HCL...The Most Important Supplement Ever?

Hydrochloric acid presents a few dilemmas for those of us seeking better supplements on a daily basis.

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Do you want to sleep better, have more stamina, and achieve better body composition? Many people can't understand why they are always tired, or aren't getting significant muscle and fat loss results from their hard work in the gym. The solution is to achieve adequate stomach acid for digestion in order to break down and absorb essential protein and nutrients.

Before you take another supplement or eat a nutritious, organic meal packed with protein and antioxidants, please, please, please test your stomach acid! If you don't have enough stomach acid to break down food, all your careful (and expensive) supplementation and meal preparation will be ineffective.

Stomach acid is a digestive fluid formed in your stomach to break down food. It contains hydrochloric acid (HCL), potassium chloride, and sodium chloride. It activates digestive enzymes and plays a principal role in the breakdown of protein by unraveling the long chains of amino acids. The potassium and sodium chloride are rarely limiting factors in the production of stomach acid—it's the HCL that people tend to have trouble producing.

Stomach acid is necessary for the following functions:

- Absorption of at least eight essential nutrients are dependent on adequate stomach acid: calcium, vitamins B9 and 12, magnesium, zinc, iron, vitamin C, and beta carotene
- Absorption of the antioxidant vitamins A and E, putting you at greater risk of oxidative stress and chronic inflammation
- Breakdown of protein for use in tissue and muscle synthesis
- Activation of enzymes, hormones, and neurotransmitters
- Prevention of bacterial pathogens from going into the lower GI tract, causing infection, and putting you at risk of disease and stomach cancer

Many people think gastric stress is normal. It is not. A strangely common misconception is that Westerners have too much stomach acid. This is rarely true!

A more common problem is having much too little stomach acid for appropriate digestion, which produces gastric stress and can greatly increase your risk of stomach cancer. A serious but common problem is that because low stomach acid leads to impaired digestion, it is often misdiagnosed as having too much stomach acid. This is because when the stomach does not empty correctly, partly digested carbohydrates and proteins that have started to ferment in the stomach will back up into the esophagus—an uncomfortable problem that is interpreted by uninformed individuals and physicians as too much stomach acid.

For example, a research study found that individuals with were found to have clinically low stomach acid, called hypochlorhydria, tended to experience much more acid reflux when lying down than those with normal stomach acid. Over 50 percent of these people had previously been misdiagnosed by a doctor as having too much stomach acid, or hyperchlorhydria, and had been told to take antacids! This misdiagnosis and subsequent use of antacids then puts the patient at risk for chronic disorders such as bone fractures and osteoporosis because calcium and magnesium are not getting absorbed. Bone fracture rates triple in individuals with low stomach HCL. Plus, studies show you will be 100 times more at risk of getting sick from bacterial pathogens like E. Coli than if your stomach was able to

make adequate HCL.

Even if you haven't gotten rid of all your stomach acid by taking antacids, other factors lead to persistently low stomach acid including the following:

- Age—your stomach's ability to produce HCL decreases by about 1 percent every year, meaning that by age 70, your HCL is 70 percent lower than when you were born.

According to a 1989 survey of the prevalence of diagnosed hypochlorhydria, or clinically low stomach acid, at least 37 percent of people over age 60 do not produce enough HCL. This number far underestimates the problem of low HCL, and as much as 98 percent of the population may suffer from impaired HCL.

- Oxidative stress and inflammation due to poor diet, chemical additives in food, and exposure to pesticides impair the body's ability to produce HCL. This leads to poor digestion and infection by bacterial pathogens, which will lead to severe GI problems and increase your risk of stomach cancer exponentially.

For example, one study of mice that were bred to have low stomach acid had between 110 and 125 percent more dangerous bacteria in their GI tracts than did mice that had normal stomach acid levels.

- Stress from all sources reduces the acidity of the stomach. If your cortisol is elevated, you can bet your stomach will be negatively affected. The constant stress of modern life including exposure to radiation, lack of sleep, poor diet, and oxidative stress produced from aerobic training on machines reduces the stomach's ability to produce HCL.

- Incorrect antacid use is a major contributor—no clear statistics exist, but it's likely that more than 50 percent of people who use antacids actually have low stomach acid and should not be using them.

The natural medicine doctor Bob Rakowski suggests that 98 percent of the American population is deficient in HCL because of increased stress levels (both physiological and psychological stress). I have found similar results with the clients, and even young elite athletes, such as top college football prospects and national team soccer and rugby players are turning out to be completely HCL deficient.

Indirect symptoms of low stomach acid include the lack of results from training, inability to lose fat despite following a fat loss protocol, and always being tired. Symptoms that are directly related to low HCL include the following:

1) Belching, bloating, or "acid reflux" after eating
2) Indigestion and constipation because food is not being digested properly
3) Skin conditions such as acne
4) Vertical ridging on the nails because of inability to absorb nutrients from food
5) Leg and foot cramps because you are not absorbing minerals
6) Chronic injuries due poor amino acid status and inability to restore tissue
7) Food allergies and asthma
8) Gallstones
9) Poor cognitive function and the onset of dementia
10) Low bone mineral density and osteoporosis

Whether you or your clients suffer from any of these symptoms or not, I highly recommend you do a

simple stomach acid test. Remember, you can't fix nutrient deficiencies no matter how carefully you plan your diet and unless you have a healthy gut and nice levels of HCL. ?

How to Test Your HCL Level
To test your stomach acid, you need to get an HCL supplement. *DO NOT do this test if you have PEPTIC ULCERS*. Rather, consult a functional medicine doctor for treatment.

To do the HCL test, I suggest using a dose of 200 mg capsules from betaine HCL because betaine is known to stimulate protein synthesis and support athletic performance. The supplement I use is Digest Force and it contains this 200 mg dose of HCL along with pancreatic enzymes to support elevated nutrient absorption.

In the middle of your next solid meal, take one 200 mg dose of HCL. The response you are looking for is a warm sensation in your stomach, like if you just drank a cup of very hot tea. It is not going to feel as if you just drank napalm. It is unlikely you will feel any response to one capsule.

At each subsequent meal, increase the dose of HCL by one capsule until you can feel the warmth in your stomach. DO NOT EXCEED SEVEN CAPSULES (1400 mg HCL). If you do get an uncomfortable burning sensation from the HCL, just drink a glass of water. Don't worry, HCL is something your stomach should be producing on its own. It just needs to be supported to do so.
The dose that produces a warm sensation indicates the degree of HCL deficiency (low stomach acid) that you have. If you need all seven capsules, you have severely low stomach acid—that is, your body should be producing nearly 1400 mg of HCL on its own, but isn't. If you need just one capsule, you know your stomach is not producing quite enough acid, and now is the time to prevent a serious problem from developing.

To treat low stomach acid, identify the amount of HCL needed to produce the warm sensation, subtract one capsule (200 mg) from that dose and take that amount at every meal. Smaller meals might require less supplemental HCL and larger meals might require more.

Once you start HCL therapy, you should immediately notice changes like a decrease in bloating, belching, and less indigestion. After a time, you will have better results from training especially if you your diet is optimal. Now is the time to begin supplementation to help you round out your diet because the nutrients will be absorbed and utilized. Just as important, your stomach can protect you from dangerous bacteria that is the leading cause of ulcers, and puts you at significant risk of stomach cancer.

You will also likely find that HCL therapy will improve your sleep because your body is beginning to absorb all the minerals and vitamins it needs, which will affect your hormone and neurotransmitter levels. Not only will you no longer be deficient in nutrients that help with energy and give you stamina, but sleep will be more restorative. The combination will support body composition and fat loss.

Better digestion and absorption of protein and nutrients will support protein synthesis and the development of lean body mass, while helping you avoid deficiencies that can cause poor health and hinder fat loss attempts. For example, one study in the journal *Clinical and Experimental Allergy* found that low stomach acid hindered the digestion of codfish protein in mice. Along with less protein absorption, there was evidence of the development of protein allergies in the mice population over time.

The Flip Side of Low HCL
If you really do have too much stomach acid, you need to know that there are natural treatments that

are effective. A study in the American Journal of Gastroenterology found that zinc salts (zinc bound with chloride) will rapidly decrease the secretion of stomach acid in humans. Building on animal studies, researchers found that after a taking a dose of zinc salt, participants had lower stomach acid production and higher pH, which is a more favorable gastric environment.

Another form of zinc, zinc carnosinate will help treat the dangerous bacteria H. pylori that commonly infests the lower intestine of individuals with gastrointestinal problems. It helps heal the stomach lining and allows the body to achieve optimal stomach acid secretion.

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