

# —Retaking Control— Nonprescription Drugs Stomach Acid Reducers

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Another group of the most commonly used OTC drugs are the stomach acid reducers. There are three main types of stomach acid reducers and they are all widely used but frequently confused and misunderstood. They all have different mechanisms of action and are unique in what they do and problems they may cause. The three main types are antacids, H<sub>2</sub> blockers, and proton pump inhibitors (PPIs).

Antacids are the old standby and all of these are the chewable tablets or liquids that are ingested to reduce acid stomach, acid reflux (heartburn or GERD—gastroesophageal reflux disease), and general indigestion. These are usually taken when symptoms appear. These chewable tablets and liquids usually contain calcium carbonate or magnesium hydroxide, and some contain simethicone, which reduces the surface tension of gas bubbles to reduce gastrointestinal gas and bloating. Notable brands are the chewable Tums, Roloids, and generics and liquids include Maalox, Mylanta, and others. Please note that some of these, especially the liquids, can contain *aluminum hydroxide*, which is a toxin to your system and has been implicated as a risk factor in Alzheimer's disease. There is a certain amount of aluminum in the environmental soils that plants absorb, and we eat, but the last thing you want to do is ingest more aluminum. Once in your system in significant quantities, it is toxic and difficult to chelate out and remove. Effects are cumulative and may take many years to show up, just like mercury and lead poisoning. [Caution is also advisable in using aluminum cookware, aluminum foil for baking and food storage, and drinking soft drinks or beer from aluminum cans as food can also become contaminated with aluminum in all these instances. And yes, most antiperspirants (not deodorants) contain aluminum as the main active ingredient that stops perspiration—and it can be absorbed through the skin.]

Antacids are relatively short acting and work simply by absorbing and neutralizing the existing acid present in the stomach. The calcium and magnesium formulations are fine to use occasionally but they can sometimes cause a rebound effect of more stomach acid being produced some hours later. By their nature, these minerals—calcium especially, and magnesium somewhat—can bind to various other drugs or substances in your stomach and render those pharmaceuticals more difficult to absorb. So if you take prescription medications it is best not to take these antacids for at least an hour or two before or after taking your prescriptions (and the same is true for calcium and magnesium nutritional supplements as well).

The H<sub>2</sub> blockers are pharmaceutical tablets that are histamine blockers that inhibit the production of stomach acid indirectly by blocking the acid-stimulating effect of histamine in the stomach. To be effective, these should be taken about a half-hour before eating and they are also relatively short acting for usually only a few hours to reduce acid stomach, acid reflux, and general indigestion.

The common OTC H<sub>2</sub> blockers are Pepcid (famotidine), Tagamet (cimetidine), and Zantac (ranitidine). These are generally safe for short-term use but can mask an underlying more serious issue. They all can potentially interact with some prescription

medications and also tend to decrease mineral and B-vitamin absorption and create nutrient imbalances and deficiencies if used consistently. There is also currently a concern that long-term use of these medications could cause mental decline in later years, so it would be wise to only use them occasionally when needed.

The last group of stomach acid reducers are the long-acting (24 hours or more) PPIs (proton pump inhibitors) that directly decrease the hydrochloric acid production of the stomach acid-producing cells themselves. These medications include Prevacid (lansoprazole), Prilosec (omeprazole), and Nexium (esomeprazole) and again, all for decreasing acid stomach, acid reflux, and general indigestion. These are fine to use for short periods, usually two to four weeks at a time to get maximum benefit, but long-term, everyday use can become problematic. Some of the potential side effects of everyday use include potential drug interactions, decreased mineral and nutrient absorption, headaches, fatigue, dizziness, emotional disturbances, and even creating more gastrointestinal disturbances.

There is enormous confusion about stomach acid—just what does it do? The primary function of stomach acid is to convert the proteolytic enzyme, pepsinogen into its active form, pepsin. Protein digestion takes the longest, usually up to eight hours or more throughout the entire digestive tract, so protein digestion needs to start in the stomach for proper amino acid assimilation. Pepsin is one of very few enzymes that actually functions in, and requires, an acidic environment. Most all other animal-based enzymes function best at a more neutral or slightly alkaline pH and are denatured and destroyed in the acidic stomach environment. Digestion times vary widely from person to person and the types of food eaten. Generally, digestion in the stomach lasts from two to five hours, then another six to eight hours in the small intestine, and finally up to twenty-four to thirty hours before being passed out of the body. If protein digestion in the stomach is minimal, then the pancreatic enzymes secreted into the small intestine have to try to make up the difference, which puts a strain on the whole digestive process.

The second function of stomach acid is to break down larger chunks of food into smaller pieces. Just as chewing food begins to crush it into smaller pieces mechanically, stomach acid serves to do this chemically. Please note that stomach acid does not *digest* food, it only breaks big chunks into little pieces, but is essential for enzymes to begin their work! Digestion requires enzymes (proteases for proteins into amino acids, amylases for carbohydrates into simple sugars, and lipases for fats into short-chain fatty acids) so the essential food nutrients can be absorbed. Without proper enzymatic digestion, food particles simply pass through you, unabsorbed, and can cause a toxicity buildup in your colon.

The third function of stomach acid is to destroy harmful bacteria that may be ingested with food. This helps to keep your digestive tract safe from harmful bacteria. The low pH, acidic environment of the stomach is essential for this purpose. Water is at a neutral pH of about 7, your blood and body keep a very tight and mildly alkaline pH of about 7.4, and your stomach at rest with no food present runs at an acidic pH of about 4.5–5.5. When food is ingested, the pH of the stomach drops to about 1.5–3.5, which kills bacteria and allows the protease, pepsin, to begin protein digestion. So your stomach is always a very acidic environment, and it is coated with protective mucous to keep it from ulcerating from the acid. The mechanisms for maintaining the stomach environment are very complex with multiple components and feedback loops, and too much acid

production on a regular basis can cause acid reflux, burning, and ulcers. But too little acid production impedes the proper digestion of proteins and impedes the absorption of many essential minerals. The smell of food or the anticipatory phase of eating stimulates the stomach to produce an increase of about 30 percent more acid, but the real stimulator of acid production is the actual presence of food, especially protein. The stomach will generally reach its full acidic state in about 30–45 minutes and stay in its most acidic state as long as food is present. Ironically, as we get older, our stomachs generally produce less acid and there is not enough for proper digestion to occur. Therefore, for many of us, reducing stomach acid is not the correct answer to alleviate the underlying problem.

The primary underlying problems of excessive stomach acid or irritation are twofold: prescription and OTC medications, and the typical American diet. Many prescription medications cause gastric upset and distress, especially among them anti-inflammatory steroids and the OTC NSAIDs— aspirin, ibuprofen, and naproxen. If you must be on these, there are alternative means to help combat the problem, such as taking medicine with food, if appropriate.

The primary cause of too much stomach acid for most of us is our typical fast food, junk food, sugar-saturated, soft drink-saturated diets. And the real problem is that most of us, because of this extremely poor diet, are in a relative bodily state of acidosis—our entire bodies are too acidic when they should be more neutral to slightly alkaline, just like our blood. You can actually purchase pH test strips online to measure your body pH from your saliva and urine. Urine will always be a bit more acidic than saliva, but the closer you are to a neutral pH of 7 the better off you will be. Most of us will measure in the acidic ranges of 6 or below.

So how can we better alleviate our acidosis problem? The obvious, but most difficult solution is, of course, a complete change in our dietary habits. Fast foods, all junk foods, all sugar-containing foods, fatty foods, fried foods, excessively spicy foods, all processed foods like white flour, coffee, caffeine, and especially soft drinks (which contain not only sugar and caffeine, but phosphoric acid) all serve to make us acidic and are gastrointestinal irritants. Also be wary that any food allergies, sensitivities, or intolerances will also lead to GI upset. Common offenders are dairy, gluten, soy, eggs, and sometimes nuts. If your body cannot properly digest those items, you will not be happy when you eat them. The best foods to eat are raw or lightly steamed fresh vegetables, fresh fruit, small portions of lean turkey, chicken, and fish, and organic whole grains, seeds, and nuts. Raw is better than cooked for vegetables because you retain the natural enzymes in the vegetable to aid in your digestion. Plant enzymes are destroyed by heat but not by stomach acid! Plant enzymes can function in the pH range of 3–9, in much more acidic conditions than our own pancreatic enzymes (proteases, amylases, and lipase that the pancreas secretes into the alkaline environment of the small intestine), which require a more alkaline pH and are destroyed by heat and acid. Plant enzymes will be inactive at low stomach pH but not destroyed, so they can continue digestion once they reach the more alkaline small intestine and become active again.

Here are some additional things you should try to help decrease acidosis and excess stomach acid:

- **Probiotics.** Probiotics are beneficial bacteria that primarily colonize your colon and help complete digestion, provide essential nutrients themselves, and help

prevent colonization of harmful bacteria. These beneficial bacteria need to be replenished on a regular basis as they do not always survive for long periods of time and most are lost with stool excretion. There are many different strains, and each has unique characteristics. Yogurt is a great source of probiotic cultures or they can be taken as supplements—daily is best for maximum effectiveness and cultures should contain at least three different strains. The more common strains are *Lactobacillus* (*L. acidophilus*, *L. plantarum*, *L. salivarius*, *L. rhamnosus*, *L. casei*, *L. sporogenes*, and *L. bulgaricus*), *Bifidobacterium* or *Bifidus* (*B. lactis*, *B. bifidum*, and *B. longum*), and *Streptococcus thermophilus* (this is not the pathogenic Strep, but a beneficial strain that is often used in yogurt fermentation). For great information on probiotics see [www.probiotics.org](http://www.probiotics.org).

- **Fiber** (often called **Prebiotics**). Fiber is essential to give bulk and substance for proper digestion and assimilation. Fiber aids in the proper density as food travels through your digestive tract and helps stabilize the process, helps to detoxify and decrease acidity, lowers cholesterol, stabilizes blood sugar, and provides a food substrate for the beneficial bacteria. There is no direct nutrient absorption of fiber, but it is critical to get sufficient quantities. Fiber is either soluble or insoluble (which is also called dietary fiber). Soluble fiber is broken down by the digestive process and is necessary to balance stool consistency and includes the following types: psyllium, gums, mucilages, pectins, inulins, and some brans, notably oat bran. Insoluble or dietary fiber is not broken down by digestion and is necessary to soften stool consistency and includes the following types: cellulose, hemicellulose, lignin, and some brans, notably wheat bran. It is best to get an even mix of both soluble and insoluble fiber or tailor your needs to keep stool consistency—soluble to primarily balance, insoluble to loosen. Obviously, fiber is best derived from raw vegetables, fruit, and whole grains. Alternatively, there are many very good fiber supplements in capsule form, powder to mix with water or juice, or the easy chewable tablets that usually have an equal fiber mix. For an excellent discussion of fiber go to: <https://www.healthline.com/health/soluble-vs-insoluble-fiber>.
- **Digestive Enzymes**. Digestive enzymes are wonderful to help your system digest all foods better, even those foods you typically have difficulty with. There are enzymes available for virtually every food type. The best are the plant-based enzymes since they have the widest range of action and survive stomach acid. Taken right before you eat, they help to digest food completely and relieve the strain of enzyme production required of your pancreas. The quality products will not only have the basic food component enzymes (proteases, amylases, and lipases) but also have a variety of alternate carbohydrate enzymes such as maltase, lactase, alpha galactosidase, invertase, xylanase, cellulase, pectinase, and others. Please note that the enzyme *bromelain* (from pineapples) is better suited as an anti-inflammatory enzyme rather than a digestive enzyme and the enzyme *papain* (from papayas) does contain digestive proteases, amylases, and lipases but is not as efficient as some of the newer digestive enzymes. And remember that the animal-based *pancreatin* (like your own), although containing all digestive enzyme components, will not survive long in stomach acid unless it is specifically enteric-coated to protect it. Enzymes are not inexpensive, but well worth the cost,

especially if you have frequent digestive distress. For great information see [www.enzymedica.com](http://www.enzymedica.com).

- **Alkalizing Supplements.** If you can't eat enough raw vegetables, the next best thing might be to increase consumption of "green" supplements either as powders to mix with juice or protein shakes, or alkaline-booster tablets and capsules that are great mixes of vegetable and fruit powders. These can help you reduce your acidosis and become more balanced and alkaline.
- **Notable Herbs.** There are many herbs that are great to help quiet the stomach and aid digestion and minimize gastric distress. Notable are ginger taken as capsules and aloe vera gel taken as gel-caps or juice.
- **Homeopathic.** There is a product called *Acidil*, by Boiron, which contains four homeopathic components that might bring some temporary relief.
- **Pure Water.** Drinking water or water with a bit of baking soda (sodium bicarbonate) will help in a pinch to dilute stomach acid and ease acidity.