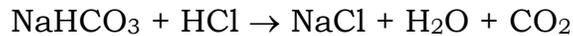


TESTING FOR STOMACH ACID & FOR STOMACH ULCERS

Much easier than invasive and expensive laboratory testing for adequate stomach hydrochloric acid is the good old baking soda challenge. Quite simply, baking soda in water is taken on an empty stomach (after at least a 10-hour over-night fast), and the subject awaits an uncontrollable BURP. This test is probably as reliable as the Heidelberg test. When sodium bicarbonate reacts with hydrochloric acid in the stomach it produces water, sodium chloride, and carbon dioxide. --- The carbon dioxide is belched up. The simple chemical equation is:



Why does this simple test work? Most people (including most doctors) do not realize that a healthy stomach, even when empty, is extremely acid. In fact, the normal stomach has a pH below 2, and ideally very close to 1 at all times when it is empty. So, adding baking soda to an empty stomach should yield a burp within a few minutes.

There are actually 2 variables in a stomach that contains no food. One is the hydrochloric acid content of the stomach fluid, and the second is the quantity of stomach fluid. Any healthy person has an empty stomach pH of between 1 and 2, but some have a very dry stomach, and some have more fluid secretion at rest. (Generally, those who have higher secretion are your Parasympathetic types.)

For the test, a person must be fasting for at least 10 hours. The patient drinks ¼-½ tsp. of baking soda in 4-6 oz. of cold water, then times how long until the big burp, or a series of small burps. People with normal acidity and normal quantity of stomach contents will belch within 2 or 3 minutes. Those (Parasympathetic types) with normal acidity but high fluid content will burp sooner. Those with low stomach acid will not burp for 4 or 5 minutes, and those with rather marked hypochlorhydria will never burp.

Additional notes:

- Those with low hydrochloric acid are those who are subject to H. pylori infections (and stomach ulcers), as well as yeast overgrowth of the GI tract. (--- Note that H. pylori is the cause of stomach ulcers, and H. pylori infection is both caused by and causes hypochlorhydria. Treating gastric/peptic ulcers with antacids is absolute insanity.)

- Esophageal reflux or GERD is never caused by excess stomach acid, but frequently involves low stomach acid. Most cases of GERD have either insufficient stomach acid, which slows stomach emptying time and allows the stomach contents to be forced up into the esophagus, or, have delayed stomach emptying for some other reason (such as the generalized autonomic failure that occurs as part of the aging process).

Some individuals (the Parasympathetic types) have an overabundance of fluid secretion into the stomach accompanied by a cardiac sphincter (where the esophagus empties into the stomach) that is “stuck” partially open. Food or drink entering that stomach with an already high fluid pressure, forces the stomach contents up through the open sphincter ⇒ GERD. (The PPI drugs work, not because they decrease acid, but because they force the stomach to empty prematurely, thus relieving the pressure.)

[Some cases of GERD have nothing to do with stomach function at all, but rather are misdiagnosed as GERD when they are actually Eosinophilic Esophagitis (--- a first cousin to Eosinophilic Bronchitis (asthma), and Eosinophilic Fungal Rhinosinusitis.)]

- The production of adequate hydrochloric acid in the stomach is dependent upon the formation of metabolically produced carbon dioxide. The carbon dioxide is converted by carbonic anhydrase to form carbonic acid, which in turn dissociates into bicarbonate ions and hydrogen ions. The hydrogen is transported into the stomach, as are chloride ions, to form the stomach hydrochloric acid.

----- Insufficient carbon dioxide production for any reason (--- thyroid insufficiency, Respiratory Alkalosis, Ketogenic or Anaerobic Metabolic Imbalances, insufficient intestinal flora to produce CO₂ in the colon, etc.) will decrease stomach hydrochloric acid production --- yielding hypochlorhydria and the consequent inefficient digestion and likely upper GI symptoms.

- Note that histamine parallels Parasympathetic activity, so that antihistamine drugs inhibit gastric secretion, and thus cause inefficient digestion and upper GI symptoms. Of course, this is the mechanism by which histamine 2 blocker drugs give temporary relief of upper GI symptoms while actually perpetuating the cause of those symptoms. The antihistamine drugs decrease stomach acid and prematurely empty the stomach, thus relieving symptoms --- all the while they further decrease the essential production of hydrochloric acid, thus assuring that the symptoms will return as soon as the drug effect wears off. --- In other words, the more a person takes these drugs, the more the person feels the need for them. (--- Nice game for the drug companies to play.)

- Many GERD symptoms are associated with excess nitric oxide. Excess nitric oxide will cause inappropriate relaxation of the gastroesophageal sphincter (as will excess parasympathetic nerve activity). Nutrition supplements designed to inhibit nitric oxide biosynthesis include melatonin, along with tryptophan, vitamin B6, folic acid, vitamin B12, methionine, and betaine. Research shows this supplementation achieves symptomatic relief in 100% of the patients with GERD, compared to only 66% symptom improvement in those taking proton pump inhibitors. ----- Another effective combination of supplements includes melatonin 6 mg, 5-HTP 100 mg, methionine 500 mg, betaine 100 mg, taurine 50 mg, riboflavin 1.7 mg, vitamin B6 0.8 mg, folic acid 400 mcg, and calcium 50 mg. Reduction of melatonin to 3 mg results in the return of symptoms.

If you want a functional test for gastric/peptic ulcers, and often for duodenal ulcers, simply have the patient on an empty stomach ingest 1 non-enteric coated tablet of bromelain enzyme. If there is pain, then there is an ulcer. If there is no pain, then later that day or the next day on an empty stomach, swallow 2 tablets. If no reaction, then swallow 3 tablets some other time on an empty stomach, then as much as 4. If 4 tablets elicit no painful response, then go back to 1, then 2, then 3, then 4, completing 2 cycles of the proteolytic enzyme challenge. If there is never any pain, then there is no ulcer.

The mechanism behind bromelain as a diagnostic aid for upper GI ulcers is simple --- bromelain is a proteolytic enzyme. When there is an ulcer the mucosal tissue is exposed and unprotected --- essentially, it is raw meat. The bromelain will literally begin to “digest” the lesioned tissues on a small scale. (For your information, most meat tenderizers are either bromelain or papain --- and the way they work is by digesting the meat protein.)

- Note also that hydrochloric acid will not exacerbate the pain of a stomach ulcer. It will exacerbate the pain of reflux esophagitis only because the stomach contents that are being refluxed into the inflamed esophagus are acid, but not because the reflux is caused by excess hydrochloric acid.