

## Acid Blockers

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Heartburn medications are among the most frequently prescribed medicines in the US with sales exceeding \$13.5 billion annually.<sup>1</sup> Prilosec®, Nexium®, Protonix®, and Aciphex® are known as proton pump inhibitors (PPIs).<sup>2</sup> They are the most powerful acid secretion inhibitors available today. Unfortunately, long-term use has been linked to nutritional deficiencies, bone fractures, an increased risk of bacterial infection, and even withdrawal symptoms.<sup>3-8</sup>

### Role of Stomach Acid in Nutrient Absorption

Stomach acid plays an important role in the digestion of your food and nutrients. When the sphincter valve at the end of your esophagus fails to close properly, stomach contents including stomach acid leaks back up into the esophagus, damaging the delicate esophageal lining, causing heartburn. Drugs like Prilosec® inhibit the release of stomach acid and provide some relief. However, the continual reduction of stomach acid through medicines like proton pump inhibitors hinders digestion and absorption of key nutrients.<sup>9,10</sup> This ultimately leads to deficiencies in key nutrients, such as vitamin B12, iron, calcium, magnesium, folic acid, and zinc.<sup>11</sup> Due to the alteration in pH balance in your gut, the absorption of other nutrients is possibly at risk as well.<sup>11</sup>

- Proton pump inhibitors not only block the release of stomach acid but also something else called “intrinsic factor,” making it impossible to absorb **vitamin B12**.<sup>11-13</sup>
  - The inhibition of dietary **iron** can contribute to anemia over a long period of time.<sup>14</sup>
  - It's well known that **calcium** is best absorbed in the presence of acid.<sup>15</sup>
  - Proton pump inhibitors are thought to inhibit active transport of **magnesium** in the intestine, leading to deficiencies and potentially serious health outcomes.<sup>16</sup>
  - Your absorption of **folic acid** is inhibited, disrupting the production of new cells, which helps your body grow and repair itself.<sup>17,18</sup>
  - The absorption of zinc is impaired, which is needed for many enzyme reactions in the body.<sup>19</sup>
- It is evident that the lack of stomach acid has far-reaching effects that extend well beyond the digestive system.

You can offset these damaging effects by supplementing to provide some protection against these deficiencies. Consider talking to your doctor and at the very least take a blood test (Complete Blood Count, Comprehensive Metabolic Panel) to check for nutrient deficiencies.

### Increased Risk of Fractures

A 2011 meta-analysis study in *The Annals of Family Medicine* reported that high doses or long-term usage of proton pump inhibitors (PPIs) have been linked to an increased risk of osteoporosis-related fractures of any type, including wrist, spine, and hip.<sup>20</sup> This elevated risk of osteoporosis is connected to the drastic drop in calcium absorption while on these medications.<sup>21,22</sup> If you are taking a proton pump inhibitor, make sure you avoid a calcium deficiency by supplementing with a high-quality, bio-available calcium to offset the depletion of this mineral. Scientific evidence shows that calcium can be an effective bone builder, especially when combined with vitamin D3 and vitamin K.<sup>23</sup>

### Increased Risk of Infections



When you decrease acid secretion in the stomach, you also boost the risk of infection.<sup>4,5,24,25</sup> Without adequate stomach acid present, large amounts of undigested food pass into the intestines, contributing to the growth of opportunistic organisms, an increase in toxins, and an imbalance in intestinal flora.<sup>26</sup> Studies published in the *Journal of the American Medical Association* revealed that when taking a proton pump inhibitor drug, the risk of developing pneumonia increases up to **89%**, and the risk of developing a potentially deadly chronic infection from the intestinal bacterium *Clostridium difficile* increases as well.<sup>27-29</sup>

A randomized, double-blind, controlled trial published in *Gastroenterology* shows that withdrawal from acid blockers can lead to *rebound acid hypersecretion*, which then forces the patient to immediately go back to the acid blocker drug.<sup>30</sup> This becomes a vicious cycle of trying to stop the drug, but the body has become conditioned to be dependent on the drug for acid regulation.

## Practical Recommendations

If you suffer from acid reflux, there are a number of preventative measures you can take to limit reflux symptoms without having to rely on proton pump inhibitors:<sup>31,32</sup>

- Eat slow. Eat smaller, frequent meals
- Avoid fried junk food
- Limit alcohol
- Replace sodas with water and other healthy beverages
- Reduce drug intake (caffeine, prescription, and over-the-counter medications)
- Choose foods with care
- Quit smoking
- Don't eat within two to three hours before bedtime
- Maintain a healthy weight
- Wear loose-fitting clothes
- Manage stress

When evaluating your symptoms, your doctor should assess whether they are due to the illness, side effects of the drugs, or if they are caused by a drug-induced nutrient depletion. Taking a high-quality multivitamin and mineral supplement with a focus on the nutrients being depleted from the acid blockers will generally offset an imbalance.

In addition, a number of natural remedies have been found to soothe the gut:

- Supplement with a good digestive enzyme formula to promote healthy digestion. Look for a formula that includes only proteases (which break down proteins) and lipases (which break down fats). Be aware that many formulas also include carbohydrases (which break down carbohydrates) that increase absorption of sugar and can cause unwanted spikes in post-meal blood sugar levels.
- Take 1-2 teaspoons of apple cider vinegar mixed with water and raw honey to reduce symptoms of acid reflux and poor digestion.
- Deglycyrrhizinated licorice (DGL) has been shown to provide soothing relief of the stomach lining and intestinal tract.<sup>33</sup> Although licorice is best known as a flavor for candy, it contains a compound called glycyrrhizin, which is known to pose certain health problems in high doses. However, many of today's digestive formulas utilize DGL which does not contain the glycyrrhizinated compound. Look for a label that specifically states "DGL" or "deglycyrrhizinated licorice."
- D-limonene, a supplement extracted from the peels of citrus fruit, helps to neutralize gastric acid and supports normal peristalsis for relief of heartburn and gastroesophageal reflux (GERD).<sup>34</sup>
- Supplement with betaine hydrochloride after meals to help with digestion.
- Re-inoculate the gut with healthy bacteria by using probiotics.

## Summary

Despite the well-known safety profile of proton pump inhibitors, the risks associated with long-term use can play an integral part in developing serious health complications later on. More importantly, working toward eliminating the cause of your gastric distress can decrease or even eliminate your need for this medication. (Note: Altering your dose or discontinuing any of your prescription medications should always be done under the care and supervision of your physician.)

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If you have any questions on the scientific content of this article, please call a **Life Extension®** Health Advisor at 1-866-864-3027.

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