

Endoscopy Surveillance Working Group

Practice Guideline: Gastrosocopy Pre- and Post- Sleeve Gastrectomy



Table of contents

Table of contents.....	2
Contact.....	3
Executive Summary	4
Introduction	5
Purpose.....	5
Target Population.....	6
Scope.....	6
Methods	6
Recommendations	9
Review and Evaluation.....	9
References.....	10
Appendix 1 – Glossary of Terms	13
Appendix 2 – Rapid Evidence Reviews.....	14
Appendix 3 – Working Group Membership.....	15

April 10 2023

This guideline has been prepared by the Endoscopy Surveillance Working Group in partnership with the Digestive Health; Diabetes, Obesity, and Nutrition; and Surgery Strategic Clinical Networks.

Contact

For more information, please contact:

Chris Burnie
Executive Director
Digestive Health SCN
christopher.burnie@ahs.ca

or

Tim Baron
Executive Director
Surgery SCN
tim.baron@ahs.ca

Executive Summary

Sleeve gastrectomy (SG) is a bariatric surgical procedure to help people with obesity manage their weight and health. SG has been shown to be associated with an increased incidence of Gastroesophageal Reflux Disease (GERD), which in turn is a risk factor for Barrett's Esophagus (BE). The relative risk of esophageal adenocarcinoma (EAC) among people with BE has been shown to be approximately 10 times higher than in people without BE; however, the absolute risk of developing esophageal cancer is low. The direct association between SG and EAC has not been shown. The guidelines and practices for screening patients with SG before and after their surgery for BE (and EAC) vary.

Approximately 3000 SGs have been performed in Alberta prior to 2022. There is variation in practice across Alberta in the initiation and frequency of surveillance gastroscopy following SG. The purpose of this document is to outline provincial recommendations for the performance of gastroscopy pre- and post-SG with a view to balancing scientific rigor and pragmatism.

To inform these recommendations, a rapid review of the evidence and an environmental scan of practices in Alberta and other jurisdictions in Canada were performed. The pre- and post-SG gastroscopy surveillance recommendations for asymptomatic patients are:

- A pre-operative gastroscopy is recommended in all patients considered for SG to screen for existing pathology and anatomical changes to guide patient care.
- A post-operative screening gastroscopy is recommended at 5 years post-SG surgery.
- Patients who had a SG that was later revised to a gastric bypass, should be considered for screening at 5 years post-SG.
- Follow-up frequency of gastroscopies is dependent upon the extent of esophageal changes:
 - If there is no evidence of Barrett's Esophagus (BE), no further screening is required.
 - If non-dysplastic BE is identified, repeat gastroscopy should be based on existing guidelines for surveillance of BE, and performed every 3-5 years.
 - If dysplastic BE is identified, then the patient should be referred to the BE specialty clinic in Calgary or Edmonton.
 - Repeat gastroscopy should be done within 3-5 years for patients with LA Grade C esophagitis, and at 6-12 months for those with LA Grade D esophagitis.
- Surveillance can be stopped when the patient is 75 years of age, or when they are no longer a candidate for endoscopic eradication therapy.

To contribute to the existing body of evidence, provincial prospective data collection is recommended to monitor how many SG patients develop BE or EAC.

Introduction

Sleeve gastrectomy (SG) (or gastric sleeve surgery) is a bariatric surgical procedure to help people with obesity manage their weight and health. During the SG procedure approximately 80% of the stomach is removed, leaving a thin vertical tube (or sleeve) shaped stomach. SG has been shown to be associated with an increased incidence of Gastroesophageal Reflux Disease (GERD) (Oor, 2016; Gu, 2019), which in turn is a risk factor for Barrett's Esophagus (BE) (Qumseya, 2021). SG can be appropriately considered a risk factor for BE rather than a causative agent (Elkassam, 2021).

Barrett's Esophagus (BE) is a condition where the normal squamous epithelium of the esophagus is replaced with columnar epithelium and goblet cells, like the lining of the small intestine. Over time this can turn into intestinal metaplasia. Histologically proven presence of intestinal metaplasia is a criterion for making the diagnosis of BE. It is known that prolonged exposure to gastric acid (such as can occur in GERD) is a risk factor in the development of BE (National Institute of Diabetes and Digestive and Kidney Diseases, 2017). The relative risk of adenocarcinoma among people with BE has been shown to be approximately 10 times higher than in people without BE (11.3 (95% CI, 8.8 to 14.4) (Hvid-Jensen, 2011)). However, the absolute risk of developing esophageal cancer in Canada is low. Risk factors other than long standing GERD for esophageal cancer are age, gender, smoking and (central) obesity. The direct association between SG and EAC has not been shown. Neither a cohort study by Andalib et al. (2021) nor a systematic review of 27 studies by Jaruvongvanich et al. (2020) showed a significant difference in the incidence of EAC in patients undergoing refluxogenic vs. reflux-protective procedures or the general population.

Because SG patients have an increased risk of developing GERD the question is whether SG patients need to be screened before and after their surgery for BE (and EAC).

Purpose

The current practices in Alberta for BE surveillance following sleeve gastrectomy vary across the province and a provincial guideline is required to ensure a standardized, evidence-based, and equitable approach. The Digestive Health Strategic Clinical Network (SCN) in partnership with the Diabetes, Obesity and Nutrition SCN and the Surgery SCN have been asked to create a single provincial guideline to standardize the approach to post-SG endoscopic surveillance.

Target Population

This guideline applies to people who have undergone a SG procedure and are seeking care in Alberta.

Scope

The scope of this guideline includes recommendations for gastroscopy pre- and post-SG in asymptomatic patients. It does not include recommendations for management of patients who are diagnosed with BE on gastroscopy. Once BE is diagnosed, the current guidelines for BE surveillance should be followed. This guideline does not include recommendations for patients who present with post-sleeve gastrectomy upper gastrointestinal tract complaints and symptoms that may warrant endoscopic evaluation or treatment.

Methods

The recommendations in this guideline were developed with a view to balancing scientific rigor and pragmatism, considering the strength and quality of the available evidence and endoscopy capacity in Alberta. The guideline development methodology included a review of the evidence, an environmental scan of current practices in Alberta and other Canadian jurisdictions, and a review of potential demand on endoscopy services under different surveillance scenarios.

A national environmental scan was conducted and included endoscopy surveillance practices in bariatric surgical clinics in British Columbia, Saskatchewan, and Ontario. Currently, no provincial recommendations for SG and BE risk have been developed in these three jurisdictions. At the time of writing, the Ottawa Hospital Bariatric Clinic was developing a clinic process for endoscopic screening post sleeve gastrectomy.

An environmental scan of current practices in Alberta revealed variation in gastroscopy surveillance processes (Table 1).

Table 1: gastroscopy surveillance post-sleeve gastrectomy in Alberta

Zone	Process
North	<ul style="list-style-type: none">Patients from North Zone have their bariatric surgery in Edmonton. A screening endoscopy is arranged by their bariatric surgeon 2 years after surgery.

Zone	Process
Edmonton	<ul style="list-style-type: none"> Practices vary among the 4 surgeons and screening endoscopy ranges from scoping only if the patient has symptoms, to 3 – 5 years post sleeve gastrectomy.
Central	<ul style="list-style-type: none"> Referring provider is sent a letter to arrange for a screening endoscopy 3 years after SG. If it has been greater than 3 years since their SG, patients are sent a letter to arrange for a screening endoscopy through their primary care practitioner.
Calgary	<ul style="list-style-type: none"> Patients who have had a sleeve gastrectomy are booked for a screening endoscopy at 3, 5 and 10 years. If patient has had an endoscopy that is not in alignment with the above – they will be booked for a screening endoscopy 3 years from last one. Screening currently on hold.
South	<ul style="list-style-type: none"> Patients contacted at 3 years post SG for screening endoscopy.

It is estimated over 3000 patients have undergone a SG in Alberta prior to 2022. This does not account for the surgeries performed on Albertans out of province. Depending on the initiation of surveillance (3 or 5 years) and the frequency (one time vs. every 5 years), we estimate that demand for surveillance gastroscopy would range from 6000-12,000 procedures over the next 10 years, not taking into consideration repeat gastroscopies in the presence of abnormal findings, age at follow up, deaths, losses to follow-up or demand from patients who had procedures performed out-of-province.

The review of existing scientific evidence included existing guidelines from various jurisdictions and recently published primary evidence related to surveillance post-SG and follow up gastroscopy for BE. The Endoscopic Surveillance after Sleeve Gastrectomy: Rapid Evidence Report is found in Appendix 2. This evidence synthesis was not intended to be a full systematic review of the literature and included seven guidelines or position statements and four systematic reviews/meta-analyses. The guidelines varied in the recommendations for when to start screening. In people who have undergone SG, it is recommended that an initial endoscopic screening for BE take place 3-5 years post-surgery, regardless of GERD symptoms (Brown, 2020; Campos, 2021; Pavone, 2022; Qumseya, 2021). In comparing the recommendations, there were no differences in recommendations for EAC surveillance after BE was detected between the general population and SG patients (Qumseya, 2021). All agreed that surveillance was required after the detection of BE, and the intensity of surveillance should be commensurate with the extent of the tissue changes. Patients with non-dysplastic BE should undergo routine surveillance every 3-5 years depending on the

length of the segment (ESGE, 2017; ESGE, 2020; Alves, 2020; Campos, 2021; Fitzgerald, 2019; Shaheen, 2022): if < 3 cm should undergo routine surveillance every 5 years; and if 3 – 10 cm should undergo routine surveillance every 3 years. Patients with low-grade esophageal dysplasia should be monitored every 3 years (Campos, 2021; ESGE 2021), and high-grade dysplasia every 3-6 months if it is not resected (Alves, 2020).

Most guidelines do not identify a specific point when it is recommended to cease surveillance. If no dysplasia is detected, ESGE (2017, 2020) states that surveillance can be stopped when the patient is 75-80 years old. Shaheen (2022) adopts a more personalized recommendation, with cessation of surveillance when the patient is no longer a candidate for endoscopic eradication therapy (EET). Overall, the strength of the evidence for routine and ongoing surveillance in the absence of symptoms or physiologic changes is lacking, and recommendations have been made with an abundance of caution until better-designed and longer-term studies are available (Campos, 2021).

A review of the evidence was conducted to determine the need for gastroscopy prior to SG to uncover pre-existing BE. The rate of BE detection varied between 1-12% (Qumseya, 2020; Moulla, 2020; Parmar, 2022). There is consistency in the recommendation from both evidence reviews and position statements that pre-surgical gastroscopic screening be conducted in all patients undergoing SG regardless of symptoms as BE alters the course of surgical treatment if it is discovered (Qumseya, 2021; Moulla, 2020; Gagner, Hutchinson & Rosenthal, 2016; Campos, 2021). If BE is identified, then a gastric bypass is the preferred surgical procedure.

In the absence of high-quality evidence (e.g., randomized trials), expert consensus was utilized in developing the recommendations. A small working group representing the bariatric specialty clinics in Alberta, bariatric surgeons, gastroenterologists and three SCNs (Surgery; Diabetes, Obesity and Nutrition; and Digestive Health) experts and stakeholders drafted the initial recommendations (Appendix 3). Discussions regarding the recommendations took place until consensus was reached. Finally, the recommendations were circulated to a wider group of stakeholders across Alberta for feedback. The final draft recommendations were endorsed by the Provincial Endoscopy Operations Committee, Provincial Surgery Operations Committee, Zone Medical Advisory Councils, and approved by the Provincial Practitioner Executive Committee and the Clinical Operations Executive Committee.

Recommendations

1. A pre-operative gastroscopy is recommended in all patients considered for SG to screen for existing pathology and anatomical changes to guide patient care and management.
2. A post-operative screening gastroscopy is recommended at 5 years post-sleeve gastrectomy surgery in asymptomatic patients.
3. Patients who had a SG that was later revised to a gastric bypass, should be considered for screening at 5 years post-sleeve gastrectomy.
4. Follow-up frequency of gastroscopies is dependent upon the extent of esophageal changes:
 - a. If there is no evidence of Barrett's Esophagus (BE), no further screening is required.
 - b. If non-dysplastic BE is identified, repeat gastroscopy should be based on existing guidelines for surveillance of BE, and performed every 3-5 years.
 - c. If dysplastic BE is identified, then the patient should be referred to the BE specialty clinic in Calgary or Edmonton.
 - d. Repeat gastroscopy should be done within 3-5 years for patients with LA Grade C esophagitis, and at 6-12 months for those with LA Grade D esophagitis.
5. Surveillance can be stopped when the patient is 75 years of age, or when they are no longer a candidate for endoscopic eradication therapy.

Review and Evaluation

It is expected that more data will be published on SG and GERD, BE, and EAC risk in the future which may further inform this guideline. In addition, there is an opportunity for Alberta to contribute to the knowledge base and the understanding of the risk of BE and EAC post-sleeve gastrectomy, and the impact of surveillance gastroscopy. While outside the scope of this guideline, prospective data collection is recommended to monitor how many SG patients develop BE and how many patients develop EAC. A standard protocol for gastroscopy reporting (e.g., hiatal hernia size, Hill grade, bile reflux, routine biopsies at GE junction) may support identification of risk factors for the development of BE and EAC.

The guideline will be reviewed every 3 years and updated as new evidence becomes available.

References

Alves, J. R., Graffunder, F. P., Rech, J. V. T., Ternes, C. M. P. de M., & Koerich-Silva, I. (2020). Diagnosis, treatment and follow-up of Barrett's esophagus: A systematic review. In *Arquivos de Gastroenterologia* (Vol. 57, Issue 3, pp. 289–295).

<https://www.scielo.br/j/ag/a/cRDXLVwkd3JHpmYpgDYJCHj/>

Andalib, A., Bouchard, P., Demyttenaere, S., Ferri, L. E., & Court, O. (2021). Esophageal cancer after sleeve gastrectomy: a population-based comparative cohort study. *Surgery for Obesity and Related Diseases*, 17(5), 879-887. Esophageal cancer after sleeve gastrectomy: a population-based comparative cohort study - ScienceDirect

Brown, W. A., Johari Halim Shah, Y., Balalis, G., Bashir, A., Ramos, A., Kow, L., Herrera, M., Shikora, S., Campos, G. M., Himpens, J., & Higa, K. (2020). IFSO Position Statement on the Role of Esophago-Gastro-Duodenal Endoscopy Prior to and after Bariatric and Metabolic Surgery Procedures. *Obesity surgery*, 30(8), 3135–3153.

<https://doi.org/10.1007/s11695-020-04720-z>

Campos, G. M., Mazzini, G. S., Altieri, M. S., Docimo, S., Jr, DeMaria, E. J., Rogers, A. M., & Clinical Issues Committee of the American Society for Metabolic and Bariatric Surgery (2021). 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: official journal of the American Society for Bariatric Surgery*, 17(5), 837–847. <https://doi.org/10.1016/j.soard.2021.03.007>

Elkassam S. (2021). Gastroesophageal Reflux Disease, Esophagitis, and Barrett's Esophagus 3 to 4 Years Post Sleeve Gastrectomy. *Obesity surgery*, 31(12), 5148–5155. <https://doi.org/10.1007/s11695-021-05688-0>

European Society of Gastrointestinal Endoscopy (2017). Endoscopic management of Barrett's esophagus: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement. <https://pubmed.ncbi.nlm.nih.gov/28122386/>

European Society of Gastrointestinal Endoscopy (2020). Role of gastrointestinal endoscopy in the screening of digestive tract cancers in Europe. https://www.esge.com/assets/downloads/pdfs/guidelines/2020_a_1104_5245.pdf

Fitzgerald, R. C., di Pietro, M., Ragnath, K., Ang, Y., Kang, J. Y., Watson, P., Trudgill, N., Patel, P., Kaye, P. V., Sanders, S., O'Donovan, M., Bird-Lieberman, E., Bhandari, P., Jankowski, J. A., Attwood, S., Parsons, S. L., Loft, D., Lagergren, J., Moayyedi, P., Lyratzopoulos, G., British Society of Gastroenterology (2014). British Society of Gastroenterology guidelines on the diagnosis and management of Barrett's oesophagus. *Gut*, 63(1), 7–42. <https://doi.org/10.1136/gutjnl-2013-305372>

Gagner, M., Hutchinson, C., & Rosenthal, R. (2016). Fifth International Consensus Conference: current status of sleeve gastrectomy. *Surgery for Obesity and Related Diseases*, 12(4), 750-756. [https://www.soard.org/article/S1550-7289\(16\)00027-7/pdf](https://www.soard.org/article/S1550-7289(16)00027-7/pdf)

Gu, L., Chen, B., Du, N., Fu, R., Huang, X., Mao, F., & Zhao, S. (2019). Relationship between bariatric surgery and gastroesophageal reflux disease: a systematic review and meta-analysis. *Obesity Surgery*, 29(12), 4105-4113.

Hvid-Jensen, F., Pedersen, L., Drewes, A. M., Sørensen, H. T., & Funch-Jensen, P. (2011). Incidence of adenocarcinoma among patients with Barrett's esophagus. *New England Journal of Medicine*, 365(15), 1375-1383. <https://www.nejm.org/doi/full/10.1056/Nejmoa1103042>

Jankowski JAZ, de Caestecker J, Love SB, Reilly G, Watson P, Sanders S, Ang Y, Morris D, Bhandari P, Brooks C, Attwood S, Harrison R, Barr H, Moayyedi P; AspECT Trial Team. Esomeprazole and aspirin in Barrett's oesophagus (AspECT): a randomised factorial trial. *Lancet*. 2018 Aug 4;392(10145):400-408. doi: 10.1016/S0140-6736(18)31388-6. Epub 2018 Jul 26. Erratum in: *Lancet*. 2018 Dec 15;392(10164):2552. PMID: 30057104; PMCID: PMC6083438.

Jaruvongvanich, V., Matar, R., Ravi, K., Murad, M. H., Vantanasiri, K., Wongjarupong, N., Ungprasert, P., Vargas, E. J., Maselli, D. B., Prokop, L. J., & Abu Dayyeh, B. K. (2020). Esophageal Pathophysiologic Changes and Adenocarcinoma After Bariatric Surgery: A Systematic Review and Meta-Analysis. In *Clinical and translational gastroenterology* (Vol. 11, Issue 8, pp. e00225–e00225). <https://doi.org/10.14309/ctg.0000000000000225>

Moulla, Y., Lyros, O., Mehdorn, M., Lange, U., Hamade, H., Thieme, R., Hoffmeister, A., Feisthommel, J., Blüher, M., Jansen-Winkel, B., Gockel, I., & Dietrich, A. (2020). Preoperative Upper-GI Endoscopy Prior to Bariatric Surgery: Essential or Optional? In *Obesity Surgery* (Vol. 30, Issue 6, pp. 2076–2084). <https://doi.org/10.1007/s11695-020-04485-5>

National Institute of Diabetes and Digestive and Kidney Diseases. (2017). Barrett's Esophagus. Last reviewed March 2017. Retrieved from: <https://www.niddk.nih.gov/health-information/digestive-diseases/barretts-esophagus>. Accessed 6 October 2022.

Oor, J. E., Roks, D. J., Ünlü, Ç., & Hazebroek, E. J. (2016). Laparoscopic sleeve gastrectomy and gastroesophageal reflux disease: a systematic review and meta-analysis. *The American Journal of Surgery*, 211(1), 250-267. <https://www.sciencedirect.com/science/article/pii/S0002961015004225>

Parmar, C., Zakeri, R., Abouelazayem, M., Shin, T. H., Aminian, A., Mahmoud, T., Abu Dayyeh, B. K., Wee, M. Y., Fischer, L., Daams, F., Mahawar, K., Gallardo, C. S., Agustin, C., Wright, F., Fuente, I., Carbajo, M., Cal, P., Chisholm, J., Kow, L.,

Jaruvongvanich, V. (2022). Esophageal and gastric malignancies after bariatric surgery: a retrospective global study. In *Surgery for Obesity and Related Diseases* (Vol. 18, Issue 4, pp. 464–472). <https://doi.org/10.1016/j.soard.2021.11.024>

Pavone, G., Tartaglia, N., Porfido, A., Panzera, P., Pacilli, M., & Ambrosi, A. (2022). The new onset of GERD after sleeve gastrectomy: A systematic review. In *Annals of Medicine and Surgery* (Vol. 77). <https://doi.org/10.1016/j.amsu.2022.103584>

Qumseya, B. J., Qumsiyeh, Y., Ponniah, S. A., Estores, D., Yang, D., Johnson-Mann, C. N., & Draganov, P. V. (2021). Barrett's esophagus after sleeve gastrectomy: a systematic review and meta-analysis. *Gastrointestinal endoscopy*, 93(2), 343-352. <https://www.sciencedirect.com/science/article/pii/S0016510720346769>

Qumseya, B. J., Qumsiyeh, Y., Ponniah, S. A., Estores, D., Yang, D., Johnson-Mann, C. N., Friedman, J., Ayzengart, A., & Draganov, P. V. (2021). Barrett's esophagus after sleeve gastrectomy: a systematic review and meta-analysis. In *Gastrointestinal Endoscopy* (Vol. 93, Issue 2, pp. 343-352.e2). <https://doi.org/10.1016/j.gie.2020.08.008>

Role of gastrointestinal endoscopy in the screening of digestive tract cancers in Europe. (2020). European Society of Gastrointestinal Endoscopy. https://www.esge.com/assets/downloads/pdfs/guidelines/2020_a_1104_5245.pdf

Shaheen, N. J., Falk, G. W., Iyer, P. G., Souza, R. F., Yadlapati, R. H., Sauer, B. G., & Wani, S. (2022). Diagnosis and Management of Barrett's Esophagus: An Updated ACG Guideline. *The American journal of gastroenterology*, 117(4), 559–587. <https://doi.org/10.14309/ajg.0000000000001680>

van Zanten SV. (2020). Chronic GERD and risk of esophageal adenocarcinoma: Should we screen with gastroscopy? *CMAJ*. 2020 Jul 6;192(27):E781-E782. doi: 10.1503/cmaj.200697. PMID: 32631910; PMCID: PMC7828896

Guideline for the Management of Barrett's Esophagus – in draft. Reference to be added when guideline released.

Appendix 1 – Glossary of Terms

Adenocarcinoma⁵	A malignant tumor originating in glandular epithelium.
Bariatric Surgery¹ (Metabolic surgery)	Surgery that modifies the stomach and/or intestines to treat obesity and obesity related diseases.
Barrett’s Esophagus⁵	Metaplasia of the lower esophagus that is characterized by replacement of squamous epithelium with columnar epithelium
Columnar epithelium³	Epithelial tissue that are column shaped, with or without cilia, and are involved primarily in secretory, absorptive, or excretory functions and line the stomach and intestines.
Dysplasia⁵	Abnormal growth or development of a cell or organ.
Gastroesophageal Reflux Disease (GERD) ⁵	A highly variable chronic condition characterized by periodic episodes of gastroesophageal reflux usually accompanied by heartburn and that may result in histopathologic changes in the esophagus.
Gastroscopy²	An endoscopic procedure using a thin, tube-like instrument (gastroscope) to inspect the interior of the esophagus, stomach and first part of the duodenum.
Goblet cells²	Cells that produce mucus that line the gastrointestinal tract and lungs.
Los Angeles (LA) Grading (classification)⁶	Endoscopic scoring system used to grade the severity of reflux esophagitis.
Metaplasia⁵	Transformation of one tissue to another; abnormal replacement of cells of one type by cells of another
Sleeve Gastrectomy¹	A bariatric surgical procedure where approximately 80% of the stomach is removed. The remaining stomach is the size and shape of a banana.

1. *Bariatric surgery procedures*: ASMBS. American Society for Metabolic and Bariatric Surgery. (2023). Retrieved April 5, 2023, from <https://asmbs.org/patients/bariatric-surgery-procedures>
2. *Gastroscopy*. Cambridge Dictionary. (n.d.). Retrieved April 6, 2023, from <https://dictionary.cambridge.org/dictionary/english/gastroscopy>.
3. Encyclopedia Britannica, inc. (n.d.). *Columnar epithelium*. Encyclopedia Britannica. Retrieved April 6, 2023, from <https://www.britannica.com/science/columnar-epithelium>
4. Health Information and medical information. Harvard Health. (n.d.). Retrieved April 6, 2023, from <https://www.health.harvard.edu>.
5. Merriam-Webster. (n.d.). Medical terms and abbreviations: Merriam-Webster Medical Dictionary. Merriam-Webster. Retrieved April 6, 2023, from <https://www.merriam-webster.com/medical>.
6. Nguyen, A. D., Spechler, S. J., Shuler, M. N., Souza, R. F., & Dunbar, K. B. (2019). Unique clinical features of Los Angeles grade D esophagitis suggest that factors other than gastroesophageal reflux contribute to its pathogenesis. *Journal of Clinical Gastroenterology*, 53(1), 9–14. <https://doi.org/10.1097/mcg.0000000000000870>

Appendix 2 – Rapid Evidence Reviews

Endoscopic Surveillance after Sleeve Gastrectomy: Rapid Evidence Report
25 October 2022

If you would like to have a copy of this report, please submit your request to surgery.scn@ahs.ca.

Pre-surgical screening for Barrett’s Esophagus: Rapid Evidence Report
24 January 2023

If you would like to have a copy of this report, please submit your request to surgery.scn@ahs.ca.

Appendix 3 – Working Group Membership

Louise Morrin (co-lead)	Senior Provincial Director, Medicine SCN, Digestive Health SCN	Provincial
Tim Baron (co-lead)	Executive Director Surgery SCN	Provincial
Dr. Sander Veldhuyzen Van Zanten	Senior Medical Director Digestive Health SCN	Provincial
Bryan Atwood	Provincial Lead, ACATs, ACATs-E Surgery SCN and Digestive Health SCN	Provincial
Carol Kuzio	Clinical Practice Lead Diabetes, Obesity and Nutrition SCN	Provincial
Carmen Oilund	Senior Practice Consultant Digestive Health SCN	Provincial
Lene Jorgensen	Executive Director Diabetes, Obesity and Nutrition SCN	Provincial
Susan Jelinski	Assistant Scientific Director Digestive Health SCN	Provincial
Rachael Erdmann	Innovation Business Analyst Innovation and Business Intelligence, AHS	Provincial
Dr. Estifanos Debru	Surgeon	Calgary Zone
Jennifer Coulthard	Executive Director Medicine Inpatients and Ambulatory Care, FMC	Calgary Zone
Dr. Milli Gupta	Gastroenterology	Calgary Zone
Dr. Paul Belletrutti	Gastroenterology, Internal Medicine	Calgary Zone
Dr. Rachid Mohamed	Head, Therapeutic Endoscopy	Calgary Zone
Sasha Wiens	Innovation and Integration Coordinator Calgary Bariatric Surgery Clinic	Calgary Zone
Dr. Steven Heitman	Gastroenterology, Internal Medicine	Calgary Zone
Dr. Lawrence Farries	Surgeon	Central Zone
Dr. Aliyah Kanji	Surgeon	Edmonton Zone
Dr. Clarence Wong	Section Chief, Gastroenterology	Edmonton Zone
Colleen McPherson	Clinic Manager Ambulatory Care RAH	Edmonton Zone
Dr. Daniel Birch	Surgeon	Edmonton Zone
Darren Oczkowski	Program Manager, Ambulatory Care and Endoscopy RAH	Edmonton Zone
Kim Kostiuk	Executive Director, Ambulatory Care RAH, EZ Endoscopy, Connect Care	Edmonton Zone
Dr. Noah Switzer	Surgeon	Edmonton Zone
Dr. Shahzeer Karmali	Surgeon	Edmonton Zone
Dr. Michael Bering	Assistant Zone Medical Director	South Zone
Dr. Samer Elkassem	Surgeon	South Zone