MEDICAL POLICY No. 91616-R2

PERORAL ENDOSCOPIC MYOTOMY (POEM)

Effective Date: June 1, 2024

Date Of Origin: May 11, 2016

Review Dates: 5/16, 5/17, 5/18, 5/19, 5/20, 5/21, 5/22, 5/23, 5/24, 5/25 Status: Current

I. POLICY/CRITERIA

POEM procedure for esophageal achalasia may be considered medically necessary when **all** of the following are met:

- 1. Diagnosis for esophageal achalasia confirmed by:
 - a. Barium esophagram with fluoroscopy; AND
 - b. Esophageal high-resolution manometry
- 2. **One** of the following:
 - a. Primary achalasia, OR
 - b. Failure of previous treatment of achalasia (e.g., Heller myotomy, botox, dilation)
- 3. None of the following:
 - a. Severe pulmonary disease.
 - b. Esophageal irradiation.
 - c. Esophageal malignancy.
 - d. Bleeding disorders, including coagulopathy.
 - e. Recent esophageal surgery or endoscopic intervention, including. endoscopic mucosal resection and endoscopic submucosal dissection.
 - f. Inability to tolerate general anesthesia.

II. MEDICAL NECESSITY REVIEW

Prior authorization for certain drug, services, and procedures may or may not be required. In cases where prior authorization is required, providers will submit a request demonstrating that a drug, service, or procedure is medically necessary. For more information, please refer to the <u>Priority Health Provider Manual</u>.

III. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ***** POS: This policy applies to insured POS plans.

- PPO: This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.
- ASO: For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.
- INDIVIDUAL: For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.
- MEDICARE: Coverage is determined by the Centers for Medicare and Medicaid Services (CMS) and/or the Evidence of Coverage (EOC); if a coverage determination has not been adopted by CMS, this policy applies.
- MEDICAID/HEALTHY MICHIGAN PLAN: For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: <u>http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html</u>. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: <u>http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html</u>, the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.

IV. BACKGROUND

Esophageal achalasia (EA) is a rare motility disorder of unknown etiology that is characterized by increased lower esophageal sphincter (LES) pressures and esophageal aperistalsis. The most common presenting symptoms include dysphagia, regurgitation, weight los, chest pain, and heartburn. When achalasia is suspected, a barium esophagram with fluoroscopy and esophageal manometry are used to detect loss of peristalsis in the lower esophagus.. The condition is less common in children, with an incidence of 0.11 cases per 100,000 children (Vaezi and Richter, 1998; Eckardtand Eckardt, 2009; Moawad and Wong, 2010; Roll et al., 2010). Patients are frequently initially misdiagnosed as having gastroesophageal reflux disease (GERD).

Peroral endoscopic myotomy (POEM) is a less invasive alternative to laparoscopic Heller myotomy (LHM) for treatment of EA. POEM is a natural orifice transmural endoscopic surgery (NOTES) technique. It is done by guiding an endoscope through the esophagus, making an incision in the mucosa, creating a submucosal tunnel for access to the lower esophagus and gastroesophageal junction, and cutting the muscle fibers in the lower esophagus and proximal stomach. Internal incisions are closed with clips after myotomy is complete. POEM is performed in a sterile environment under general anesthesia.

POEM is performed in a sterile environment under general anesthesia. Broadly speaking, the POEM procedure can be divided into 4 distinct and consecutive

Peroral Endoscopic Myotomy (POEM)

parts: (1) mucosal incision and entry into the submucosa; (2) creation of the submucosal tunnel; (3) myotomy; and (4) closure of the mucosal incision. It should be noted that individual POEM operators may vary in their technique; however, most operative techniques will closely follow that of Inoue and colleagues (Inoue et al., 2010).

Rationale for developing the POEM procedure includes the ability to combine the minimal invasiveness of endoscopic procedures such as pneumatic dilation with the therapeutic goal of a surgical myotomy. Natural orifice surgery, such as POEM, aims to reduce procedure-related pain and return patients to regular activities sooner than surgeries requiring external incisions.

Endoscopy, barium esophagram, and esophageal manometry are established and complementary tests in establishing the diagnosis of achalasia. High-resolution manometry (HRM) is the current gold standard test for the diagnosis of achalasia (Kahrilas, 2015). The American College of Gastroenterology (ACG) suggests classifying achalasia subtypes by the Chicago Classification (Vaezi, 2020). Achalasia presents with three manometric subtypes. All 3 subtypes have impaired esophagogastric junction relaxation, but the distinguishing features are the pattern of esophageal pressurization and contraction. Achalasia type I (second most common; 20%-40% of cases) is characterized by 100% failed peristalsis (aperistalsis) with the absence of panesophageal pressurization to more than 30mmHg, achalasia type II (most common; 50%-70% of cases) is characterized by 100% failed peristalsis (aperistalsis) with panesophageal pressurization to greater than 30 mm Hg, and achalasia type III (least common; 5% of cases) is characterized by spastic contractions because of abnormal lumen obliterating contractions with or without periods of panesophageal pressurization (Pandolfino, 2008).

The American College of Gastroenterology (Vaezi, 2020), American Gastrointestinal and Endoscopic Surgeons (Kohn, 2021), American Society for Gastrointestinal Endoscopy (Khashab, 2020), and the AGA Institute (Kahrilas, 2017) recommend POEM as the preferred treatment for management of patients with type III achalasia.

V. CODING INFORMATION

ICD-10 Diagnosis that may apply:

K22.0 Achalasia of cardia

CPT/HCPCS codes:

74246 Radiological examination, gastrointestinal tract, upper, air contrast, with specific high density barium, effervescent agent, with or without glucagon; with or without delayed images, without KUB

Page 3 of 7

MEDICAL POLICY No. 91616-R2

Peroral Endoscopic Myotomy (POEM)

91010 Esophageal motility (manometric study of the esophagus and/or gastroesophageal junction) study with interpretation and report;

91013 Esophageal motility (manometric study of the esophagus and/or gastroesophageal junction) study with interpretation and report; with stimulation or perfusion (eg, stimulant, acid or alkali perfusion) (List separately in addition to code for primary procedure)

- 32665 Thoracoscopy, surgical; with esophagomyotomy (Heller type)
- 43279 Laparoscopy, surgical, esophagomyotomy (Heller type), with fundoplasty, when performed
- 43330 Esophagomyotomy (Heller type); abdominal approach
- 43497 Lower esophageal myotomy, transoral (ie, peroral endoscopic myotomy [POEM])

VI. REFERENCES

O Priority Health

- 1. Chiu PW, Wu JC, Teoh AY, et al. Peroral endoscopic myotomy for treatment of achalasia: from bench to bedside (with video). Gastrointest Endosc 2013; 77 (1): 29-38.
- Costantini A, Familiari P, Costantini M, Salvador R, Valmasoni M, Capovilla G, et al. Poem Versus Laparoscopic Heller Myotomy in the Treatment of Esophageal Achalasia: A CaseControl Study From Two High Volume Centers Using the Propensity Score. J Gastrointest Surg. 2020 Mar;24(3):505-515.
- 3. Crespin OM, Liu LWC, Parmar A, Jackson TD, Hamid J, Shlomovitz E, et al. Safety and efficacy of POEM for treatment of achalasia: a systematic review of the literature. Surg Endosc. 2017 May;31(5):2187-2201.
- 4. de Moura ETH, Jukemura J, Ribeiro IB, Farias GFA, de Almeida Delgado AA, Coutinho LMA, et al. Peroral endoscopic myotomy vs laparoscopic myotomy and partial fundoplication for esophageal achalasia: A single-center randomized controlled trial. World J Gastroenterol. 2022 Sep 7;28(33):4875-4889.
- Dirks RC, Kohn GP, Slater B, Whiteside J, Rodriguez NA, Docimo S, et al. Is peroral endoscopic myotomy (POEM) more effective than pneumatic dilation and Heller myotomy? A systematic review and meta-analysis. Surg Endosc. 2021 May;35(5):1949-1962
- 6. Eckardt VF. Clinical presentations and complications of achalasia. Gastrointest Endosc Clin N Am 2001; 11: 281-92.
- Eleftheriadis N, Inoue H, Ikeda H, et al. Training in peroral endoscopic myotomy (POEM) for esophageal achalasia. Ther Clin Risk Manag. 2012; 8: 329-42.
- 8. Hayes, Inc. Peroral Endoscopic Myotomy for Treatment of Esophageal Achalasia, December 2015.
- 9. Hironari Shiwaku1 et. al. A prospective analysis of GERD after POEM on anterior myotomy Surg Endosc DOI 10.1007/s00464-015-4507-0

- Hungness ES, Teitelbaum EN, Santos BF, et al. Comparison of perioperative outcomes between peroral endoscopic myotomy (POEM) and laparoscopic Heller myotomy. J Gastrointest Surg 2013 Feb; 17(2):228-35.
- Inoue H, Kudo SE. Per-oral endoscopic myotomy (POEM) for 43 consecutive cases of esophageal achalasia. Nihon Rinsho. 2010 Sep; 68 (9): 1749-52.
- 12. Inoue H, Minami H, Kobayashi Y, et al. Peroral endoscopic myotomy (POEM) for achalasia. Endoscopy 2010; 42: 265-71.
- Kahrilas PJ, Bredenoord AJ, Fox M, et al. The Chicago classification of esophageal motility disorders, v3.0. Neurogastroenterol Motil 2015; 27(2):160–74.
- Kahrilas PJ, Katzka D, Richter JE. Clinical Practice Update: The Use of Per-Oral Endoscopic Myotomy in Achalasia: Expert Review and Best Practice Advice From the AGA Institute. Gastroenterology. 2017 Nov;153(5):1205-1211. doi: 10.1053/j.gastro.2017.10.001. Epub 2017 Oct 6. PMID: 28989059; PMCID: PMC5670013.
- 15. Khashab MA, Vela MF, Thosani N, Agrawal D, Buxbaum JL, Abbas Fehmi SM, Fishman DS, Gurudu SR, Jamil LH, Jue TL, Kannadath BS, Law JK, Lee JK, Naveed M, Qumseya BJ, Sawhney MS, Yang J, Wani S. ASGE guideline on the management of achalasia. Gastrointest Endosc. 2020 Feb;91(2):213-227.e6. doi: 10.1016/j.gie.2019.04.231. Epub 2019 Dec 13. PMID: 31839408.
- Kohn GP, Dirks RC, Ansari MT, Clay J, Dunst CM, Lundell L, Marks JM, Molena D, Rooker C, Saxena P, Swanstrom L, Wong RK, Pryor AD, Stefanidis D. SAGES guidelines for the use of peroral endoscopic myotomy (POEM) for the treatment of achalasia. Surg Endosc. 2021 May;35(5):1931-1948. doi: 10.1007/s00464-020-08282-0. Epub 2021 Feb 9. PMID: 33564964.
- 17. Lee Y, Brar K, Doumouras AG, Hong D. Peroral endoscopic myotomy (POEM) for the treatment of pediatric achalasia: a systematic review and meta-analysis. Surg Endosc. 2019 Jun;33(6):1710-1720.
- 18. Li H, Peng W, Huang S, Ren Y, Peng Y, Li Q, et al. The 2 years' long-term efficacy and safety of peroral endoscopic myotomy for the treatment of achalasia: a systematic review. J Cardiothorac Surg. 2019 Jan 3;14(1):1.
- 19. Ortega JA, Madureri V, Perez I. Endoscopic myotomy in the treatment of achalasia. Gastrointest Endosc 1980; 26: 8-10.
- 20. Pandolfino JE, Kwiatek MA, Nealis T, et al. Achalasia: A new clinically relevant classification by high-resolution manometry. Gastroenterology 2008;135(5):1526–33.
- 21. Pasricha PJ, Hawari R, Ahmed I et al. Submucosal endoscopic esophageal myotomy: a novel experimental approach for the treatment of achalasia. Endoscopy 2007; 39: 761-4.
- 22. Perretta S, Dallemagne B, Donatelli G, Diemunsch P, Marescaux J. Transoral endoscopic esophageal myotomy based on esophageal function testing in a survival porcine model. Gastrointest Endosc. 2011; 73(1): 111–116.
- 23. Ren Z, Zhong Y, Zhou P, et al. Perioperative management and treatment for complications during and after peroral endoscopic myotomy (POEM) for

esophageal achalasia (EA) (data from 119 cases). Surg Endosc. 2011 Nov; 26 (11): 3267-72.

- 24. Romanelli JR, Desilets DJ, Earle DB. Pancreatic Pseudocystgastrostomy with a Peroral, Flexible Stapler: A Human NOTES[™] Anastomosis in Two Patients. Gastrointest Endosc, 2008 Nov; 68(5), 981-7.
- Sadowski DC, Ackah F, Jiang B, et al. Achalasia: incidence, prevalence, and survival. A population-based study. Neurogastroenterol Motil. 2010 Sep; 22 (9): e256-61.
- 26. Sumiyama K, Gostout CJ, Rajan E, Bakken TA, Knipschield MA, Marler RJ. Submucosal endoscopy with mucosal flap safety valve. Gastrointest Endosc. 2007; 65 (4): 688–694.
- 27. Swanstrom LL, Kurian A, Dunst CM, et al. Long-term outcomes of an esophageal myotomy for achalasia: the POEM procedure. Ann Surg 2012 Oct; 256 (4): 659-67.
- Vaezi MF, Pandolfino JE, Yadlapati RH, Greer KB, Kavitt RT. ACG Clinical Guidelines: Diagnosis and Management of Achalasia. Am J Gastroenterol. 2020 Sep;115(9):1393-1411.PMID: 32773454; PMCID: PMC9896940.
- 29. Von Renteln D, Inoue H, Minami H, et al. Peroral endoscopic myotomy for the treatment of achalasia: a prospective single center study. Am J Gastroentrol. 2012 Mar; 107 (3): 411-7.
- 30. Werner YB, Hakanson B, Martinek J, Repici A, von Rahden BHA, Bredenoord AJ, et al. Endoscopic or Surgical Myotomy in Patients with Idiopathic Achalasia. N Engl J Med. 2019 Dec 5;381(23):2219-2229.
- Zaninotto G, Bennett C, Boeckxstaens G, Costantini M, et al. The 2018 ISDE achalasia guidelines. Dis Esophagus. 2018 Sep 1;31(9). doi: 10.1093/dote/doy071. PMID: 30169645.



MEDICAL POLICY No. 91616-R2 Peroral Endoscopic Myotomy (POEM)

AMA CPT Copyright Statement:

All Current Procedure Terminology (CPT) codes, descriptions, and other data are copyrighted by the American Medical Association.

This document is for informational purposes only. It is not an authorization, certification, explanation of benefits, or contract. Receipt of benefits is subject to satisfaction of all terms and conditions of coverage. Eligibility and benefit coverage are determined in accordance with the terms of the member's plan in effect as of the date services are rendered. Priority Health's medical policies are developed with the assistance of medical professionals and are based upon a review of published and unpublished information including, but not limited to, current medical literature, guidelines published by public health and health research agencies, and community medical practices in the treatment and diagnosis of disease. Because medical practice, information, and technology are constantly changing, Priority Health reserves the right to review and update its medical policies at its discretion.

Priority Health's medical policies are intended to serve as a resource to the plan. They are not intended to limit the plan's ability to interpret plan language as deemed appropriate. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment they choose to provide.

The name "Priority Health" and the term "plan" mean Priority Health, Priority Health Managed Benefits, Inc., Priority Health Insurance Company and Priority Health Government Programs, Inc.

Page 7 of 7