

Understanding & Managing Gastroparesis

A Patient Guide to Delayed Stomach Emptying

What Is Gastroparesis?

Gastroparesis means the stomach empties food more slowly than it should, without any physical blockage causing it. It typically causes nausea, vomiting (sometimes of food eaten many hours earlier), early fullness after only a few bites, bloating, upper-abdominal discomfort, and in more significant cases, unintentional weight loss. Severity varies widely — some patients have mild, intermittent symptoms, while others have persistent symptoms that affect nutrition and daily life.

What Causes It?

Normal stomach emptying depends on the vagus nerve (which coordinates stomach muscle contractions) and the interstitial cells of Cajal, specialized “pacemaker” cells that set the rhythm of those contractions. Gastroparesis develops when this system is disrupted:

- **Diabetes** is the most common identifiable cause. Years of elevated blood sugar can damage the vagus nerve and pacemaker cells; separately, high blood sugar in the moment also slows stomach emptying on its own, which is why glucose control matters both long- and short-term.
- **Idiopathic** (no clear cause found) is nearly as common as diabetic gastroparesis overall, and disproportionately affects women; it sometimes follows a viral gastrointestinal illness.
- **Post-surgical injury to the vagus nerve** — from fundoplication, bariatric surgery, or other upper-abdominal or esophageal procedures — can cause gastroparesis, sometimes appearing soon after surgery.
- **Medications** — opioids slow motility throughout the gut; GLP-1 receptor agonists (semaglutide/Ozempic/Wegovy, liraglutide, and similar drugs) intentionally slow gastric emptying as part of how they help with blood sugar and weight, but can cause excessive nausea, fullness, or vomiting in some patients; anticholinergic medications can contribute as well.
- **Other medical conditions** — including Parkinson's disease, scleroderma, and untreated hypothyroidism — can also slow gastric emptying.

How We Test for It

- **Upper endoscopy**, first, to rule out a mechanical blockage, ulcer, or other structural cause that could explain the same symptoms — an essential step before diagnosing gastroparesis, since the treatments are different.
- **Gastric emptying scan (scintigraphy)** — a standardized, low-dose nuclear medicine scan measuring how quickly a solid meal (typically eggs or egg substitute, tagged with a tiny, safe amount of a tracking material) leaves your stomach over 4 hours. This is the diagnostic gold standard — the single most reliable number from the test is simply what percentage of that meal is still sitting in your stomach at the 4-hour mark.
- **Wireless motility capsule (SmartPill)** — an alternative test where you swallow a small capsule that transmits pressure, temperature, and acidity readings as it travels through your gut, allowing emptying time to be calculated without any radiation exposure. It tracks closely with the scan above and is similarly accurate, though it's used less often and doesn't show a direct picture of gastric emptying the way a meal-based scan does.

Evidence: if you have diabetes, your blood sugar will typically be checked and optimized around testing, since elevated glucose at the time of the test can itself slow gastric emptying and produce a falsely abnormal result independent of any underlying nerve or pacemaker cell damage.

How Gastroparesis Is Treated

Treatment is typically layered — starting with diet, adding medication as needed, and reserving procedural options for symptoms that don't respond to the steps before them. A few terms come up below: a study “compared to a dummy pill (placebo)” means some patients got the real treatment and others a fake version, without knowing which, so researchers could isolate the treatment's true effect. “Tachyphylaxis” means a medication's effect wears off with continued use as the body adapts to it.

Dietary Management

Goal: reduce the volume, fat, and fiber your stomach has to process at once, since these are the factors that most directly slow emptying further.

- **Smaller, more frequent meals** (4–6 per day) instead of 2–3 large ones.

Evidence: Standard first-line recommendation across gastroparesis guidelines; well supported by the underlying physiology, since large meals ask more of a stomach that already empties slowly.

- **Lower-fat, lower-fiber foods**, since both fat and fiber slow gastric emptying further and fiber can contribute to bezoars (solid masses of undigested food) in more severe cases.

Evidence: A landmark trial found that a diet of small-particle-size foods (blenderized or well-chewed, low-fat, low-fiber) significantly improved symptoms compared to a standard diet, even without any medication change — among the better-supported non-drug interventions for this condition.

- **Shifting toward liquid or blended calories** (soups, smoothies, meal-replacement shakes) during symptom flares.

Evidence: Liquids empty from the stomach through a different, largely gravity- and volume-driven mechanism that's often preserved even when solid emptying is significantly delayed — a practical, low-risk way to maintain nutrition when solid food isn't tolerated.

- **Staying upright for 1–2 hours after eating**, and light walking after meals if tolerated.

Evidence: Uses gravity to assist emptying; low-risk and consistent with how the stomach and its outlet are positioned anatomically.

- **Optimizing blood sugar control**, for patients with diabetes.

Evidence: Since elevated glucose independently slows gastric emptying, tighter control can improve symptoms on its own, on top of whatever nerve or pacemaker cell damage may already be present.

Medications

Goal: directly stimulate stronger, more coordinated stomach contractions (prokinetics), or control nausea, when diet alone isn't enough.

- **Metoclopramide (Reglan)** — the only medication FDA-approved specifically for gastroparesis; taken before meals.

Evidence: In studies that directly compared it with other options, this came out as the most effective medication for nausea, fullness, and bloating. However, it carries an FDA black-box warning (the strongest safety warning the FDA issues) for a movement disorder called tardive dyskinesia, which can occur with longer-term use and sometimes doesn't go away after stopping the drug. Because of this, guidelines recommend using the lowest dose that works for the shortest reasonable time, generally with breaks or a re-check by your doctor beyond 12 weeks.

- **Domperidone** — works similarly to metoclopramide but doesn't cross into the brain as readily, so it's generally better tolerated with a lower risk of movement-related side effects.

Evidence: About as effective as metoclopramide in studies that compared the two directly, but it isn't FDA-approved in the U.S. and can affect the heart's electrical rhythm (a risk doctors call QT prolongation, which can rarely lead to a dangerous irregular heartbeat). Getting it requires a special FDA access program or an international or compounding pharmacy, along with heart-rhythm monitoring (an EKG) before starting and periodically afterward — something to arrange with your doctor rather than pursue independently.

- **Erythromycin** — a low-dose antibiotic that also triggers stomach contractions through a different pathway, by mimicking motilin, a natural gut hormone that helps kick off digestion; can be taken as a liquid or pill.

Evidence: Produces a genuine, often dramatic short-term improvement in how quickly the stomach empties and in symptoms. Its major limitation is that the body adapts to it quickly (called tachyphylaxis): effectiveness drops substantially, to roughly a third of its initial effect, within about 72 hours to a few weeks of continuous use. Taking it in short bursts rather than every day (sometimes called pulse dosing) is one way doctors try to work around this, though it's better studied for short flares than for long-term daily use.

- **Prucalopride** — approved for chronic constipation, but sometimes used off-label (meaning outside its officially approved use, though supported by research) for gastroparesis given its effect on gut motility more broadly.

Evidence: In a trial where each patient tried both the drug and a dummy pill (in random order, so everyone served as their own comparison), it produced real improvement in gastric emptying and symptoms. That said, current gastroenterology guidelines stop short of recommending it as a first choice, largely because the evidence base is smaller than for the medications above, and it caused somewhat more side effects than the dummy pill in that trial — reasonable to consider once first-line options haven't worked, rather than as a starting point.

Complementary & Adjunct Therapies

Goal: additional, lower-risk options that can be layered on top of diet and medication.

- **Acupuncture** — typically several sessions targeting specific points on the abdomen and lower leg.

Evidence: A trial across 3 medical centers, in 99 patients, found real acupuncture significantly improved both measured stomach emptying speed and symptom scores, compared with a control group who received needling at non-therapeutic points on the body (a way of separating the effect of the specific acupuncture points from just having needles placed at all). Benefits lasted at follow-up. Separate research also supports it for slow stomach emptying that follows surgery specifically. A reasonable, low-risk option to add on, particularly for patients who'd like to minimize medication.

- **Ginger** — as a supplement or extract, taken before meals.

Evidence: Directly speeds up stomach emptying and strengthens stomach contractions in physiology studies, with trials comparing it to a dummy pill in indigestion and gastroparesis-type symptoms showing meaningful improvement in fullness and related symptoms. It's a reasonable, low-risk complement to other treatments, though the trials specifically in patients formally diagnosed with gastroparesis (rather than indigestion more broadly) are still relatively small.

Procedural Options for Refractory Symptoms

Goal: options for symptoms that haven't responded to diet, medication, and adjuncts — individualized decisions made together with a specialist.

- **Gastric electrical stimulation** (brand name Enterra) — a small device, similar in concept to a pacemaker for the heart, that's surgically implanted and delivers mild electrical pulses to the stomach wall.

Evidence: Two decades of studies show meaningful, lasting reductions in nausea and vomiting, especially in gastroparesis caused by diabetes or of unknown cause. That said, how much it actually speeds up stomach emptying varies a lot from study to study, and doesn't always line up with how much better patients say they feel — the benefit for symptoms appears real, but the evidence behind it is considered less rigorous than a large trial comparing it to a dummy (sham) device would provide.

- **Gastric peroral endoscopic myotomy (G-POEM)** — a newer procedure with no external incisions, done by passing a scope through the mouth to cut a small portion of the muscle at the outlet of the stomach (the pylorus), the valve leading into the small intestine, to help it open more easily.

Evidence: Short-term symptom improvement is seen in up to 80% of patients, with roughly half to three-quarters still doing well 3–4 years afterward — results that hold up better over time than the older options below.

- **A note on Botox injections into the stomach outlet:** this was commonly tried in the past, but we don't recommend it.

Evidence: Early studies without a comparison group looked encouraging, but the only two trials that compared it against a fake (sham) injection found no real benefit. We'd be cautious if this is suggested to you outside of a research study.

When to Contact Our Office

- Inability to keep down food or liquids, signs of dehydration, or significant unintentional weight loss
- Blood sugars that are difficult to control, or that are newly harder to control after starting a medication that affects gastric emptying (e.g., a GLP-1 agonist)
- Before starting, stopping, or adjusting any medication or supplement in this guide, especially medications used for diabetes or weight management
- New or worsening symptoms despite following your current treatment plan

This guide supports your personalized plan and isn't a substitute for individualized medical advice. Check with your provider before starting, stopping, or combining anything mentioned here.

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