

Corporate Medical Policy

Electrogastrography, Cutaneous

File Name: electrogastrography_cutaneous
Origination: 3/2001
Last Review: 5/2023

Description of Procedure or Service

Electrogastrography describes the recording and interpretation of electrical activity of the stomach, typically 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 electroencephalographic (EEG) 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 electrogastrography EGG signals are 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, distension, 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's 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 include 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 radio-labelled 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.

*****Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Policy

Cutaneous Electrogastrography is considered investigational. BCBSNC does not provide coverage for investigational services or procedures.

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Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

When cutaneous electrogastrography is covered

Not applicable.

When cutaneous electrogastrography is not covered

Cutaneous electrogastrography is considered investigational. BCBSNC does not cover investigational services.

Policy Guidelines

Validation of the clinical use of any diagnostic test focuses on 3 main principles: 1) the technical feasibility of the test; 2) basic statistical measurements, such as sensitivity, specificity, and positive and negative predictive values in different populations of patients and compared to the gold standard; and 3) how the results of the diagnostic test will be used in the management of the patient and whether or not the change in treatment will result in an overall improvement in health outcomes. Based on a review of the published peer-reviewed literature, there are inadequate data to evaluate any of these principles.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable service codes: 91132, 91133

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

BCBSA Medical Policy Reference Manual, 10/15/2000; 2.01.34

BCBSA Medical Policy Reference Manual, 10/8/2002; 2.01.34

Specialty Matched Consultant Advisory Panel - 3/2003

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.34, 2/25/2004.

Medical Policy Advisory Group - 6/2004

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.34, 12/14/2005

Specialty Matched Consultant Advisory Panel - 4/2006

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BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.34, 4/17/2007

Specialty Matched Consultant Advisory Panel - 4/2008

BCBSA Medical Policy Reference Manual [Electronic Version]. 2.01.34, 6/12/2008 [archived]

Camilleri M. Gastroparesis: Etiology, clinical manifestations, and diagnosis. Last reviewed December 2014. UpToDate Inc.

Specialty Matched Consultant Advisory Panel – 5/2015

Medical Director review—5/2015

Camilleri, M., et al. Clinical Guideline: Management of Gastroparesis. [Am J Gastroenterol. 2013 Jan; 108\(1\): 18–38.](#)

Specialty Matched Consultant Advisory Panel – 5/2016

Medical Director review—5/2016

Specialty Matched Consultant Advisory Panel 5/2017

Medical Director review 5/2017

Specialty Matched Consultant Advisory Panel 5/2018

Medical Director review 5/2018

Specialty Matched Consultant Advisory Panel 5/2019

Medical Director review 5/2019

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Specialty Matched Consultant Advisory Panel 5/2022

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Specialty Matched Consultant Advisory Panel 5/2023

Medical Director review 5/2023

Policy Implementation/Update Information

3/01	Original policy issued.
3/03	Specialty Matched Consultant Advisory Panel review 3/2003. No changes in criteria. System coding changes.
3/04	Benefits Application and Billing/Coding sections updated for consistency.
6/10/04	Reviewed by the Medical Policy Advisory Group 6/3/04. No changes to criteria. Notification given 6/10/04. Effective date 8/12/04.
5/22/06	Specialty Matched Consultant Advisory Panel review 4/20/2006. No changes to criteria. Rationale added under "Policy Guidelines". References added.
11/05/07	Policy number, MED1125, added to "Key Words" section.
6/16/08	Specialty Matched Consultant Advisory Panel review 4/30/08. No changes to policy statement. References added. (btw)

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- 6/22/10 Policy Number(s) removed (amw)
- 12/7/10 Policy status changed to “active policy, no longer scheduled for routine literature review.” Description section revised. Medical Director review 9/8/10. (adn)
- 2/10/15 References updated. Policy Statement remains unchanged. (td)
- 2/24/15 Review dates updated. (td)
- 7/1/15 References updated. Specialty Matched Consultant Advisory Panel review 5/27/2015. Medical Director review 5/2015. Policy Statements remain unchanged. (td)
- 7/1/16 References updated. Specialty Matched Consultant Advisory Panel review. 5/25/2016. Medical Director review 5/2016. (jd)
- 6/30/17 Specialty Matched Consultant Advisory Panel – 5/2017. Medical Director review - 5/2017. (jd)
- 6/8/18 Specialty Matched Consultant Advisory Panel 5/2018. Medical Director review 5/2018. (jd)
- 5/28/19 Specialty Matched Consultant Advisory Panel 5/2019. Medical Director review 5/2019. (jd)
- 6/9/20 Specialty Matched Consultant Advisory Panel 5/2020. Medical Director review 5/2020. (jd)
- 6/1/21 Specialty Matched Consultant Advisory Panel 5/2021. Medical Director review 5/2021. (jd)
- 6/30/22 Policy title updated. Policy formatting updated to align with the new utilization management tool. No changes to policy statement or intent. Specialty Matched Consultant Advisory Panel 5/2022. Medical Director review 5/2022. (jd)
- 5/30/23 References updated. Specialty Matched Consultant Advisory Panel 5/2023. Medical Director review 5/2023. (tm)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.