HERC Coverage Guidance: Newer Interventional Procedures for GERD
Disposition of Public Comments

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Commenters

Identification	Stakeholder
A	Craig Gonzales, RN, MBA, Director, Healthcare Economics, EndoGastric Solutions, Inc. *[Submitted October 26, 2018]*
B	Sudip K. Ghosh, PhD, Director, Health Economics & Market Access, Johnson & Johnson Medical Devices *[Submitted October 31, 2018]*

Public Comments

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A1	On behalf of EndoGastric Solutions (EGS), I am filing the following comments to the draft Coverage Guidance: Newer Interventional Procedures for GERD. EGS is the manufacturer of the EsophyX transoral incisionless fundoplication (TIF) medical device. Since 2005, EGS has marketed the EsophyX TIF surgical implant device for patients with chronic gastroesophageal reflux disease (GERD). All Medicare Administrative Contractors cover the transoral incisionless fundoplication implant procedure for symptomatic beneficiaries who have failed to respond to conservative lifestyle and pharmacologic measures. We understand that Health Evidence Review Committee's (HERC) purpose is to review clinical literature to prioritize health spending in the Oregon Health Plan (OHP) and to promote evidence-based medical practice statewide through comparative effectiveness reports. EGS supports these goals, and we want to work with HERC to ensure that these goals are met while protecting beneficiaries' access to innovative new technologies. To that end, we applaud HERC's draft decision to recommend TIF for treatment of GERD.	*Thank you for your comments.*

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	To ensure that the HERC continues to provide OHP with timely, clinically significant analysis, EGS asks HERC to take the following actions: I. HERC should modify the indications and contra-indications in the Coverage Guidance. II. HERC should specify which device is allowed to perform the procedure under the Coverage Guidance. The above issues will be discussed in detail in the following comments.	
A2	**I. HERC should modify the indications and contra-indications in the Coverage Guidance.** EGS urges HERC to modify the coverage guidance criteria to match that in the instructions for use (IFU) for the device as approved by the FDA. Suggested language is below: **INDICATIONS** The EndoGastric Solutions EsophyX Z+ Fastener Delivery Device with SerosaFuse® Fastener and accessories is indicated for use in transoral tissue approximation, full thickness plication and ligation in the GI tract and is indicated for the treatment of symptomatic chronic gastroesophageal reflux disease in patients who require and respond to pharmacological therapy. It is also indicated to narrow the gastroesophageal junction and reduce hiatal hernia ≤ 2cm in size in patients with symptomatic chronic gastroesophageal reflux disease. Patients with hiatal hernias larger than 2cm may be included, when a laparoscopic hiatal hernia repair reduces the hernia to 2cm or less. **CONTRAINDICATIONS** Patients with bleeding disorders, strictures, severe esophagitis, esophageal diverticulae, obstructions, paraesophageal hernia, limited neck mobility, osteophytes of the spine, esophageal varices, esophageal infections or fungal disease, esophageal stenosis and any kind of normal or abnormal esophageal anatomy which would not permit insertion of a device of this size, chronic cough, BMI > 35 or hiatal hernia > 2cm.	*The subcommittee based its recommendations for indications and contraindications on the published literature as well as the policies of other insurers. The question of whether laparoscopic hiatal hernia repair should be undertaken to permit the use of endoscopic fundoplication is beyond the scope of this coverage guidance, but adding a surgical procedure before endoscopic fundoplication would alter the balance of benefits and harms.*
A3	**II. HERC should specify which device is allowed under the Coverage Guidance.** Aside from EndoGastric Solutions' EsophyX Device, the MUSE system from Medigus Ltd. may also be used to perform a variation of the TIF procedure. There are very few published clinical studies on the MUSE system. In fact, there are no published RCTs on the MUSE system. None of the three TIF-focused papers in the draft	*EsophyX® was the only device that was included in the systematic reviews and randomized trials that were*

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	Coverage Guidance studied the MUSE system. These papers only studied the TIF procedure performed with the EsophyX device. We suggest that HERC specify which device is allowable under the Coverage Guidance to prevent the inadvertent use of the untested MUSE system. The guidance in Palmetto's local coverage determination (LCD) provides a suitable template. Suggested language is below: **D. Covered Transesophageal Endoscopic Procedure for the Treatment of GERD** Transoral incisionless fundoplication (TIF) is a transesophageal endoscopic procedure for the treatment of GERD that is covered under this Local Coverage Determination (LCD). Current published peer reviewed literature supports the safety and efficacy of the EsophyX® device used in this procedure (CPT® Code 43210). EsophyX® is a device used in a transoral incisionless fundoplication (TIF®) procedure to repair the natural anti-reflux barrier and is also indicated to narrow the gastroesophageal junction and reduce hiatal hernia = 2cm in size. EsophyX® includes SerosaFuse® Fasteners and consists of a flexible fastener delivery system comprised of three elements: a stylet, a pusher rod, and a delivery tube. The EsophyX® procedure is designed for use in transoral tissue approximation, full thickness serosa to serosa plications and to construct valves in the gastrointestinal tract which are used. The procedure is performed with the patient under general anesthesia.	*identified for this coverage guidance.* *We have revised the draft recommendation to specify that EsophyX® is the only device identified in the evidence reviewed for this coverage guidance.*
A4	**Conclusion** EGS appreciates this opportunity to comment on the HERC Coverage Guidance. We urge HERC to consider our recommendations carefully and make the changes necessary to ensure that Oregon patients have access to state-of-the-art care. As always, EGS looks forward to working with the state in the future to improve access to the best and innovative technologies that our company has to offer. The IFU [indications for use] and LCD referenced are attached to this comment.	*Thank you for your comments.*
B1	This communication will serve as a request for reconsideration of the decision noted in the draft coverage guidance for Newer Interventional Procedures for GERD. The decision applies to Magnetic Sphincter Augmentation (MSA) that is associated with the following two procedures:	*Thank you for your comments.* *We believe our search and the included studies in the CG capture all of the available*

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	43284: Laparoscopy, surgical, esophageal sphincter augmentation procedure, placement of sphincter augmentation device (i.e., magnetic band), including cruroplasty when performed 43285: Removal of esophageal sphincter augmentation device Specifically, we request the above two procedures to be recommended for coverage for treatment of GERD. In total, over 50 peer-reviewed articles have been published on LINX, including 1 randomized control trial (RCT), 7 comparative, 11 single-arm, 3 meta-analysis. A few key published articles were not included in the sources of information in the basis for decision noncovered services. Therefore, to support reconsideration, additional sources of information that were not originally considered are included within this appeal. We believe that these new safety and efficacy data further reinforce the medical necessity of these procedures. In particular, you will find compelling evidence of long-term efficacy and safety of the LINX procedure, pursuant to the FDA approval. Furthermore, as a testimonial to its long-term outcomes, you will find a study recommending LINX be incorporated into the practice of National Health Service of UK following acceptable business plan and compliance.	*comparative data. Single-arm (non-comparative) studies would not be included under usual HERC procedures except when they are summarized in systematic reviews.* *The SRs by Chen et al. (k = 4) and Skubleny et al. (k = 3) were identified in our search, but these were less comprehensive than the SR by Aiolfi et al. which summarizes 7 comparative observational studies of MSA, and includes all of the studies from both Skubleny et al. and Chen et al.* *Among the other manufacturer submitted citations, five are included in the Aiolfi et al.SR (Reynolds et al., 2015, Riegler et al., 2015, Warren et al., 2016, Louie et al., 2014, and Reynolds et al., 2016); seven are non-comparative studies (Ganz et al., 2016, Smith et al., 2017, Bonavina et al., 2013, Saino et al., 2015, Lipham et*

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		al., 2015, Alicuben et al., 2018, and Prakash et al., 2017); and two are studies of LNF that are not pertinent to MSA (Draaisma et al., 2006 and Lafullarde et al., 2001). *Thus, the subcommittee is confident that it has considered the totality of comparative evidence for MSA.*
B2	LINX® Reflux Management System-based MSA as an Alternative to LNF. LINX is a first line, fundic-sparing laparoscopic surgical treatment option for GERD. It consists of small, flexible band of titanium beads, with magnetic cores that augment the LES' ability to close while allowing food and liquid to pass through to the stomach Approved via the most rigorous FDA PMA process, LINX is safe and efficacious, reversible and reproducible, and associated with fewer side effects and complications compared to LNF. [1-6]	*Thank you for your comments. We believe the relative merits of MSA and LNF were well summarized in the Aiolfi SR which was considered by the subcommittee.*
B3	LINX® is supported by clinical societies and HTA bodies Determinations made by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), Federal Agency for Healthcare Research and Quality (AHRQ), and the American Society of General Surgeons (ASGS) are testimonials to support of this technology by gastroenterologists, surgeons, and foregut experts.[2,3,7] In their most recent Safety and Effectiveness Analysis statement (2017), the SAGES Technology and Value Assessment Committee performed an exhaustive and detailed review of the published literature available for LINX, with dozens of studies cited and detailed. This report concluded that "implantation of the LINX® device should be covered and reimbursed by insurance for appropriate patients who meet the selection criteria as described above."	*It is misleading to assert that AHRQ supports the use of this technology. AHRQ stated that Horizon Scans should "…not be construed as endorsements or rejections of specific interventions."* *The statement by SAGES is noted, but LINX is not mentioned in the official clinical practice guideline for surgical*

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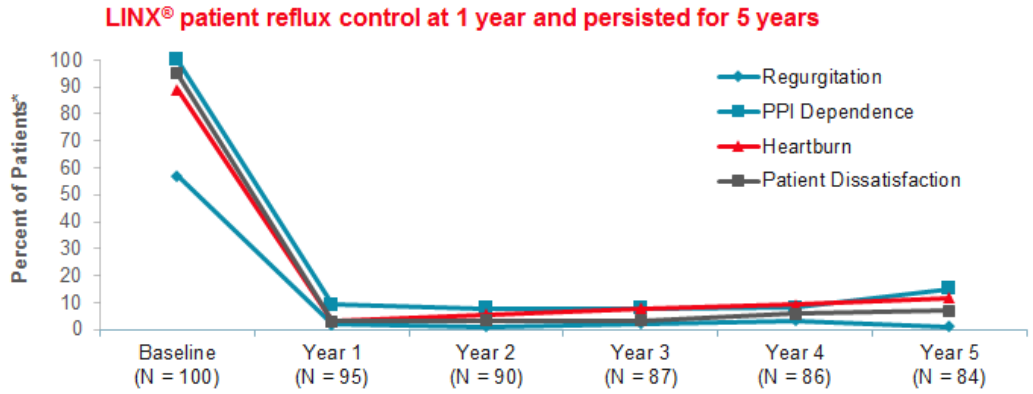
		treatment of GERD that has been promulgated by SAGES. Similarly, the statement by ASGS is noted, but this organization does not appear to have a process for developing clinical practice guidelines.
B4	Updated LINX® Evidence Not Considered Previously <u>Complications of GERD</u> • LINX patients experienced long term improvement in regurgitation, PPI dependence, heartburn, and patient satisfaction.[1] o Patients experienced significant and sustained improvement in regurgitation up to 5 years.[1,8,9]  	*Thank you for your comments. We believe the relative merits of MSA and LNF were well summarized in the Aiolfi et al. SR, which was considered by the subcommittee. The data presented here were either included in the coverage guidance and informed the estimates of effect or are non-comparative studies as detailed above in B1.* *It should be noted that the NICE guidance issued in 2017 states that "…evidence of the long-term efficacy is inadequate," and they recommend that the procedure "…only be used with special*

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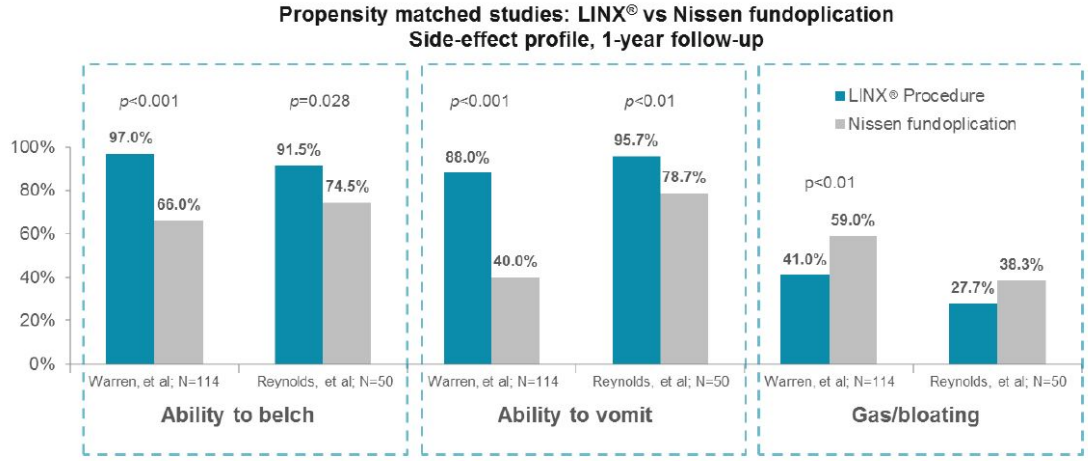
	o Significantly less gas/bloating with LINX and greater ability to belch and vomit with LINX.[6,10]  o Less regurgitation at one-year post-procedure.[8] <u>GERD symptom scores</u> • As measured by GERD-HRQL, LINX significantly improved quality of life.[1,8,10,11,12,9,13] <u>Change in PPI therapy</u> • Over 75% of patients experienced complete cessation of PPI at up to 5 years.[1,8,10,11,12,9,13] • Similar cessation of PPI usage found in patients undergoing LINX and LNF.[5] <u>Harms</u> • A 2014 study analyzed safety of LINX® procedure in the first 1000 patients worldwide at 82 institutions. While the intra/perioperative complication rates and device removal rates were 0.1% and 3.4%, respectively, the erosion rates were 0.1%.[14] • Most importantly, a recent seminal article analyzed FDA's Manufacturer and User Facility Device Experience (MAUDE) database for data of 3283 patients who underwent LINX® procedure between March 2012-May	*arrangements for clinical governance, consent, and audit and research."*

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	2016 across 165 institutes. The study showed no perioperative deaths and life-threatening complications, or device malfunctions.[4] While the overall device explant rate was 2.7%, the erosion rate was 0.15%. • Five-year reoperation rates were reported to be in the 13.1%-15.2% range with LNF,[15,16] and in the 6.8%-7% range with LINX.[1,11] • Importantly, another study that assessed the FDA's MAUDE database for 9453 global implants of MSA device over the timeframe Feb 2007 – July 2017, reported device erosion of 0.3% with the median time to erosion of 26 months.[17] • None of above studies reported MSA-associated mortality <u>Meta-analysis</u> • A recent meta-analysis of four databases compared LINX® to Nissen fundoplication by assessing 325 Nissen fundoplication and 299 LINX® procedures spanning 2005-2016. The publication reported that operating time with LINX® is in the 60-66 min range, which is 19.5%-29.5% shorter than Nissen fundoplication.[18] <u>Recommendation of LINX® into the National Health Service (NHS) practice in UK</u> In a study that prospectively evaluated 47 patients who underwent the LINX® procedure reported that reflux health-related quality of life (GERD-HRQL) was significantly improved after the procedure and maintained at one- and two-year ($P < 0.0001$) follow-up.[19] Drug dependency went from 100% at baseline to 2.6% and 8.7% after one and two years. Importantly, the cost of the implant was offset against savings made from reduced usage of surgical equipment, operating time, inpatient stay/readmission. As such, the authors recommended LINX® to be incorporated into NHS practice.	
B5	Coverage Reconsideration We believe that the completion of two FDA trials providing significant long term follow up, as well as multiple studies, peer-reviewed articles, and support of key medical societies and HTA bodies indicate that the MSA has withstood appropriate scrutiny, and can no longer be considered experimental/investigational. As such, it should be considered a part of the armamentarium in the proven and effective surgical treatment of GERD in appropriate patients.	*Thank you for your comments.*

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	We would be happy to further discuss this with you and support your efforts for evidence-based review of coverage guidance and answer any questions that you may have as you consider this request. Thank you for your consideration.	

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B	1. Ganz RA, et al, "Long-term Outcomes of Patients Receiving a Magnetic Sphincter Augmentation Device for Gastroesophageal Reflux," Clin Gastroenterol Hepatol, vol. 14, no. 5, pp. 671-677, 2016. 2. SAGES Technology and Value Assessment Committee (TAVAC), "Safety and Effectiveness Analysis LINX® Reflux Management System Posted on 3/31/2017". 3. ASGS, "LINX Statement of Support from ASGS," 2014. 4. Smith CD, et al., "Lower Esophageal Sphincter Augmentation for Gastroesophageal Reflux Disease: The Safety of a Modern Implant," J Laparoendosc Adv Surg Tech A. 2017, vol. 27, no. 6, pp. 586-591, 2017. 5. Skubleny D, et al, Surg Endosc., vol. 15, pp. 1-7, 2016. 6. Reynolds JL, et al., "Laparoscopic Magnetic Sphincter Augmentation vs Laparoscopic Nissen Fundoplication: A Matched-Pair Analysis of 100 Patients," J Am Coll Surg, vol. 221, pp. 123-128, 2015. 7. AHRQ , "Healthcare Horizon Scanning System – Potential High-Impact Interventions Report Priority Area". 8. Riegler M, et al, "Magnetic sphincter augmentation and fundoplication for GERD in clinical practice: one-year results of a multicenter, prospective observational study," Surg Endosc., vol. 29, no. 5, pp. 1123-9, 2015;. 9. Bonavina L, et al., "One hundred consecutive patients treated with magnetic sphincter augmentation for gastroesophageal reflux disease: 6 years of clinical experience from a single center," J Am Coll Surg, vol. 217, no. 4, pp. 577-585, 2013. 10. Warren HF, et al, "Multi-institutional outcomes using magnetic sphincter augmentation versus Nissen fundoplication for chronic gastroesophageal reflux disease," Surg Endosc., vol. 30, no. 8, pp. 3289-96, 2016. 11. Saino G, et al., "Magnetic Sphincter Augmentation for Gastroesophageal Reflux at 5 Years: Final Results of a Pilot Study Show Long-Term Acid Reduction and Symptom Improvement," J Laparoendosc Adv Surg Tech A., vol. 25, no. 10, pp. 787-792, 2015. 12. Louie BE et al, "Short-term outcomes using magnetic sphincter augmentation versus Nissen fundoplication for medically resistant gastroesophageal reflux disease," Ann Thorac Surg, vol. 98, p. 498–504, 2014. 13. Reynolds JL, et al., "Charges, outcomes, and complications: a comparison of magnetic sphincter augmentation versus laparoscopic Nissen fundoplication for the treatment of GERD," Surg Endosc., vol. 30, no. 8, pp. 3225-30, 2016. 14. Lipham JC, et al, "Safety analysis of first 1000 patients treated with magnetic sphincter augmentation for gastroesophageal reflux disease," Dis Esophagus, vol. 28, no. 4, p. 305, 2015.

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