

# Sodium Bicarbonate

*Bicarbonate of soda can be a simple cure to autoimmune diseases.*

The research report is titled Oral NaHCO<sub>3</sub> Activates a Splenic Anti-Inflammatory Pathway: Evidence That Cholinergic Signals Are Transmitted via Mesothelial Cells. NaHCO<sub>3</sub> is the chemical makeup of bicarbonate of soda, commonly known as baking soda. Splenic refers to the spleen. Cholinergic refers to choline, a primary component of the neurotransmitter acetylcholine found in nerve fibers, are thin plate-like cells that cover the walls of fluid containing cavities within the body.

The researchers' message is: Our data indicates that oral NaHCO<sub>3</sub> activates a splenic anti-inflammatory pathway and provides evidence that the signals that mediate this response are transmitted to the spleen via a novel neuronal-like function of mesothelial cells.

Their research discovered the spleen's role in mitigating inflammation beyond raising acidic pH levels to higher alkaline levels, which is a recognized attribute of baking soda even in mainstream medicine.

Sodium Bicarbonate (NaHCO<sub>3</sub>) commonly called baking soda is a natural substance used in the human body within the bloodstream to regulate pH as a counterbalance to acid build up. Bicarbonate affects the pH of cells and tissues, balances cell voltage and increases CO<sub>2</sub> which helps with oxygenation. This process is essential for life.

Sodium Bicarbonate can be used as a first line of defense for a vast range of sickness including, *cancer, flu, diabetes, kidney disease and the common cold*. Sodium Bicarbonate can be used in many forms whether transdermally in a bath, orally or nebulized for lung conditions.

Autism patients should include sodium bicarbonate in their protocols. Chronic inflammation in the brains of autistic patients, resulting from an over-active immune system is a sign of autoimmunity. The inflammation indicates that the brain is responding to a process that is stressing or damaging brain cells, a process which might include oxygen radicals.

## **Why is Bicarbonate so Important?**

Dr. Lynda Frassetto of University of California, San Francisco says, *"Insufficient amount of bicarbonates in our blood reduces our capabilities to manage (neutralize and dump) the acid our body produces. This is the cause of aging. The age of 45 is the average age when human beings start to show symptoms of diabetes, hypertension, osteoporosis and many other adult degenerative diseases. And since we cannot manage the acid, we accumulate acidic wastes in our body. These wastes show up as cholesterol, fatty acid, uric acid, urate, sulfate, phosphate, kidney stones, etc."*

An important function of alkaline water is to increase bicarbonates in the blood because we lose bicarbonates as we age. The change of pH value causes the stomach to produce hydrochloric

acid that enters the stomach, and the bicarbonates enter the bloodstream. When we say that we alkalize our body, we do not necessarily mean increasing our saliva pH or urine pH; it means increasing the bicarbonates in our blood. The blood pH does not change, but the ability of our blood to neutralize acid in the body increases quite dramatically.

In the January/February 2003 issue of American Industrial Hygiene Association Journal, Dr. Gospodinka R. Pradova published the result of a 10-year study of industrial pollution in Bulgaria. The study compares two groups of people in a plastic manufacturing plant: one group working in the plant with chemical pollution, the other in the non-polluted office environment of the same company. The conclusion shows that people living/working in a polluted environment have fewer amounts of bicarbonates in their blood than people working in a clean environment. Therefore, if you are a city dweller with a fair amount of air pollution you should take notice of your bicarbonate levels and eat a diet high in antioxidants.

## **Life Saving Bicarbonate**

Dr. Edward R. Hays wrote many years ago that, "In 1918 and 1919 while fighting the 'Flu' with the U.S. Public Health Service it was brought to my attention that rarely anyone who had been thoroughly alkalinized with Bicarbonate of Soda contracted the disease, and those who did contract it, if alkalinized early, would invariably have mild attacks. I have since that time treated all cases of "Cold," Influenza and LaGripe by first giving generous doses of Bicarbonate of Soda, and in many, many instances within 36 hours the symptoms would have entirely abated."

Bicarbonate is present in all body fluids and organs and plays a major role in the acid-base balances in the human body. Bicarbonate deficiencies spell big trouble for human physiology when the vascular system begins to deteriorate as less oxygen is delivered to the cells. Bicarbonate deficiency is synonymous with carbon dioxide deficiencies, which occur in everyone who does not exercise properly. Bicarbonate is wonderful medicine it is because it turns into carbon dioxide in the stomach, which drives bicarbonates into the blood.

## **Sodium Bicarbonate and Kidney Disease**

Sodium bicarbonate is not only an excellent agent for natural chemotherapy, as it causes higher O<sub>2</sub> levels through increased alkalinity to the cells. It is also one of the most basic medicines we have for kidney disease. New research by British scientists at the Royal London Hospital shows that sodium bicarbonate can dramatically slow the progress of chronic kidney disease.

Oral sodium bicarbonate eases hyperphosphatemia in peritoneal dialysis (PD) patients with metabolic acidosis, researchers reported at Kidney Week 2012. Sodium bicarbonate was given orally with a total dose of 3,900 mg daily for one month. With oral sodium bicarbonate, serum bicarbonate improved significantly from 19 to 24.9. Results showed that 69% of treated patients had phosphate levels below 5.5 and calcium-phosphate product below 55, which are the target levels recommended by guidelines developed under the Kidney Disease Outcomes Quality Initiative. The investigators concluded that oral sodium bicarbonate treatment corrects metabolic acidosis.

## **Reducing Radiation Damages with Sodium Bicarbonate**

So deep are the protective, buffering and neutralizing properties of bicarbonate that it is used even with radiation exposure to protect the kidneys and other tissues. In a world that is already overexposed to uranium and mercury, sodium bicarbonate becomes even more important because mercury and uranium oxide directly attack the nuclear material and mitochondria of the cells.

Military manuals suggest doses or infusions of sodium bicarbonate to help alkalize the urine if uranium contaminates the kidneys.

## **Sodium Bicarbonate and Cancer**

Sodium bicarbonate possesses the property of absorbing heavy metals, dioxins and furans. Comparison of cancer tissue with healthy tissue from the same person shows that the cancer tissue has a much higher concentration of toxic chemicals, pesticides, etc.

The World Health Organization (WHO) has classified outdoor air pollution as a leading cause of cancer in humans. *"The air we breathe has become polluted with a mixture of cancer-causing substances,"* said Kurt Straif of the WHO's International Agency for Research on Cancer (IARC). One of the reasons bicarbonate is so important to the world's populations, 95 percent who now live in urban centers with heavy pollution, is that breathing toxic air creates massive bicarbonate deficiencies in the blood!

The heavy metals in the air we breathe contribute to carcinogenesis by inducing/increasing oxidative stress. Oxidative stress damages DNA and can lead to mutations that promote cancer. Heavy metals also disrupt the process of apoptosis (programmed cell death). Apoptosis is vital for safe removal of sick/unhealthy cells, including cells that may become cancerous.

*"Studies conducted at the University of Bari in Italy clearly demonstrated that a hallmark of all tumors, regardless of their origin or background, is their acidic environment. In fact, tumor progression increased with an acidic pH and hypoxia, or a low oxygen level,"* writes Dr. Veronique Desaulniers.

Researchers reported that bicarbonate increases tumor pH (i.e., makes it more alkaline) and also inhibits spontaneous metastases (Robey 2009). They showed that oral sodium bicarbonate increased the pH of tumors and reduced the formation of spontaneous metastases in mice with breast cancer. It also reduced the rate of lymph node involvement.

*"The results of a study suggest that tumor cells do, indeed, perform niche engineering by creating an acidic environment that is non-toxic to the malignant cells but, through its negative effects on normal cells and tissue, promotes local invasion."* Tumor invasion did not occur into regions with normal or near-normal pH.

## Conclusion

Few people know that a decreased level of carbon dioxide/bicarbonates in the blood leads to decreased oxygen supply to the cells in the body including in the brain, heart, kidneys etc. Carbon dioxide (CO<sub>2</sub>) was found at the end of the 19th century by scientists Bohr and Verigo to be responsible for the bond between oxygen and hemoglobin. If the level of carbon dioxide in the blood is lower than normal, then this leads to difficulties in releasing oxygen from hemoglobin. Hence the Verigo-Bohr law:

According to the Verigo-Bohr effect, we can state that a CO<sub>2</sub> deficit caused by deep breathing leads to oxygen starvation in the cells of the body.

Under clinical conditions, low oxygen and low carbon dioxide/bicarbonate generally occur together. Therapeutic increase of carbon dioxide, by oral use of bicarbonates and by slowing the breathing down is an effective means of improving the oxygenation of the blood and tissues.

Bicarbonate is an essential nutrient and our stomachs, pancreas and kidneys often must struggle to produce enough—especially as we get older. Doctors who warn people away from taking additional bicarbonate should have their licenses taken away! Bicarbonate is nutritional!

Another good way of taking sodium bicarbonate is to squeeze a fresh lemon into the glass, which turns it instantly into carbon dioxide. Taking bicarbonate with maple syrup or black strap molasses is not recommended if one is using it for cancer treatment unless one is starving to death because the cancer is consuming all your glucose.