Gastric electrical stimulation using a pacemaker (a surgically implanted battery operated device) on the stomach may be used in some people where medications fail to adequately control nausea and vomiting. In very severe cases with weight loss, a feeding tube may be placed in the small intestine to provide nutrition in a way that bypasses the stomach.

Persons who experience symptoms of gastroparesis should talk to their doctor to find out what is wrong. If gastroparesis is diagnosed, the doctor can work with the patient to develop a treatment plan best suited for his or her needs. Patients should let their doctor know about all other drugs or supplements they take, both prescription medications and over-the-counter agents.

**Hope through Research**

The National Institute of Diabetes and Digestive and Kidney Diseases’ Division of Digestive Diseases and Nutrition supports basic and clinical research into gastrointestinal motility disorders, including gastroparesis.

The NIH Gastroparesis Clinical Research Consortium (GpCRC) is a network of centers established to improve our understanding of the cause and natural course of gastroparesis and to advance the diagnosis and treatment of this disorder.

The Gastroparesis Consortium Clinical Centers include:
California Pacific Medical Center
Johns Hopkins School of Medicine
Stanford University
Temple University
Texas Tech University - El Paso
University of Louisville
University of Michigan
Wake Forest University

The Data Coordinating Center is located at the Johns Hopkins University, Bloomberg School of Public Health.

Current studies underway in the NIH Gastroparesis Consortium include the Gastroparesis Registry 2 where patients are followed periodically and information is gathered at regular intervals about their disorder. The Aprepitant for the Relief of Nausea in Patients With Chronic Nausea and Vomiting of Presumed Gastric Origin (APRON) Trial will determine if treatment with the study drug or placebo results in symptomatic improvement of nausea in patients with chronic nausea and vomiting of presumed gastric origin. Another study aims at understanding the changes in stomach tissue that occur in gastroparesis to help come up with better ways to treat patients. Additional treatment trials are planned to study the effects of promising drugs and devices to control symptoms and improve the quality of life.

Visit the GpCRC website at [https://jhuccs1.us/gperrc/](https://jhuccs1.us/gperrc/) for more information.

Contact Information:
Causes of Gastroparesis

The cause of gastroparesis is not well understood but may result from damage to the nerves, muscle, pacemaker cells or other cells of the stomach that are important for normal function. Such damage may be caused by diabetes, which is relatively common in patients with gastroparesis. Gastroparesis can also occur after stomach surgery for other conditions. There are rare reasons for gastroparesis, such as thyroid disorders or from a side effect of some medications. In many patients, a cause of the gastroparesis cannot be found and the disorder is termed idiopathic gastroparesis.

Symptoms of Gastroparesis

The symptoms of gastroparesis vary widely in people and may be mild or severe, and occur infrequently or quite often. The symptoms often occur during and after eating a meal and include: 1) a feeling of fullness after only a few bites of food; 2) nausea and/or vomiting; 3) stomach pain; 4) weight loss due to a loss of appetite. In addition, persons with diabetic gastroparesis may have difficult-to-control blood sugar levels (both low and high levels) due to the unpredictable emptying of food from the stomach.

Tests for Gastroparesis

The diagnosis of gastroparesis is made with two types of tests. The first test is performed to make sure there is not an ulcer or an obstruction in the stomach or intestine. Ulcers are best diagnosed by an upper endoscopy where the doctor looks into the stomach with a flexible scope. An upper gastrointestinal series in which the patient drinks barium to outline the stomach on an x-ray may also be helpful.

Endoscopic Picture of Stomach (The Pylorus)

The second test measures how quickly food leaves the stomach. This test is usually a gastric emptying scan. For this test, one eats scrambled eggs with a small amount of a radioactive tracer. The patient is placed under a scanner that images how quickly the radioactive meal leaves the stomach.

Gastric Emptying Scintigraphy

Other specialized tests to assess stomach function are also sometimes used. These include electrogastrography (EGG) to measure the stomach’s electrical rhythm and antroduodenal manometry to measure stomach contractions.

Treatment of Symptoms

Dietary changes are often helpful and include eating 4 to 6 small meals each day rather than three large meals. The meals should be low in fiber and fat. Patients with gastroparesis handle liquids better than solid food. When symptoms get worse, patients are often encouraged to switch to a liquid diet.

For diabetic patients, controlling blood sugar levels may decrease symptoms of gastroparesis.

There are a few drugs that can improve gastric emptying (pro-motility or prokinetic agents). One such drug is metoclopramide (Reglan), which also acts to reduce nausea. Unfortunately, this drug may cause neurological side effects in some people that limit its use. Patients should talk to their doctor about risks and benefits of this drug and alternative treatments. Another drug which may work similarly to metoclopramide but is associated with fewer neurologic side effects is domperidone. While not approved by the Food and Drug Administration (FDA) in the U.S., if needed, domperidone can now be obtained through a doctor by special arrangements from the FDA. Erythromycin is an antibiotic that can also speed up stomach emptying but the response may wear off quickly if used over the long-term.

In addition to pro-motility drugs, many patients need medications which decrease symptoms of nausea and vomiting (antiemetic agents). Examples of such drugs include promethazine (Phenergan), prochlorperazine (Compazine), and trimethobenzamide (Tigan). In severe cases, stronger drugs are used such as ondansetron (Zofran). Occasionally, marinol (a marijuana derivative) may be used.