Electrogastrography (EGG)

Prospective review is recommended/required. Please check the member agreement for preauthorization guidelines.

Prospective review is not required.

Description:
Electrogastrography describes the recording and interpretation of electrical activity of the stomach. Recordings can be made from the gastrointestinal mucosa, serosa, or skin surface. This policy focuses on recordings made from the skin surface.

The electrical activity of the stomach can be subdivided into two general categories: electrical control activity (ECA) and electrical response activity (ERA). ECA is characterized by regularly recurring electrical potentials, originating in the gastric pacemaker located in the corpus of the stomach and sweeping in an annular band with increasing velocity toward the pylorus. ECA is not associated with contractions of the stomach unless coupled with action potentials, referred to as ERA.

The usual practice is to record several cutaneous EGG signals from various standardized positions on the abdominal wall and to select the one with the highest amplitude for further analysis. Nonetheless, the recorded signal is relatively weak and difficult to distinguish from the surrounding background “noise” related to unwanted signals, such as cardiac, respiratory, duodenal, and colonic electrical activity. For this reason, direct visual analysis of the EGG signals is problematic. Various methods of filtering out background noise and automated analysis have been developed; running spectral analysis is most common. The EGG is usually evaluated in terms of changes in the EGG amplitude and frequency. Deviations from the normal frequency of 3 cycles per minute may be referred to as brady- or tachyarrhythmia.

The use of EGG has been most widely studied in patients with gastroparesis and functional dyspepsia. Gastroparesis is defined as a chronic disorder of gastric motility as evidenced by delayed gastric emptying of a solid meal. Symptoms include bloating, distention, nausea, and vomiting. When severe and chronic, gastroparesis can be associated with dehydration, poor nutritional status, and poor glycemic control in diabetics. While most commonly associated with diabetes, gastroparesis is also found in chronic pseudo-obstruction, connective tissue disorders, Parkinson disease, and psychological pathology. Functional dyspepsia is an enigmatic disorder characterized by persistent symptoms of abdominal discomfort with no identifiable etiology, including gastric emptying. In this setting, disorders in gastric motility may be considered. Treatment of gastric motility disorders typically includes the use of prokinetic agents, such as cisapride, domperidone, or metoclopramide.

Scintigraphic gastric emptying is considered the gold standard test for evaluating gastroparesis. The test consists of ingestion of a solid meal spiked with 99-technetium. Serial scintigraphic measurements are then performed every 20 minutes for 2-3 hours after the meal. Delayed gastric emptying is diagnosed if more than 50% of the radiolabeled food is retained at the end of the study period. While gastric emptying evaluates the efficiency of gastric emptying, EGG focuses on the underlying myoelectrical activity.
EGG recording faces several technical challenges, many of them related to measuring cutaneous signals, rather than directly measuring electrical activity along the stomach mucosa or serosa. Several studies have compared EGG with gastric emptying tests and have reported a poor correlation between the two. There are inadequate data to determine how the results of this test may be used to benefit patient management.¹

A position statement on the diagnosis and treatment of gastroparesis from the American Gastroenterological Association in 2004 reported that the guideline developers discussed, but did not recommend, the use of EGG to test for gastric myoelectrical activity.²

**Medical Criteria:**
Not applicable.

**Policy:**
Electrogastrography is considered not medically necessary for all products because there is insufficient peer-reviewed, scientifically controlled prospective data in the literature that demonstrate the superior health outcome of electrogastrography and its use in disease management.

**Coverage:**
Benefits may vary between groups/contacts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement, or Benefit Booklet for the definition of not medically necessary services.

**Coding:**
The following CPT codes are considered not medically necessary for all products:
91132
91133

**Also Known As:**
Cutaneous Electrogastrography

**Published:**
*Policy Update*, April 2001
*Policy Update*, September 2005
*Policy Update*, February 2008
*Provider Update*, December 2009
*Provider Update*, September 2010
*Provider Update*, September 2011
*Provider Update*, July 2012

**References:**

¹ Blue Cross and Blue Shield Association Medical Policy Reference Manual, Policy No. 2.01.34


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.