

Understanding Stomach Acidity

Although the consequences of having too much or too little stomach acid are quite different, the initial symptoms are the same – heartburn and indigestion.

Digestion begins in the mouth, where chewing laces food with digestive enzymes. Stomach acid production is triggered by the anticipation of eating (smelling, tasting and chewing) and the stretching of the stomach as food enters. Therefore, it is quite some time after food enters the stomach that hydrochloric acid and protein-digesting enzymes reach optimal levels for digestion. The stomach functions optimally when acid production is at a pH of 2 to 3. The functions of stomach acid include activating protein-digesting enzymes, destroying microorganisms and preparing vitamins and minerals for absorption.

Hypochlorhydria

Too little stomach acid (hypochlorhydria) is the most common cause of heartburn and indigestion, especially since stomach acid production commonly decreases with age. Inadequate stomach acid causes food to be only partially digested which triggers belching, bloating, flatulence, indigestion, diarrhea or constipation, and heartburn. Low stomach acid typically occurs as a result of chronic stress, poor dietary habits (such as eating in a hurry, not chewing food properly, and drinking water with meals), and excess alcohol, high-sugar foods and/or caffeine consumption. With low stomach acid the esophageal sphincter does not close and allows for what little acid that does exist to irritate the esophagus leading to heartburn. This situation is further aggravated if an individual is a chest breather because the stomach ends up sitting too close to the diaphragm and causes the esophageal sphincter to open. Long-term hypochlorhydria can lead to nutrient deficiencies (especially B12 and iron), improper balance of gut bacteria, allergies, weak immune system and aggravates inflammatory conditions such as arthritis, asthma and acne.

Hyperchlorhydria

Too much stomach acid (hyperchlorhydria) is a much rarer occurrence and is typically associated with more serious issues such as peptic ulcers (PUD), gastroesophageal reflux (GERD), hiatal hernias or gastric cancer. The most common symptoms of hyperchlorhydria include heartburn or upper abdominal discomfort – much like the symptoms of too little stomach acid. While antacids are the most common treatment and provide relief by masking symptoms of heartburn and indigestion, their chronic use or when used for hypochlorhydria, only worsens the problem by further decreasing stomach acid in the long run. In the end, the misuse of antacids will lead to hypochlorhydria and its health consequences.

Given the common symptom picture between hypochlorhydria and hyperchlorhydria the first priority, before implementing a treatment plan, is to determine which condition exists. The Baking Soda Test is a simple way to determine stomach acidity

The Baking Soda Test

This test measures stomach acid in relation to how much gas is produced when the baking soda solution reacts with stomach acid to produce carbon dioxide gas. The amount of gas produced depends directly upon how much acid is the stomach. Understanding your stomach acidity will assist your naturopathic doctor to develop a more effective treatment plan.

Instructions

It is important that this test be performed **first thing in the morning on an empty stomach.**

1. Dissolve ¼ teaspoon baking soda into 1 cup of cold water.
2. Drink the solution and start timing.
4. Record the time it takes to the first burp.
5. If you have not burped within 5 minutes, stop timing and carry on with your daily routine.
6. Repeat the test for 5 consecutive days for more accurate results.

DATE	TIME	TIME TO FIRST BURP
1		
2		
3		
4		
5		

NOTE: Temporary diarrhea is a potential side effect of performing this test, particularly for those who have too much stomach acid.

What Do The Results Mean?

TIMING	PROBABLE ISSUE
less than 30 seconds	high stomach acidity
less than 2 minutes	normal stomach acidity
between 2 to 5 minutes	low-normal stomach acidity
more than 5 minutes	low stomach acidity

Discuss your results with your naturopathic doctor to determine what treatment options are best for you.