



# ***Too Much Stomach Acid? Maybe Not***

**Please Read These Surprising Facts!**



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Proton pump inhibitors (or histamine-2 blockers, or recommend over-the-counter antacids) are for patients who believe have Gastro Esophageal Reflux Disease (GERD), or, who have heart burn, pain, pressure or other symptoms that are commonly blamed on "too much stomach acid," or "acid indigestion." Presumably, these symptoms result from the stomach producing too much hydrochloric acid, the acid essential for the first stage of efficient digestion of proteins, carbohydrates, and fats. Proton pump inhibitors have 2 effects --- they destroy the stomach's ability to produce hydrochloric acid, and they stimulate the stomach to empty its contents into the duodenum.

Blocking the natural production of hydrochloric acid is always a bad idea, and often causes disastrous consequences. It is the drug-stimulated emptying of the stomach, not the decrease of stomach acid production that gives the symptomatic relief when these drugs do give symptomatic relief. Blocking the secretory function of the stomach and stimulating stomach emptying (often at an inappropriate time) usually assures that the symptoms for which the drug is taken will return. In other words, even when the drug temporarily relieves symptoms, it makes the cause of the symptoms worse.

Truly, it is not excess stomach acid, but a deficiency of stomach acid (hypochlorhydria) that causes most upper GI symptoms. Sufficient stomach production of hydrochloric acid is essential:

- for efficient digestion of proteins, fats, and carbohydrates
- for efficient absorption of minerals and trace minerals
- for efficient absorption of vitamin B12 and vitamin C
- to kill ingested bacteria, viruses, yeast, fungi, and parasites
- to prevent food allergies
- to prevent stomach ulcers
- for efficient timing of stomach emptying

All these essential functions are crippled when given proton pump inhibitors. The reason many people feel they need proton pump inhibitors is due to their hypochlorhydria, which is low stomach acid.

Proton pump inhibitors inhibit the effective digestion of protein, and almost totally inhibit the absorption of minerals and trace minerals,

particularly magnesium, calcium, potassium, copper, manganese, and iron. These drugs cause such extreme interference with mineral nutrient absorption they cause osteoporosis. The long-term effects of mineral depletion include increased hip fractures from osteoporosis in those who take these drugs over a long period.

There can actually be life-threatening low magnesium in those who take proton pump inhibitors daily for more than 3 months. Neurological symptoms, and neurovascular symptoms, and cardiac conditions are exacerbated by a magnesium deficiency. Even without these severe side effects, there are obvious disastrous nutritional and metabolic consequences of blocking the absorption of so many nutritionally essential minerals and trace minerals.

Another consideration as regards proton pump inhibitors is that many studies now show that they work little better than a placebo for upper GI and esophageal burning. Furthermore, one of the most common side effects of these drugs is stomach pain.

Here are some essentials of gastric physiology:

The vagus nerve comes from the brain down to the stomach. Vagus nerve activity excites stomach secretion of acid, and of pepsin, and of mucin, both directly by stimulation of the gastric glands, and indirectly through the gastrin hormone mechanism.

Control of the stomach emptying rate is largely under the influence of the hormone gastrin. Adequate secretion of gastrin from the stomach mucosa depends largely on the secretion of highly acidic (high hydrochloric acid content) gastric juice by the stomach.

The secretion of large amounts of hydrochloric acid by the stomach is essential for many reasons. The hydrochloric acid helps breakdown proteins in the food, both directly, and by stimulating the stomach secretion of the enzyme pepsin that aids in protein digestion. The high hydrochloric acid environment is essential for the absorption of the minerals and trace minerals --- calcium, magnesium, potassium, manganese, copper, and iron.

The hydrochloric acid also regulates the rate of stomach emptying. The hydrochloric acid also kills nasty invaders that have entered the stomach --- including bacteria, viruses, parasites, yeast, mold, and fungi.

Another essential function of the hormone gastrin associated with adequate hydrochloric acid production in the stomach is its constrictor effect on the gastroesophageal sphincter. It thus prevents reflux of gastric contents into the esophagus.

----- In summary --- high hydrochloric acid production is essential for protein digestion, for mineral absorption, to kill pathological microbes in the GI tract, to ensure proper stomach emptying, and to prevent gastroesophageal reflux.

While timely stomach emptying depends largely on adequate production of hydrochloric acid in the stomach, there are also reflexes from the duodenum that inhibit stomach emptying --- thus assuring that the stomach does not empty before the first stage of digestion in the stomach is complete, and, assuring that the contents of the stomach are not emptied into the duodenum faster than the duodenum can accommodate the efficient digestion of proteins, fats, and minerals through the rest of the intestinal tract. Adequate acid from the stomach therefore not only stimulates the emptying of the stomach, but also inhibits the emptying of the stomach, as the duodenum senses the acidity of the chyme entering it from the stomach.

Normal, healthy gastric secretion is extremely acidic --- with a pH of less than 1 (0.8). That yields a normal overall pH of the stomach contents of between 1 and 2. Food entering the stomach generally has a pH near neutral (7.0). As the gastric secretions are stimulated and go to work on the food, the pH of the chyme gradually decreases to between 4 and 5, which is the ideal pH for the chyme to be slowly released into the duodenum. When the pH of the chyme entering the duodenum falls below 3.5-4.0, reflexes are activated to slow the stomach emptying until the duodenum can catch up.

Clearly, there is no such thing as damage from "excess stomach acid." The stomach is well-equipped to handle a pH of 1 or less with no problem at all. The only people who can be damaged by too much acid are

those who are taking aspirin or certain other non-steroidal anti-inflammatory drugs, or those on prednisone.

The problem with too much stomach acid is not stomach ulcers, but the excess retention of food in the stomach for too long. Since the chyme released into the duodenum is excessively acid, the reflexes from the duodenum slow stomach emptying. So, the excessively acid chyme sits in the stomach for a long time. Instead of the stomach content pH being the optimal 4.0 to 4.5, it will range from 1.5 to 2.8. This acid chyme can be retained in the stomach for 6 hours, or even as long as 24 hours.

People experience extreme discomfort when it is time for their next meal since they are stuffing that meal on top of the previous meal that is still trapped in the stomach. They can be ravenously hungry even though their stomach is still full.

So what is our bottom line... What are we to do?

Let's think. Decreased stomach acid is the ultimate problem for reasons described above. Further, when food sits too long in your stomach, as happens with decreased stomach acid, it begins to ferment in that closed environment. This is the acid that you feel- the acid of undigested food. So taking an antacid of some type helps you to feel better for this reason also. But again, paradoxically, makes the problem worse.

So the answer, in terms of taking something, is to take acid. Now many people cringe at this. "But", they say, "I have already too much acid, I can feel it". Again, the acid is not stomach acid, but the acid of undigested food.

So one step is to increase acid intake.

The next is to provide a good physical environment for digestion. That comes with proper breathing. When you breathe in, your stomach area should be expanding not contracting. **Most** people I check breathe in the exact opposite fashion, and this makes everything worse. Ask me if you want to check your breathing motion.

Finally, nerve flow. As mentioned earlier, it is the vagus nerve that is the nerve flow to the stomach. Exercises such as humming and gargling help to exercise the vagus nerve.

When everything is put together properly, the stomach can regain normal function.

As always, you must consult the doctor who prescribed your medication before making any changes with dosages.

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