

Medical Coverage Policy | Peroral Endoscopic Myotomy for Treatment of Esophageal Achalasia and Gastroparesis



EFFECTIVE DATE: 03|01|2024

POLICY LAST REVIEWED: 01|17|2024

OVERVIEW

Esophageal achalasia is characterized by reduced numbers of neurons in the esophageal myenteric plexuses and reduced peristaltic activity, making it difficult for patients to swallow food and possibly leading to complications such as regurgitation, coughing, choking, aspiration pneumonia, esophagitis, ulceration, and weight loss. Peroral endoscopic myotomy (POEM) is a novel endoscopic procedure that uses the oral cavity as a natural orifice entry point to perform myotomy of the lower esophageal sphincter. This procedure is intended to reduce the total number of incisions needed and thus the overall invasiveness of surgery. Gastric peroral endoscopic myotomy (G-POEM) is a similar procedure with the exception that it myotomizes the pylorus rather than LES. Gastric peroral endoscopic myotomy (G-POEM) is a similar procedure with the exception that it myotomizes the pylorus rather than LES.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Medicare Advantage Plans

Peroral endoscopic myotomy is considered not covered as a treatment for pediatric and adult esophageal achalasia as the evidence is insufficient to determine the effects of the technology on health outcomes.

Gastric peroral endoscopic myotomy is considered not covered as a treatment for gastroparesis as the evidence is insufficient to determine the effects of the technology on health outcomes.

Commercial Products

Peroral endoscopic myotomy is considered not medically necessary as a treatment for pediatric and adult esophageal achalasia as the evidence is insufficient to determine the effects of the technology on health outcomes.

Gastric peroral endoscopic myotomy is considered not medically necessary as a treatment for gastroparesis as the evidence is insufficient to determine the effects of the technology on health outcomes.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable not medically necessary/not covered benefits/coverage.

BACKGROUND

Esophageal Achalasia

Esophageal achalasia is characterized by reduced numbers of neurons in the esophageal myenteric plexuses and reduced peristaltic activity, making it difficult for patients to swallow food and possibly leading to complications such as regurgitation, coughing, choking, aspiration pneumonia, esophagitis, ulceration, and weight loss. The estimated U.S. prevalence of achalasia is 10 cases per 100,000, and the estimated incidence is 0.6 cases per 100,000 per year.

Treatment

Treatment options for achalasia have included pharmacotherapy (eg, injections with botulinum toxin), pneumatic dilation, and laparoscopic Heller myotomy. Although the latter two are considered the standard treatments because of higher success rates and relatively long-term efficacy compared with pharmacotherapy, both are associated with a perforation risk of about 1%. Heller myotomy is the most invasive of the procedures, requiring laparoscopy and surgical dissection of the esophagogastric junction. One-year response rates of 86% and major mucosal tear rates requiring the subsequent intervention of 0.6% have been reported.

Peroral endoscopic myotomy (POEM) is a novel endoscopic procedure developed in Japan. POEM is performed with the patient under general anesthesia. After tunneling an endoscope down the esophagus toward the esophageal-gastric junction, a surgeon performs the myotomy by cutting only the inner, circular lower esophageal sphincter muscles through a submucosal tunnel created in the proximal esophageal mucosa. POEM differs from laparoscopic surgery, which involves the complete division of both circular and longitudinal lower esophageal sphincter muscle layers. Cutting the dysfunctional muscle fibers that prevent the lower esophageal sphincter from opening allows food to enter the stomach more easily. Note that the acronym POEM in this review refers to *peroral endoscopic myotomy*.

For adults who have achalasia who receive POEM, the evidence includes systematic reviews of observational studies, a randomized controlled trial, nonrandomized comparative studies, and case series. The relevant outcomes are symptoms, functional outcomes, health status measures, resource utilization, and treatment-related morbidity. The comparative studies have primarily reported similar outcomes for POEM and for Heller myotomy in symptom relief, as assessed by the Eckardt score. Some studies have shown a shorter length of stay and less postoperative pain with POEM. However, potential imbalances in patient characteristics in these nonrandomized studies might have biased the treatment comparisons. In the case series, treatment success at short follow-up periods was reported for a high proportion of patients treated with POEM. However, the incidence of adverse events was relatively high, with POEM-specific complications, including subcutaneous emphysema, pneumothorax, and thoracic effusion, reported across studies. Additionally, a substantial proportion of patients undergoing POEM developed gastroesophageal reflux disease and esophagitis and required treatment. Case series do not permit conclusions about the efficacy of POEM relative to established treatment, and long-term outcomes of the procedure are not well described in the literature. The evidence is insufficient to determine the effects of the technology on health outcomes.

For pediatric patients who have achalasia who receive POEM, the evidence includes several nonrandomized studies and a systematic review. The relevant outcomes are symptoms, functional outcomes, health status measures, resource utilization, and treatment-related morbidity. The studies reported treatment success for POEM based on decreases in Eckardt scores and lower esophageal sphincter pressure. No randomized clinical trials have been reported. The evidence is insufficient to determine the effects of the technology on health outcomes.

Gastroparesis

Gastroparesis is characterized by symptoms of nausea, vomiting, bloating, early satiety, and pain, which is caused by delayed gastric emptying without mechanical obstruction. The estimated U.S. prevalence of difficult to ascertain due to the weak correlation of symptoms with gastric emptying which results in a high rate of underdiagnosis. Using data from 1996 to 2006, the estimated incidence per 100,000 persons, adjusted for age, was 9.6 for men and 37.8 for women.

Treatment

Treatment options for gastroparesis have included dietary modification (smaller meal sizes, avoidance of carbonated beverages, smoking or high doses of alcohol, and in some cases enteral nutrition via jejunostomy), optimization of hydration and glycemic control, pharmacotherapy (eg, antiemetics or Metoclopramide, or off-label medications for symptom control such as domperidone, erythromycin, tegaserod or centrally acting antidepressants), gastric electrical stimulation, venting gastrostomy, feeding jejunostomy, intra-pyloric botulinum injection, partial gastrectomy, and pyloroplasty.⁶ Gastric peroral endoscopic myotomy (G-

POEM), which endoscopically performs the equivalent of pyloroplasty, is being investigated for the treatment of gastroparesis. G-POEM myotomizes the pylorus rather than the circular LES but otherwise consists of the same techniques described above.

For adults who have gastroparesis who receive gastric POEM (G-POEM), the evidence includes 2 meta-analyses, 1 RCT, and several nonrandomized studies. Relevant outcomes are symptoms, functional outcomes, health status measures, resource utilization, and treatment-related morbidity. The studies generally reported treatment success for G-POEM based on a decrease in Gastroparesis Cardinal Symptom Index (GCSI) score and ranged from 60.7% at 1 year to 75% at 3 years in the meta-analyses. One RCT comparing G-POEM to sham was identified which found greater rates of treatment success and gastric retention at 6 months follow-up in the G-POEM group. Both the RCT and the largest observational study found the greatest treatment effect in patients who had a diabetic etiology for gastroparesis. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Regulatory Status

Peroral endoscopic myotomy uses available laparoscopic instrumentation and, as a surgical procedure, is not subject to regulation by the U.S. Food and Drug Administration.

CODING

Medicare Advantage Plans and Commercial Products:

The following code(s) are not covered for Medicare Advantage Plans and not medically necessary for Commercial Products:

43497 Lower esophageal myotomy, transoral (ie, peroral endoscopic myotomy [POEM])

RELATED POLICIES

None

PUBLISHED

Provider Update, January 2024

Provider Update, March 2022

Provider Update, April 2021

Provider Update, April 2020

REFERENCES:

1. Cheatham JG, Wong RK. Current approach to the treatment of achalasia. *Curr Gastroenterol Rep.* Jun 2011; 13(3): 219-25. PMID 21424734
2. Pandolfino JE, Kahrilas PJ. Presentation, diagnosis, and management of achalasia. *Clin Gastroenterol Hepatol.* Aug 2013; 11(8): 887-97. PMID 23395699
3. Yaghoobi M, Mayrand S, Martel M, et al. Laparoscopic Heller's myotomy versus pneumatic dilation in the treatment of idiopathic achalasia: a meta-analysis of randomized, controlled trials. *Gastrointest Endosc.* Sep 2013; 78(3): 468-75. PMID 23684149
4. Inoue H, Minami H, Kobayashi Y, et al. Peroral endoscopic myotomy (POEM) for esophageal achalasia. *Endoscopy.* Apr 2010; 42(4): 265-71. PMID 20354937
5. Hungness ES, Teitelbaum EN, Santos BF, et al. Comparison of perioperative outcomes between peroral esophageal myotomy (POEM) and laparoscopic Heller myotomy. *J Gastrointest Surg.* Feb 2013; 17(2): 228-35. PMID 23054897
6. Reddivari AKR, Mehta P. Gastroparesis. [Updated 2022 Sep 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK551528/>
7. Eckardt AJ, Eckardt VF. Treatment and surveillance strategies in achalasia: an update. *Nat Rev Gastroenterol Hepatol.* Jun 2011; 8(6): 311-9. PMID 21522116

8. Li H, Peng W, Huang S, 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.* Jan 03 2019; 14(1): 1. PMID 30606216
9. Crespin OM, Liu LWC, Parmar A, et al. Safety and efficacy of POEM for treatment of achalasia: a systematic review of the literature. *Surg Endosc.* May 2017; 31(5): 2187-2201. PMID 27633440
10. Akintoye E, Kumar N, Obaitan I, et al. Peroral endoscopic myotomy: a meta-analysis. *Endoscopy.* Dec 2016; 48(12): 1059-1068. PMID 27617421
11. Patel K, Abbassi-Ghadi N, Markar S, et al. Peroral endoscopic myotomy for the treatment of esophageal achalasia: systematic review and pooled analysis. *Dis Esophagus.* Oct 2016; 29(7): 807-819. PMID 26175119
12. Andolfi C, Fisichella PM. Meta-analysis of clinical outcome after treatment for achalasia based on manometric subtypes. *Br J Surg.* Mar 2019; 106(4): 332-341. PMID 30690706
13. Dirks RC, Kohn GP, Slater B, et al. Is peroral endoscopic myotomy (POEM) more effective than pneumatic dilation and Heller myotomy? A systematic review and meta-analysis. *Surg Endosc.* May 2021; 35(5): 1949-1962. PMID 33655443
14. Facciorusso A, Singh S, Abbas Fehmi SM, et al. Comparative efficacy of first-line therapeutic interventions for achalasia: a systematic review and network meta-analysis. *Surg Endosc.* Aug 2021; 35(8): 4305-4314. PMID 32856150
15. Martins RK, Ribeiro IB, DE Moura DTH, et al. PERORAL (POEM) OR SURGICAL MYOTOMY FOR THE TREATMENT OF ACHALASIA: A SYSTEMATIC REVIEW AND META-ANALYSIS. *Arq Gastroenterol.* 2020; 57(1): 79-86. PMID 32294740
16. Aiolfi A, Bona D, Riva CG, et al. Systematic Review and Bayesian Network Meta-Analysis Comparing Laparoscopic Heller Myotomy, Pneumatic Dilatation, and Peroral Endoscopic Myotomy for Esophageal Achalasia. *J Laparoendosc Adv Surg Tech A.* Feb 2020; 30(2): 147-155. PMID 31364910
17. Teitelbaum EN, Soper NJ, Santos BF, et al. Symptomatic and physiologic outcomes one year after peroral esophageal myotomy (POEM) for treatment of achalasia. *Surg Endosc.* Dec 2014; 28(12): 3359-65. PMID 24939164
18. Ujiki MB, Yetasook AK, Zapf M, et al. Peroral endoscopic myotomy: A short-term comparison with the standard laparoscopic approach. *Surgery.* Oct 2013; 154(4): 893-7; discussion 897-900. PMID 24074429
19. Bhayani NH, Kurian AA, Dunst CM, et al. A comparative study on comprehensive, objective outcomes of laparoscopic Heller myotomy with per-oral endoscopic myotomy (POEM) for achalasia. *Ann Surg.* Jun 2014; 259(6): 1098-103. PMID 24169175
20. Kumagai K, Tsai JA, Thorell A, et al. Per-oral endoscopic myotomy for achalasia. Are results comparable to laparoscopic Heller myotomy?. *Scand J Gastroenterol.* May 2015; 50(5): 505-12. PMID 25712228
21. Kumbhari V, Tieu AH, Onimaru M, et al. Peroral endoscopic myotomy (POEM) vs laparoscopic Heller myotomy (LHM) for the treatment of Type III achalasia in 75 patients: a multicenter comparative study. *Endosc Int Open.* Jun 2015; 3(3): E195-201. PMID 26171430
22. Chan SM, Wu JC, Teoh AY, et al. Comparison of early outcomes and quality of life after laparoscopic Heller's cardiomyotomy to peroral endoscopic myotomy for treatment of achalasia. *Dig Endosc.* Jan 2016; 28(1): 27-32. PMID 26108140
23. Sanaka MR, Hayat U, Thota PN, et al. Efficacy of peroral endoscopic myotomy vs other achalasia treatments in improving esophageal function. *World J Gastroenterol.* May 28 2016; 22(20): 4918-25. PMID 27239118
24. Schneider AM, Louie BE, Warren HF, et al. A Matched Comparison of Per Oral Endoscopic Myotomy to Laparoscopic Heller Myotomy in the Treatment of Achalasia. *J Gastrointest Surg.* Nov 2016; 20(11): 1789-1796. PMID 27514392
25. Khashab MA, Kumbhari V, Tieu AH, et al. Peroral endoscopic myotomy achieves similar clinical response but incurs lesser charges compared to robotic heller myotomy. *Saudi J Gastroenterol.* 2017; 23(2): 91-96. PMID 28361839
26. Leeds SG, Burdick JS, Ogola GO, et al. Comparison of outcomes of laparoscopic Heller myotomy versus per-oral endoscopic myotomy for management of achalasia. *Proc (Bayl Univ Med Cent).* Oct 2017; 30(4): 419-423. PMID 28966450

27. de Pascale S, Repici A, Puccetti F, et al. Peroral endoscopic myotomy versus surgical myotomy for primary achalasia: single-center, retrospective analysis of 74 patients. *Dis Esophagus*. Aug 01 2017; 30(8): 1-7. PMID 28575245
28. Peng L, Tian S, Du C, et al. Outcome of Peroral Endoscopic Myotomy (POEM) for Treating Achalasia Compared With Laparoscopic Heller Myotomy (LHM). *Surg Laparosc Endosc Percutan Tech*. Feb 2017; 27(1): 60-64. PMID 28145968
29. Ward MA, Gitelis M, Patel L, et al. Outcomes in patients with over 1-year follow-up after peroral endoscopic myotomy (POEM). *Surg Endosc*. Apr 2017; 31(4): 1550-1557. PMID 27858209
30. Hanna AN, Datta J, Ginzberg S, et al. Laparoscopic Heller Myotomy vs Per Oral Endoscopic Myotomy: Patient-Reported Outcomes at a Single Institution. *J Am Coll Surg*. Apr 2018; 226(4): 465-472.e1. PMID 29410262
31. Ramirez M, Zubietta C, Ciotola F, et al. Per oral endoscopic myotomy vs. laparoscopic Heller myotomy, does gastric extension length matter?. *Surg Endosc*. Jan 2018; 32(1): 282-288. PMID 28660419
32. Caldaro T, Familiari P, Romeo EF, et al. Treatment of esophageal achalasia in children: Today and tomorrow. *J Pediatr Surg*. May 2015; 50(5): 726-30. PMID 25783358
33. Fumagalli U, Rosati R, De Pascale S, et al. Repeated Surgical or Endoscopic Myotomy for Recurrent Dysphagia in Patients After Previous Myotomy for Achalasia. *J Gastrointest Surg*. Mar 2016; 20(3): 494-9. PMID 26589525
34. Greenleaf EK, Winder JS, Hollenbeak CS, et al. Cost-effectiveness of per oral endoscopic myotomy relative to laparoscopic Heller myotomy for the treatment of achalasia. *Surg Endosc*. Jan 2018; 32(1): 39-45. PMID 29218664
35. Kim GH, Jung KW, Jung HY, et al. Superior clinical outcomes of peroral endoscopic myotomy compared with balloon dilation in all achalasia subtypes. *J Gastroenterol Hepatol*. Apr 2019; 34(4): 659-665. PMID 30695124
36. Meng F, Li P, Wang Y, et al. Peroral endoscopic myotomy compared with pneumatic dilation for newly diagnosed achalasia. *Surg Endosc*. Nov 2017; 31(11): 4665-4672. PMID 28411346
37. Miller HJ, Neupane R, Fayeizadeh M, et al. POEM is a cost-effective procedure: cost-utility analysis of endoscopic and surgical treatment options in the management of achalasia. *Surg Endosc*. Apr 2017; 31(4): 1636-1642. PMID 27534662
38. Ponds FA, Fockens P, Lei A, et al. Effect of Peroral Endoscopic Myotomy vs Pneumatic Dilation on Symptom Severity and Treatment Outcomes Among Treatment-Naive Patients With Achalasia: A Randomized Clinical Trial. *JAMA*. Jul 09 2019; 322(2): 134-144. PMID 31287522
39. Sanaka MR, Thota PN, Parikh MP, et al. Peroral endoscopic myotomy leads to higher rates of abnormal esophageal acid exposure than laparoscopic Heller myotomy in achalasia. *Surg Endosc*. Jul 2019; 33(7): 2284-2292. PMID 30341655
40. Wang X, Tan Y, Lv L, et al. Peroral endoscopic myotomy versus pneumatic dilation for achalasia in patients aged ≥ 65 years. *Rev Esp Enferm Dig*. Oct 2016; 108(10): 637-641. PMID 27649684
41. Werner YB, Hakanson B, Martinek J, et al. Endoscopic or Surgical Myotomy in Patients with Idiopathic Achalasia. *N Engl J Med*. Dec 05 2019; 381(23): 2219-2229. PMID 31800987
42. Wirsching A, Boshier PR, Klevebro F, et al. Comparison of costs and short-term clinical outcomes of per-oral endoscopic myotomy and laparoscopic Heller myotomy. *Am J Surg*. Oct 2019; 218(4): 706-711. PMID 31353034
43. Zheng Z, Zhao C, Su S, et al. Peroral endoscopic myotomy versus pneumatic dilation - result from a retrospective study with 1-year follow-up. *Z Gastroenterol*. Mar 2019; 57(3): 304-311. PMID 30861554
44. Podboy AJ, Hwang JH, Rivas H, et al. Long-term outcomes of per-oral endoscopic myotomy compared to laparoscopic Heller myotomy for achalasia: a single-center experience. *Surg Endosc*. Feb 2021; 35(2): 792-801. PMID 32157405
45. Tan Y, Zhu H, Li C, et al. Comparison of peroral endoscopic myotomy and endoscopic balloon dilation for primary treatment of pediatric achalasia. *J Pediatr Surg*. Oct 2016; 51(10): 1613-8. PMID 27339081
46. Boeckxstaens GE, Annese V, des Varannes SB, et al. Pneumatic dilation versus laparoscopic Heller's myotomy for idiopathic achalasia. *N Engl J Med*. May 12 2011; 364(19): 1807-16. PMID 21561346

47. Borges AA, Lemme EM, Abrahao LJ, et al. Pneumatic dilation versus laparoscopic Heller myotomy for the treatment of achalasia: variables related to a good response. *Dis Esophagus*. Jan 2014; 27(1): 18-23. PMID 23551592
48. Kostic S, Kjellin A, Ruth M, et al. Pneumatic dilatation or laparoscopic cardiomyotomy in the management of newly diagnosed idiopathic achalasia. Results of a randomized controlled trial. *World J Surg*. Mar 2007; 31(3): 470-8. PMID 17308851
49. Hamdy E, El Nakeeb A, El Hanfy E, et al. Comparative Study Between Laparoscopic Heller Myotomy Versus Pneumatic Dilatation for Treatment of Early Achalasia: A Prospective Randomized Study. *J Laparoendosc Adv Surg Tech A*. Jun 2015; 25(6): 460-4. PMID 25951417
50. Zhong C, Tan S, Huang S, et al. Peroral endoscopic myotomy versus pneumatic dilation for achalasia: a systematic review and meta-analysis. *Eur J Gastroenterol Hepatol*. Nov 2020; 32(11): 1413-1421. PMID 32516175
51. de Moura ETH, Jukemura J, Ribeiro IB, et al. Peroral endoscopic myotomy vs laparoscopic myotomy and partial fundoplication for esophageal achalasia: A single-center randomized controlled trial. *World J Gastroenterol*. Sep 07 2022; 28(33): 4875-4889. PMID 36156932
52. Saleh CMG, Familiari P, Bastiaansen BAJ, et al. The Efficacy of Peroral Endoscopic Myotomy vs Pneumatic Dilation as Treatment for Patients With Achalasia Suffering From Persistent or Recurrent Symptoms After Laparoscopic Heller Myotomy: A Randomized Clinical Trial. *Gastroenterology*. Jun 2023; 164(7): 1108-1118.e3. PMID 36907524
53. Kuipers T, Ponds FA, Fockens P, et al. Peroral endoscopic myotomy versus pneumatic dilation in treatment-naïve patients with achalasia: 5-year follow-up of a randomised controlled trial. *Lancet Gastroenterol Hepatol*. Dec 2022; 7(12): 1103-1111. PMID 36206786
54. Docimo S, Mathew A, Shope AJ, et al. Reduced postoperative pain scores and narcotic use favor peroral endoscopic myotomy over laparoscopic Heller myotomy. *Surg Endosc*. Feb 2017; 31(2): 795-800. PMID 27338580
55. Haseeb M, Khan Z, Kamal MU, et al. Short-term outcomes after peroral endoscopic myotomy, Heller myotomy, and pneumatic dilation in patients with achalasia: a nationwide analysis. *Gastrointest Endosc*. May 2023; 97(5): 871-879.e2. PMID 36639060
56. Shally L, Saeed K, Berglund D, et al. Clinical and financial outcomes of per-oral endoscopic myotomy compared to laparoscopic heller myotomy for treatment of achalasia. *Surg Endosc*. Jul 2023; 37(7): 5526-5537. PMID 36220985
57. Nabi Z, Talukdar R, Chavan R, et al. Outcomes of Per-Oral Endoscopic Myotomy in Children: A Systematic Review and Meta-analysis. *Dysphagia*. Dec 2022; 37(6): 1468-1481. PMID 35092485
58. Zhong C, Tan S, Huang S, et al. Clinical outcomes of peroral endoscopic myotomy for achalasia in children: a systematic review and meta-analysis. *Dis Esophagus*. Apr 07 2021; 34(4). PMID 33316041
59. Lee Y, Brar K, Doumouras AG, et al. Peroral endoscopic myotomy (POEM) for the treatment of pediatric achalasia: a systematic review and meta-analysis. *Surg Endosc*. Jun 2019; 33(6): 1710-1720. PMID 30767141
60. Bi YW, Lei X, Ru N, et al. Per-oral endoscopic myotomy is safe and effective for pediatric patients with achalasia: A long-term follow-up study. *World J Gastroenterol*. Jun 14 2023; 29(22): 3497-3507. PMID 37389239
61. Petrosyan M, Mostammand S, Shah AA, et al. Per Oral Endoscopic Myotomy (POEM) for pediatric achalasia: Institutional experience and outcomes. *J Pediatr Surg*. Nov 2022; 57(11): 728-735. PMID 35361482
62. Nabi Z, Ramchandani M, Chavan R, et al. Outcome of peroral endoscopic myotomy in children with achalasia. *Surg Endosc*. Nov 2019; 33(11): 3656-3664. PMID 30671667
63. Miao S, Wu J, Lu J, et al. Peroral Endoscopic Myotomy in Children With Achalasia: A Relatively Long-term Single-center Study. *J Pediatr Gastroenterol Nutr*. Feb 2018; 66(2): 257-262. PMID 28691974
64. Revicki DA, Rentz AM, Dubois D, et al. Gastroparesis Cardinal Symptom Index (GCSI): development and validation of a patient reported assessment of severity of gastroparesis symptoms. *Qual Life Res*. May 2004; 13(4): 833-44. PMID 15129893
65. Kamal F, Khan MA, Lee-Smith W, et al. Systematic review with meta-analysis: one-year outcomes of gastric peroral endoscopic myotomy for refractory gastroparesis. *Aliment Pharmacol Ther*. Jan 2022; 55(2): 168-177. PMID 34854102

66. Canakis, A., et al., Long-term outcomes (3 years) after gastric peroral endoscopic myotomy for refractory gastroparesis: a systematic review and meta-analysis. *iGIE*, 2023. 2(3): p. 344-349.e3.
67. Labonde A, Lades G, Debourdeau A, et al. Gastric peroral endoscopic myotomy in refractory gastroparesis: long-term outcomes and predictive score to improve patient selection. *Gastrointest Endosc. Sep 2022*; 96(3): 500-508.e2. PMID 35413333
68. Hernández Mondragón OV, Contreras LFG, Velasco GB, et al. Gastric peroral endoscopic myotomy outcomes after 4 years of follow-up in a large cohort of patients with refractory gastroparesis (with video). *Gastrointest Endosc. Sep 2022*; 96(3): 487-499. PMID 35378136
69. Vosoughi K, Ichkhanian Y, Benias P, et al. Gastric per-oral endoscopic myotomy (G-POEM) for refractory gastroparesis: results from an international prospective trial. *Gut. Jan 2022*; 71(1): 25-33. PMID 33741641
70. Gregor L, Wo J, DeWitt J, et al. Gastric peroral endoscopic myotomy for the treatment of refractory gastroparesis: a prospective single-center experience with mid-term follow-up (with video). *Gastrointest Endosc. Jul 2021*; 94(1): 35-44. PMID 33373646
71. Conchillo JM, Straathof JWA, Mujagic Z, et al. Gastric peroral endoscopic pyloromyotomy for decompensated gastroparesis: comprehensive motility analysis in relation to treatment outcomes. *Endosc Int Open. Feb 2021*; 9(2): E137-E144. PMID 33532550
72. Abdelfatah MM, Noll A, Kapil N, et al. Long-term Outcome of Gastric Per-Oral Endoscopic Pyloromyotomy in Treatment of Gastroparesis. *Clin Gastroenterol Hepatol. Apr 2021*; 19(4): 816-824. PMID 32450364
73. Husťak R, Vacková Z, Krajciova J, et al. Per-oral endoscopic pyloromyotomy (g-poem) for the treatment of gastroparesis - a pilot single-centre study with mid-term follow-up. *Rozhl Chir. 2020*; 99(3): 116-123. PMID 32349495
74. Tan J, Shrestha SM, Wei M, et al. Feasibility, safety, and long-term efficacy of gastric peroral endoscopic myotomy (G-POEM) for postsurgical gastroparesis: a single-center and retrospective study of a prospective database. *Surg Endosc. Jul 2021*; 35(7): 3459-3470. PMID 32880749
75. Attaar M, Su B, Wong HJ, et al. Comparing cost and outcomes between peroral endoscopic myotomy and laparoscopic heller myotomy. *Am J Surg. Jul 2021*; 222(1): 208-213. PMID 33162014
76. Ragi O, Jacques J, Branche J, et al. One-year results of gastric peroral endoscopic myotomy for refractory gastroparesis: a French multicenter study. *Endoscopy. May 2021*; 53(5): 480-490. PMID 32575130
77. Shen S, Luo H, Vachaparambil C, et al. Gastric peroral endoscopic pyloromyotomy versus gastric electrical stimulation in the treatment of refractory gastroparesis: a propensity score-matched analysis of long term outcomes. *Endoscopy. May 2020*; 52(5): 349-358. PMID 32084672
78. Vosoughi K, Ichkhanian Y, Jacques J, et al. Role of endoscopic functional luminal imaging probe in predicting the outcome of gastric peroral endoscopic pyloromyotomy (with video). *Gastrointest Endosc. Jun 2020*; 91(6): 1289-1299. PMID 32035074
79. Xu J, Chen T, Elkholy S, et al. Gastric Peroral Endoscopic Myotomy (G-POEM) as a Treatment for Refractory Gastroparesis: Long-Term Outcomes. *Can J Gastroenterol Hepatol. 2018*; 2018: 6409698. PMID 30425974
80. Davis BR, Sarosiek I, Bashashati M, et al. The Long-Term Efficacy and Safety of Pyloroplasty Combined with Gastric Electrical Stimulation Therapy in Gastroparesis. *J Gastrointest Surg. Feb 2017*; 21(2): 222-227. PMID 27896652
81. 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. Nov 2017*; 153(5): 1205-1211. PMID 28989059
82. Martinek J, Husťak R, Mares J, et al. Endoscopic pyloromyotomy for the treatment of severe and refractory gastroparesis: a pilot, randomised, sham-controlled trial. *Gut. Nov 2022*; 71(11): 2170-2178. PMID 35470243
83. Vaezi MF, Pandolfino JE, Yadlapati RH, et al. ACG Clinical Guidelines: Diagnosis and Management of Achalasia. *Am J Gastroenterol. Sep 2020*; 115(9): 1393-1411. PMID 32773454
84. Khashab MA, Vela MF, Thosani N, et al. ASGE guideline on the management of achalasia. *Gastrointest Endosc. Feb 2020*; 91(2): 213-227.e6. PMID 31839408

85. Zaninotto G, Bennett C, Boeckxstaens G, et al. The 2018 ISDE achalasia guidelines. Dis Esophagus. Sep 01 2018; 31(9). PMID 30169645
86. Kohn GP, Dirks RC, Ansari MT, et al. SAGES guidelines for the use of peroral endoscopic myotomy (POEM) for the treatment of achalasia. Surg Endosc. May 2021; 35(5): 1931-1948. PMID 33564964

[CLICK THE ENVELOPE ICON BELOW TO SUBMIT COMMENTS](#)

This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgment in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions. This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice. Blue Cross & Blue Shield of Rhode Island is an independent licensee of the Blue Cross and Blue Shield Association.

