

CLINICAL UPDATE

Treating the Spectrum of Care in Esophageal Disease States: From Prevention to Palliation



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G&H What is the role of a provider such as yourself in the management of patients with gastroesophageal reflux disease, Barrett esophagus, and esophageal cancer?

KC The role of the provider is first on the diagnosis side, then to present treatment options to the patient, and sometimes to also perform the intervention. Gastroesophageal reflux disease (GERD) can present in a typical fashion with heartburn and regurgitation, but it can also present very atypically with chest pain, cough, sore throat, shortness of breath, asthma, bad breath, or aspiration and pneumonia. Because a number of atypical symptoms can present in a patient with acid reflux, diagnosis is very important for the provider to be able to look for signs and symptoms that may be attributed to the patient's GERD and those that may not. The provider can then design the appropriate treatment algorithm so that the patient can undergo specific tests to discern whether GERD is associated with their symptoms. These tests can also assess the patient's anatomy and physiology to determine which component of the antireflux barrier is disrupted, allowing therapy to be individualized. The provider then guides the patient through management options, including exercise, diet, behavior modifications, and stress management. Endoscopic therapies such as transoral incisionless fundoplication (TIF) may also be options, and some patients may need more comprehensive anatomic correction, such as laparoscopic or robotic hiatal hernia repair, which can be combined with a consecutive TIF (cTIF). Follow-up consists of making sure that the patient's outcomes have improved and providing confirmation upon further testing that there is no further damage to the esophagus and that symptoms are well managed.

Because Barrett esophagus is a precancerous condition, it needs to be managed carefully and the provider needs to educate the patient about the risk of developing cancer as well as the importance of surveillance, which

is usually performed with endoscopy. The provider must determine how often repeat endoscopy is needed and which biopsy protocol should be used, as well as how to manage the different risks if the biopsy shows nondysplastic Barrett esophagus, low-grade dysplasia with Barrett esophagus, high-grade dysplasia with Barrett esophagus, or early cancer. Treatment can consist of radiofrequency ablation or cryoablation (Merit), or endoscopic resection.

If the patient has more advanced cancer, staging is done with imaging and endoscopic ultrasound, and then the patient may require esophagectomy, chemotherapy, or radiation therapy. The provider guides the entire spectrum of care from precancer to stage 4 esophageal cancer. There is an entire pathway for the provider to help the patient in their esophageal cancer journey when undergoing chemotherapy, radiation therapy, and surgery. The provider also has to manage survivorship care because the patient may be at risk for other cancers and has to manage any esophageal cancer recurrence. If treatment is not able to reverse the cancer process, the provider focuses on managing the patient's symptoms. Esophageal obstruction is a major impediment to quality of life in which the patient cannot swallow or handle saliva, so the provider may offer management strategies such as dilation, stent placement (Merit), or endoscopic debulking treatments.

G&H When evaluating treatment options for these patients, what factors most influence your clinical decision-making and priorities?

KC Not every patient is the same, so while there are best practices and clinical algorithms, they may not always fit every individual patient. Therefore, it is critically important for the provider to be able to individualize the treatment plan, taking into consideration the stage of the disease and the type and aggressiveness of any tumor. Providers also need to incorporate the patient's other medical issues and take into consideration the patient's support

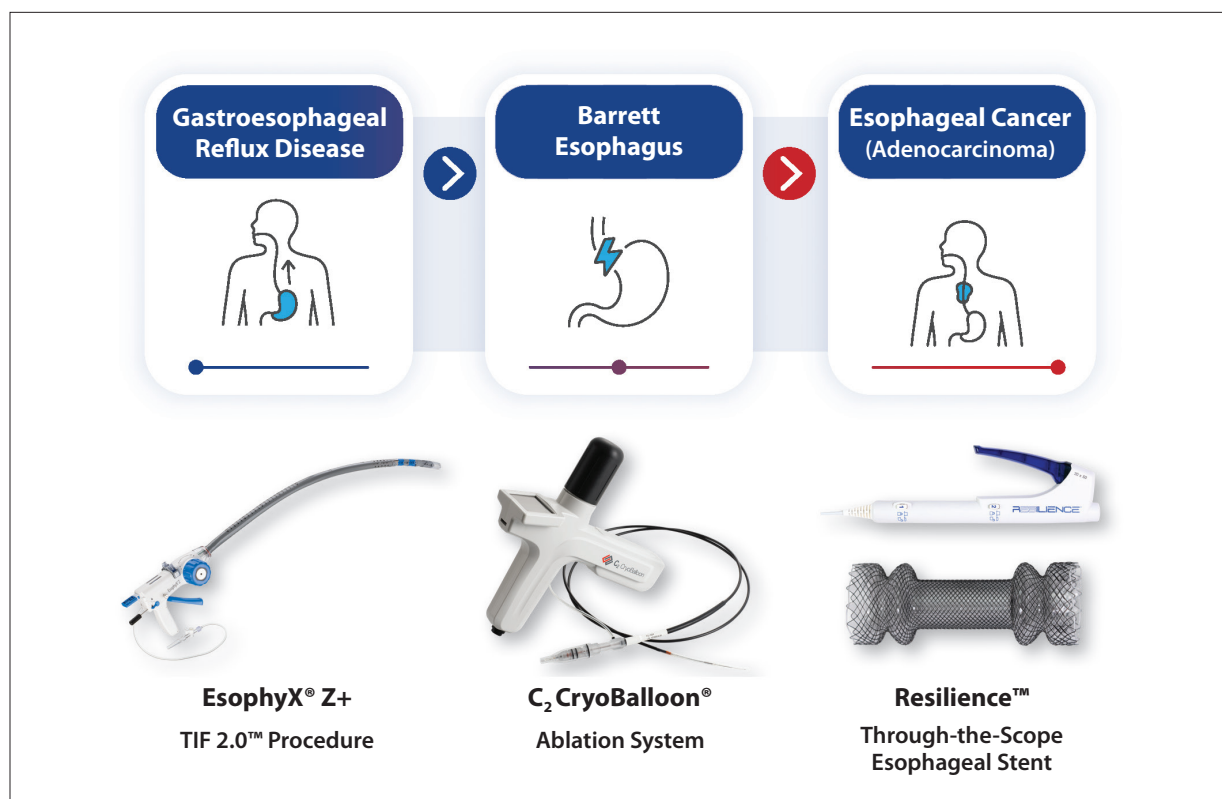


Figure. Spectrum of care: preventive to palliative. Figure courtesy of Merit Medical Systems – Endoscopy.

system, social situation, religious outlook, and view of quality vs quantity of living. Ultimately, it is the patient who is the owner and driver of their health care plan, with the provider offering objective information and data upon which to make good medical decisions.

G&H Why is addressing the full disease progression from GERD to Barrett esophagus to esophageal cancer important?

KC Looking at this disease progression like a very tight funnel, the bottom is esophageal adenocarcinoma, which almost completely arises from precancerous Barrett esophagus, which essentially all comes from acid reflux (the top of the funnel). In other words, if Barrett esophagus can be prevented, esophageal adenocarcinoma can essentially be prevented, and if GERD can be prevented, Barrett esophagus can essentially be prevented. There is a very direct line from one condition to the next. The issue is that prevalence is very high; 1 in 4 patients have acid reflux, an estimated 5% of the population has precancerous Barrett esophagus, and more than 22,000 patients per year are diagnosed with esophageal cancer. Thus, the top of the funnel can be large. Additionally, Barrett esophagus is essentially silent; patients do not know they have it, so the true prevalence may be greater than 5%. Therefore, it is important to look at the entire spectrum of disease. If

a provider looks at GERD only as a nuisance, and not as pre-precancer, they are not going to take it seriously. They will not be attuned to warning symptoms or think about risk stratification for the patient; they are ultimately going to be more dismissive and less intentional in how they care for a patient with GERD. It is important that the provider is looking at the entire spectrum from GERD to esophageal cancer. If a patient with chronic GERD has never had an endoscopy, that should signal a red flag. There are now less-invasive ways of testing for Barrett esophagus. For example, Hoag has a health system-wide program to screen at-risk patients with EsoCheck/ EsoGuard (Lucid), a 3-minute, outpatient, nonsedated cell-collection device paired with a DNA biomarker assay that has high sensitivity for picking up Barrett esophagus. Those who test positive then come in for an endoscopy. Endoscopic screening programs have not resulted in a decrease in esophageal cancer incidence because of the difficulty of getting the right people in for surveillance, but point-of-care noninvasive tests are going to be key to catch the people within the funnel. Once a patient has Barrett esophagus, it is important that the provider know how to perform surveillance and how to risk stratify the patient in terms of whether to treat them. In addition to histopathology, there are more modern biomarkers such as TissueCypher, which looks at a number of biomarkers through special staining that goes beyond histology to help

providers risk stratify those patients from a biopsy specimen that has already been taken. That provider then does surveillance and looks for when to treat Barrett esophagus and ablate it. Not everyone with Barrett esophagus needs to have an ablation. However, providers do not want high-risk patients to fall through the cracks and develop cancer during surveillance. If cancer develops, providers need to be able to manage that as well. Therefore, care for the entire spectrum from the provider is important. Merit has embraced this concept and is filling the gaps for a one-stop shop that addresses the entire disease spectrum, aligning with what is needed (Figure).

G&H How has this field evolved since you first started?

KC When I was training, GERD was felt to be a nuisance. Patients were managed with medication, and if the medication was not working and the patient was still experiencing breakthrough symptoms, providers would just pile on more medication and try different types. There was a significant reluctance to send the patient to surgery. At that time, surgery was more invasive, had more complications, and had worse outcomes than today. That left a large gap between patients who responded to medication vs those who did not respond. Among those who did not respond, only approximately 20,000 to 25,000 antireflux surgeries were performed each year in the United States, although it is estimated that millions of patients, on the order of 6 to 8 million, may benefit from some form of anatomic correction. Both patients and providers now realize that there are other modalities that are less invasive, and surgery itself has become more effective and less invasive. The entire treatment spectrum is being filled in, from medication to endoscopic therapy to surgical therapy or combined endoscopic surgical therapy, making the patient more comfortable and understanding the spectrum of care. Outcomes at every level are improving; patients are not left to just continue suffering with their symptoms, which can be extremely bothersome.

There was no good treatment for Barrett esophagus when I was training. Our strategy was to continue watching Barrett esophagus until it became cancer or high-grade precancer, and then we would send the patient to surgery where they would have their esophagus removed. Over the past 20 to 30 years, much better tools have been developed to risk stratify Barrett esophagus, and effective tools for ablation are now available. It is possible to get rid of Barrett tissue and reverse it. Endoscopic resection techniques are also available for removing dangerous tissue without surgery. Probably the biggest breakthrough in this space has been the ability to get rid of precancerous Barrett esophagus with a high success rate. This includes both radiofrequency ablation and cryoablation (Merit).

The trick is identifying and bringing those patients in. In terms of surgery, esophagectomy has become less invasive. It is no longer an open operation; it is now performed laparoscopically or robotically. These are all dramatic improvements for Barrett esophagus and cancer treatment over the past 20 to 30 years.

G&H Could you discuss the recent landmark study on laparoscopic hiatal hernia repair followed by cTIF vs laparoscopic Nissen fundoplication?

KC My colleagues and I compared cTIF in a head-to-head, prospective noninferiority trial against laparoscopic Nissen fundoplication, which is considered the gold standard surgical therapy for GERD. The Nissen fundoplication has proven to provide very robust, durable reflux control, but there have been significant side effects limiting its scalability and acceptance by patients. cTIF is a technically simpler procedure because it is performed transorally. In the final data analysis presented at Digestive Disease Week 2026, with the abstract published in *Gastrointestinal Endoscopy*, 68 patients were randomized to the cTIF arm and 64 patients were randomized to the laparoscopic Nissen fundoplication arm. The 2 groups were essentially similar in terms of their baseline characteristics, age, sex, weight, comorbidities, and so on. The main outcome was GERD-related quality of life. At 6 months, there was no difference between the 2 arms in terms of response to treatment and quality of life, which essentially improved dramatically in both arms. There were multiple secondary outcomes. Looking at quality of life at 12 months, again, there was no difference between the 2 arms and there was essentially dramatic improvement in both. At the beginning of the study, all patients were receiving proton pump inhibitors (PPIs), but 95% were able to completely come off them at 6 months, with no difference between the arms. At 12 months, 91% and 92% of patients were able to completely remain off PPIs, so there was essentially no difference between the groups. We were able to evaluate acid exposure time with pH assessment to find out objectively how much acid was coming up into the esophagus over 24 to 96 hours. In both arms, normalization of acid exposure time was achieved at 6 months, and there was no difference between the arms. Even patients who had more severe reflux with a very high pH score at the beginning of the study equally normalized in both arms, with no difference. Subjective endpoints, including patient satisfaction and quality of life, were equally high between the 2 groups. The only difference involved incident dysphagia, which was attributed to the procedure itself and indicates that the wrap may have been too tight. At 6 months, incident dysphagia was 2.6% in the cTIF arm but 32.3% in the Nissen arm,

which is significantly higher. At 12 months, there was still a difference (5.7% vs 28.6%, respectively). At the end of this study, we concluded that cTIF was noninferior to laparoscopic Nissen fundoplication and that cTIF represents an effective, less-invasive alternative with a favorable tolerability profile and the potential for broader scalability as an antireflux procedure.

G&H What do these findings mean for practicing gastroenterologists and surgeons and for the future of GERD management?

KC The take-home message is that cTIF provides similar positive outcomes to Nissen fundoplication but with fewer undesirable side effects. What that translates to for gastroenterologists and surgeons is that both procedures are good, but there is some difference between the two. There are also other good surgical operations, such as partial fundoplication—most commonly the Toupet fundoplication—which has good outcomes with fewer side effects. I think our study findings broaden the options for patients. The Nissen fundoplication is still a good operation, but our findings add cTIF as a proven effective alternative. Unlike some of the other procedures, cTIF is often a partnership procedure between gastroenterologists and surgeons because patients usually go to a gastroenterologist before going to a surgeon. This allows more patients to get the proper antireflux procedure and not have to suffer from medically refractory GERD. This does not take away from anyone in terms of procedure volumes; as a matter of fact, it actually increases the overall procedure volumes that have been woefully underutilized, and more patients will be able to have better outcomes and better quality of life.

G&H Are there any study limitations that should be kept in mind?

KC The study was performed in expert centers among expert surgeons and proceduralists, so the outcome may not necessarily be generalized to a more community-based practice. That shows the importance of training and education, which Merit has dedicated a lot of time and resources toward. We do not know what the numbers would look like in more of a community-based scenario, but I think such a setting would affect both arms the same if the expertise were lowered. Nevertheless, an expert-vs-expert comparison is still important, as it establishes efficacy under optimal conditions.

G&H Where do you see the future of treating the esophageal disease spectrum?

KC For GERD, we need to increase awareness and educate providers and patients about the various options beyond medication, especially when it does not work or there is a real concern about the side effects of long-term therapy. Looking toward the future of Barrett esophagus, I think the main need is getting more people into the funnel—that is, identifying patients who have Barrett esophagus but have no idea they have it. These patients may have significant heartburn and reflux symptoms or may not. Studies have shown that heartburn is a major factor, but if a patient is a White male over 50 years, obese, has a family history of Barrett esophagus or esophageal cancer, and a history of smoking, they are at significant risk for Barrett esophagus, even when they do not have many reflux symptoms or if their reflux symptoms are well controlled on medication. Unless they are screened, they will never know they have Barrett esophagus. In my opinion, that is the biggest challenge. We do have screening technology now, but how can it be scaled so that patients can be screened appropriately? In terms of treating Barrett esophagus, there are a number of good modalities available. Ideally, we want to make them faster, with fewer postprocedure side effects and lower cost, but I think we are almost there in most of those areas. Finally, esophageal cancer is one of the most lethal cancers, so there is a lot of work that needs to be done to develop better systemic immune therapy such as with checkpoint inhibitors to manage and hopefully cure even advanced-stage esophageal cancer.

Disclosures

Dr Chang has served as a consultant for Cook Medical, Erbe, Fujifilm, Medtronic, Merit, and Olympus.

Suggested Reading

Abu Dayyeh BK, Chang KJ, Bell R, et al. 723 Laparoscopic hiatal hernia repair followed by transoral incisionless fundoplication (cTIF) versus Nissen fundoplication for pathologic gastroesophageal reflux: a prospective multicenter randomized, blinded study. *Gastrointest Endosc*. 2026;103(5):S-639-S-640.

Canto MI, Diehl DL, Parker B, et al. Outcomes of transoral incisionless fundoplication (TIF 2.0): a prospective multicenter cohort study in academic and community gastroenterology and surgery practices (with video). *Gastrointest Endosc*. 2025;101(1):90-102.e1.

Canto MI, Trindade AJ, Chak A, et al. Durability of cryoballoon ablation for eradication of neoplastic Barrett's esophagus: a multicenter prospective cohort study (with video). *Gastrointest Endosc*. 2026;103(6):1153-1162.e1.

Kolb JM, Canto MI, Parker B, et al. Short-term outcomes of laparoscopic hiatal hernia repair with consecutive transoral incisionless fundoplication: a prospective multicenter cohort study [published online June 3, 2026]. *J Am Coll Surg*. doi:10.1097/XCS.0000000000002059.

Lee R, Mittal RK, Chang KJ, Nguyen NT. Nature of antireflux barrier formed by Nissen fundoplication surgery. *Sci Rep*. 2025;15(1):34047.

Shaheen NJ, Othman MO, Taunk J, et al. Use of a two-gene methylated DNA biomarker assay and nonendoscopic balloon for detection of Barrett esophagus among high-risk individuals in a screening population. *Am J Gastroenterol*. 2024;120(7):1511-1520.