

# GERD diet myths debunked



**Shibboleth:** *noun.* A belief or custom that is not now considered as important and correct as it was in the past.

I addressed a common nutritional shibboleth recently, which holds that dietary fat intake is responsible for raising triglycerides (actually, it's carbs).

Another shibboleth is the widely-held notion that intake of fatty foods is responsible for Gastroesophageal Reflux (GERD).

GERD, or, as it was once referred to more colloquially, heartburn, is one of the most frequently diagnosed digestive disorders in the U.S. with a prevalence of 20% or more. Powerful acid-blockers called proton-pump inhibitors (PPIs) now constitute an annual world-wide market value of \$3.24 billion; about 15 million people in the U.S. use PPIs every year.

Chronic PPI use is associated with a host of adverse effects: Vitamin and mineral deficiencies, increased risk of pneumonia, osteoporosis, kidney disease, IBS, and even cognitive decline.

And, as many as 70% of GERD sufferers obtain no or incomplete relief from their acid-blockers.

The dogma is expressed in frequent admonitions to GERD sufferers to avoid fatty foods. Even today, one popular site exhorts patients to, "Eat a low-fat diet. Fatty, greasy foods cause your stomach to produce more acid." Bread, cereals, and grain products galore are said to be OK as long as they're "fat-free". Only low-fat meats are approved, like skinless chicken and lean beef with fat carefully trimmed. No butter, oil, lard, or full-fat dairy is allowed.

The rationale traditionally invoked for fatty food avoidance is that fat "floats"—like the oil portion of salad dressing that separates to the top when you keep it in the fridge. This, mechanistically, is thought to contribute to the "upchuck" that causes a recently eaten meal to rise in your gorge.

Additionally, fat is said to relax the lower esophageal sphincter (LES), the valve that keeps food from back-flowing from the stomach into the esophagus. Moreover, fat delays gastric emptying, prolonging the presence of partially digested food in the stomach—which accounts for fat's satiety effects ("That meal really stuck to my ribs!").

Many popular articles blandly repeat the assertion that fat triggers acid production. But that goes against physiology: It's the presence of protein that signals release of gastrin which then promotes acid production in the stomach. Hydrochloric acid hydrolyzes protein into its amino acid constituents. Only in the small intestine does the enzyme lipase perform its work breaking down dietary fats. In fact, studies suggest that once fat enters the small intestine, it may signal the stomach to downregulate gastrin, which turns off acid release as a second phase of digestion commences.

Cracks have begun to appear in the fat-as-a-culprit-in-GERD edifice. A recent technical review of the physiology of GERD notes:

*"For example, in a double-blinded randomized controlled study of 12 healthy volunteers, isocaloric delivery of a low-fat meal (10% of calories) in comparison to a high fat meal (50% of calories) did not affect mean LES pressures, frequency of TLESRs [transient lower esophageal sphincter relaxations], or number of reflux episodes. This contrasts with earlier studies that report increased esophageal acid exposure time and alterations in LES pressures after fat ingestion. Several population studies have favored correlation of fat intake with GERD symptoms, however confounding factors include total caloric intake and BMI of study participants. The largest population cohort study investigating the question, which utilized the National Health and Nutrition Examination Survey and investigated over 12,000 patients, found no correlation between dietary fat intake and GERD symptoms."*

In the 90s, the late Dr. Robert Atkins shared a surprising finding with me. Many of the patients on his low-carb/high fat Atkins diet reported an unanticipated benefit in addition to their weight loss and improvement of blood sugars: Their GERD symptoms were alleviated.

Dr. Atkins averred that his results had attracted the interest of a young academic researcher from Duke University—Dr. Eric Westman. Atkins invited Westman to observe his practice and document the outcomes.

In 2001, Westman published a landmark paper: "Improvement of gastroesophageal reflux disease after initiation of a low-carbohydrate diet: five brief case reports". He concluded: "Carbohydrates may be a precipitating factor for GERD symptoms and that other classic exacerbating foods such as coffee and fat may be less pertinent when a low-carbohydrate diet is followed."

Why carbohydrates? Recall the famous witch scene from Macbeth (“Bubble, bubble toil and trouble . . .”) Carbohydrates are susceptible to fermentation in the gut, which produces gas. The gas ascends and produces sour eructations. Moreover, it’s now recognized that carbs, to a greater extent than fat, may be responsible for relaxing the LES, allowing retrograde flow of undigested food into the esophagus.

In 2006 Westman published a **larger study** in which hydrochloric acid production was measured in a group of obese patients following a low-fat diet vs. comparable control subjects consuming typical diets. Not only were GERD symptoms improved, but acid production was cut in half.

Westman subsequently became a low-carb acolyte and published popular books including *End Your Carb Confusion* (for which we interviewed him on *Intelligent Medicine*).

In the **most comprehensive study to date** evaluating a low-carb diet in the treatment of GERD, 144 obese women were assessed at baseline and 16 weeks after consuming a high-fat/low-carbohydrate diet. By the end of diet week 10, *all GERD symptoms and medication usage had resolved in all women*. The study authors modestly conclude:

*“As low fat weight loss interventions have not consistently improved GERD status, a more balanced approach to dietary fat and carbohydrate may offer potential to impact clinical practice, assist pharmaceutical treatment, and improve GERD patients’ quality of life.”*

Further confirmation of the benefits of a low-carb diet came with publication of a **study in 2018**. After 2 weeks of treatment with a very low-carb diet, all study participants had virtual cessation of GERD symptoms.

It’s important to note that a low-carb diet is but one component of a multi-faceted approach to relieving GERD, which includes avoidance of other culprit foods and beverages as well as food preservatives and additives, appropriately timed meals and portion control, sidestepping medications like NSAIDs, exercise, stress reduction, and smoking cessation and selective deployment of dietary supplements like **probiotics**, digestive enzymes, betaine hydrochloride, aloe, DGL, and Endefen®.