



Questions and Answers About PPI Medications and GERD

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Question – What are the differences between the proton pump inhibitors? Do they all have the same side effect profile? If I experience side effects from one, will I experience the same effects if I try another?

Answer – Proton pump inhibitors (PPI's) are the most commonly prescribed class of medication for the treatment of heartburn and acid-related disorders. They work by blocking the site of acid production in the parietal cell of the stomach. Because there are millions of parietal cells that are constantly reproducing, complete inhibition of stomach acid production is virtually impossible. This probably explains the tremendous safety of these medications.

There are a number of PPI's available in the United States and more are in development. The medications are structurally and chemically similar. There are relatively few comparisons of these drugs with each other. All the medications heal esophagitis in 90-94% of patients. There are no significant differences in overall healing and symptom improvement rates between the medications. Omeprazole (Prilosec) and lansoprazole (Prevacid) have been available the longest and consequently are the most familiar to physicians and patients. While the newer medications, rabeprazole (Aciphex) and pantoprazole (Protonix) have data to suggest better suppression of stomach acid compared to omeprazole, there is no proof that the differences are clinically important. Rabeprazole and pantoprazole are smaller and may be better for patients who have problems swallowing capsules. Pantoprazole is marketed as being cheaper, and may be better for patients paying for their own medications. Esomeprazole (Nexium), a new and very potent PPI, was approved by the U.S. Food and Drug Administration (FDA) in 2001. Zegerid is a combination of omeprazole and sodium bicarbonate. Dexlansoprazole (Dexilant) was FDA approved in 2009. Omeprazole and lansoprazole are now available over-the-counter.

The PPI's have been shown to be safe. Most of the information that we have on side effects come from studies where a PPI is compared to a placebo. The most common side effects are headache, abdominal pain, bloating, diarrhea and nausea. They occur in 1-2% of patients given PPI's. Interestingly, the incidence of these "side effects" is the same as when patients take the placebo.

It is hard to compare side effect profiles between the medications, but there is no reason to believe that there are significant differences.

There is no scientific data to guide physicians on how to deal with the relatively few patients that have side effects from one of the PPI's. However, nearly all physicians have had the experience of switching from one PPI to another successfully. If a patient is having side effects from a PPI, they will not necessarily develop the same side effects if they switch to another PPI. The patient should be encouraged to discuss this option with their physician. The only exception may be in the extremely rare instance of severe allergic reactions.

Question – I am an older adult on multiple medications. I have developed problems with reflux. What are the common medications that may affect the tone of the LES? What can I take to correct the problem?

Answer – The medications most likely to cause clinical problems are the calcium channel blockers and theophyllines. Calcium channel blockers are commonly used for high blood pressure and angina. Theophyllines are oral medications, commonly used for asthma and breathing difficulty. These types of medications weaken the lower esophageal sphincter, making it easier for stomach acid to reflux into the esophagus. The list of medications that may worsen gastroesophageal reflux also includes most sedatives and narcotic pain relievers. Many of these concerns are more theoretical than scientifically proven. Additionally, it is not likely that these medications will cause reflux in an otherwise healthy person.

If prescription medications are causing reflux to worsen, then there are two options. First, try to switch the offending medication to something else. There are many types of medications available to treat high blood pressure. The inhalers for asthma and other breathing problems probably cause less reflux than the oral theophyllines. Second, if the offending medication cannot be stopped, better treatment for the reflux would be in order. For example either increasing the dose of the current medication or switching to a more powerful drug may be the only alternative.

People who suffer from reflux should be aware of another pill-related problem. If a medication were to become lodged in the esophagus, it may cause injury to the lining. This may lead to ulcers and narrowing of the esophagus. Medications most likely to do this are certain antibiotics (particularly tetracycline), potassium supplements, quinidine (a medication for heart palpitations), and alendronate

(Fosomax). All non-steroidal anti-inflammatory agents, even those over the counter, can do this as well. A good rule of thumb is to be careful with any pain medication. Other than acetaminophen, patients taking medications for pain should do two things. First, take a full glass of water with these medications to wash them down. Second, do not lie down for 30-60 minutes after taking these pills. Taking these precautions helps one to more safely take these medications and help avoid pill-induced injury to the esophagus.

Question – I have serious heartburn several times during the day and night. I have found that a teaspoonful of baking soda in a little water gives me fast relief. Is this harmful? I have been taking it for several months now.

Answer – This is a fairly common a scenario. While I am happy that the baking soda works for you, there are a couple of problems with this approach. First of all, you have discomfort before realizing that you need to take something. There are excellent treatments available that could virtually eliminate the heartburn from occurring in the first place. Secondly, the sodium content of baking soda is not healthy, particularly for people with heart problems, high blood pressure, or kidney disease. There are other antacids that will work just as well with fewer consequences.

I look at three different situations where patients require relief from heartburn. First, there are many people who suffer from frequent heartburn. Second, there are people who have infrequent heartburn, but it is predictable before a large or a late meal, for example. Third, nearly everyone has episodes of heartburn and wants immediate relief.

If you are feeling heartburn 2–3 times per week, you are actually having acid reflux many times per day. In this situation, you should be on prescription medication to prevent the heartburn from happening. There are a number of proton pump inhibitors (PPI's). These medications greatly decrease, but do not eliminate, the production of stomach acid. It is the stomach acid that is causing the symptoms. They will greatly decrease, if not eliminate heartburn before it happens. These five medicines have similar efficacy, and very few side effects. They work best if they can be taken before a meal.

The H2 receptor blockers modestly decrease stomach acid production. They are inexpensive, so some managed care organizations often insist that their patients take them instead of the more expensive and more effective PPI's. However, if the H2 blockers don't work well, patients can usually get a PPI if needed.

If you have infrequent, but predictable heartburn, taking an over the counter preparation will work fine. The H2 receptor blockers are also available over the counter in a smaller dose. They will prevent or decrease problems if taken before a meal that usually causes heartburn. Some PPIs are now available over the counter for short term use. Although a PPI is more powerful than the H2 blockers, it is hard to know if it will be more effective for this type of discomfort.

If you are having heartburn and want immediate relief, over the counter antacids (e.g., Maalox, Mylanta, Gaviscon, etc) are still the best. They act quickly to neutralize the acid and provide prompt relief. The other over the counter

medications will not work faster. It is fine to take these medications in combination. For example if you have heartburn while taking PPI, you may take an antacid to relieve it.

One more point, if you are having heartburn on a regular basis, you should let your physician know. Many people having heartburn two or more times per week have more serious medical problems that may require medical attention.

Additional Safety Information

- Proton pump inhibitors are effective in treating a variety of gastrointestinal disorders. Do not stop taking your proton pump inhibitor unless told to do so by your healthcare professional.
- Be aware that an increased risk of fractures of the hip, wrist, and spine has been reported in some studies of patients using proton pump inhibitors. The greatest increased risk for these fractures was seen in patients who receive high doses of these medications or use them longer (a year or more).
- Read and follow the directions on the OTC *Drug Facts* label, when considering use of OTC proton pump inhibitors.
- Be aware that the OTC proton pump inhibitors should only be used as directed for 14 days for the treatment of frequent heartburn. If your heartburn continues, talk to your healthcare professional. No more than three 14-day treatment courses should be used in one year.
- Talk to your healthcare professional about any concerns you may have about using proton pump inhibitors.

Source: U.S. Food and Drug Administration (FDA). Accessed 01/31/2012

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