### Public Statement:

Electrogastrography is the cutaneous recording of gastric electrical activity typically from the body surface. The test is proposed as a measure of gastric motility, a problem that is caused by a number of diseases, particularly diabetes mellitus. Electrogastrography has not been shown to be accurate and reproducible, particularly outside the investigational laboratory.

EGG is not covered.

### Medical Policy Statement:

Electrogastrography is considered investigational and experimental and is not covered.

### Background:

Electrogastrography is the cutaneous recording of gastric electrical activity typically from the body surface. Attempts at accurately measuring the myoelectrical impulses from the stomach have been made since as early as 1922. The test is proposed as a measure of gastric motility, a problem that is caused by a number of diseases, particularly diabetes mellitus. Gastric electrical abnormalities recorded in vivo with electrodes implanted on the stomach wall can be related to certain gastric motility disorders, but are seldom used because of the invasiveness of the procedure.

Cutaneous recordings of gastric electrical activity have been attempted for several years, but because of the distance between the abdominal wall and the stomach, the
recordings have been compromised by poor amplification, background noise, etc. Recently, improvements in the technology have occurred and the test has been introduced in gastrointestinal motility laboratories in the US and other countries. The term, electrogastrography, is now used almost exclusively to describe external cutaneous recordings of gastric electrical activity obtained with abdominal electrodes.

The diagnostic value of EGG compared with simultaneous recordings of implanted electrodes has been reported in small numbers of subjects, with the authors of the studies finding that the two methods may be similar.

Radionuclide scintigraphy has been used to study gastric emptying for a number of years, and some have indicated that this method is the "gold standard" of measurement. Gastric emptying evaluates the efficiency of emptying; EGG focuses on the underlying myoelectrical activity.

Some recent papers assessed the reliability of EGG. One study assessed the utility of EGG to differentiate between patients with reflux disease (n=101), active gastric ulcer (n=55) and functional dyspepsia (n=59). Following water loading, abnormal EGG results were obtained in 41% of patients with reflux disease, 56% of patients with active gastric ulcer, and 44% of patients with functional dyspepsia. The absence of significant differences in the percentages of abnormal results indicates that EGG cannot differentiate between these various gastric diseases. Another study assessed short-term (1 day) and medium-term (greater than 2 weeks) reproducibility of EGG parameters in 22 healthy volunteers following ingestion of identical meals. Analysis with the Cohen unweighted kappa statistic indicated moderate to good reproducibility for parameters assessing the frequency of gastric slow waves. However, parameters describing the power of gastric slow waves had only fair reproducibility. The authors concluded that the feasibility of some electrogastrographic parameters to convey clinically useful information may be hampered by the limited reproducibility of results.

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. Overall, the literature indicates that the use of EGG is investigational.

References:


Application to Products

This policy applies to ARBenefits. Consult ARBenefits Summary Plan Description (SPD) for additional information.

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