**The Apple Cider Vinegar Challenge**  
Stomach acid is vital for good gut health. Contrary to popular belief, low stomach acid not only can cause acid reflux and heartburn, but also it can compromise overall gut health thanks to the principles of the north-to south digestive hierarchy. You can find out if low stomach acid is causing your gut problems by doing the apple cider vinegar challenge. Low stomach acid, or hypochlorhydria, is one of the most common — and most often overlooked — digestive issues. In fact, many hypochlorhydria patients are misdiagnosed with high stomach acid because the two conditions share key symptoms. The result: Many of these patients are mistakenly prescribed antacids and acid (H2) blockers. This not only increases their symptoms, but also disrupts key functions further down the digestive pathway that depend on sufficient stomach acid. In this guide we’ll explore the important role of stomach acid, what to look out for, and how to increase your stomach acid levels to support gut health and immune function.  
  
**Stomach acid's many roles**When food enters the stomach, the stomach distends and releases hydrochloric acid (HCl). HCl is extremely important for digesting food, particularly proteins and meats. Sufficient stomach acidity is also necessary to trigger the valve to the small intestine to open and to activate the release of additional digestive secretions.  
 **Stomach HCl helps:**  
\*Stimulate the pancreas to secrete digestive enzymes.\*Stimulate the gallbladder to secrete bile to emulsify fats**.**\*Prevent systemic inflammation and leaky gut by breaking down food proteins into smaller amino acids. Otherwise, undigested foods are recognized as dangerous invaders by the gut’s immune system, which can lead to systemic inflammation and leaky gut.   
\*Sterilize the small intestine to prevent bacterial overgrowth. \*Prevent parasites and other gut pathogens from gaining a foothold in your digestive tract.  
  
**Low stomach acid and acid reflux**  
The most common symptoms of hypochlorhydria are, paradoxically, burning, heartburn, and indigestion — the very symptoms associated with acid reflux. Why would low stomach acid cause these symptoms? The valve that separates the stomach from the small intestine depends on sufficient stomach acidity to open and allow food to pass into the small intestine. When the digested food is not acidic enough, the valve will not open. This leaves the food to sit and putrefy in the stomach. Eventually seeking escape, it moves up into the esophagus where the tissues are not designed to handle even the lower level of acidity.   
  
This causes many cases of heartburn or “acid reflux” that lead to a misdiagnosis of high stomach acid.   
  
Hypochlorhydria significantly contributes to inflammation in the gut and throughout the body, causing damage to the small intestine, poor digestion and nutrient absorption, increased food intolerances, and SIBO (small intestine bacterial overgrowth).  
  
**Do you have these symptoms of low stomach acid?**-Burping, bloating, and gas within 30 to 60 minutes after meals, especially protein  
-Indigestion, heartburn, acid reflux   
-Feel like you have a brick in your stomach after eating meat   
-Nausea when taking vitamins and supplements   
-Desire to eat when not hungry   
-Undigested food in stool   
-Diarrhea   
-Fatigue   
-Gut infections   
-Bad breath (this is due to bacterial overgrowth in the intestines)   
-Iron deficiency anemia   
-Deficiency of vitamin B12, calcium, magnesium  
  
**Causes of low stomach acid**  
A variety of factors can cause low stomach acid including poor diet, chronic stress, chronic inflammation, medications such as antacids or proton pump inhibitors, deficiencies in nutrients necessary to make stomach acid, and gastric surgery.   
  
**Unmanaged hypothyroidism**. The stomach depends on sufficient thyroid hormone to produce HCl. In addition, the brain depends on thyroid hormone to communicate efficiently with the digestive organs.   
  
**Brain-based disorders**. Stomach acid levels can be impacted by dysautonomia, traumatic brain injury, and brain degeneration.   
  
**Aging**. As we age, we start to lose enzyme production and autonomic nervous function. Therefore, it's not uncommon once past the age of 70 to need supplemental HCl because cells have started to degenerate and are not as efficient.   
  
**Always address H. pylori**   
H. pylori is a bacteria that burrows into the lining of blood vessels, causing damage and inflammation. The degree of damage goes up with the severity of the infection. H. pylori is linked with more serious health disorders such as stomach cancer and cardiovascular disease.   
  
An H. pylori infection can also increase the risk of autoimmune disease via a process called molecular mimicry: When the immune system makes antibodies to H. pylori, these antibodies can bind to other tissues, triggering autoimmunity against them. H. pylori infection has been linked to autoimmune gastritis, type 1 diabetes, and vascular endothelium (blood vessel) autoimmunity.   
  
An H. pylori infection also suppresses stomach parietal cells and inhibits absorption of iron, vitamin B12, and calcium. With an H. pylori infection you may not have enough HCl to sterilize the gut, which can lead to SIBO.  
  
If you have symptoms of bloating and distension, especially after protein meals, it’s critical to get screened for H. pylori and to treat it.   
  
Botanicals shown to be successful in managing an H. pylori infection include extracts from barberry, goldenseal, Oregon grape, Chinese goldthread, and yerba mansa.   
  
It is important to note that H. pylori can be asymptomatic and is highly contagious. It is recommended for all members of a family living together to be treated if one person is infected.   
  
**Supplemental HCl and the apple cider vinegar challenge**   
When you have low stomach acid, it’s helpful to take supplemental hydrochloric acid to support digestion while you address underlying factors behind the deficiency. For some patients, the added HCl can raise the acidity of the stomach environment enough to trigger digestive reflexes further along the digestive pathway and resolve symptoms.   
  
However, when we suspect hypochlorhydria and especially gastritis, it’s prudent to start with the Apple Cider Vinegar (ACV) Challenge to find out if you are ready for HCl supplementation.  
  
**The apple cider vinegar challenge**   
Take 2 tablespoons of undiluted apple cider vinegar (ACV) and observe your reaction.   
  
If this causes gastric burning: You are not yet ready for HCl supplementation. Instead, take a tablespoon of apple cider vinegar with each meal for four to six weeks while you work on repairing the stomach lining and the factors behind your low stomach acid. If the ACV still burns, you may dilute it in a bit of water until you can tolerate it undiluted.   
  
Also make sure to immediately assess and eliminate any H. pylori infection.   
  
If you have no burning with the ACV Challenge: Try a challenge with two capsules of HCl with a meal.   
  
If this causes burning, you are not ready for the HCl and must work on healing the gut lining first. Meanwhile, take two tablespoons of apple cider vinegar with meals until you can graduate to using an HCl supplement.  
  
If the HCl trial doesn’t cause any burning, you may move on to HCl supplementation.   
  
**Hydrochloric acid supplementation**   
After you have done the ACV Challenge with success, you may start to supplement with HCl. The goal is to take just as much HCl as you need to get rid of bloating and discomfort after you eat proteins.   
  
To determine your dose, start with one capsule per meal. With roughly each meal, increase the dose by one capsule until you get burning or discomfort. Then back down to a dose where there is no burning and use that dose until your symptoms resolve.  
  
If no dosage causes any burning, and if three capsules resolve all your bloating and other symptoms, there's no reason to take any further capsules.   
  
You may find you can lower your dose over time.  
  
Any questions contact:  
  
**Dr. Carr**   
2423 W 350 N  
Camden, IN 46917   
574.551.3833