

## Clinical Policy: Gastric Electrical Stimulation

Reference Number: CP.MP.40

Date of Last Revision: 09/21

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### Description

Gastric electrical stimulation (GES) has been used as compassionate care in patients who are proven refractory to conventional treatment for gastroparesis. It can be used as an alternative to surgery to reduce some symptoms of gastroparesis. The device consists of a pair of leads, a pulse generator, and a programming system. The leads are placed in the muscularis propria of greater curvature of the stomach, about 10 cm proximal to the pylorus and connected to a pulse generator. The pulse generator is typically placed subcutaneously in the right or left upper quadrants of the abdomen. An external programming device controls the gastric stimulation parameters.<sup>7</sup> This stimulation has not shown a significant improvement in gastric emptying, but has been shown to benefit those with nausea and vomiting as their main symptoms.

### Policy/Criteria

- I. It is the policy of health plans affiliated with Centene Corporation that GES is **medically necessary** for diabetic and idiopathic gastroparesis when all of the following criteria are met:
  - A. Diagnosis of idiopathic gastroparesis confirmed by gastric emptying scintigraphy;
  - B. Severe nausea and vomiting occurring at least once daily on most days of the week for the duration of more than one year;
  - C. Documented intolerance or failure to a trial of antiemetic and prokinetic drug therapy;
  - D. Is not currently pregnant.

*Note:* Current recommended combination prokinetic therapy includes metoclopramide and erythromycin.

- II. It is the policy of health plans affiliated with Centene Corporation that GES is **not medically necessary** for the reduction of pain, fullness, bloating, or acid reflux symptoms as there is no evidence to support efficacy of such therapy.
- III. It is the policy of health plans affiliated with Centene Corporation that current evidence in the peer review literature does not support the use of GES for any other indications, including but not limited to the treatment of obesity.

### Background

#### *Gastric Electrical Stimulation for Gastroparesis*

Gastroparesis is a disorder in which there is delayed gastric emptying following ingestion of food, in the absence of mechanical obstruction, due to abnormal or absent motility of the stomach. The stomach is unable to contract normally, and therefore cannot crush food nor propel food into the small intestine properly.

Approximately two-thirds of gastroparesis cases are idiopathic or associated with diabetes mellitus, but gastroparesis may also develop after gastric surgery and in other less common

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conditions. The main symptoms include nausea, vomiting, early satiety, bloating, and discomfort. Nausea and vomiting may be so severe that they cause weight loss, dehydration, electrolyte disturbances, and malnutrition.

It is theorized that GES works in the following ways:

1. Activation of the central mechanisms for nausea and vomiting control related to afferent nerves being stimulated by the constant high frequency current in the stomach wall.
2. Enhanced relaxation of the fundus of the stomach by the electrical current, thus providing better accommodation and decreased sensitivity to distention.
3. Augmentation of the amplitude of gastric slow wave after eating.
4. Increase in cholinergic function and decreased sympathetic functions.
5. Small and unpredictable improvements in gastric emptying.

The results of a number of studies have shown an improvement in quality of life score, even though on average, gastric emptying did not change. Quality of life scores improved along with a decrease in hospital admission days, reduction in hemoglobin A1C, and weight gain. Nausea and vomiting have also showed improvements for at least one year after surgery.

#### *Gastric Electrical Stimulation for Obesity*

GES is currently under investigation as a treatment for obesity. Cha et al. (2014) reviewed current approaches to evaluate the effect of GES on obesity. 31 studies were included in their systematic review. Although most of the studies showed weight loss in the treatment group, most had a follow-up duration of 12 months or less. Some of the evaluated GES treatments also showed positive effects in lowering HbA1c and blood pressure.<sup>9</sup> Cha et al. stated that GES holds great promise for the treatment of obesity, but stronger studies with longer follow-up are needed to determine long-term effects.<sup>9</sup> Lebovitz (2016) reviewed the evidence on three different methods of GES, including the Transcend<sup>®</sup> Implantable Gastric Stimulator, the Maestro<sup>™</sup> vagal blockade device, and the DIAMOND<sup>™</sup> gastric electrical stimulatory device.<sup>10</sup> Two randomized controlled trials failed to show a significant benefit in excess weight loss with the Transcend device.<sup>10</sup> The other evaluated GES device, the DIAMOND, has been assessed in clinical trials with obese patients with type 2 diabetes. Findings were positive but varied among the patients included in treatment. Effects included reduced HbA1c and weight loss, and seemed to be influenced by baseline HbA1c levels and triglyceride levels.<sup>10</sup> Further research is needed to determine long-term effects and appropriate patient selection criteria to ensure the best outcomes.

#### **Coding Implications**

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<b>CPT® Codes</b>	<b>Description</b>
43647	Laparoscopy, surgical; implantation or replacement of gastric neurostimulator electrodes, antrum
43648	Laparoscopy, surgical; revision or removal of gastric neurostimulator electrodes, antrum
43881	Implantation or replacement of gastric neurostimulator electrodes, antrum, open
43882	Revision or removal of gastric neurostimulator electrodes, antrum, open
64590	Insertion or replacement of peripheral or gastric neurostimulator pulse generator or receiver, direct or inductive coupling
64595	Revision or removal of peripheral or gastric neurostimulator pulse generator or receiver
95980	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance, and patient measurements) gastric neurostimulator pulse generator/transmitter, intraoperative, with programming
95981	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient measurements) gastric neurostimulator pulse generator/transmitter; subsequent, without reprogramming
95982	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient measurements) gastric neurostimulator pulse generator/transmitter; subsequent, with reprogramming

<b>HCPCS Codes</b>	<b>Description</b>
C1767	Generator, neurostimulator (implantable), nonrechargeable
C1778	Lead, neurostimulator (implantable)
L8679	Implantable neurostimulator, pulse generator, any type
L8680	Implantable neurostimulator electrode, each
L8688	Implantable neurostimulator pulse generator, dual array, nonrechargeable, includes extension

**ICD-10-CM Diagnosis Codes that Support Coverage Criteria**

<b>ICD-10-CM Code</b>	<b>Description</b>
E08.43	Diabetes mellitus due to underlying condition with diabetic autonomic (poly) neuropathy
E09.43	Drug or chemical induced diabetes mellitus with neurological complications with diabetic autonomic (poly) neuropathy
E10.43	Type I diabetes mellitus with diabetic autonomic (poly) neuropathy
E11.43	Other specified diabetes mellitus with diabetic autonomic (poly) neuropathy

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ICD-10-CM Code	Description
E13.43	Other specified diabetes mellitus with diabetic autonomic (poly) neuropathy
K31.84	Gastroparesis
K91.89	Other postprocedural complications and disorders of digestive system

Reviews, Revisions, and Approvals	Revision Date	Approval Date
References reviewed and updated. Modified language regarding trial of antiemetic and prokinetic drug therapy.	09/11	11/11
Added criteria that gastroparesis should be confirmed by scintigraphy. Modified criteria in I.B requiring daily vomiting to say that vomiting should happen at least once daily on <i>most days of the week</i> . References reviewed and updated. Codes updated.	10/17	10/17
Added “gastric emptying” to scintigraphy in I.A. for clarification. Modified III. to state that GES is investigational for all other indications, including but not limited to the treatment obesity. References and codes reviewed and updated.	08/18	09/18
Reference reviewed and updated. Removed contraindications of alcohol dependency, dialysis, and cancer w/limited life span. Specialist review.	08/19	09/19
References reviewed and updated. Replaced “members” with “members/enrollees” in all instances.	08/20	09/20
Annual review. Updated description with no impact on criteria. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.” References reviewed, reformatted, and updated. Specialist reviewed.	09/21	09/21

**References**

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### **Important Reminder**

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members/enrollees. This clinical policy is not intended

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to recommend treatment for members/enrollees. Members/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

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**Note: For Medicaid members/enrollees**, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

**Note: For Medicare members/enrollees**, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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