cm or greater with complete resection and no UGI endoscopy in past 1 year
 - Gastric polyp 1 cm or greater with incomplete resection (piecemeal resection or inability to remove all large polyps) and no UGI endoscopy in past 6 months
 - Gastric polyp with high-grade dysplasia and no UGI endoscopy in past 3 months
 - Proximal polypoid mound (including fundic gland polyp, pyloric gland adenoma, or tubular adenoma) and no UGI endoscopy in past 3 months
 - Juvenile polyposis syndrome,^[S] and no UGI endoscopy in past 1 year(123)(147)

- Personal history of Lynch syndrome (ie, hereditary nonpolyposis colorectal cancer): screening is individualized.[M](116)(121)(150)(151)(152)(156)
 - Peutz-Jeghers syndrome,[N] and no UGI endoscopy in past 1 year(123)(147)
- Caustic ingestion(127)(157)(158)(159)(160)[N]
- ☐ Crohn disease and suspected involvement of **1 or more** of the following(163)(164)(165)(166)(167):[N]
 - Esophagus
 - Stomach
 - Duodenum(168)
- Duodenal disease, known or suspected, and need for examination and biopsy (eg, celiac disease, neoplastic lesion)(5)(171)(172)(173)(174)(175)(176)[N]
- ☐ Dyspepsia and **1 or more** of the following(3)(181):[N]
 - Age 60 years or older(186)
 - Dysphagia or odynophagia[V]
 - Eosinophilic esophagitis, gastritis, or duodenitis, suspected, and need for biopsy(158)(180)(185)(188)(189)
 - Failure of medical therapy (eg, poor response to H2-receptor antagonists, proton pump inhibitors)
 - Family history of UGI cancer in first-degree relative[B](59)(190)
 - History of gastric surgery
 - Involuntary weight loss since onset of symptoms
 - Iron deficiency anemia
 - Medication-induced enterocolitis, suspected(182)(183)(184)(191)
 - Persistence for 3 months or longer
 - Planned bariatric surgery(192)(193)(194)(195)
 - Suspected gastrointestinal graft vs host disease (eg, vomiting, abdominal pain, or anorexia in patient with history of hematopoietic stem cell transplant)(196)(197)(198)
 - Use of NSAIDs
 - Vomiting(59)
- ☐ Dysphagia[W] and **1 or more** of the following(3)(65)(187):[N]
 - Bleeding associated with any swallowing problem
 - Compression, obstruction, or anatomic disruption and need for endoscopic therapy (eg, stent placement)(27)(99)(210)(211)(212)
 - Eosinophilic esophagitis, suspected, and need for biopsy(158)(185)(188)(189)(209)
 - Mechanical obstruction, known or suspected, due to clinical signs, patient history, or results of radiographic testing (eg, Schatzki ring, vascular ring, esophageal stricture, ingested foreign body, gastric outlet obstruction)(162)(208)(213)(214)(215)(216)
 - Need for tissue biopsy or other samples for identification of infectious pathogen (eg, suspected candidal esophagitis)(217)(218)(219)
 - Planned bariatric surgery(192)(193)(194)(195)
 - Suspected gastrointestinal graft vs host disease (eg, dysphagia in patient with history of hematopoietic stem cell transplant)(196)(220)
 - Swallowing problems and history of esophageal and/or gastric surgery or endoscopic therapy (eg, tracheoesophageal fistula repair, esophageal atresia repair, peroral endoscopic esophageal myotomy)(10)(132)(133)(134)(135)(136)(221)
 - Swallowing problems that are persistent or recurrent(24)(105)(219)
 - Symptoms after bariatric surgery(192)(193)(194)
 - Transient obstruction, with repeated episodes
- ☐ Eosinophilic esophagitis, known or suspected, and **1 or more** of the following(185)(209)(216)(222)(223)(224)(225):[N]
 - Need for evaluation of response to medical or dietary treatment(234)
 - Recurrence of symptoms
 - Reduction or change in therapy being considered

- Stricture, known or suspected, and need for evaluation or treatment
 - Suspected eosinophilic esophagitis, and need for biopsy
- Foreign body ingestion, known or suspected(158)(162)(213)(235)(236)N
- [-] Gastroesophageal (ie, gastric, esophageal, or combined gastroesophageal) varices and **1 or more** of the following(239)(240)(241)(242)(243)(244):N
 - Follow-up evaluation of known gastroesophageal varices(245)(249)
 - Need for ligation or sclerosis of known gastroesophageal varices(5)(250)(251)
 - Screening for gastroesophageal varices in patient at high risk (eg, known chronic liver disease, known portal venous thrombosis, hepatocellular carcinoma with planned initiation of combination atezolizumab-bevacizumab therapy)(247)(252)(253)(254)(255)
- [-] Gastroesophageal reflux disease, known or suspected, and **1 or more** of the following(24)(25)(111)(129)(158)(256):N
 - Anemia
 - Dysphagia(217)
 - Eosinophilic esophagitis, suspected, and need for biopsy(158)(185)(188)(189)(209)(261)
 - Epigastric mass on examination
 - Failure of medical therapy (eg, poor response to empiric twice-daily proton pump inhibitor for 4 to 8 weeks)(260)(261)(262)(263)
 - Gastrointestinal bleeding(264)
 - History of esophageal atresia or tracheoesophageal fistula(5)(132)(133)(134)(136)
 - History of esophageal stricture and recurrent dysphagia
 - Involuntary weight loss or anorexia since onset of symptoms
 - Persistent symptoms after antireflux surgery(265)
 - Planned bariatric or antireflux surgery(192)(193)(194)(195)(266)
 - Recurrent vomiting
 - Reflux symptoms after therapy for achalasia (eg, peroral endoscopic esophageal myotomy)(10)
 - Severe erosive esophagitis, known, and need for follow-up after 8 weeks of proton pump inhibitor therapy
 - Symptoms after bariatric surgery(192)(193)(194)
- [-] Gastrointestinal bleeding, as indicated by **1 or more** of the following(3)(5)(267)(268)(269):N
 - Blood in stool and suspected UGI source (eg, history of UGI bleed, history of dyspepsia)(273)(274)(275)
 - Gastrointestinal bleeding in individual with clinically significant portal hypertension or advanced chronic liver disease(242)
 - Gastrointestinal bleeding in individual with gastrointestinal polyposis syndrome (eg, juvenile polyposis syndrome, Peutz-Jeghers syndrome) or hereditary hemorrhagic telangiectasia(116)(276)
 - Hematemesis(270)(272)(277)
 - Melena(272)
 - Persistent occult bleeding after negative endoscopies, and need for repeat test(278)
 - Recurrent bleeding evident, with history of UGI bleeding or ulcer(277)
 - UGI endoscopy required for therapeutic intervention (eg, band ligation, thermal coagulation) of previously diagnosed lesion or site of bleeding (eg, due to recurrent bleeding or iron deficiency anemia that is inadequately responsive to iron therapy)(270)(279)
- Hiatal hernia, known or suspected(280)N
- [-] History of UGI bleeding or ulcer, and results may change management, as indicated by **1 or more** of the following:N
 - Long-term anticoagulation planned
 - Long-term NSAID therapy planned
 - Organ transplant planned
- Iron deficiency anemia with no other source of chronic blood loss identified(3)(278)(281)(282)(283)N
- Nausea and vomiting, unexplained(5)(180)(284)(285)N

- Odynophagia[V](5)[N](#)
- ☐ Peptic ulcer disease, as indicated by **1 or more** of the following(5)(287):[N](#)
 - Before treatment for suspected ulcer, with **1 or more** of the following:
 - Blood in stool
 - Definitive diagnosis of *Helicobacter pylori* infection required because of **ALL** of the following:
 - Empirical trial of treatment inappropriate because of history of adverse drug reactions
 - Results of noninvasive tests for *Helicobacter pylori* negative or indeterminate
 - History of UGI surgery, gastrointestinal tract anomalies, or complicated antral, pyloric, or duodenal ulcer with scarring or gastric outlet obstruction(100)
 - Iron deficiency anemia
 - Gastric ulcer and **1 or more** of the following:
 - Dysplasia on initial biopsy
 - Family history of gastric cancer
 - Ulcer appearance on initial endoscopy large or suspicious for malignancy(289)
 - Ulcer appearance on UGI barium study suspicious for malignancy
 - Ulcer not associated with NSAID usage(290)
 - After treatment of duodenal ulcer, with **1 or more** of the following:
 - Incomplete clinical response to treatment
 - Ulcer complicated by bleeding or obstruction
 - Ulcer initially greater than 2 cm in diameter
- Weight loss, unexplained(5)[N](#)

Alternatives

- Alternatives include:
 - Abdominal CT scan. See Abdominal/Pelvic CT Scan [AC](#) for further information.
 - Abdominal ultrasound. See Abdominal Ultrasound [AC](#) for further information.
 - Capsule endoscopy. See Capsule Endoscopy [AC](#) for further information.(291)(292)
 - Contrast swallowing evaluation. See UGI Contrast Studies: Esophagography, UGI Study, Small Bowel Follow-Through, and Swallowing Evaluation [AC](#) for further information.
 - Esophageal transit scintigraphy. See Esophageal Transit Scintigraphy [AC](#) for further information.
 - Gastric emptying study. See Gastric Emptying Study (Gastric Scintigraphy) [AC](#) for further information.
 - Gastrointestinal blood loss study
 - UGI contrast studies. See UGI Contrast Studies: Esophagography, UGI Study, Small Bowel Follow-Through, and Swallowing Evaluation [AC](#) for further information.(293)

Evidence Summary

Background

Esophagogastroduodenoscopy, also known as UGI endoscopy, is performed by passing a flexible endoscope through the nose or mouth in order to view the esophagus, stomach, and duodenum.(1)(3) **(EG 2)** It allows direct visualization of the mucosa and permits directed biopsy and endoscopic therapy.(1)(3) **(EG 2)**

Criteria

The evidence for the clinical indications found in this guideline includes 210 published peer reviewed articles, 47 specialty society or other evidence-based guidelines, 2 Cochrane systematic reviews, and 14 book sections.

For achalasia, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** Specialty society guidelines support the use of UGI endoscopy for management of achalasia (eg, botulinum toxin injection, balloon dilation).(5)(8)(9)(10) **(EG 2)** OnabotulinumtoxinA has a 1-month response rate of greater than 75%; however, approximately 50% of patients relapse and require repeat injections at 6-month to 24-month intervals. Studies of balloon dilation report therapeutic success in up to 90% of patients, with relapse occurring in about one-third of patients over a 4-year to 6-year period; repeat dilation can achieve long-term symptomatic remission in the majority of patients.(4)(11) **(EG 2)** Both onabotulinumtoxinA injection and balloon dilation are inferior to surgical myotomy, which is the treatment of choice for younger patients and those without contraindications to surgical therapy.(12)(13) **(EG 2)**

For atrophic gastritis, gastric intestinal metaplasia, or dysplastic lesions, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Intestinal-type gastric adenocarcinoma develops along a continuum progressing from nonatrophic gastritis to atrophic gastritis, intestinal metaplasia, dysplasia, and finally, gastric adenocarcinoma. Chronic infection with *Helicobacter pylori* is considered a primary risk factor.(14)(20) **(EG 2)** Although the evidence to inform the optimal endoscopic surveillance intervals in patients with gastric intestinal metaplasia and atrophic gastritis is limited, specialty society guidelines recommend that endoscopic surveillance be based on family history of gastric cancer, most recent gastric histopathologic findings, and the anatomic location of the gastric intestinal metaplasia or atrophic gastritis (eg, antrum, corpus).(14)(15)(16)(17)(18)(19) **(EG 2)**

For atypical chest pain, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Esophageal chest pain closely mimics cardiac chest pain, which should be the primary consideration and excluded or treated before UGI endoscopy is performed.(23) **(EG 2)** Up to 65% of patients with achalasia will present with chest pain.(12) **(EG 2)** An expert consensus guideline recommends evaluation with UGI endoscopy for individuals with noncardiac chest pain who have not responded adequately to a trial of proton pump inhibitor therapy or who have alarm symptoms.(25) **(EG 2)**

For Barrett esophagus, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A systematic review and meta-analysis of 37 studies (521 patients) evaluating the efficacy of endoscopic treatments for low-grade dysplasia associated with Barrett esophagus found pooled rates of complete eradication of intestinal metaplasia and dysplasia of 68% and 89%, respectively; the pooled incidence of progression to cancer was 3.9 per 1000 patient-years.(37) **(EG 1)** Reviews of studies of endoscopic mucosal resection for Barrett esophagus with high-grade dysplasia reported complete remission rates of 88% to 100%.(38)(39) **(EG 2)** Studies of 50 or more patients with low-grade dysplasia followed for 2 to 7 years found that the incidence of cancer ranged from 1% to 39%.(40) **(EG 2)** Consensus statements recommend that a high-resolution endoscope be used for surveillance of patients with Barrett esophagus and that 4-quadrant biopsies are needed to exclude synchronous neoplastic lesions. Guidelines state that endoscopic mucosal resection of high-grade dysplasia and subsequent ablation has been found to be superior to surveillance alone and can result in complete remission of neoplasia in 80% to 100% of cases.(27)(36)(41) **(EG 2)** For patients with Barrett esophagus with confirmed low-grade dysplasia, a specialty society guideline considers both endoscopic therapy and endoscopic surveillance for progression to be acceptable alternatives.(32) **(EG 2)**

For cancer and need for evaluation and treatment, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** Specialty society guidelines support the use of UGI endoscopy for ablation or removal of selected polyps, tumors, or other lesions; for dilation of malignant strictures; for palliative stent placement in patients with stenosing neoplasms or malignant esophageal fistulas; or for tumor debulking or ablation (eg, electrocautery, laser, chemical) of stenosing esophageal neoplasms.(1)(27)(48)(49)(50) **(EG 2)** Because the majority of esophageal and gastric cancers relapse within 2 to 5 years after completion of local therapy, specialty society guidelines recommend careful surveillance utilizing UGI endoscopy with multiple (eg, at least 4 to 6) biopsies of suspicious lesions

and strictures after definitive treatment of gastric or esophageal cancer or other previously removed precancerous lesions; endoscopic surveillance includes a search for Barrett esophagus with 4-quadrant biopsies in patients treated locally for esophageal cancer.(27)(48) **(EG 2)** For the evaluation of gastrointestinal subepithelial lesions (masses or mass-like structures that project into the gastrointestinal lumen and are covered with normal-appearing epithelium), specialty society guidelines recommend endoscopic ultrasound as first-line evaluation, but UGI endoscopy may be indicated for endoscopic resection to treat symptomatic lesions or obtain tissue for diagnosis, particularly for lesions that are larger than 2 cm or have features suggestive of gastrointestinal stromal tumors or other high-risk indicators, and for surveillance of undiagnosed lesions.(51)(52)(53)(54) **(EG 2)** A retrospective matched cohort study that included 114 patients with mucosal esophageal adenocarcinoma found that both en bloc esophagectomy and endoscopic resection are effective when done in high-volume centers; however, esophagectomy was associated with higher morbidity and risk for procedure-related mortality, while endoscopic resection was associated with a higher recurrence rate, which mandated thorough follow-up.(55) **(EG 2)** A systematic review and meta-analysis of 19 studies (6118 patients) did not identify any randomized controlled trials comparing endoscopic resection with gastrectomy for early gastric cancer; however, it found that there was no significant difference in 3-year and 5-year disease-free survival or 5-year and 10-year overall survival between the procedures. Endoscopic resection was associated with increased rates of local recurrence and metachronous lesions.(56) **(EG 1)** A systematic review of stents for malignant gastric outlet obstruction found that the postprocedure clinical success rate was 83% with a mean patency time of 115 days.(57) **(EG 2)**

For upper gastrointestinal tract cancer screening, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** An evidence-based specialty society guideline recommends consideration of periodic surveillance with UGI endoscopy and biopsies for patients with hereditary cancer predisposition syndromes (eg, tylosis, familial Barrett esophagus, Bloom syndrome, Fanconi anemia).(27) **(EG 2)** Uncontrolled studies and database analysis suggest a reduction in mortality with screening patients at increased risk for gastric cancer.(59)(110) **(EG 2)** The accuracy of UGI endoscopy with adequate biopsies for the detection and diagnosis of early gastric cancer in patients at increased risk has been reported to be between 90% and 96%, making it the gold standard for gastric cancer diagnosis.(59) **(EG 2)** Specialty society guidelines recommend a single screening UGI endoscopy in individuals with gastroesophageal reflux disease with additional risk factors for Barrett esophagus and esophageal adenocarcinoma.(32)(33)(111) **(EG 2)** A specialty society guideline recommends UGI endoscopic surveillance for esophageal carcinoma in patients with a history of achalasia or caustic injury to the esophagus; however, the authors note that there is no consensus among experts regarding when to initiate endoscopic screening and the frequency for subsequent surveillance.(112) **(EG 2)** A specialty society guideline recommends UGI endoscopy for cancer screening in individuals at high risk for gastric cancer, including individuals with a family history of gastric cancer in a first-degree relative, first-generation immigrants from areas with high gastric cancer incidence, and those with certain hereditary polyposis or cancer syndromes.(19) **(EG 2)** However, another specialty society guideline is unable to make a recommendation for opportunistic screening for gastric cancer and gastric premalignant conditions for individuals considered at high risk due to immigration status, race or ethnicity, or environmental factors.(18) **(EG 2)**

For cancer surveillance, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Expert consensus guidelines note that, although the evidence to screen specifically for upper gastrointestinal tract cancer in individuals with hereditary cancer syndromes is limited, there are surveillance protocols in place for these patients who have had nonmalignant duodenal lesions removed during UGI endoscopies, based on their specific hereditary cancer syndrome diagnosis, and for surveillance for early-stage gastric carcinoma in patients with hereditary diffuse gastric cancer.(116) **(EG 2)** For patients with Barrett esophagus with confirmed dysplasia, a specialty society guideline considers both endoscopic therapy and endoscopic surveillance for progression to be acceptable alternatives.(32) **(EG 2)**

For caustic ingestion, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** A specialty society guideline supports the use of UGI endoscopy for assessment of acute injury after caustic ingestion.(1) **(EG 2)** In a multicenter observational study of 162 children of median age 36.9 months, multivariate analysis showed that the presence of symptoms was significantly associated with severe esophageal lesions (odds ratio of 2.3), leading to the conclusion that endoscopy is mandatory in symptomatic patients.(161) **(EG 2)** A review article recommends UGI endoscopy within 12 to 24 hours of a suspected caustic ingestion in patients who are symptomatic, have oropharyngeal burns, or have significant history of ingestion (eg, intentional ingestion).(159) **(EG 2)** A specialty society guideline recommends UGI endoscopy within 24 hours of the suspected exposure for children who are symptomatic after suspected caustic ingestion; asymptomatic children with suspected caustic ingestion may be able to be observed without UGI endoscopy, but adequate follow-up must be assured.(158) **(EG 2)** A specialty society guideline recommends emergent endoscopy after a caustic ingestion when CT scan of the neck, thorax, and abdomen is unavailable, contraindicated, or indeterminate, and in pediatric patients, but notes that CT scan may be more sensitive for detecting transmural injuries and predicting esophageal stricture formation after caustic ingestions.(162) **(EG 2)**

For Crohn disease, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A systematic review of 20 studies of 2511 patients with Crohn disease who underwent gastroduodenal biopsy reported a prevalence of UGI involvement of 34%.⁽¹⁶⁸⁾ **(EG 1)** According to a specialty society guideline, routine UGI endoscopy is not recommended for all adult patients suspected of having Crohn disease because when the UGI tract is involved in Crohn disease, disease is usually present in the terminal ileum, colon, or perianal area; however, UGI endoscopy should be obtained for adults with upper gastrointestinal symptoms (eg, dyspepsia, dysphagia, epigastric pain) and for all children with suspected Crohn disease.⁽¹⁶³⁾ **(EG 2)** Review articles and a specialty society recommend that UGI endoscopy should be part of the initial diagnostic evaluation of suspected Crohn disease in pediatric patients regardless of UGI symptoms.⁽¹⁶⁵⁾⁽¹⁶⁶⁾⁽¹⁶⁹⁾ **(EG 2)** Patients with symptomatic upper gastrointestinal strictures due to Crohn disease may benefit from endoscopic balloon dilation.⁽¹⁷⁰⁾ **(EG 2)**

For duodenal disease and need for examination and biopsy (eg, celiac disease, neoplastic lesion), evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** Specialty society guidelines support the use of UGI endoscopy for biopsy confirmation of suspected celiac disease and suspected neoplastic lesion.⁽¹⁾⁽⁵⁾⁽¹⁷¹⁾⁽¹⁷²⁾⁽¹⁷⁷⁾ **(EG 2)** UGI endoscopy with biopsies is also recommended for evaluation of patients with celiac disease with relapse or refractory symptoms in spite of a gluten-free diet to assess for alternative diagnoses or aberrant clonal proliferations.⁽¹⁷⁴⁾⁽¹⁷⁷⁾⁽¹⁷⁸⁾ **(EG 2)** An observational study of 47 pediatric patients with suspected celiac disease who underwent duodenal biopsy found that the diagnosis was confirmed in 89% of cases.⁽¹⁷⁹⁾ **(EG 2)** A specialty society guideline recommends UGI endoscopy with biopsies in patients with a suspected noneosinophilic gastrointestinal disorder beyond eosinophilic esophagitis and suspected small bowel involvement.⁽¹⁸⁰⁾ **(EG 2)**

For dyspepsia, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** UGI endoscopy should be performed in patients with alarm features (eg, weight loss, iron deficiency anemia) and is a useful diagnostic tool if empiric treatment does not resolve symptoms.⁽³⁾ **(EG 2)** A retrospective review of 2000 consecutive patients who underwent UGI endoscopy for UGI symptoms showed that a significantly higher percentage of patients with alarm symptoms (eg, dysphagia, vomiting, anemia, weight loss, persistent symptoms) had abnormal findings as compared with patients without alarm symptoms (65% vs 42%, respectively).⁽¹⁸¹⁾ **(EG 2)** Specialty society guidelines note that UGI endoscopy can be used to evaluate suspected enterocolitis due to immune checkpoint inhibitor therapy, especially if the symptoms are predominantly UGI in nature (eg, dyspepsia, nausea, vomiting) or in the setting of persistent lower gastrointestinal symptoms (eg, diarrhea) with a negative lower endoscopy.⁽¹⁸²⁾⁽¹⁸³⁾⁽¹⁸⁴⁾ **(EG 2)** A specialty society guideline suggests that, because UGI endoscopy can identify conditions that could be treated before bariatric surgery, routine preoperative UGI endoscopy in patients undergoing bariatric surgery may be reasonable, but notes that routine screening is controversial. The authors recommend UGI endoscopy after bariatric surgery in patients with gastrointestinal symptoms and note that routine UGI endoscopy 3 or more years after sleeve gastrectomy may be reasonable, based on limited evidence.⁽¹³⁷⁾ **(EG 2)** A specialty society guideline recommends UGI endoscopy with biopsies to exclude eosinophilic esophagitis in children with symptoms suggestive of eosinophilic esophagitis (eg, feeding problems, abdominal pain, vomiting) or with typical gastroesophageal reflux disease symptoms that are refractory to a trial of proton pump inhibitor therapy, and in adults with dysphagia, food bolus impaction, or typical gastroesophageal reflux disease symptoms that are associated with features of eosinophilic esophagitis and refractory to a trial of proton pump inhibitor therapy.⁽¹⁸⁵⁾ **(EG 2)**

For dysphagia, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** UGI endoscopy is indicated to rule out esophageal carcinoma in patients with symptoms of bleeding and dysphagia.⁽⁶⁵⁾ **(EG 2)** Specialty society guidelines support the use of UGI endoscopy for confirmation and histologic diagnosis of suspected upper tract stricture or obstruction as demonstrated by radiographic testing and for UGI symptoms that are persistent or recurrent (eg, dysphagia due to suspected achalasia, benign or malignant stricture, esophageal reflux).⁽¹⁾⁽⁵⁾ **(EG 2)** When mechanical obstruction is suspected as a cause of dysphagia, UGI endoscopy is a useful initial diagnostic test because it permits immediate biopsy with or without dilation of strictures, masses, or rings.⁽³⁾⁽¹⁸⁷⁾⁽²⁰³⁾⁽²⁰⁴⁾ **(EG 2)** UGI endoscopy may also be used for the placement of temporary stents for treating leaks, fistulas, and perforations.⁽⁹⁹⁾⁽²⁰⁵⁾ **(EG 2)** UGI endoscopy may be part of the evaluation of dysphagia in patients with a history of esophageal injury, anatomic disruptions (eg, tracheoesophageal fistula or esophageal atresia), or surgery, who are at risk for delayed complications (eg, strictures, esophageal dysmotility, fistulas).⁽¹³²⁾⁽¹³³⁾⁽¹³⁴⁾⁽¹³⁵⁾⁽²⁰⁶⁾ **(EG 2)** Database analysis of patients undergoing dilation for a symptomatic esophageal ring found that 65% of the patients had symptoms of dysphagia.⁽²⁰⁷⁾ **(EG 2)** A small observational study of children with a suspected vascular ring found that there was 85% agreement between endoscopic and surgical findings.⁽²⁰⁸⁾ **(EG 2)** Recurrent dysphagia can occur in up to 40% of patients who had stent placement for malignant stricture due to stent migration, tumor growth, or food obstruction.⁽¹⁰⁵⁾ **(EG 2)** A specialty society guideline states that a biopsy that shows a peak eosinophil level of 15 or more cells per high-power field is required to make a diagnosis of eosinophilic esophagitis in patients who have symptoms of esophageal dysfunction, including dysphagia.⁽²⁰⁹⁾ **(EG 2)** A specialty society guideline suggests that, because UGI

endoscopy can identify conditions that could be treated before bariatric surgery, routine preoperative UGI endoscopy in patients undergoing bariatric surgery may be reasonable, but notes that routine screening is controversial. The authors recommend UGI endoscopy after bariatric surgery in patients with gastrointestinal symptoms and note that routine UGI endoscopy 3 or more years after sleeve gastrectomy may be reasonable, based on limited evidence.(137) **(EG 2)** A specialty society guideline recommends UGI endoscopy with biopsies to exclude eosinophilic esophagitis in children with symptoms suggestive of eosinophilic esophagitis (eg, feeding problems, abdominal pain, vomiting) or with typical gastroesophageal reflux disease symptoms that are refractory to a trial of proton pump inhibitor therapy, and in adults with dysphagia, food bolus impaction, or typical gastroesophageal reflux disease symptoms that are associated with features of eosinophilic esophagitis and refractory to a trial of proton pump inhibitor therapy.(185) **(EG 2)**

For eosinophilic esophagitis, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A specialty society guideline recommends UGI endoscopy with biopsies to exclude eosinophilic esophagitis in children with symptoms suggestive of eosinophilic esophagitis (eg, feeding problems, abdominal pain, vomiting) or with typical gastroesophageal reflux disease symptoms that are refractory to a trial of proton pump inhibitor therapy, and in adults with dysphagia, food bolus impaction, or typical gastroesophageal reflux disease symptoms that are associated with features of eosinophilic esophagitis and refractory to a trial of proton pump inhibitor therapy.(185) **(EG 2)** Treatment for eosinophilic esophagitis includes proton pump inhibitors, topical corticosteroids, and elemental or 6-food elimination diets, with the therapeutic goals of normalizing esophageal inflammation and reducing symptoms.(226)(227)(228) **(EG 2)** While disease severity scores based on findings on UGI endoscopy have been validated and are recognized as clinical and trial endpoints, measures of disease severity based on clinical signs and symptoms have been investigated but are not well validated.(223)(229)(230)(231)(232) **(EG 2)** Expert consensus guidelines recommend UGI endoscopy with biopsies to evaluate the response to dietary changes or pharmacologic treatment in patients with eosinophilic esophagitis.(185)(222) **(EG 2)** A joint task force guideline on the management of eosinophilic esophagitis notes that it is reasonable to monitor UGI endoscopy findings after treatment changes because symptom-based assessments may be misleading.(216) **(EG 2)** Another joint task force guideline recommends UGI endoscopy to evaluate the efficacy of therapies for eosinophilic esophagitis, based on expert opinion.(233) **(EG 2)** A specialty society guideline on the management of pediatric eosinophilic esophagitis recommends UGI endoscopy 4 to 12 weeks after a change in therapy, for evaluation of clinical relapse, and to inform decisions about reducing treatment intensity.(224) **(EG 2)**

For known or suspected foreign body ingestions, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Although most ingested foreign objects pass through the gastrointestinal tract without causing symptoms, UGI endoscopy may be indicated, depending on the object and its location. Ingested button batteries lodged in the esophagus are associated with a high risk of esophageal burns and stenosis due to discharged electric current and should be removed by UGI endoscopy emergently.(159)(235)(237) **(EG 2)** Most button batteries that have passed beyond the esophagus will pass spontaneously, but in some circumstances (eg, symptomatic patient, delayed presentation), UGI endoscopy may still be indicated to evaluate for esophageal injury.(235) **(EG 2)** An observational study of 115 pediatric patients who underwent endoscopic removal of a foreign body of the esophagus found that surgery was required in less than 1% of patients.(238) **(EG 2)** A specialty society guideline on pediatric foreign body ingestions recommends emergent or urgent UGI endoscopy for pediatric patients with suspected ingestions of a variety of objects (eg, button battery, magnets, sharp objects), with level of urgency depending on the object's location and the presence of symptoms. For a witnessed or suspected button battery ingestion, with the object lodged in the esophagus, emergent endoscopic removal is indicated; while the authors note that the management of a button battery located in the stomach or beyond is more controversial, they suggest UGI endoscopy for patients age 5 years or younger with ingestion of a larger battery (20 mm or greater).(213) **(EG 2)** Another specialty society guideline recommends emergent UGI endoscopy (within 2 hours) for pediatric patients with impacted esophageal button batteries or esophageal, gastric, or proximal duodenal sharp-pointed objects, regardless of symptoms, and for symptomatic patients with impacted esophageal blunt foreign bodies. Indications for urgent UGI endoscopy (within 24 hours) include esophageal foreign bodies in asymptomatic patients, blunt foreign bodies in the stomach or duodenum when associated with symptoms or when the object is larger than 2.5 cm in diameter or 6 cm or more in length, and all magnets within endoscopic reach.(158) **(EG 2)**

For gastroesophageal varices, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Specialty society and expert consensus guidelines support the use of UGI endoscopy for patients with cirrhosis and other causes of portal hypertension (eg, porto-sinusoidal vascular disease) in order to document and treat gastroesophageal varices.(240)(241)(242)(244)(245)(246)(247)(248) **(EG 2)** In addition, specialty society guidelines suggest UGI endoscopy in patients with known gastroesophageal varices, with or without a history of endoscopic variceal eradication.(241)(242)(245) **(EG 2)**

For gastroesophageal reflux disease, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Clinical practice guidelines recommend UGI endoscopy for certain patients with gastroesophageal reflux disease, including those who have alarm symptoms, those who have failed a trial of medical therapy, and those who require reassessment after treatment for severe erosive esophagitis.(1)(111)(129)(257) **(EG 2)** Two additional expert consensus statements recommend objective reflux testing (eg, UGI endoscopy, ambulatory pH monitoring) in patients with suspected gastroesophageal reflux disease, with consideration for upfront reflux testing, including UGI endoscopy, in patients with isolated extraesophageal or atypical symptoms (eg, cough, hoarseness) without typical signs and symptoms of gastroesophageal reflux disease (eg, heartburn, regurgitation).(258)(259) **(EG 2)** Cohort and case control studies have suggested that esophageal cancer discovered through endoscopic screening and surveillance is associated with longer survival time than esophageal cancer presenting symptomatically; however, these studies are limited by lead time and length bias.(257) **(EG 2)** A specialty society guideline suggests that, because UGI endoscopy can identify conditions that could be treated before bariatric surgery, routine preoperative UGI endoscopy in patients undergoing bariatric surgery may be reasonable, but notes that routine screening is controversial. The authors recommend UGI endoscopy after bariatric surgery in patients with gastrointestinal symptoms and note that routine UGI endoscopy 3 or more years after sleeve gastrectomy may be reasonable, based on limited evidence.(137) **(EG 2)** A multisociety expert consensus panel suggests UGI endoscopy for patients with medically refractory gastroesophageal reflux disease and esophageal symptoms who are undergoing evaluation for antireflux surgery.(260) **(EG 2)** A specialty society guideline recommends UGI endoscopy with biopsies to exclude eosinophilic esophagitis in children with symptoms suggestive of eosinophilic esophagitis (eg, feeding problems, abdominal pain, vomiting) or with typical gastroesophageal reflux disease symptoms that are refractory to a trial of proton pump inhibitor therapy, and in adults with dysphagia, food bolus impaction, or typical gastroesophageal reflux disease symptoms that are associated with features of eosinophilic esophagitis and refractory to a trial of proton pump inhibitor therapy.(185) **(EG 2)**

For gastrointestinal bleeding, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** UGI endoscopy is indicated for evaluation of blood in stools and occult fecal blood if no source is found on colonoscopy.(1) **(EG 2)** For hematemesis, early UGI endoscopy (within 24 hours of presentation) is recommended to reduce the risk of further bleeding and potentially allow a shorter length of stay; patients with low-risk features on initial UGI endoscopy may be safely discharged promptly after UGI endoscopy, while patients with high-risk features may require additional endoscopic hemostatic therapy.(250)(267)(270) **(EG 2)** UGI endoscopy is indicated in the evaluation of melena because the UGI tract is the most likely source of bleeding.(271) **(EG 2)** A randomized trial of 516 patients presenting to the emergency department with an acute UGI bleed compared UGI endoscopy performed within 6 hours and 24 hours of specialist consultation and found, at 30-day follow-up, that there was no difference in mortality or incidence of further bleeding between groups. The authors noted that exclusion of hemodynamically unstable patients with ongoing bleeding limited generalizability.(272) **(EG 1)**

For hiatal hernia, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A review article notes that UGI endoscopy is useful for both diagnosis of hiatal hernia and evaluation of associated findings such as esophagitis and Barrett esophagus.(280) **(EG 2)**

For a history of UGI bleeding or ulcer, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** A specialty society guideline supports the use of UGI endoscopy for the identification of UGI pathology that may modify planned management (eg, patient is a transplant candidate, prior to initiation of long-term anticoagulation or NSAID therapy for arthritis).(1) **(EG 2)**

For iron deficiency anemia, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Specialty society guidelines support the use of UGI endoscopy for evaluation of iron deficiency anemia when there is no other source of chronic blood loss, particularly when the clinical situation suggests a UGI source.(1)(281)(283) **(EG 2)** A specialty society guideline recommends UGI endoscopy for patients with unexplained iron deficiency anemia after bariatric surgery due to the risk of anastomotic ulcers.(279) **(EG 2)**

For nausea and vomiting (unexplained), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Specialty society guidelines support the use of UGI endoscopy for persistent vomiting of unknown etiology.(1)(5)(285) **(EG 2)** An expert consensus guideline concludes that UGI endoscopy is required for establishing the diagnosis of gastroparesis.(286) **(EG 2)**

For odynophagia, evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Specialty society guidelines support the use of UGI endoscopy for the evaluation of patients with odynophagia.(1)(5) **(EG 2)**

For peptic ulcer disease, evidence demonstrates at least moderate certainty of at least moderate net benefit. **(RG A1)** UGI endoscopy is the most sensitive and specific technique for examining the UGI tract; approximately 8% of gastric ulcers that appear to be benign on radiography are malignant on endoscopy or surgery.(287) **(EG 2)** UGI endoscopy is a useful diagnostic tool if treatment for diagnosed *Helicobacter pylori* infection results in an incomplete clinical response.(287)(288) **(EG 2)** A retrospective review of 2000 consecutive patients who underwent UGI endoscopy for evaluation of UGI symptoms showed that a significantly greater percentage of patients with alarm symptoms (including gastrointestinal bleeding and anemia) had abnormal findings (including gastric inflammation, ulcer, and cancer) as compared with patients without alarm symptoms (65% vs 42%, respectively).(181) **(EG 2)**

For weight loss (unexplained), evidence demonstrates a net benefit, but of less than moderate certainty, and may consist of a consensus opinion of experts, case studies, and common standard care. **(RG A2)** Specialty society guidelines support the use of UGI endoscopy for upper abdominal symptoms associated with unexplained weight loss.(1)(5) **(EG 2)**

Rationale

Use of this MCG care guideline helps the clinician determine if a particular treatment, medication, or service might be appropriate for a specific patient, taking into account their unique health complexities.

Use of these evidence-based clinical criteria to support decision making benefits the patient by identifying patient-specific complex clinical factors and conditions, promoting personalized treatment. Utilizing evidence-based clinical criteria promotes patient safety by helping ensure that potential patient benefits outweigh the risks. In addition, the use of evidence-based guidelines can increase consistency in treatment thresholds, leading to less variation in care and promoting equitable treatment among patients.

Related CMS Coverage Guidance

This guideline supplements but does not replace, modify, or supersede existing Medicare regulations or applicable National Coverage Determinations (NCDs) or Local Coverage Determinations (LCDs).

Code of Federal Regulations (CFR): 42 CFR 419.22(294); 42 CFR 422.101(295)

Internet-Only Manual (IOM) Citations: CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 14 - Medical Devices(296); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15 - Covered Medical and Other Health Services(297); CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 16 - General Exclusions from Coverage(298)

Medicare Coverage Determinations: Medicare Coverage Database(299)

References

1. ASGE Standards of Practice Committee, et al. Appropriate use of GI endoscopy. *Gastrointestinal Endoscopy* 2012;75(6):1127-1131. DOI: 10.1016/j.gie.2012.01.011. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15] View abstract...
2. Nagula S, Parasa S, Laine L, Shah SC. AGA clinical practice update on high-quality upper endoscopy: expert review. *Clinical Gastroenterology and Hepatology* 2024;22(5):933-943. DOI: 10.1016/j.cgh.2023.10.034. [Context Link 1] View abstract...
3. Song LMWK, Topazian M. Gastrointestinal endoscopy. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. 21st ed. McGraw Hill Education; 2022:2387-2423. [Context Link 1, 2, 3, 4, 5, 6, 7, 8]

4. Vaezi MF, Pandolfino JE, Yadlapati RH, Greer KB, Kavitt RT. ACG clinical guidelines: diagnosis and management of achalasia. *American Journal of Gastroenterology* 2020;115(9):1393-1411. DOI: 10.14309/ajg.0000000000000731. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
5. Thomson M, et al. Paediatric gastrointestinal endoscopy: European Society for Paediatric Gastroenterology Hepatology and Nutrition and European Society of Gastrointestinal Endoscopy Guidelines. *Journal of Pediatric Gastroenterology and Nutrition* 2017;64(1):133-153. DOI: 10.1097/MPG.0000000000001408. [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16] View abstract...
6. Chuah SK, et al. Bridging the gap between advancements in the evolution of diagnosis and treatment towards better outcomes in achalasia. *BioMed Research International* 2019;2019:8549187. DOI: 10.1155/2019/8549187. [Context Link 1] View abstract...
7. Felix VN, Murayama KM, Bonavina L, Park MI. Achalasia: what to do in the face of failures of Heller myotomy. *Annals of the New York Academy of Sciences* 2020;1481(1):236-246. DOI: 10.1111/nyas.14440. [Context Link 1] View abstract...
8. ASGE Standards of Practice Committee, et al. The role of endoscopy in the evaluation and management of dysphagia. *Gastrointestinal Endoscopy* 2014;79(2):191-201. DOI: 10.1016/j.gie.2013.07.042. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
9. Zaninotto G, et al. The 2018 ISDE achalasia guidelines. *Diseases of the Esophagus* 2018;31(9):doy071. DOI: 10.1093/dote/doy071. [Context Link 1] View abstract...
10. Khashab MA, et al. ASGE guideline on the management of achalasia. *Gastrointestinal Endoscopy* 2020;91(2):213-227.e6. DOI: 10.1016/j.gie.2019.04.231. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
11. Markar S, Zaninotto G. Endoscopic pneumatic dilation for esophageal achalasia. *American Surgeon* 2018;84(4):473-476. [Context Link 1] View abstract...
12. Boeckstaens GE, Zaninotto G, Richter JE. Achalasia. *Lancet* 2014;383(9911):83-93. DOI: 10.1016/S0140-6736(13)60651-0. [Context Link 1, 2] View abstract...
13. Schoenberg MB, et al. Laparoscopic Heller myotomy versus endoscopic balloon dilatation for the treatment of achalasia: a network meta-analysis. *Annals of Surgery* 2013;258(6):943-952. DOI: 10.1097/SLA.0000000000000212. [Context Link 1] View abstract...
14. Gupta S, et al. AGA clinical practice guidelines on management of gastric intestinal metaplasia. *Gastroenterology* 2020;158(3):693-702. DOI: 10.1053/j.gastro.2019.12.003. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4, 5] View abstract...
15. Shah SC, Blanca Piazuelo MB, Kuipers EJ, Li D. AGA clinical practice update on the diagnosis and management of atrophic gastritis: expert review. *Gastroenterology* 2021;161(4):1325-1332.e7. DOI: 10.1053/j.gastro.2021.06.078. [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
16. Dinis-Ribeiro M, et al. Management of epithelial precancerous conditions and early neoplasia of the stomach (MAPS III): European Society of Gastrointestinal Endoscopy (ESGE), European Helicobacter and Microbiota Study Group (EHMSG) and European Society of Pathology (ESP) Guideline update 2025. *Endoscopy* 2025;57(5):504-554. DOI: 10.1055/a-2529-5025. [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9] View abstract...
17. Banks M, et al. British Society of Gastroenterology guidelines on the diagnosis and management of patients at risk of gastric adenocarcinoma. *Gut* 2019;68(9):1545-1575. DOI: 10.1136/gutjnl-2018-318126. [Context Link 1, 2] View abstract...
18. Morgan DR, et al. ACG clinical guideline: diagnosis and management of gastric premalignant conditions. *American Journal of Gastroenterology* 2025;120(4):709-737. DOI: 10.14309/ajg.0000000000003350. [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9] View abstract...
19. Shah SC, Wang AY, Wallace MB, Hwang JH. AGA clinical practice update on screening and surveillance in individuals at increased risk for gastric cancer in the United States: expert review. *Gastroenterology* 2025;168(2):405-416.e1. DOI: 10.1053/j.gastro.2024.11.001. [Context Link 1, 2, 3, 4, 5] View abstract...
20. Rustgi SD, Zylberberg HM, Hur C, Shah SC. Management of gastric intestinal metaplasia. *Clinical Gastroenterology and Hepatology* 2023;21(9):2178-2182. DOI: 10.1016/j.cgh.2023.03.010. [Context Link 1] View abstract...
21. Autosomal dominant and recessive inheritance. In: Jorde LB, Carey JC, Bamshad MJ, editors. *Medical Genetics*. 6th ed. Philadelphia, PA: Elsevier; 2020:55-72. [Context Link 1]
22. Wang AY, Hwang JH, Bhatt A, Draganov PV. AGA clinical practice update on surveillance after pathologically curative endoscopic submucosal dissection of early gastrointestinal neoplasia in the United States: commentary. *Gastroenterology* 2021;161(6):2030-2040.e1. DOI: 10.1053/j.gastro.2021.08.058. [Context Link 1, 2, 3, 4] View abstract...
23. Kahrilas PJ, Hirano I. Diseases of the esophagus. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. 21st ed. McGraw Hill Education; 2022:2423-2434. [Context Link 1, 2]
24. Maret-Ouda J, Markar SR, Lagergren J. Gastroesophageal reflux disease: a review. *Journal of the American Medical Association* 2020;324(24):2536-2547. DOI: 10.1001/jama.2020.21360. [Context Link 1, 2, 3] View abstract...

25. Yadlapati R, Gyawali CP, Pandolfino JE. Personalized approach to the evaluation and management of gastroesophageal reflux disease. *Clinical Gastroenterology and Hepatology* 2022;Online. DOI: 10.1016/j.cgh.2022.01.025. [Context Link 1, 2] View abstract...
26. Crockett SD, et al. Overutilization of endoscopic surveillance in nondysplastic Barrett's esophagus: a multicenter study. *Gastrointestinal Endoscopy* 2012;75(1):23-31.e2. DOI: 10.1016/j.gie.2011.08.042. [Context Link 1] View abstract...
27. Ajani JA, et al. Esophageal and Esophagogastric Junction Cancers. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 3.2025; 2025 Apr 22 Accessed at: <https://www.nccn.org/>. [accessed 2025 Apr 29] [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
28. Antony A, et al. Adherence to quality indicators in endoscopic surveillance of Barrett's esophagus and correlation to dysplasia detection rates. *Clinics and Research in Hepatology and Gastroenterology* 2018;42(6):591-596. DOI: 10.1016/j.clinre.2018.06.004. [Context Link 1] View abstract...
29. Badgery H, Read M, Winter NN, Taylor ACF, Hii MW. The role of esophagectomy in the management of Barrett's esophagus with high-grade dysplasia. *Annals of the New York Academy of Sciences* 2020;1481(1):72-89. DOI: 10.1111/nyas.14439. [Context Link 1] View abstract...
30. Bennett C, et al. Surgery versus radical endotherapies for early cancer and high-grade dysplasia in Barrett's oesophagus. *Cochrane Database of Systematic Reviews* 2020, Issue 5. Art. No.: CD007334. DOI: 10.1002/14651858.CD007334.pub5. [Context Link 1, 2] View abstract...
31. Sharma P, Shaheen NJ, Katzka D, Bergman JJGHM. AGA clinical practice update on endoscopic treatment of Barrett's Esophagus with dysplasia and/or early cancer: expert review. *Gastroenterology* 2020;158(3):760-769. DOI: 10.1053/j.gastro.2019.09.051. [Context Link 1] View abstract...
32. Shaheen NJ, et al. Diagnosis and management of Barrett's esophagus: an updated ACG guideline. *American Journal of Gastroenterology* 2022;117(4):559-587. DOI: 10.14309/ajg.0000000000001680. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
33. Muthusamy VR, Wani S, Gyawali CP, Komanduri S, CGIT Barrett's Esophagus Consensus Conference Participants. AGA clinical practice update on new technology and innovation for surveillance and screening in Barrett's Esophagus: expert review. *Clinical Gastroenterology and Hepatology* 2022;20(12):2696-2706 e1. DOI: 10.1016/j.cgh.2022.06.003. [Context Link 1, 2, 3] View abstract...
34. Standards of Practice Committee, et al. Endoscopic eradication therapy for patients with Barrett's esophagus-associated dysplasia and intramucosal cancer. *Gastrointestinal Endoscopy* 2018;87(4):907-931.e9. DOI: 10.1016/j.gie.2017.10.011. [Context Link 1] View abstract...
35. Weusten BLAM, et al. Diagnosis and management of Barrett esophagus: European Society of Gastrointestinal endoscopy (ESGE) guideline. *Endoscopy* 2023;55(12):1124-1146. DOI: 10.1055/a-2176-2440. [Context Link 1, 2, 3] View abstract...
36. ASGE Standards of Practice Committee, et al. ASGE guideline on screening and surveillance of Barrett's esophagus. *Gastrointestinal Endoscopy* 2019;90(3):335-359.e2. DOI: 10.1016/j.gie.2019.05.012. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
37. Almond LM, Hodson J, Barr H. Meta-analysis of endoscopic therapy for low-grade dysplasia in Barrett's oesophagus. *British Journal of Surgery* 2014;101(10):1187-1195. DOI: 10.1002/bjs.9573. [Context Link 1] View abstract...
38. Namasivayam V, Wang KK, Prasad GA. Endoscopic mucosal resection in the management of esophageal neoplasia: current status and future directions. *Clinical Gastroenterology and Hepatology* 2010;8(9):743-754. DOI: 10.1016/j.cgh.2010.05.030. [Context Link 1] View abstract...
39. Haidry RJ, et al. Improvement over time in outcomes for patients undergoing endoscopic therapy for Barrett's oesophagus-related neoplasia: 6-year experience from the first 500 patients treated in the UK patient registry. *Gut* 2015;64(8):1192-1199. DOI: 10.1136/gutjnl-2014-308501. [Context Link 1] View abstract...
40. Wani S, Mathur S, Sharma P. How to manage a Barrett's esophagus patient with low-grade dysplasia. *Clinical Gastroenterology and Hepatology* 2009;7(1):27-32. DOI: 10.1016/j.cgh.2008.08.014. [Context Link 1] View abstract...
41. Bennett C, et al. Consensus statements for management of Barrett's dysplasia and early-stage esophageal adenocarcinoma, based on a Delphi process. *Gastroenterology* 2012;143(2):336-346. DOI: 10.1053/j.gastro.2012.04.032. [Context Link 1] View abstract...
42. Wani S, Rubenstein JH, Vieth M, Bergman J. Diagnosis and management of low-grade dysplasia in Barrett's Esophagus: expert review from the clinical practice updates Committee of the American Gastroenterological Association. *Gastroenterology* 2016;151(5):822-835. DOI: 10.1053/j.gastro.2016.09.040. [Context Link 1, 2, 3] View abstract...
43. Rubenstein JH, et al. AGA clinical practice guideline on endoscopic eradication therapy of Barrett's esophagus and related neoplasia. *Gastroenterology* 2024;166(6):1020-1055. DOI: 10.1053/j.gastro.2024.03.019. [Context Link 1, 2, 3] View abstract...

44. Desai M, et al. Efficacy and safety outcomes of multimodal endoscopic eradication therapy in Barrett's esophagus-related neoplasia: a systematic review and pooled analysis. *Gastrointestinal Endoscopy* 2017;85(3):482-495.e4. DOI: 10.1016/j.gie.2016.09.022. [Context Link 1] View abstract...
45. Spechler SJ, Souza RF. Barrett esophagus. In: Feldman M, Friedman LS, Brandt LJ, editors. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease*. 11th ed. Philadelphia, PA: Elsevier; 2021:691-699.e5. [Context Link 1]
46. Nieuwenhuis EA, Pech O, Bergman JJGHM, Pouw RE. Role of endoscopic mucosal resection and endoscopic submucosal dissection in the management of Barrett's related neoplasia. *Gastrointestinal Endoscopy Clinics of North America* 2021;31(1):171-182. DOI: 10.1016/j.giec.2020.09.001. [Context Link 1, 2] View abstract...
47. Pimentel-Nunes P, et al. Endoscopic submucosal dissection for superficial gastrointestinal lesions: European Society of Gastrointestinal Endoscopy (ESGE) Guideline - Update 2022. *Endoscopy* 2022;54(6):591-622. DOI: 10.1055/a-1811-7025. [Context Link 1, 2, 3] View abstract...
48. Ajani JA, et al. Gastric Cancer. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 2.2025; 2025 Apr 04 Accessed at: <https://www.nccn.org/guidelines/>. [accessed 2025 Apr 29] [Context Link 1, 2, 3, 4]
49. Obermannova R, et al. Oesophageal cancer: ESMO Clinical Practice Guideline for diagnosis, treatment and follow-up. *Annals of Oncology* 2022;33(10):992-1004. DOI: 10.1016/j.annonc.2022.07.003. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
50. Draganov PV, Wang AY, Othman MO, Fukami N. AGA Institute clinical practice update: endoscopic submucosal dissection in the United States. *Clinical Gastroenterology and Hepatology* 2019;17(1):16-25.e1. DOI: 10.1016/j.cgh.2018.07.041. [Context Link 1, 2] View abstract...
51. Standards of Practice Committee, et al. The role of endoscopy in subepithelial lesions of the GI tract. *Gastrointestinal Endoscopy* 2017;85(6):1117-1132. DOI: 10.1016/j.gie.2017.02.022. [Context Link 1, 2, 3] View abstract...
52. Sharzei K, Sethi A, Savides T. AGA clinical practice update on management of subepithelial lesions encountered during routine endoscopy: expert review. *Clinical Gastroenterology and Hepatology* 2022;20(11):2435-2443 e4. DOI: 10.1016/j.cgh.2022.05.054. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3, 4] View abstract...
53. Jacobson BC, et al. ACG clinical guideline: diagnosis and management of gastrointestinal subepithelial lesions. *American Journal of Gastroenterology* 2023;118(1):46-58. DOI: 10.14309/ajg.0000000000002100. [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
54. Deprez PH, et al. Endoscopic management of subepithelial lesions including neuroendocrine neoplasms: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2022;54(4):412-429. DOI: 10.1055/a-1751-5742. [Context Link 1, 2, 3, 4] View abstract...
55. Pech O, Bollscheiwer E, Manner H, Leers J, Ell C, Holscher AH. Comparison between endoscopic and surgical resection of mucosal esophageal adenocarcinoma in Barrett's esophagus at two high-volume centers. *Annals of Surgery* 2011;254(1):67-72. DOI: 10.1097/SLA.0b013e31821d4bf6. [Context Link 1, 2] View abstract...
56. Sun W, Han X, Wu S, Yang C. Endoscopic resection versus surgical resection for early gastric cancer: a systematic review and meta-analysis. *Medicine* 2015;94(43):e1649. DOI: 10.1097/MD.0000000000001649. [Context Link 1] View abstract...
57. Fiori E, Lamazza A, Demasi E, Decesare A, Schillaci A, Sterpetti AV. Endoscopic stenting for gastric outlet obstruction in patients with unresectable antro pyloric cancer. Systematic review of the literature and final results of a prospective study. The point of view of a surgical group. *American Journal of Surgery* 2013;206(2):210-217. DOI: 10.1016/j.amjsurg.2012.08.018. [Context Link 1] View abstract...
58. Bourke MJ, Lo SK, Buerlein RCD, Das KK. AGA clinical practice update on nonampullary duodenal lesions: expert review. *Gastroenterology* 2025;168(1):169-175. DOI: 10.1053/j.gastro.2024.10.008. [Context Link 1, 2] View abstract...
59. El Abiad R, Gerke H. Gastric cancer: endoscopic diagnosis and staging. *Surgical Oncology Clinics of North America* 2012;21(1):1-19. DOI: 10.1016/j.soc.2011.09.002. [Context Link 1, 2, 3, 4, 5] View abstract...
60. Vatansever S, et al. Gastric polyps and polypoid lesions: Retrospective analysis of 36650 endoscopic procedures in 29940 patients. *Turkish Journal of Gastroenterology* 2015;26(2):117-122. DOI: 10.5152/tjg.2015.7720. [Context Link 1] View abstract...
61. van Leerdam ME, et al. Endoscopic management of polyposis syndromes: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2019;51(9):877-895. DOI: 10.1055/a-0965-0605. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
62. Tempero MA, et al. Ampullary Adenocarcinoma. NCCN Clinical Practice Guideline in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 2.2025; 2025 Jan 10 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jan 16] [Context Link 1]

63. Vanbiervliet G, et al. Endoscopic management of ampullary tumors: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy* 2021;53(4):429-448. DOI: 10.1055/a-1397-3198. [Context Link 1, 2] View abstract...
64. Hautefeuille V, et al. Ampullary tumors: French Intergroup Clinical Practice Guidelines for diagnosis, treatments and follow-up (TNCD, SNFGE, FFCD, UNICANCER, GERCOR, SFCD, SFED, ACHBT, AFC, SFRO, RENAPE, SNFCP, AFEF, SFP, SFR). *Digestive and Liver Disease* 2024;56(9):1452-1460. DOI: 10.1016/j.dld.2024.04.027. (Reaffirmed 2025 Apr) [Context Link 1] View abstract...
65. Pennathur A, Gibson MK, Jobe BA, Luketich JD. Oesophageal carcinoma. *Lancet* 2013;381(9864):400-412. DOI: 10.1016/S0140-6736(12)60643-6. [Context Link 1, 2, 3] View abstract...
66. Williams VM, et al. Executive summary of the American Radium Society appropriate Use criteria for management of squamous cell carcinoma of the cervical Esophagus: systematic review and guidelines. *American Journal of Clinical Oncology* 2025;48(4):163-179. DOI: 10.1097/COC.0000000000001165. [Context Link 1] View abstract...
67. Forbes N, et al. American Society for Gastrointestinal Endoscopy guideline on endoscopic submucosal dissection for the management of early esophageal and gastric cancers: summary and recommendations. *Gastrointestinal Endoscopy* 2023;98(3):271-284. DOI: 10.1016/j.gie.2023.03.015. [Context Link 1, 2, 3] View abstract...
68. Al-Haddad MA, et al. American Society for Gastrointestinal Endoscopy guideline on endoscopic submucosal dissection for the management of early esophageal and gastric cancers: methodology and review of evidence. *Gastrointestinal Endoscopy* 2023;98(3):285-305 e38. DOI: 10.1016/j.gie.2023.03.030. [Context Link 1, 2] View abstract...
69. Sato D, et al. Long-term clinical outcome after endoscopic resection of esophageal squamous cell carcinoma invading the muscularis mucosae without lymphovascular invasion. *Gastrointestinal Endoscopy* 2022;95(4):634-641.e3. DOI: 10.1016/j.gie.2021.11.001. [Context Link 1] View abstract...
70. Takeuchi M, et al. Technical feasibility and oncologic safety of diagnostic endoscopic resection for superficial esophageal cancer. *Gastrointestinal Endoscopy* 2018;88(3):456-465. DOI: 10.1016/j.gie.2018.04.2361. [Context Link 1] View abstract...
71. Zehetner J, et al. Endoscopic resection and ablation versus esophagectomy for high-grade dysplasia and intramucosal adenocarcinoma. *Journal of Thoracic and Cardiovascular Surgery* 2011;141(1):39-47. DOI: 10.1016/j.jtcvs.2010.08.058. [Context Link 1] View abstract...
72. Moss A, et al. Endoscopic resection for Barrett's high-grade dysplasia and early esophageal adenocarcinoma: an essential staging procedure with long-term therapeutic benefit. *American Journal of Gastroenterology* 2010;105(6):1276-1283. DOI: 10.1038/ajg.2010.1. [Context Link 1] View abstract...
73. Lordick F, et al. Gastric cancer: ESMO Clinical Practice Guideline for diagnosis, treatment and follow-up. *Annals of Oncology* 2022;Online. DOI: 10.1016/j.annonc.2022.07.004. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
74. Shitara K, et al. Pan-Asian adapted ESMO Clinical Practice Guidelines for the diagnosis, treatment and follow-up of patients with gastric cancer. *ESMO Open Cancer Horizons* 2024;9(2):Online. DOI: 10.1016/j.esmoop.2023.102226. [Context Link 1] View abstract...
75. Choi J, Kim SG, Im JP, Kim JS, Jung HC. Long-term clinical outcomes of endoscopic resection for early gastric cancer. *Surgical Endoscopy* 2015;29(5):1223-1230. DOI: 10.1007/s00464-014-3800-7. [Context Link 1] View abstract...
76. Park CH, et al. Clinical safety of endoscopic submucosal dissection compared with surgery in elderly patients with early gastric cancer: a propensity-matched analysis. *Gastrointestinal Endoscopy* 2014;80(4):599-609. DOI: 10.1016/j.gie.2014.04.042. [Context Link 1] View abstract...
77. Shin KY, et al. Clinical outcomes of the endoscopic submucosal dissection of early gastric cancer are comparable between absolute and new expanded criteria. *Gut and Liver* 2015;9(2):181-187. DOI: 10.5009/gnl13417. [Context Link 1] View abstract...
78. Yamaguchi H, et al. Impact of gastric endoscopic submucosal dissection in elderly patients: The latest single center large cohort study with a review of the literature. *Medicine* 2019;98(11):e14842. DOI: 10.1097/MD.00000000000014842. [Context Link 1] View abstract...
79. Prinz F, Ebigbo A, Probst A, Messmann H. Gastric cancer- endoscopic treatment of early lesions, the West learns from the East. *Best Practice and Research. Clinical Gastroenterology* 2021;50-51:Online. DOI: 10.1016/j.bpg.2021.101739. [Context Link 1, 2] View abstract...
80. Bergsland E, et al. Neuroendocrine and Adrenal Tumors. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 2.2025; 2025 May 28 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jun 04] [Context Link 1]
81. Panzuto F, et al. European Neuroendocrine Tumor Society (ENETS) 2023 guidance paper for gastroduodenal neuroendocrine tumours (NETs) G1-G3. *Journal of Neuroendocrinology* 2023;35(8):Online. DOI: 10.1111/jne.13306. [Context Link 1] View abstract...

82. Panzuto F, et al. Endoscopic management of gastric, duodenal and rectal NETs: Position paper from the Italian Association for Neuroendocrine Tumors (Itanet), Italian Society of Gastroenterology (SIGE), Italian Society of Digestive Endoscopy (SIED). *Digestive and Liver Disease* 2024;56(4):589-600. DOI: 10.1016/j.dld.2023.12.015. [Context Link 1] View abstract...
83. D'Souza LS, Yang D, Diehl D. AGA clinical practice update on endoscopic full-thickness resection for the management of gastrointestinal subepithelial lesions: commentary. *Gastroenterology* 2024;166(2):345-349. DOI: 10.1053/j.gastro.2023.11.016. [Context Link 1, 2, 3] View abstract...
84. Casali PG, et al. Gastrointestinal stromal tumours: ESMO-EURACAN-GENTURIS Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology* 2022;33(1):20-33. DOI: 10.1016/j.annonc.2021.09.005. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
85. von Mehren M, et al. Gastrointestinal Stromal Tumors (GISTs). NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2025; 2025 Apr 17 Accessed at: <https://www.nccn.org/>. [accessed 2025 Apr 29] [Context Link 1]
86. Wang C, et al. Safety and efficiency of endoscopic resection versus laparoscopic resection in gastric gastrointestinal stromal tumours: A systematic review and meta-analysis. *European Journal of Surgical Oncology* 2020;46(4 Pt A):667-674. DOI: 10.1016/j.ejso.2019.10.030. [Context Link 1] View abstract...
87. Tada N, Kobara H, Nishiyama N, Fujihara S, Masaki T, Uedo N. Current status of endoscopic full-thickness resection for gastric subepithelial tumors: a literature review over two decades. *Digestion* 2023;104(6):415-429. DOI: 10.1159/000530679. [Context Link 1] View abstract...
88. Zucca E, et al. Marginal zone lymphomas: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology* 2020;31(1):17-29. DOI: 10.1016/j.annonc.2019.10.010. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
89. Zelenetz AD, et al. B-Cell Lymphomas. NCCN Clinical Practice Guideline in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 3.2025; 2025 Aug 18 Accessed at: <https://www.nccn.org/>. [accessed 2025 Aug 21] [Context Link 1]
90. Benson AB III, et al. Small Bowel Adenocarcinoma. NCCN Clinical Practice Guideline in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 3.2025; 2025 Mar 31 Accessed at: <https://www.nccn.org/>. [accessed 2025 Apr 29] [Context Link 1]
91. Locher C, et al. Small bowel adenocarcinoma: French intergroup clinical practice guidelines for diagnosis, treatments and follow-up (SNFGE, FFCD, GERCOR, UNICANCER, SFCD, SFED, SFRO). *Digestive and Liver Disease* 2018;50(1):15-19. DOI: 10.1016/j.dld.2017.09.123. [Context Link 1] View abstract...
92. Amoyel M, et al. Endoscopic management of non-ampullary duodenal adenomas. *Endoscopy International Open* 2022;10(1):E96-E108. DOI: 10.1055/a-1723-2847. [Context Link 1, 2] View abstract...
93. Vanbiervliet G, et al. Endoscopic management of superficial nonampullary duodenal tumors: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2021;53(5):522-534. DOI: 10.1055/a-1442-2395. [Context Link 1, 2, 3] View abstract...
94. Dai Y, et al. Interventions for dysphagia in oesophageal cancer. *Cochrane Database of Systematic Reviews* 2014, Issue 10. Art. No.: CD005048. DOI: 10.1002/14651858.CD005048.pub4. [Context Link 1] View abstract...
95. van Halsema EE, Rauws EA, Fockens P, van Hooft JE. Self-expandable metal stents for malignant gastric outlet obstruction: A pooled analysis of prospective literature. *World Journal of Gastroenterology* 2015;21(43):12468-12481. DOI: 10.3748/wjg.v21.i43.12468. [Context Link 1] View abstract...
96. Oh SY, et al. Survival and clinical outcome after endoscopic duodenal stent placement for malignant gastric outlet obstruction: comparison of pancreatic cancer and nonpancreatic cancer. *Gastrointestinal Endoscopy* 2015;82(3):460-468.e2. DOI: 10.1016/j.gie.2015.01.026. [Context Link 1] View abstract...
97. Rademacher C, Bechtler M, Schneider S, Hartmann B, Striegel J, Jakobs R. Self-expanding metal stents for the palliation of malignant gastric outlet obstruction in patients with peritoneal carcinomatosis. *World Journal of Gastroenterology* 2016;22(43):9554-9561. DOI: 10.3748/wjg.v22.i43.9554. [Context Link 1] View abstract...
98. Tsao J, et al. Partially-covered stent placement versus surgical gastrojejunostomy for the palliation of malignant gastroduodenal obstruction secondary to pancreatic cancer. *Abdominal Radiology (New York)* 2016;41(11):2233-2240. DOI: 10.1007/s00261-016-0810-z. [Context Link 1] View abstract...
99. Spaander MCW, et al. Esophageal stenting for benign and malignant disease: European Society of Gastrointestinal Endoscopy (ESGE) Guideline - Update 2021. *Endoscopy* 2021;53(7):751-762. DOI: 10.1055/a-1475-0063. [Context Link 1, 2, 3] View abstract...
100. Jue TL, et al. ASGE guideline on the role of endoscopy in the management of benign and malignant gastroduodenal obstruction. *Gastrointestinal Endoscopy* 2021;93(2):309-322.e4. DOI: 10.1016/j.gie.2020.07.063. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...

101. Bible KC, et al. 2021 American Thyroid Association guidelines for management of patients with anaplastic thyroid cancer. *Thyroid* 2021;31(3):337-386. DOI: 10.1089/thy.2020.0944. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
102. Raffaelli M, et al. European Society of Endocrine Surgeons (ESES) consensus statement on advanced thyroid cancer: definitions and management. *British Journal of Surgery* 2024;111(8):DOI: 10.1093/bjs/znae199. [Context Link 1] View abstract...
103. Haugen BR, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. *Thyroid* 2016;26(1):1-133. DOI: 10.1089/thy.2015.0020. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
104. Filetti S, et al. Thyroid cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology* 2019;30(12):1856-1883. DOI: 10.1093/annonc/mdz400. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
105. de Wijkerslooth LR, Vleggaar FP, Siersema PD. Endoscopic management of difficult or recurrent esophageal strictures. *American Journal of Gastroenterology* 2011;106(12):2080-2092. DOI: 10.1038/ajg.2011.348. [Context Link 1, 2, 3] View abstract...
106. Hammad H, Wani S. Esophageal tumors. In: Feldman M, Friedman LS, Brandt LJ, editors. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease*. 11th ed. Philadelphia, PA: Elsevier; 2021:700-719.e9. [Context Link 1, 2]
107. Laszkowska M, Oh A, Hur C. Screening for upper gastrointestinal malignancies in the United States-which immigrant groups should be considered high-risk? *Gastroenterology* 2020;158(1):4-8. DOI: 10.1053/j.gastro.2019.09.047. [Context Link 1, 2] View abstract...
108. ASGE Standards of Practice Committee, et al. The role of endoscopy in the management of premalignant and malignant conditions of the stomach. *Gastrointestinal Endoscopy* 2015;82(1):1-8. DOI: 10.1016/j.gie.2015.03.1967. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
109. Qumseya BJ, et al. Systematic review and meta-analysis of prevalence and risk factors for Barrett's esophagus. *Gastrointestinal Endoscopy* 2019;90(5):707-717.e1. DOI: 10.1016/j.gie.2019.05.030. [Context Link 1, 2] View abstract...
110. Hamashima C, et al. Impact of endoscopic screening on mortality reduction from gastric cancer. *World Journal of Gastroenterology* 2015;21(8):2460-2466. DOI: 10.3748/wjg.v21.i8.2460. [Context Link 1] View abstract...
111. Katz PO, Dunbar KB, Schnoll-Sussman FH, Greer KB, Yadlapati R, Spechler SJ. ACG clinical guideline for the diagnosis and management of gastroesophageal reflux disease. *American Journal of Gastroenterology* 2022;117(1):27-56. DOI: 10.14309/ajg.0000000000001538. (Reaffirmed 2025 Nov) [Context Link 1, 2, 3, 4] View abstract...
112. Saftoiu A, et al. Role of gastrointestinal endoscopy in the screening of digestive tract cancers in Europe: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement. *Endoscopy* 2020;52(4):293-304. DOI: 10.1055/a-1104-5245. [Context Link 1, 2, 3] View abstract...
113. Zaffaroni G, et al. Updated European guidelines for clinical management of familial adenomatous polyposis (FAP), MUTYH-associated polyposis (MAP), gastric adenocarcinoma, proximal polyposis of the stomach (GAPPS) and other rare adenomatous polyposis syndromes: a joint EHTG-ESCP revision. *British Journal of Surgery* 2024;111(5):Online. DOI: 10.1093/bjs/znae070. [Context Link 1, 2, 3, 4, 5, 6, 7] View abstract...
114. Iwatsuki M, Matsumoto C, Mimori K, Baba H. The comprehensive review of gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS) from diagnosis and treatment. *Annals of Gastroenterological Surgery* 2023;7(5):725-732. DOI: 10.1002/ags3.12708. [Context Link 1, 2, 3] View abstract...
115. Kim W, Kidambi T, Lin J, Idos G. Genetic syndromes associated with gastric cancer. *Gastrointestinal Endoscopy Clinics of North America* 2022;32(1):147-162. DOI: 10.1016/j.giec.2021.08.004. [Context Link 1] View abstract...
116. Gupta S, et al. Genetic/Familial High-Risk Assessment: Colorectal, Endometrial, and Gastric. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2025; 2025 Jun 13 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jun 23] [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
117. Blair VR, et al. Hereditary diffuse gastric cancer: updated clinical practice guidelines. *Lancet Oncology* 2020;21(8):e386-e397. DOI: 10.1016/S1470-2045(20)30219-9. [Context Link 1, 2, 3, 4, 5, 6, 7, 8] View abstract...
118. Treese C, Siegmund B, Daum S. Hereditary diffuse gastric cancer-update based on the current consort recommendations. *Current Oncology* 2022;29(4):2454-2460. DOI: 10.3390/curroncol29040199. [Context Link 1, 2, 3, 4] View abstract...
119. Decourtye-Espiard L, Guilford P. Hereditary diffuse gastric cancer. *Gastroenterology* 2023;164(5):719-735. DOI: 10.1053/j.gastro.2023.01.038. [Context Link 1, 2, 3, 4, 5, 6] View abstract...

120. Pilonis ND, Tischkowitz M, Fitzgerald RC, di Pietro M. Hereditary diffuse gastric cancer: approaches to screening, surveillance, and treatment. *Annual Review of Medicine* 2021;72:263-280. DOI: 10.1146/annurev-med-051019-103216. [Context Link 1, 2] View abstract...
121. Kanth P, Grimmitt J, Champine M, Burt R, Samadder NJ. Hereditary colorectal polyposis and cancer syndromes: a primer on diagnosis and management. *American Journal of Gastroenterology* 2017;112(10):1509-1525. DOI: 10.1038/ajg.2017.212. [Context Link 1, 2, 3] View abstract...
122. Giardiello FM, et al. Guidelines on genetic evaluation and management of Lynch syndrome: a consensus statement by the US Multi-Society Task Force on colorectal cancer. *Gastroenterology* 2014;147(2):502-526. DOI: 10.1053/j.gastro.2014.04.001. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
123. Kidambi TD, Kohli DR, Samadder NJ, Singh A. Hereditary polyposis syndromes. *Current Treatment Options in Gastroenterology* 2019;17(4):650-655. DOI: 10.1007/s11938-019-00251-4. [Context Link 1, 2, 3, 4, 5, 6, 7, 8] View abstract...
124. Syngal S, et al. ACG clinical guideline: Genetic testing and management of hereditary gastrointestinal cancer syndromes. *American Journal of Gastroenterology* 2015;110(2):223-263. DOI: 10.1038/ajg.2014.435. (Reaffirmed 2025 Aug) [Context Link 1, 2, 3] View abstract...
125. McGarrity TJ, Amos CI, Baker MJ. Peutz-Jeghers Syndrome. Synonym: PJS [Internet] GeneReviews. 2021 Sep Accessed at: <https://www.ncbi.nlm.nih.gov/books/NBK1266/>. [created 2001; accessed 2025 Sep 11] [Context Link 1] View abstract...
126. Galandiuk S, Netz U, Morpurgo E, Tosato SM, Abu-Freha N, Ellis CT. Colon and rectum. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. *Sabiston Textbook of Surgery*. 21st ed. Elsevier; 2022:1320-1400.e1. [Context Link 1]
127. Rajaram R, Spicer JD, Dhupar R, Kim JY, Sepesi B, Hofstetter WL. Esophagus. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. *Sabiston Textbook of Surgery*. 21st ed. Elsevier; 2022:1014-1055. [Context Link 1, 2]
128. Groulx S, et al. Guideline on screening for esophageal adenocarcinoma in patients with chronic gastroesophageal reflux disease. *Canadian Medical Association Journal* 2020;192(27):E768-E777. DOI: 10.1503/cmaj.190814. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
129. ASGE Standards of Practice Committee, et al. American Society for Gastrointestinal Endoscopy guideline on the diagnosis and management of GERD: summary and recommendations. *Gastrointestinal Endoscopy* 2025;101(2):267-284. DOI: 10.1016/j.gie.2024.10.008. [Context Link 1, 2, 3, 4] View abstract...
130. Yang J, et al. American Society for Gastrointestinal Endoscopy guideline on the role of endoscopy in familial adenomatous polyposis syndromes. *Gastrointestinal Endoscopy* 2020;91(5):963-982.e2. DOI: 10.1016/j.gie.2020.01.028. [Context Link 1] View abstract...
131. Poylin VY, et al. The American Society of Colon and Rectal Surgeons Clinical practice guidelines for the management of inherited adenomatous polyposis syndromes. *Diseases of the Colon and Rectum* 2024;67(2):213-227. DOI: 10.1097/DCR.0000000000003072. [Context Link 1, 2] View abstract...
132. Dingemann C, et al. ERNICA consensus conference on the management of patients with long-gap esophageal atresia: perioperative, Surgical, and Long-Term Management. *European Journal of Pediatric Surgery* 2021;31(3):214-225. DOI: 10.1055/s-0040-1713932. [Context Link 1, 2, 3, 4] View abstract...
133. Krishnan U, et al. The International Network on Oesophageal Atresia (INoEA) consensus guidelines on the transition of patients with oesophageal atresia-tracheoesophageal fistula. *Nature Reviews. Gastroenterology & Hepatology* 2023;20(11):735-755. DOI: 10.1038/s41575-023-00789-w. [Context Link 1, 2, 3, 4] View abstract...
134. Krishnan U, et al. ESPGHAN-NASPGHAN guidelines for the evaluation and treatment of gastrointestinal and nutritional complications in children with esophageal atresia-tracheoesophageal fistula. *Journal of Pediatric Gastroenterology and Nutrition* 2016;63(5):550-570. DOI: 10.1097/MPG.0000000000001401. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3, 4] View abstract...
135. Koumbourlis AC, et al. Care recommendations for the respiratory complications of esophageal atresia-tracheoesophageal fistula the International Network of Esophageal Atresia, Respiratory Complications Working Group. *Pediatric Pulmonology* 2020;55(10):2713-2729. DOI: 10.1002/ppul.24982. [Context Link 1, 2, 3] View abstract...
136. Khlevner J, et al. Management of adults with esophageal atresia. *Clinical Gastroenterology and Hepatology* 2023;21(1):15-25. DOI: 10.1016/j.cgh.2022.07.037. [Context Link 1, 2, 3] View abstract...
137. Campos GM, et al. ASMBS position statement on the rationale for performance of upper gastrointestinal endoscopy before and after metabolic and bariatric surgery. *Surgery for Obesity and Related Diseases* 2021;17(5):837-847. DOI: 10.1016/j.soard.2021.03.007. [Context Link 1, 2, 3, 4] View abstract...
138. Aronson M, et al. Diagnostic criteria for constitutional mismatch repair deficiency (CMMRD): recommendations from the international consensus working group. *Journal of Medical Genetics* 2022;59(4):318-327. DOI: 10.1136/jmedgenet-2020-107627. [Context Link 1] View abstract...

139. Vasen HF, et al. Guidelines for surveillance of individuals with constitutional mismatch repair-deficiency proposed by the European Consortium "Care for CMMR-D" (C4CMMR-D). *Journal of Medical Genetics* 2014;DOI: 10.1136/jmedgenet-2013-102238. [Context Link 1, 2] View abstract...
140. Das A, et al. Clinical updates and surveillance recommendations for DNA replication-repair deficiency syndromes in children and young adults. *Clinical Cancer Research* 2024;30(16):3378-3387. DOI: 10.1158/1078-0432.CCR-23-3994. [Context Link 1] View abstract...
141. Colas C, et al. ERN GENTURIS guidelines on constitutional mismatch repair deficiency diagnosis, genetic counselling, surveillance, quality of life, and clinical management. *European Journal of Human Genetics* 2024;32(12):1526-1541. DOI: 10.1038/s41431-024-01708-6. [Context Link 1] View abstract...
142. Durno C, et al. Recommendations on surveillance and management of Biallelic Mismatch Repair Deficiency (BMMRD) syndrome: a consensus statement by the US Multi-Society Task Force on Colorectal Cancer. *Gastroenterology* 2017;152(6):1605-1614. DOI: 10.1053/j.gastro.2017.02.011. [Context Link 1] View abstract...
143. Harrold EC, Stadler ZK. Upper gastrointestinal cancers and the role of genetic testing. *Hematology/Oncology Clinics of North America* 2024;38(3):677-691. DOI: 10.1016/j.hoc.2024.01.006. [Context Link 1, 2] View abstract...
144. Daly MB, et al. Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2026; 2025 Jul 10 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jul 11] [Context Link 1, 2]
145. Lobo S, et al. Cancer predisposition and germline CTNNA1 variants. *European Journal of Medical Genetics* 2021;64(10):104316. DOI: 10.1016/j.ejmg.2021.104316. [Context Link 1] View abstract...
146. Haidle JL, MacFarland SP, Howe JR. Juvenile Polyposis Syndrome. [Internet] GeneReviews. 2022 Feb 03 Accessed at: <https://www.ncbi.nlm.nih.gov/books/NBK1469/>. [created 2003 May 13; accessed 2025 Sep 11] [Context Link 1]
147. Boland CR, et al. Diagnosis and management of cancer risk in the gastrointestinal hamartomatous polyposis syndromes: recommendations from the U.S. Multi-Society Task Force on Colorectal Cancer. *Gastrointestinal Endoscopy* 2022;95(6):1025-1047. DOI: 10.1016/j.gie.2022.02.044. [Context Link 1, 2, 3, 4] View abstract...
148. Schneider K, Zelle K, Nichols KE, Levine AS, Garber J. Li-Fraumeni Syndrome. [Internet] GeneReviews. 2025 May 01 Accessed at: <https://www.ncbi.nlm.nih.gov/books/NBK1311/>. [accessed 2025 Sep 10] [Context Link 1, 2]
149. Achatz MI, et al. Update on cancer screening recommendations for individuals with Li-Fraumeni syndrome. *Clinical Cancer Research* 2025;31(10):1831-1840. DOI: 10.1158/1078-0432.CCR-24-3301. [Context Link 1, 2] View abstract...
150. Ladigan-Badura S, et al. Value of upper gastrointestinal endoscopy for gastric cancer surveillance in patients with Lynch syndrome. *International Journal of Cancer* 2021;148(1):106-114. DOI: 10.1002/ijc.33294. [Context Link 1, 2] View abstract...
151. Vangala DB, et al. Early detection of duodenal cancer by upper gastrointestinal-endoscopy in Lynch syndrome. *International Journal of Cancer* 2021;149(12):2052-2062. DOI: 10.1002/ijc.33753. [Context Link 1, 2] View abstract...
152. Kumar S, Dudzik CM, Reed M, Long JM, Wangenstein KJ, Katona BW. Upper endoscopic surveillance in Lynch syndrome detects gastric and duodenal adenocarcinomas. *Cancer Prevention Research (Philadelphia, Pa.)* 2020;13(12):1047-1054. DOI: 10.1158/1940-6207.CAPR-20-0269. [Context Link 1, 2] View abstract...
153. Vedantam S, Katona BW, Sussman DA, Kumar S. Outcomes of upper endoscopy screening in Lynch syndrome: a meta-analysis. *Gastrointestinal Endoscopy* 2023;97(1):2-10.e1. DOI: 10.1016/j.gie.2022.08.040. [Context Link 1] View abstract...
154. Aelvoet AS, et al. Personalized endoscopic surveillance and intervention protocols for patients with familial adenomatous polyposis: the European FAP Consortium strategy. *Endoscopy International Open* 2023;11(4):E386-E393. DOI: 10.1055/a-2011-1933. [Context Link 1] View abstract...
155. Stanich PP, Sullivan B, Kim AC, Kalady MF. Endoscopic management and surgical considerations for familial adenomatous polyposis. *Gastrointestinal Endoscopy Clinics of North America* 2022;32(1):113-130. DOI: 10.1016/j.giec.2021.08.007. [Context Link 1] View abstract...
156. Farha N, et al. The approach to performance of quality upper endoscopy in Lynch syndrome (QUELS): an international expert statement. *Journal of Clinical Gastroenterology* 2023;57(1):31-38. DOI: 10.1097/MCG.0000000000001799. [Context Link 1] View abstract...
157. French D, Sundaresan S. Caustic esophageal injury. In: Yeo CJ, editor. *Shackelford's Surgery of the Alimentary Tract*. 8th ed. Philadelphia, PA: Elsevier; 2019:515-525. [Context Link 1]
158. Tringali A, et al. Pediatric gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy (ESGE) and European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN) Guideline Executive summary. *Endoscopy* 2017;49(1):83-91. DOI: 10.1055/s-0042-111002. [Context Link 1, 2, 3, 4, 5, 6, 7, 8] View abstract...

159. Kurowski JA, Kay M. Caustic ingestions and foreign bodies ingestions in pediatric patients. *Pediatric Clinics of North America* 2017;64(3):507-524. DOI: 10.1016/j.pcl.2017.01.004. [Context Link 1, 2, 3] View abstract...
160. Hoffman RS, Burns MM, Gosselin S. Ingestion of caustic substances. *New England Journal of Medicine* 2020;382(18):1739-1748. DOI: 10.1056/NEJMra1810769. [Context Link 1] View abstract...
161. Betalli P, et al. Caustic ingestion in children: is endoscopy always indicated? The results of an Italian multicenter observational study. *Gastrointestinal Endoscopy* 2008;68(3):434-439. DOI: 10.1016/j.gie.2008.02.016. [Context Link 1] View abstract...
162. Chirica M, et al. Esophageal emergencies: WSES guidelines. *World Journal of Emergency Surgery* 2019;14:26. DOI: 10.1186/s13017-019-0245-2. [Context Link 1, 2, 3] View abstract...
163. ASGE IBD Endoscopy Consensus Panel, et al. Endoscopic diagnosis and management of adult inflammatory bowel disease: a consensus document from the American Society for Gastrointestinal Endoscopy IBD Endoscopy Consensus Panel. *Gastrointestinal Endoscopy* 2025;101(2):295-314. DOI: 10.1016/j.gie.2024.08.034. [Context Link 1, 2] View abstract...
164. Lichtenstein GR, et al. ACG Clinical Guideline: Management of Crohn's Disease in Adults. *American Journal of Gastroenterology* 2025;120(6):1225-1264. DOI: 10.14309/ajg.0000000000003465. (Reaffirmed 2025 Jun 16) [Context Link 1]
165. Schwartzberg DM, Brandstetter S, Grucela AL. Crohn's disease of the esophagus, duodenum, and stomach. *Clinics in Colon and Rectal Surgery* 2019;32(4):231-242. DOI: 10.1055/s-0039-1683850. [Context Link 1, 2] View abstract...
166. Oliveira SB, Monteiro IM. Diagnosis and management of inflammatory bowel disease in children. *British Medical Journal* 2017;357:j2083. [Context Link 1, 2] View abstract...
167. Cushing K, Higgins PDR. Management of Crohn disease: a review. *Journal of the American Medical Association* 2021;325(1):69-80. DOI: 10.1001/jama.2020.18936. [Context Link 1] View abstract...
168. Diaz L, Hernandez-Oquet RE, Deshpande AR, Moshiree B. Upper gastrointestinal involvement in Crohn disease: histopathologic and endoscopic findings. *Southern Medical Journal* 2015;108(11):695-700. DOI: 10.14423/SMJ.0000000000000373. [Context Link 1, 2] View abstract...
169. ASGE Standards of Practice Committee, et al. The role of endoscopy in inflammatory bowel disease. *Gastrointestinal Endoscopy* 2015;81(5):1101-1121.e13. DOI: 10.1016/j.gie.2014.10.030. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
170. Shen B, et al. Practical guidelines on endoscopic treatment for Crohn's disease strictures: a consensus statement from the Global Interventional Inflammatory Bowel Disease Group. *Lancet. Gastroenterology & Hepatology* 2020;5(4):393-405. DOI: 10.1016/S2468-1253(19)30366-8. [Context Link 1] View abstract...
171. Ludvigsson JF, et al. Diagnosis and management of adult coeliac disease: guidelines from the British Society of Gastroenterology. *Gut* 2014;63(8):1210-1228. DOI: 10.1136/gutjnl-2013-306578. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
172. Hill ID, et al. NASPGHAN clinical report on the diagnosis and treatment of gluten-related disorders. *Journal of Pediatric Gastroenterology and Nutrition* 2016;63(1):156-165. DOI: 10.1097/MPG.0000000000001216. [Context Link 1, 2] View abstract...
173. Gaspar JP, Stelow EB, Wang AY. Approach to the endoscopic resection of duodenal lesions. *World Journal of Gastroenterology* 2016;22(2):600-617. DOI: 10.3748/wjg.v22.i2.600. [Context Link 1] View abstract...
174. Rubio-Tapia A, Hill ID, Semrad C, Kelly CP, Lebwohl B. American College of Gastroenterology guidelines update: diagnosis and management of celiac disease. *American Journal of Gastroenterology* 2023;118(1):59-76. DOI: 10.14309/ajg.0000000000002075. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
175. Krasaelap A, Lerner DG, Oliva S. The role of endoscopy in the diagnosis and management of small bowel pathology in children. *Gastrointestinal Endoscopy Clinics of North America* 2023;33(2):423-445. DOI: 10.1016/j.giec.2022.11.007. [Context Link 1] View abstract...
176. Zingone F, Bai JC, Cellier C, Ludvigsson JF. Celiac disease-related conditions: who to test? *Gastroenterology* 2024;167(1):64-78. DOI: 10.1053/j.gastro.2024.02.044. [Context Link 1] View abstract...
177. Green PHR, Paski S, Ko CW, Rubio-Tapia A. AGA clinical practice update on management of refractory celiac disease: expert review. *Gastroenterology* 2022;163(5):1461-1469. DOI: 10.1053/j.gastro.2022.07.086. [Context Link 1, 2] View abstract...
178. Elli L, et al. Guidelines for best practices in monitoring established coeliac disease in adult patients. *Nature Reviews. Gastroenterology & Hepatology* 2024;21(3):198-215. DOI: 10.1038/s41575-023-00872-2. [Context Link 1] View abstract...

179. Mangiavillano B, et al. Bulb biopsies for the diagnosis of celiac disease in pediatric patients. *Gastrointestinal Endoscopy* 2010;72(3):564-568. DOI: 10.1016/j.gie.2010.05.021. [Context Link 1] View abstract...
180. Papadopoulou A, et al. Joint ESPGHAN/NASPGHAN guidelines on childhood eosinophilic gastrointestinal disorders beyond eosinophilic esophagitis. *Journal of Pediatric Gastroenterology and Nutrition* 2024;78(1):122-152. DOI: 10.1097/MPG.0000000000003877. [Context Link 1, 2, 3] View abstract...
181. Rolff HC, Simonsen LR, Rosenberg J. Clinical findings confirm national guidelines regarding primary gastroscopy for upper gastrointestinal symptoms. *Danish Medical Bulletin* 2011;58(5):A4363. [Context Link 1, 2, 3] View abstract...
182. Dougan M, Wang Y, Rubio-Tapia A, Lim JK. AGA clinical practice update on diagnosis and management of immune checkpoint inhibitor (ICI) colitis and hepatitis: expert review. *Gastroenterology* 2021;160(4):1384-1393. DOI: 10.1053/j.gastro.2020.08.063. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
183. Powell N, et al. British Society of Gastroenterology endorsed guidance for the management of immune checkpoint inhibitor-induced enterocolitis. *Lancet. Gastroenterology & Hepatology* 2020;5(7):679-697. DOI: 10.1016/S2468-1253(20)30014-5. [Context Link 1, 2] View abstract...
184. Schneider BJ, et al. Management of immune-related adverse events in patients treated with immune checkpoint inhibitor therapy: ASCO guideline update. *Journal of Clinical Oncology* 2021;39(36):4073-4126. DOI: 10.1200/JCO.21.01440. [Context Link 1, 2] View abstract...
185. Dhar A, et al. British Society of Gastroenterology (BSG) and British Society of Paediatric Gastroenterology, Hepatology and Nutrition (BSPGHAN) joint consensus guidelines on the diagnosis and management of eosinophilic oesophagitis in children and adults. *Gut* 2022;71(8):1459-1487. DOI: 10.1136/gutjnl-2022-327326. [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9] View abstract...
186. Moayyedi PM, Lacy BE, Andrews CN, Enns RA, Howden CW, Vakil N. ACG and CAG clinical guideline: management of dyspepsia. *American Journal of Gastroenterology* 2017;112(7):988-1013. DOI: 10.1038/ajg.2017.154. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
187. Hirano I, Kahrilas PJ. Dysphagia. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. 21st ed. McGraw Hill Education; 2022:287-291. [Context Link 1, 2, 3]
188. Dellon ES. Red between the lines: evolution of eosinophilic esophagitis as a distinct clinicopathologic syndrome. *Digestive Diseases and Sciences* 2020;65(12):3434-3447. DOI: 10.1007/s10620-020-06642-3. [Context Link 1, 2, 3] View abstract...
189. Patel RV, Hirano I, Gonsalves N. Eosinophilic esophagitis: etiology and therapy. *Annual Review of Medicine* 2021;72:183-197. DOI: 10.1146/annurev-med-052819-023848. [Context Link 1, 2, 3] View abstract...
190. ASGE Standards of Practice Committee, et al. The role of endoscopy in dyspepsia. *Gastrointestinal Endoscopy* 2015;82(2):227-232. DOI: 10.1016/j.gie.2015.04.003. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
191. Farha N, et al. Characteristics of immune checkpoint inhibitor-associated gastritis: report from a major tertiary care center. *Oncologist* 2023;28(8):706-713. DOI: 10.1093/oncolo/oyad031. [Context Link 1] View abstract...
192. Kindel TL, et al. American Society for Metabolic and Bariatric Surgery: preoperative care pathway for laparoscopic Roux-en-Y gastric bypass. *Surgery for Obesity and Related Diseases* 2021;17(9):1529-1540. DOI: 10.1016/j.soard.2021.05.011. [Context Link 1, 2, 3, 4, 5] View abstract...
193. El Hajja MA, et al. Considerations on the role of esophagogastroduodenoscopy in the pediatric metabolic and bariatric surgery patient. *Surgery for Obesity and Related Diseases* 2021;17(11):1834-1839. DOI: 10.1016/j.soard.2021.07.010. [Context Link 1, 2, 3, 4, 5] View abstract...
194. ASGE STANDARDS OF PRACTICE COMMITTEE, et al. The role of endoscopy in the bariatric surgery patient. *Surgery for Obesity and Related Diseases* 2015 May-Jun;11(3):507-517. DOI: 10.1016/j.soard.2015.02.015. [Context Link 1, 2, 3, 4, 5] View abstract...
195. Mechanick JL, et al. Clinical practice guidelines for the perioperative nutrition, metabolic, and nonsurgical support of patients undergoing bariatric procedures - 2019 update: cosponsored by American Association of Clinical Endocrinologists/American College of Endocrinology, the Obesity Society, American Society for Metabolic & Bariatric Surgery, Obesity Medicine Association, and American Society of Anesthesiologists. *Endocrine Practice* 2019;25(12):1346-1359. DOI: 10.4158/GL-2019-0406. (Reaffirmed 2025 Mar) [Context Link 1, 2, 3] View abstract...
196. Loren AW, et al. Hematopoietic Cell Transplantation. *NCCN Clinical Practice Guidelines in Oncology* [Internet] National Comprehensive Cancer Network (NCCN). v. 2.2025; 2025 Jun 03 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jun 05] [Context Link 1, 2]
197. Malard F, Holler E, Sandmaier BM, Huang H, Mohty M. Acute graft-versus-host disease. *Nature Reviews. Disease Primers* 2023;9(1):Online. DOI: 10.1038/s41572-023-00438-1. [Context Link 1] View abstract...

198. Tarantino G, et al. Gastrointestinal complications after allogeneic hematopoietic stem cell transplant: a multidisciplinary approach with early endoscopic evaluation. *Clinical Hematology International* 2021;3(4):161-168. DOI: 10.2991/chi.k.210826.001. [Context Link 1] View abstract...
199. Malandraki G, Robbins J. Dysphagia. *Handbook of Clinical Neurology* 2013;110:255-71. DOI: 10.1016/B978-0-444-52901-5.00021-6. [Context Link 1] View abstract...
200. Johnston BT. Oesophageal dysphagia: a stepwise approach to diagnosis and management. *Lancet. Gastroenterology & Hepatology* 2017;2(8):604-609. DOI: 10.1016/S2468-1253(17)30001-8. [Context Link 1] View abstract...
201. Maqbool A, Liacouras CA. Major symptoms and signs of digestive tract disorders. In: Kliegman RM, et al., editors. *Nelson Textbook of Pediatrics*. 22nd ed. Elsevier; 2025:2224-2238. [Context Link 1]
202. DeVault KR. Symptoms of esophageal disease. In: Feldman M, Friedman LS, Brandt LJ, editors. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease*. 11th ed. Philadelphia, PA: Elsevier; 2021:168-176.e2. [Context Link 1]
203. Ghiselli A, et al. Endoscopic dilation in pediatric esophageal strictures: a literature review. *Acta Bio-Medica* 2018;89(8-S):27-32. DOI: 10.23750/abm.v89i8-S.7862. [Context Link 1] View abstract...
204. Norton BC, et al. The endoscopic management of oesophageal strictures. *Best Practice and Research. Clinical Gastroenterology* 2024;69:Online. DOI: 10.1016/j.bpg.2024.101899. [Context Link 1] View abstract...
205. Kim HS, Khemasuwan D, Diaz-Mendoza J, Mehta AC. Management of tracheo-oesophageal fistula in adults. *European Respiratory Review* 2020;29(158):Online. DOI: 10.1183/16000617.0094-2020. [Context Link 1] View abstract...
206. Yasuda JL, Manfredi MA. Endoscopic management of congenital esophageal defects and associated comorbidities. *Gastrointestinal Endoscopy Clinics of North America* 2023;33(2):341-361. DOI: 10.1016/j.giec.2022.11.005. [Context Link 1] View abstract...
207. Olson JS, Lieberman DA, Sonnenberg A. Practice patterns in the management of patients with esophageal strictures and rings. *Gastrointestinal Endoscopy* 2007;66(4):670-675. DOI: 10.1016/j.gie.2007.02.031. [Context Link 1] View abstract...
208. Furuya ME, et al. Endoscopy for the initial suspicion of vascular rings in tracheoesophageal compressions: correlation with surgical findings. *Pediatric Pulmonology* 2010;45(6):560-565. DOI: 10.1002/ppul.21216. [Context Link 1, 2] View abstract...
209. Dellon ES, et al. ACG Clinical Guideline: diagnosis and management of eosinophilic esophagitis. *American Journal of Gastroenterology* 2025;120(1):31-59. DOI: 10.14309/ajg.00000000000003194. (Reaffirmed 2025 Jul 01) [Context Link 1, 2, 3, 4] View abstract...
210. Dubecz A, et al. Esophageal stenting for malignant and benign disease: 133 cases on a thoracic surgical service. *Annals of Thoracic Surgery* 2011;92(6):2028-2033. DOI: 10.1016/j.athoracsur.2011.08.033. [Context Link 1] View abstract...
211. van Heel NC, Haringsma J, Spaander MC, Bruno MJ, Kuipers EJ. Esophageal stents for the relief of malignant dysphagia due to extrinsic compression. *Endoscopy* 2010;42(7):536-540. DOI: 10.1055/s-0029-1244123. [Context Link 1] View abstract...
212. Ahmed O, Lee JH, Thompson CC, Faulx A. AGA clinical practice update on the optimal management of the malignant alimentary tract obstruction: expert review. *Clinical Gastroenterology and Hepatology* 2021;19(9):1780-1788. DOI: 10.1016/j.cgh.2021.03.046. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
213. Kramer RE, et al. Management of ingested foreign bodies in children: a clinical report of the NASPGHAN Endoscopy Committee. *Journal of Pediatric Gastroenterology and Nutrition* 2015;60(4):562-574. DOI: 10.1097/MPG.0000000000000729. [Context Link 1, 2, 3] View abstract...
214. Moawad FJ, Molina-Infante J, Lucendo AJ, Cantrell SE, Tmanova L, Douglas KM. Systematic review with meta-analysis: endoscopic dilation is highly effective and safe in children and adults with eosinophilic oesophagitis. *Alimentary Pharmacology and Therapeutics* 2017;46(2):96-105. DOI: 10.1111/apt.14123. [Context Link 1] View abstract...
215. Moole H, et al. Role of endoscopic esophageal dilation in managing eosinophilic esophagitis: A systematic review and meta-analysis. *Medicine* 2017;96(14):e5877. DOI: 10.1097/MD.0000000000005877. [Context Link 1] View abstract...
216. Hirano I, et al. AGA Institute and the Joint Task Force on Allergy-Immunology Practice Parameters clinical guidelines for the management of eosinophilic esophagitis. *Gastroenterology* 2020;158(6):1776-1786. DOI: 10.1053/j.gastro.2020.02.038. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3] View abstract...
217. Dockrell DH, O'Shea D, Cartledge JD, Freedman AR. British HIV Association Guidelines on the Management of Opportunistic Infection in People Living With HIV: The clinical management of pulmonary opportunistic infections 2024. [Internet] British HIV Association and British Infection Association. 2024 Accessed at: <https://www.bhiva.org/>. [accessed 2025 Sep 08] [Context Link 1, 2]

218. Cornely OA, et al. Global guideline for the diagnosis and management of candidiasis: an initiative of the ECMM in cooperation with ISHAM and ASM. *Lancet Infectious Diseases* 2025;25(5):e280-e293. DOI: 10.1016/S1473-3099(24)00749-7. [Context Link 1] View abstract...
219. Reddy CA, McGowan E, Yadlapati R, Peterson K. AGA clinical practice update on esophageal dysfunction due to disordered immunity and infection: expert review. *Clinical Gastroenterology and Hepatology* 2024;22(12):2378-2387. DOI: 10.1016/j.cgh.2024.08.027. [Context Link 1, 2] View abstract...
220. Jagasia MH, et al. National Institutes of Health Consensus Development project on criteria for clinical trials in chronic graft-versus-host disease: I. The 2014 diagnosis and staging working group report. *Biology of Blood and Marrow Transplantation* 2015;21(3):389-401.e1. DOI: 10.1016/j.bbmt.2014.12.001. [Context Link 1] View abstract...
221. O'Shea D, Quinn E, Middlesworth W, Khlevner J. Diagnosis and management of long-term gastrointestinal complications in pediatric esophageal Atresia/Tracheoesophageal Fistula. *Current Gastroenterology Reports* 2025;27(1):16. DOI: 10.1007/s11894-025-00968-6. [Context Link 1] View abstract...
222. Aceves SS, et al. Endoscopic approach to eosinophilic esophagitis: American Society for Gastrointestinal Endoscopy Consensus Conference. *Gastrointestinal Endoscopy* 2022;96(4):576-592 e1. DOI: 10.1016/j.gie.2022.05.013. [Context Link 1, 2] View abstract...
223. Ma C, et al. Reliability and responsiveness of endoscopic disease activity assessment in eosinophilic esophagitis. *Gastrointestinal Endoscopy* 2022;95(6):1126-1137.e2. DOI: 10.1016/j.gie.2022.01.014. [Context Link 1, 2] View abstract...
224. Amil-Dias J, et al. Diagnosis and management of eosinophilic esophagitis in children: An update from the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN). *Journal of Pediatric Gastroenterology and Nutrition* 2024;76(2):394-437. DOI: 10.1002/jpn3.12188. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
225. Arnim UV, et al. Monitoring patients with eosinophilic esophagitis in routine clinical practice - international expert recommendations. *Clinical Gastroenterology and Hepatology* 2023;21(10):2526-2533. DOI: 10.1016/j.cgh.2022.12.018. [Context Link 1] View abstract...
226. Dellon ES, et al. Updated international consensus diagnostic criteria for eosinophilic esophagitis: proceedings of the AGREE conference. *Gastroenterology* 2018;155(4):1022-1033.e10. DOI: 10.1053/j.gastro.2018.07.009. [Context Link 1] View abstract...
227. Katzka DA. Eosinophilic esophagitis. *Annals of Internal Medicine* 2020;172(9):ITC65-ITC80. DOI: 10.7326/AITC202005050. [Context Link 1] View abstract...
228. Muir A, Falk GW. Eosinophilic esophagitis: a review. *Journal of the American Medical Association* 2021;326(13):1310-1318. DOI: 10.1001/jama.2021.14920. [Context Link 1] View abstract...
229. Dellon ES, et al. A clinical severity index for eosinophilic esophagitis: development, consensus, and future directions. *Gastroenterology* 2022;163(1):59-76. DOI: 10.1053/j.gastro.2022.03.025. [Context Link 1] View abstract...
230. COREOS Collaborators:, et al. Development of a core outcome set for therapeutic studies in eosinophilic esophagitis (COREOS). *Journal of Allergy and Clinical Immunology* 2022;149(2):659-670. DOI: 10.1016/j.jaci.2021.07.001. [Context Link 1] View abstract...
231. Dellon ES, et al. Accuracy of the eosinophilic esophagitis endoscopic reference score in diagnosis and determining response to treatment. *Clinical Gastroenterology and Hepatology* 2016;14(1):31-9. DOI: 10.1016/j.cgh.2015.08.040. [Context Link 1] View abstract...
232. Wechsler JB, Bolton SM, Amsden K, Wershil BK, Hirano I, Kagalwalla AF. Eosinophilic esophagitis reference score accurately identifies disease activity and treatment effects in children. *Clinical Gastroenterology and Hepatology* 2018;16(7):1056-1063. DOI: 10.1016/j.cgh.2017.12.019. [Context Link 1] View abstract...
233. Lucendo AJ, et al. Guidelines on eosinophilic esophagitis: evidence-based statements and recommendations for diagnosis and management in children and adults. *United European Gastroenterology Journal* 2017;5(3):335-358. DOI: 10.1177/2050640616689525. [Context Link 1] View abstract...
234. de Bortoli N, et al. The 1st EoETALY Consensus on the Diagnosis and Management of Eosinophilic Esophagitis-Current Treatment and Monitoring. *Digestive and Liver Disease* 2024;56(7):1173-1184. DOI: 10.1016/j.dld.2024.02.020. [Context Link 1] View abstract...
235. Mubarak A, et al. Diagnosis, management, and prevention of button battery ingestion in childhood: a European Society for Paediatric Gastroenterology Hepatology and Nutrition position paper. *Journal of Pediatric Gastroenterology and Nutrition* 2021;73(1):129-136. DOI: 10.1097/MPG.0000000000003048. [Context Link 1, 2, 3] View abstract...
236. Oliva S, et al. Foreign body and caustic ingestions in children: A clinical practice guideline. *Digestive and Liver Disease* 2020;52(11):1266-1281. DOI: 10.1016/j.dld.2020.07.016. [Context Link 1] View abstract...
237. Syamal MN. Adult esophageal foreign bodies. *Otolaryngologic Clinics of North America* 2024;57(4):609-621. DOI: 10.1016/j.otc.2024.01.003. [Context Link 1] View abstract...

238. Cevik M, Gokdemir MT, Boleken ME, Sogut O, Kurkcuoglu C. The characteristics and outcomes of foreign body ingestion and aspiration in children due to lodged foreign body in the aerodigestive tract. *Pediatric Emergency Care* 2013;29(1):53-57. DOI: 10.1097/PEC.0b013e31827b5374. [Context Link 1] View abstract...
239. ASGE Technology Committee, et al. Endoscopic devices and techniques for the management of gastric varices (with videos). *Gastrointestinal Endoscopy* 2025;101(3):496-510. DOI: 10.1016/j.gie.2024.06.038. [Context Link 1] View abstract...
240. Pinchot JW, et al. Radiologic Management of Portal Hypertension. ACR Appropriateness Criteria [Internet] American College of Radiology (ACR). 2020 Accessed at: <https://www.acr.org>. [created 2020; accessed 2024 Jun 07] [Context Link 1, 2]
241. Tripathi D, et al. U.K. guidelines on the management of variceal haemorrhage in cirrhotic patients. *Gut* 2015;64(11):1680-1704. DOI: 10.1136/gutjnl-2015-309262. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
242. Kaplan DE, et al. AASLD Practice Guidance on risk stratification and management of portal hypertension and varices in cirrhosis. *Hepatology* 2024;79(5):1180-1211. DOI: 10.1097/HEP.0000000000000647. [Context Link 1, 2, 3, 4] View abstract...
243. Kim CY, et al. Radiologic Management of Gastric Varices. ACR Appropriateness Criteria [Internet] American College of Radiology (ACR). 2019 Accessed at: <https://www.acr.org>. [created 2012; accessed 2024 Jun 06] [Context Link 1]
244. Gralnek IM, et al. Endoscopic diagnosis and management of esophagogastric variceal hemorrhage: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. *Endoscopy* 2022;54(11):1094-1120. DOI: 10.1055/a-1939-4887. [Context Link 1, 2] View abstract...
245. Hwang JH, et al. The role of endoscopy in the management of variceal hemorrhage. *Gastrointestinal Endoscopy* 2014;80(2):221-227. DOI: 10.1016/j.gie.2013.07.023. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
246. Northup PG, et al. Vascular liver disorders, portal vein thrombosis, and procedural bleeding in patients with liver disease: 2020 practice guidance by the American Association for the Study of Liver Diseases. *Hepatology* 2021;73(1):366-413. DOI: 10.1002/hep.31646. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
247. Davis JPE, Lim JK, Francis FF, Ahn J. AGA clinical practice update on management of portal vein thrombosis in patients with cirrhosis: expert review. *Gastroenterology* 2024;DOI: 10.1053/j.gastro.2024.10.038. [Context Link 1, 2] View abstract...
248. Shukla A, et al. Non-cirrhotic portal fibrosis/idiopathic portal hypertension: APASL recommendations for diagnosis and management. *Hepatology International* 2024;18(6):1684-1711. DOI: 10.1007/s12072-024-10739-6. [Context Link 1] View abstract...
249. European Association for the Study of the Liver. EASL clinical practice guidelines on TIPS. *Journal of Hepatology* 2025;DOI: 10.1016/j.jhep.2025.01.029. [Context Link 1] View abstract...
250. Acute Upper Gastrointestinal Bleeding in Over 16s: Management. NICE Clinical Guidance CG141 [Internet] National Institute for Health and Care Excellence. 2016 Aug (NICE Reviewed 2018) Accessed at: <https://www.nice.org.uk/guidance>. [created 2012; accessed 2024 Sep 19] [Context Link 1, 2]
251. Henry Z, Patel K, Patton H, Saad W. AGA clinical practice update on management of bleeding gastric varices: expert review. *Clinical Gastroenterology and Hepatology* 2021;19(6):1098-1107.e1. DOI: 10.1016/j.cgh.2021.01.027. [Context Link 1] View abstract...
252. de Franchis R, Baveno VI Faculty. Expanding consensus in portal hypertension: Report of the Baveno VI Consensus Workshop: Stratifying risk and individualizing care for portal hypertension. *Journal of Hepatology* 2015;63(3):743-52. DOI: 10.1016/j.jhep.2015.05.022. [Context Link 1] View abstract...
253. de Franchis R, Bosch J, Garcia-Tsao G, Reiberger T, Ripoll C, Baveno VII Faculty. Baveno VII - Renewing consensus in portal hypertension. *Journal of Hepatology* 2022;76(4):959-974. DOI: 10.1016/j.jhep.2021.12.022. [Context Link 1] View abstract...
254. Simonetto DA, Singal AK, Garcia-Tsao G, Caldwell SH, Ahn J, Kamath PS. ACG clinical guideline: disorders of the hepatic and mesenteric circulation. *American Journal of Gastroenterology* 2020;115(1):18-40. DOI: 10.14309/ajg.0000000000000486. [Context Link 1] View abstract...
255. European Association for the Study of the Liver, et al. EASL Clinical practice guidelines (CPGs) on non-invasive tests for evaluation of liver disease severity and prognosis- 2020 update. *Journal of Hepatology* 2021;75(3):659-689. DOI: 10.1016/j.jhep.2021.05.025. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
256. Fass R. Gastroesophageal reflux disease. *New England Journal of Medicine* 2022;387(13):1207-1216. DOI: 10.1056/NEJMcp2114026. [Context Link 1] View abstract...
257. Shaheen NJ, et al. Upper endoscopy for gastroesophageal reflux disease: best practice advice from the Clinical Guidelines Committee of the American College of Physicians. *Annals of Internal Medicine* 2012;157(11):808-816. [Context Link 1, 2] View abstract...

258. Chen JW, Vela MF, Peterson KA, Carlson DA. AGA clinical practice update on the diagnosis and management of extraesophageal gastroesophageal reflux disease: expert review. *Clinical Gastroenterology and Hepatology* 2023;21(6):1414-1421 e3. DOI: 10.1016/j.cgh.2023.01.040. [Context Link 1] View abstract...
259. Gyawali CP, et al. Updates to the modern diagnosis of GERD: Lyon consensus 2.0. *Gut* 2024;73(2):361-371. DOI: 10.1136/gutjnl-2023-330616. [Context Link 1] View abstract...
260. Slater BJ, et al. Multi-society consensus conference and guideline on the treatment of gastroesophageal reflux disease (GERD). *Surgical Endoscopy* 2023;37(2):781-806. DOI: 10.1007/s00464-022-09817-3. [Context Link 1, 2] View abstract...
261. Gyawali CP, et al. Modern diagnosis of GERD: the Lyon Consensus. *Gut* 2018;67(7):1351-1362. DOI: 10.1136/gutjnl-2017-314722. [Context Link 1, 2] View abstract...
262. Gyawali CP, et al. Nonerosive reflux disease: clinical concepts. *Annals of the New York Academy of Sciences* 2018;1434(1):290-303. DOI: 10.1111/nyas.13845. [Context Link 1] View abstract...
263. Lechien JR, et al. The Dubai definition and diagnostic criteria of laryngopharyngeal reflux: the IFOS consensus. *Laryngoscope* 2024;134(4):1614-1624. DOI: 10.1002/lary.31134. [Context Link 1] View abstract...
264. Gastro-Oesophageal Reflux Disease and Dyspepsia in Adults: Investigation and Management. NICE Clinical Guidance CG184 [Internet] National Institute for Health and Care Excellence. 2019 Oct Accessed at: <https://www.nice.org.uk/guidance>. [created 2014; accessed 2025 Nov 21] [Context Link 1]
265. Abdelmoaty WF, Swannstrom LL. Endoscopic evaluation of post-undoplication anatomy. *Current Gastroenterology Reports* 2017;19(10):51. DOI: 10.1007/s11894-017-0592-7. [Context Link 1] View abstract...
266. Gastro-Oesophageal Reflux Disease in Children and Young People: Diagnosis and Management. NICE guidance NG1 [Internet] National Institute for Health and Care Excellence. 2019 Oct Accessed at: <https://www.nice.org.uk/guidance/>. [accessed 2024 Sep 25] [Context Link 1] View abstract...
267. Barkun AN, et al. Management of nonvariceal upper gastrointestinal bleeding: guideline recommendations from the International Consensus Group. *Annals of Internal Medicine* 2019;171(11):805-822. DOI: 10.7326/M19-1795. [Context Link 1, 2] View abstract...
268. Mullady DK, Wang AY, Waschke KA. AGA clinical practice update on endoscopic therapies for non-variceal upper gastrointestinal bleeding: expert review. *Gastroenterology* 2020;159(3):1120-1128. DOI: 10.1053/j.gastro.2020.05.095. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
269. Shung DL, Laine L. Review article: Upper gastrointestinal bleeding - review of current evidence and implications for management. *Alimentary Pharmacology and Therapeutics* 2024;59(9):1062-1081. DOI: 10.1111/apt.17949. [Context Link 1] View abstract...
270. Laine L, Barkun AN, Saltzman JR, Martel M, Leontiadis GI. ACG Clinical Guideline: upper gastrointestinal and ulcer bleeding. *American Journal of Gastroenterology* 2021;116(5):899-917. DOI: 10.14309/ajg.0000000000001245. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3] View abstract...
271. Laine L. Gastrointestinal bleeding. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. 21st ed. McGraw Hill Education; 2022:311-315. [Context Link 1]
272. Lau JYW, et al. Timing of endoscopy for acute upper gastrointestinal bleeding. *New England Journal of Medicine* 2020;382(14):1299-1308. DOI: 10.1056/NEJMoa1912484. [Context Link 1, 2, 3] View abstract...
273. Allard J, Cosby R, Del Giudice ME, Irvine EJ, Morgan D, Tinmouth J. Gastroscopy following a positive fecal occult blood test and negative colonoscopy: systematic review and guideline. *Canadian Journal of Gastroenterology* 2010;24(2):113-120. [Context Link 1] View abstract...
274. Srygley FD, Gerardo CJ, Tran T, Fisher DA. Does this patient have a severe upper gastrointestinal bleed? *Journal of the American Medical Association* 2012;307(10):1072-1079. DOI: 10.1001/jama.2012.253. [Context Link 1] View abstract...
275. Long B, Gottlieb M. Emergency medicine updates: Upper gastrointestinal bleeding. *American Journal of Emergency Medicine* 2024;81:116-123. DOI: 10.1016/j.ajem.2024.04.052. [Context Link 1] View abstract...
276. Faughnan ME, et al. Second international guidelines for the diagnosis and management of hereditary hemorrhagic telangiectasia. *Annals of Internal Medicine* 2020;173(12):989-1001. DOI: 10.7326/M20-1443. [Context Link 1] View abstract...
277. Wilkins T, Khan N, Nabh A, Schade RR. Diagnosis and management of upper gastrointestinal bleeding. *American Family Physician* 2012;85(5):469-476. [Context Link 1, 2] View abstract...
278. Naut ER. The approach to occult gastrointestinal bleed. *Medical Clinics of North America* 2016;100(5):1047-56. DOI: 10.1016/j.mcna.2016.04.013. [Context Link 1, 2] View abstract...

279. DeLoughery TG, Jackson CS, Ko CW, Rockey DC. AGA Clinical practice update on management of Iron deficiency anemia: expert review. *Clinical Gastroenterology and Hepatology* 2024;22(8):1575-1583. DOI: 10.1016/j.cgh.2024.03.046. [Context Link 1, 2] View abstract...
280. Yu HX, Han CS, Xue JR, Han ZF, Xin H. Esophageal hiatal hernia: risk, diagnosis and management. *Expert Review of Gastroenterology & Hepatology* 2018;12(4):319-329. DOI: 10.1080/17474124.2018.1441711. [Context Link 1, 2] View abstract...
281. Ko CW, et al. AGA clinical practice guidelines on the gastrointestinal evaluation of iron deficiency anemia. *Gastroenterology* 2020;159(3):1085-1094. DOI: 10.1053/j.gastro.2020.06.046. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
282. Rockey DC, Altayar O, Falck-Ytter Y, Kalmaz D. AGA Technical review on gastrointestinal evaluation of iron deficiency anemia. *Gastroenterology* 2020;159(3):1097-1119. DOI: 10.1053/j.gastro.2020.06.045. [Context Link 1] View abstract...
283. Snook J, et al. British Society of Gastroenterology guidelines for the management of iron deficiency anaemia in adults. *Gut* 2021;70(11):2030-2051. DOI: 10.1136/gutjnl-2021-325210. (Reaffirmed 2025 Jun) [Context Link 1, 2] View abstract...
284. Lacy BE, Parkman HP, Camilleri M. Chronic nausea and vomiting: evaluation and treatment. *American Journal of Gastroenterology* 2018;113(5):647-659. DOI: 10.1038/s41395-018-0039-2. [Context Link 1] View abstract...
285. Malagelada C, et al. European guideline on chronic nausea and vomiting-A UEG and ESNM consensus for clinical management. *United European Gastroenterology Journal* 2025;13(3):427-471. DOI: 10.1002/ueg2.12711. [Context Link 1, 2] View abstract...
286. Schol J, et al. United European Gastroenterology (UEG) and European Society for Neurogastroenterology and Motility (ESNM) consensus on gastroparesis. *Neurogastroenterology and Motility* 2021;33(8):e14237. DOI: 10.1111/nmo.14237. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
287. Del Valle J. Peptic ulcer disease and related disorders. In: Loscalzo J, Fauci A, Kasper D, Hauser S, Longo D, Jameson JL, editors. *Harrison's Principles of Internal Medicine*. 21st ed. McGraw Hill Education; 2022:2434-2458. [Context Link 1, 2, 3]
288. Kuipers EJ. When is endoscopic follow-up appropriate after *Helicobacter pylori* eradication therapy? *Gastroenterology Clinics of North America* 2015;44(3):597-608. DOI: 10.1016/j.gtc.2015.05.006. [Context Link 1] View abstract...
289. Mahvi DA, Mahvi DM. Stomach. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL, editors. *Sabiston Textbook of Surgery*. 21st ed. Elsevier; 2022:1196-1239. [Context Link 1]
290. Yeh JM, Ho W, Hur C. Cost-effectiveness of endoscopic surveillance of gastric ulcers to improve survival. *Gastrointestinal Endoscopy* 2010;72(1):33-43. DOI: 10.1016/j.gie.2010.01.047. [Context Link 1] View abstract...
291. Pennazio M, et al. Small-bowel capsule endoscopy and device-assisted enteroscopy for diagnosis and treatment of small-bowel disorders: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline. *Endoscopy* 2015;47(4):352-376. DOI: 10.1055/s-0034-1391855. (Reaffirmed 2025 Jun) [Context Link 1] View abstract...
292. Enns RA, et al. Clinical practice guidelines for the use of video capsule endoscopy. *Gastroenterology* 2017;152(3):497-514. DOI: 10.1053/j.gastro.2016.12.032. [Context Link 1] View abstract...
293. ACR Practice Parameter for the Performance of Esophagrams and Upper Gastrointestinal Examinations in Adults. Resolution 8 [Internet] American College of Radiology (ACR). 2024 Accessed at: <https://www.acr.org/>. [accessed 2024 Sep 18] [Context Link 1]
294. Centers for Medicare and Medicaid Services. "Hospital services excluded from payment under the hospital outpatient prospective payment system." 42 CFR 419.22 Washington, DC 2023 Jul [accessed 2025 Jul 22] Accessed at: <https://www.ecfr.gov/>. [Context Link 1]
295. Centers for Medicare and Medicaid Services. "Requirements relating to basic benefits." 42 CFR 422.101 Washington, DC 2025 Jun 03 [accessed 2025 Jul 23] Accessed at: <https://www.ecfr.gov/>. [Context Link 1]
296. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 14 - Medical Devices Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/>. [accessed 2025 Sep 09] [Context Link 1]
297. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 15 - Covered Medical and Other Health Services Rev. 13108 [Internet] Centers for Medicare and Medicaid Services. 2025 Apr 11 Accessed at: <https://www.cms.gov/manuals/>. [accessed 2025 Sep 09] [Context Link 1]
298. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 16 - General Exclusions From Coverage Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/>. [accessed 2025 Sep 09] [Context Link 1]

299. Medicare Coverage Database. [Internet] Centers for Medicare and Medicaid Services. Accessed at: <https://www.cms.gov/medicare-coverage-database/search.aspx>? Updated 2025 [accessed 2025 Oct 23] [Context Link 1]

Footnotes

[A] Advanced atrophic gastritis is defined as endoscopic features of extensive or severe atrophic changes or intestinal metaplasia in both the antrum and corpus of the stomach or involving more than 2/3 of the stomach. Gastric intestinal metaplasia may be histologically graded as complete (ie, small intestinal-type histopathology) or incomplete (ie, at least partial colonic-type intestinal histopathology).(14)(15)(16)(18) The risk of gastric cancer in patients with extensive atrophic gastritis (eg, gastric body plus incisura and/or antrum) is greater than the risk in patients with limited gastric involvement (eg, antrum or incisura). Low-quality evidence suggests that patients with partial or total colonic-type gastric intestinal metaplasia are at higher risk of progressing to gastric cancer as compared with patients with histologically complete (ie, small intestinal-type) gastric intestinal metaplasia.(14)(15)(18) [A in Context Link 1, 2]

[B] First-degree relatives consist of male or female parents, siblings, or children.(21) [B in Context Link 1, 2, 3, 4, 5]

[C] High-grade dysplasia is a pathologic diagnosis characterized by the presence of neoplastic cells that are often cuboidal (rather than columnar) with a high nucleus to cytoplasm ratio, prominent amphophilic nucleoli, and more numerous mitotic figures.(16) [C in Context Link 1, 2]

[D] Low-grade dysplasia is a pathologic diagnosis characterized by minimal to mild cellular architectural disarray and mild to moderate cytologic atypia.(16) [D in Context Link 1, 2]

[E] For patients with gastric intestinal metaplasia and multiple risk factors for gastric cancer, a specialty society guideline states that shorter intervals of follow-up (eg, every 1 to 2 years) may be considered.(18) [E in Context Link 1]

[F] Barrett esophagus is the replacement of the normal squamous epithelium of the esophagus that is damaged by gastroesophageal reflux disease with metaplastic columnar or glandular epithelium that is predisposed to esophageal adenocarcinoma.(26)(27)(28)(29)(30) [F in Context Link 1, 2]

[G] Intervals for follow-up UGI endoscopy for patients who have undergone endoscopic eradication therapy for Barrett esophagus with low-grade dysplasia may be individualized, with shorter intervals if complete eradication of intestinal metaplasia was not achieved.(32)(42) [G in Context Link 1]

[H] Surveillance after locoregional treatment (endoscopic or surgical resection) for high-grade dysplasia or early-stage gastric cancer (ie, stages Tis, T1a, and T1b) is recommended at intervals of approximately every 3 to 6 months for the first year, then every 6 to 12 months for 3 to 5 years, then annually, but appropriate intervals depend on the completeness of resection and patient characteristics.(16)(18)(22)(48) [H in Context Link 1]

[I] Gastrointestinal subepithelial lesions are masses or mass-like structures that are covered with normal-appearing epithelium and project into the gastrointestinal lumen.(52)(53) Subepithelial lesions may be nonneoplastic (eg, ectopic pancreatic tissue) or neoplastic; neoplastic lesions may have no malignant potential (eg, lipomas) or have the potential for malignant transformation (eg, gastrointestinal stromal tumors, gastrointestinal neuroendocrine tumors).(52)(53) [I in Context Link 1]

[J] UGI cancer screening involves detecting and removing premalignant lesions (eg, dysplasia) in patients to improve survival.(106)(107) Surveillance entails the ongoing monitoring of patients with known premalignant or malignant lesions to evaluate for disease progression.(19)(106)(107) [J in Context Link 1, 2, 3, 4]

[K] Gastric adenocarcinoma and proximal polyposis of the stomach (GAPPS) is an autosomal dominant disorder associated with point mutations in the promoter 1B region of the APC gene. It is associated with extensive fundic gland polyposis and an increased risk of gastric adenocarcinoma (estimated lifetime incidence: 12% to 25%).(113)(114)(115) [K in Context Link 1, 2]

[L] A family history of hereditary diffuse gastric cancer or hereditary lobular breast cancer is suggested by the presence of one or more of the following: 2 or more cases of gastric cancer in first-degree or second-degree relatives, with at least one case of diffuse gastric cancer or at least one case diagnosed at age 50 years or younger; one or more cases of diffuse gastric cancer and one or more cases of lobular breast cancer at age 70 years or younger in different first-degree or second-degree relatives; or 2 or more cases of lobular breast cancer in first-degree or second-degree relatives younger than 50 years.(116)(117)(118)(119) [L in Context Link 1]

[M] Individuals with Lynch syndrome have increased risk of gastric and small bowel cancer, but evidence to support specific screening strategies is limited. Screening with UGI endoscopy beginning at age 30 years is suggested for individuals with Lynch syndrome and at-risk family members, with subsequent screening every 2 to 4 years; consideration for earlier initiation of screening or shorter intervals is suggested for those at higher risk (eg, family history of UGI cancers).(116)(121) [M in Context Link 1, 2, 3]

[N] Peutz-Jeghers syndrome can be diagnosed by genetic testing; it can also be diagnosed clinically with 2 or more of the following: family history of Peutz-Jeghers syndrome; 2 or more hamartomatous polyps in the gastrointestinal tract; or mucocutaneous hyperpigmentation of the mouth, lips, nose, eyes, genitalia, or fingers.(123) [N in Context Link 1, 2, 3]

[O] Tylosis is a rare autosomal dominant syndrome associated with increased risk of esophageal squamous cell carcinoma.(1)(27) [O in Context Link 1]

[P] Colonic adenomatous polyposis of unknown etiology is defined as a cumulative lifetime history of 10 to 20 or more colonic adenomas without a pathogenic mutation identified in a polyposis gene.(116) [P in Context Link 1, 2]

[Q] Constitutional mismatch repair deficiency is a rare tumor predisposition caused by biallelic mutations in DNA mismatch repair genes (MLH1, MSH2, MSH6, and PMS2) that is associated with a high risk of a variety of tumors, including polyps and cancer involving the small intestine.(138)(139) [Q in Context Link 1]

[R] Hereditary diffuse gastric cancer is characterized by the presence of a heterozygous pathogenic CDH1 gene mutation in the setting of a family history of gastric cancer (ie, 2 or more cases of gastric cancer in first-degree or second-degree relatives, with at least one case of diffuse gastric cancer; one or more cases of diffuse gastric cancer and one or more cases of lobular breast cancer at age 70 years or younger in different first-degree or second-degree relatives) or a personal history of diffuse gastric cancer (ie, diffuse gastric cancer before age 50 years or at least one case diagnosed at age 50 years or younger; diffuse gastric cancer in individuals of Maori ancestry; diffuse gastric cancer with a personal or family history of cleft lip or palate; diffuse gastric cancer and lobular breast cancer, both diagnosed at age 70 years or younger; gastric in situ signet ring cells or pagetoid spread of signet ring cells in individuals younger than 50 years).(116)(117)(118)(119) Diagnostic criteria for hereditary lobular breast cancer include the presence of a heterozygous pathogenic CDH1 gene mutation in the setting of a family history of lobular breast cancer (ie, 2 or more cases of lobular breast cancer in first-degree or second-degree relatives younger than 50 years) or a personal history of lobular breast cancer (ie, diffuse gastric cancer and lobular breast cancer, both diagnosed at age 70 years or younger; bilateral lobular breast cancer diagnosed before age 70 years).(117)(118)(119)(144) Individuals with CDH1 pathogenic mutations but no known family history of diffuse gastric cancer or breast cancer are also at risk for gastric cancer.(117) Less frequently, hereditary diffuse gastric cancer may be associated with mutations in CTNNA1.(117)(145) [R in Context Link 1, 2]

[S] Juvenile polyposis syndrome can be diagnosed by genetic testing for the BMPR1A and SMAD4 genes; it can also be diagnosed endoscopically by 5 or more juvenile polyps in the colon, multiple juvenile polyps found throughout the gastrointestinal tract, or any number of juvenile polyps in a patient with a family history of juvenile polyposis syndrome.(123)(146) [S in Context Link 1, 2]

[T] Li-Fraumeni syndrome is a cancer predisposition syndrome characterized by a variety of early-onset tumors, including premenopausal breast cancer, colon cancer, sarcoma, adrenocortical carcinoma, hypodiploid acute lymphoblastic leukemia, melanoma, pancreatic cancer, and brain tumors. A diagnosis of Li-Fraumeni syndrome is established by identification of a heterozygous germline mutation in the TP53 gene and/or the presence of clinical features meeting consensus diagnostic criteria.(148)(149) [T in Context Link 1]

[U] Individuals with Spigelman stage IV duodenal findings should undergo expert surveillance endoscopy every 3 to 6 months. Surgical evaluation and counseling are also recommended.(116) [U in Context Link 1]

[V] Odynophagia is the sensation of pain on swallowing.(187) [V in Context Link 1, 2]

[W] Dysphagia refers to abnormal function of the oral, pharyngeal, or esophageal phases of swallowing. Dysphagia may cause patient-reported symptoms (eg, a sensation of food getting stuck in the throat or chest, coughing or choking with swallowing, regurgitation) or lead to observable signs during swallowing (eg, prolonged chewing or coughing, drooling, vocal changes with swallowing).(199)(200)(201)(202) [W in Context Link 1, 2]

Codes

CPT®: 0652T, 0653T, 0654T, 0884T, 43180, 43191, 43192, 43193, 43194, 43195, 43196, 43197, 43198, 43200, 43201, 43202, 43204, 43205, 43206, 43211, 43212, 43213, 43214, 43215, 43216, 43217, 43220, 43226, 43227, 43229, 43233, 43235, 43236, 43239, 43241, 43243, 43244, 43245, 43247, 43248, 43249, 43250, 43251, 43252, 43254, 43255, 43266, 43270 [Hide]

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