

Are you acidic or alkaline?

Do you have a Potentially Terminal Illness?

Understanding the use of magnesium bicarbonate begins with understanding the pancreas, which is the organ most responsible for producing the bicarbonate our bodies need. The pancreas is a long, narrow gland, which stretches from the spleen to about the middle of the duodenum. It has three main functions. First, it is to provide digestive juices, which contain pancreatic enzymes in an alkaline solution to provide the right conditions for the digestive process to be completed in the small intestines.. Second, the pancreas produces insulin, the hormone, which controls blood sugar by the metabolism of sugar and other carbohydrates. Third, it secretes bicarbonate to neutralize acids coming from the stomach to provide the right environment for the pancreatic enzymes to be effective. The bicarbonate ions also act as buffers to maintain the normal levels of acidity (pH) in blood and other fluids in the body.

Dr. Robert Young, states, "Excess acidity is a condition that weakens all body systems. The pancreas is one of our body's organs charged with the awesome responsibility to alkalinize us."

The pancreas, an organ largely responsible for pH control, [1] is one of the first organs affected when general pH shifts to the acidic. We can now see how chronic metabolic acidosis has overwhelmed our pancreas' ability to operate effectively? A highly acidic pH level puts the pancreas, liver, and all the body's organs at risk.

Chronic metabolic acidosis overwhelms the pancreas' ability to operate effectively. With excess acids in the body the pancreas cannot produce, store, or secrete enough bicarbonate to neutralize the acids. Without sufficient bicarbonate reserves, the pancreas is slowly destroyed; the body is not able to maintain normal pH levels. This is the underlying cause of much of human disease.-this is what is known as "chronic metabolic acidosis!".

When calcium, magnesium, potassium, and sodium bicarbonates are supplemented in the body they buffer excess acids; this allows the pancreas to produce and store bicarbonate. The pancreas now has sufficient reserves to secrete bicarbonate when needed and keeps keep our pH balanced.

One study sponsored by the National Institutes of Health shows that 68% of Americans are magnesium deficient. [2] Other experts put the number closer 80%. Obviously, if up to 80% of Americans have a magnesium deficiency, and we want to buffer excess acids from our bodies, it is paramount to use what we are lacking in - magnesium bicarbonate. When excess acids are buffered with magnesium bicarbonate we are more capable of resisting and chelating toxins. Magnesium bicarbonate protects us from the constant assault of noxious chemicals, heavy metals, and radiation exposure we are subjected to everyday in our water, food, and air.

Bicarbonate physiology and chronic metabolic acidosis are entirely ignored for the host of medical problems we see today. Who would stop long enough to think deeply, and make the connection between drinking acidic water (acid rain), acid-producing diets, and over exercising with the destruction of the pancreas and a cascade of health problems?

Scientists already know a great deal about how acidification can disrupt the natural order, from the molecular level to the scale of living organisms:

- Enzymes, which catalyze vital reactions inside cells, are dependent on the acidity of the surrounding environment and are rendered less effective or totally inactive by increases in acid levels.
- Proteins, which comprise a significant part of the matter in all cells, undergo changes in geometry and function when altered.
- Organisms generally cannot reproduce and maintain themselves in optimal fashion unless their environment stays within a fixed range of acid/alkaline balance.

If we have chronic metabolic acidosis, what is the result? Cancer, arthritis, decreased bone density, diabetes, heart disease, chronic fatigue, allergies, dry skin, weight gain or inability to lose weight, depression, inability to concentrate or focus, prone to colds and bronchitis, parasites, fungus, Candida, trouble with sleep patterns. At low pH levels (acidity), our immune system weakens which leads to dysfunction, allowing degenerative agents to thrive. One of the basic things that stand between you and perfect health is your body's pH; your basic metabolic body balance.

When magnesium bicarbonate enters body cells, the concentrations of bicarbonate ions inside body cells are increased. The bicarbonate derived from magnesium bicarbonate produces hydroxide ions (OH-) inside body cells, which neutralize the acid (H+) from carbon dioxide concentrations, ATP hydrolysis and other sources. This occurs via a series of sequential and simultaneous reactions. Magnesium bicarbonate enters body cells and dissociates to increase bicarbonate ion concentrations inside body cells.

It is to be emphasized that magnesium bicarbonate assists in the maintenance of cell homeostasis. Intracellular homeostasis is very dependent on the "here and now;" and very dependent on the immediate maintenance of ideal biochemical conditions.

Magnesium bicarbonate also decreases the production of acid from carbon dioxide in body cells. Thus, when magnesium bicarbonate is present in body cells then the time dependency for carbon dioxide elimination from the lungs and the time dependency for acid elimination by the kidneys do not operate as adversely on the homeostasis of body cells. Aging is greatly delayed.

References

Inorganic calcium is a magnesium antagonist. When we have a magnesium deficiency, inorganic calcium builds up in the cells causing angina, arrhythmia, hypertension, headaches, and asthma. Magnesium is nature's inorganic calcium channel blocker. [3,4,5]

Cited Sources:

[1] Epithelial cells in pancreatic ducts are the source of the bicarbonate and water secreted by the pancreas. Bicarbonate is a base and critical to neutralizing the acid coming into the small intestine from the stomach. The mechanism underlying bicarbonate secretion is essentially the same as for acid secretion parietal cells and is dependent on the enzyme carbonic anhydrase. In pancreatic duct cells, the bicarbonate is secreted into the lumen of the duct and hence into pancreatic juice.

[2] "Dietary Magnesium and C-reactive Protein Levels," Journal of the American College of Nutrition, Vol. 24, No. 3, 166-171 (2005).

[3] Iseri LT & French JH. "Magnesium: nature's physiologic calcium blocker." Am Heart J, 108, 188-193, 1984.

[4] seelig MS. "Cardiovascular reactions to stress intensified by magnesium deficit in consequences of magnesium deficiency on the enhancement of stress reactions; preventive and therapeutic implications: a review," J Am Coll Nutr, 13, 5:429-446, 1994.

[5] Rodale JR. Magnesium: The Nutrient that Could Change Your Life, Rodale Press: Emmaus, PA, 1971.

The Solution