

Heartburn Treatment – It's Complicated

Bottom Line at the Top: Lifestyle changes are the best way to prevent heartburn, reflux and esophagitis. Every medicine for these problems has potential unwanted side effects.

It used to be simple – Get heartburn, take an antacid. It's not so simple anymore.

In most cases, heartburn results from stomach acid refluxing into the esophagus and causing pain. At times acid reflux causes inflammation called esophagitis. Antacids neutralize the acid and pain subsides. It doesn't stop there, though. The antacid passes on into the intestine. The stomach sends a signal that there's less acid, and a hormone called gastrin responds by triggering stomach cells to make more acid. Heartburn returns.

In some cases, bile refluxes up from the intestine, through the stomach and into the esophagus. Bile is the opposite of acid, an alkaline secretion that causes esophagus irritation like lye would. We don't have a good treatment for that. For the purposes of this article, I'll focus on acid reflux.

Taking antacids all day may cause problems. Large amounts of calcium-containing antacids cause constipation and mess with levels of other important minerals like phosphorus. Magnesium-containing antacids cause diarrhea and those with aluminum cause dementia.

Many times we can prevent heartburn by avoiding certain foods and situations. There's a valve, called the lower esophageal sphincter (LES), at the base of the esophagus that normally keeps acid from refluxing into it from the stomach. Various foods relax and open that valve. Others directly increase acid. The foods to avoid include tomato, alcohol,

onion, beverages with caffeine or carbonation, mint, all citrus fruits, spicy food, chocolate and fatty or fried foods.

Reflux sufferers should avoid conditions in which pressure from within the stomach (a large meal) or without (obesity, tight garments, lying down) push food and acid up into the esophagus. Smoking cessation and elevating the head of the bed (so the body from the waist up is on an incline) also help.

If avoiding food triggers, losing weight and staying upright after eating don't prevent heartburn, and we shouldn't take too many antacids, should we grin and bear the pain? No, because acid causes inflammation (esophagitis) and damage that may lead to scarring. What's scary is that most people with heartburn only feel discomfort about fifty percent of the time that acid has entered the esophagus. Some people with reflux don't feel any pain and don't know they have it. If damage is bad enough, it can cause the LES to constrict enough that food gets stuck on the way down. In some people it changes the esophagus lining to pre-cancerous cells.

An alternative to antacids is an H2 blocker. The first such medication, cimetidine, blocked stomach acid production, was discovered in 1971 and was approved for use in the U.S. in 1979. Cimetidine has quite a few side effects, potent interactions with other medications and a short half-life that necessitates frequent dosing. It fell out of favor as scientists developed more potent H2 blockers with longer duration of action, no drug interactions and many fewer side effects. For many years these drugs, ranitidine (Zantac) and famotidine (Pepcid), replaced cimetidine and antacids as the go-to treatment for reflux, heartburn, and stomach ulcer.

They weren't perfect, though. None of them completely block acid production, leaving some people to suffer. And, as I reported in the August

2017 DrG'sMediSense, they have an anti-cholinergic effect that can cause memory loss.

Then came omeprazole and a slew of other related medications called proton pump inhibitors (PPI) that block stomach cells' acid-producing mechanism. Some others are lansoprazole, dexlansoprazole, rabeprazole, pantoprazole and esomeprazole. Because the blockade is irreversible, acid inhibition is more potent and long-lasting. PPIs were originally indicated for acute ulcer, to be taken for at most two months, or for treatment of an *Helicobacter pylori* infection for 6 weeks. Those recommendations have gone by the wayside and, over time, more and more people have used them for esophageal reflux or non-ulcer stomach upset, and stay on them permanently.

There are problems with that approach. PPIs have potential long-term problems that are concerning. All medications that reduce stomach acid affect absorption of nutrients that are best absorbed with an acidic stomach. H2 blockers have this problem also, but less so, since they induce less complete acid reduction.

Some affected nutrients are protein, vitamins C and folic acid and many minerals – iron, calcium, magnesium, copper, chromium, selenium, manganese and some ultra-trace minerals necessary for health. Magnesium deficiency may be severe enough to cause muscle, heart and seizure problems.

PPIs block an enzyme that allows nitric oxide generation, which could have serious long-term health effects. Nitric oxide is necessary for normal blood pressure and vascular function (see DrG'sMediSense August 2017 issue). PPI's also block activation of some medications and contribute to high levels of others.

They are also associated with an increased risk of hip fracture, likely from impaired nutrient absorption. Intestinal infections are more common, since the first line of defense against ingested bacteria, namely stomach acid, is gone. People on PPIs get more stomach polyps and possibly cancer.

So, what's a reflux sufferer to do? Get away from widespread PPI use and relegate them to acute ulcer treatment. Try an H2 blocker at bedtime. Or try sucralfate, a medicine that merely coats the lining of the esophagus and stomach. It works best when dissolved in water (it may need some gentle mashing to make it a palatable slurry) and taken up to four times per day. It's not absorbed into the body, so it won't cause system-wide adverse effects. The major downside is it may decrease absorption of other medications and food nutrients, so it's best taken 2 hours after a meal or medication. Use an antacid for breakthrough symptoms, no matter what plan you choose.

The best approach is to be serious about avoiding the foods and beverages mentioned above, losing the large abdomen, reducing meal size, stopping smoking, avoiding corsets and clothes that feel like one, and eating at least three hours before lying down. All might eliminate the need for any medication.¶¶