

# Using Sodium and Potassium Bicarbonates in the Prevention and Treatment of all Sickness and Disease

## Abstract

This article suggests that the use sodium and potassium bicarbonates are non-toxic primary alkalizing agents in the prevention and treatment of all cancers, kidney disease, liver disease, Type I & Type II diabetes, Lupus, heart disease, Pharmacological toxicosis, vascular surgery operation, tonsillar herniation due to cerebral edema, lactic acid toxicosis, and hyponatremia or low salt or loss of salts due to excessive or over-exercise!

**Keywords:** Cancer; Diabetes; Lupus; Heart disease; Vascular surgery; Herniation; Cerebral edema; Lactic acid toxicosis; Liver disease; Kidney disease; Hyponatremia; Pharmacological toxicosis

## Mini Review

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## Introduction

Sodium and potassium bicarbonate are excellent agents for a natural alkaline approach in the treatment for all sickness and disease, including cancer. Sodium bicarbonate is the universal mainstream treatment of acidosis. It is used every day by oncologists to neutralize the heavy acidic nature of their chemical and chemotherapeutic agents which are often quite toxic. Sodium bicarbonate is also used routinely in many clinical situations as herein noted including many peer-reviewed journals:

- a. Severe diabetic ketoacidosis [1]
- b. Cardiopulmonary resuscitation [2]
- c. Pregnancy [3]
- d. Hemodialysis [4]
- e. Peritoneal dialysis [5,6] Pharmacological toxicosis [6]
- f. Hepatopathy [7]
- g. Vascular surgery operations [8]

Medics and emergency room medical doctors are accustomed to participating in a flurry of activity when trying to save a person's life after a cardiac arrest--inserting IVs and breathing tubes, performing defibrillation to restart the heart, etc. Sodium bicarbonate is a constant performer under such conditions and is more commonly used than magnesium injections, which is traditionally at the top of every doctor's protocol for cardiac arrest.

Mainstream oncologists recognize the routine involvement of late stage infections which I refer to as outfections in all cancerous conditions. Medical savants also recognize that bacteria, yeast and mold is present in over forty percent of all cancerous conditions [9]. The most recent research in this area demonstrates how even viruses, which I describe as crystallized acid, is present in fifty percent of certain types of cancerous conditions [10].

Sodium and potassium bicarbonate increases the hydroxyl ions or electron levels through increased alkalinity to the cells buffering the metabolic acids that can cause cancer [20]. It is also one of the most basic medicines in allopathic and alternative medicine we have for the treatment of kidney disease. Research by British scientists at the Royal London Hospital shows that sodium bicarbonate can dramatically slow the progress of chronic kidney disease [11]. We don't need a thousand years of scientific tests to understand something as simple and essential as alkaline water and it is quite the same with sodium and potassium bicarbonate. Sodium and potassium bicarbonate are always present in the best alkaline drinking waters and organic raw green foods and is constantly being produced by the cover cells of the stomach to alkalize the acidic foods and liquids we ingest, including buffering metabolic and respiratory acids in order to maintain the alkaline design of the blood and tissues at a delicate pH of 7.365 [20].

## What is Latent Tissue Acidosis?

Medical doctors are not taught in medical school and therefore do not understand or recognize latent tissue acidosis. They understand and recognize compensated acidosis and decompensated acidosis. In compensated acidosis, breathing increases in order to blow off more carbonic acid which decreases  $\text{PCO}_2$  because of the lowered carbonate or  $\text{HCO}_3$ . When the breathing rate can no longer get any faster and when the kidneys can no longer increase its' function to keep up with the acid load, then the blood pH starts to change from a pH of 7.365 to 7.3 then to 7.2. At a blood pH of 6.95 the heart relaxes and the client goes into a coma or dies.

Latent "acidosis" is a condition that exists when there are not enough bases in the alkalophile glands because they have been used up in the process of neutralizing the acids adsorbed to the collagen fibbers. This leads to compensated "acidosis." This means the blood pH has not changed but other body systems have changed. This can then lead to decompensated "acidosis" where the alkaline reserves of the blood are used up and the pH of the

blood is altered. Decompensated “acidosis” can be determined by testing the blood pH, urine pH and the saliva pH. The decrease in the alkaline reserves in the body can occur because of hyper-proteinization, (eating meat and cheese!) or too much protein, and hyper-carbonization, or too much sugar or from excessive or over-exercise. This is why young athletes fall over dead or why 80 to 90 year old folks are all shrunk up and look like prunes. They have very little or no alkaline reserves in their alkalophile glands. When all the alkaline minerals are gone, so are you and your battery runs out of charge. The charge of your cellular battery can be measured by testing the ORP or the oxidative reduction potential of the blood, urine or saliva using an ORP meter. As you become more acidic this energy potential or ORP increases.

### How is Sodium Bicarbonate created In the Body?

The parietal or cover cells of the stomach split the sodium chloride of the blood. The sodium ion is used to bind with water and carbon dioxide to form the alkaline salt, sodium bicarbonate or  $\text{NaHCO}_3$ . The biochemistry is:  $\text{H}_2\text{O} + \text{CO}_2 + \text{NaCl} = \text{NaHCO}_3 + \text{HCL}$ . This is why I call the stomach an alkalizing organ not an organ of digestion. The stomach does not digest the food or liquids we ingest but it alkalizes the foods and liquids we ingest. We have one instrument in the human body to digest food and it is not the stomach it is your teeth. Once we swallow our food or drink the stomach begins to prepare the food by alkalizing it in a bath of sodium bicarbonate.

For each molecule of sodium bicarbonate ( $\text{NaHCO}_3$ ) made, a molecule of hydrochloric acid (HCL) is made and secreted into the so-called digestive system - specifically, the stomach (the gastric pits in the stomach) - to be eliminated via the blood. Therefore HCL is an acidic waste product of sodium bicarbonate created by the stomach to alkalize the food and liquids ingested.

### Exercise Creates Metabolic Acidic Waste Products which are Harmful to the Blood and Tissues

When one exercises or over-exercises the body needs additional alkaline bicarbonate salts to buffer lactic acids. The additional bicarbonate is created in the stomach lining to buffer the increased amounts of lactic acids produced as a waste product of metabolism. The production of sodium bicarbonate will always leave an acidic waste product of hydrochloric acid in the gastric pits of the stomach leading to nausea, light headedness, dizziness, muddle thinking, and poor circulation. If the excessive exercise continues this can then lead to a deficiency of mineral and bicarbonate salts (electrolytes lost through perspiration or urination) which may lead to latent tissue acidosis, pain, edema, hyponatremia and death.

But how does something like sodium and/or potassium bicarbonate, so seemingly innocuous have such a dramatic effect? During prolonged or intense exercise muscles produce large amounts of acidic waste products, such as lactic acid, that leads to soreness, stiffness, fatigue and possible edema if these acids are not buffered and eliminated through urination or perspiration. Because sodium and potassium bicarbonate naturally reduces metabolic acids, it acts as a buffer against these performance-limiting by-products.

Current research suggests that supplemental sodium bicarbonate, like the pH Miracle pH our Salts (contains sodium and potassium bicarbonate) is particularly helpful in speed-based events, including sprints, football and other fast-moving games, and middle-distance (up to 10km) running, swimming and cycling. “Essentially, sodium bicarbonate is an alkaline substance that increases the pH of the blood,” Dr Folland says. “This seems to reduce and offset the acidity produced in the muscles during intense, anaerobic exercise that produces lactic acid most quickly, such as fast running or swimming.”

In Dr Folland’s study, swimmers who took the sodium bicarbonate knocked 1.5 seconds off their time for 200m, a difference that may seem insignificant to recreational swimmers but which is substantial at elite level.

“At the last Olympics, the top four swimmers in the men’s 200m freestyle were separated by just 1.4 seconds,” Dr Folland says. “So, in theory, it could be the difference between winning a medal and not.”

Anyone can try it, he says, but only those who are serious enough to monitor their times and progress in sports such as running, swimming or cycling may notice the few seconds advantage it might provide. “The increments of improvement are relatively small to the average person, although significant to someone who competes,” Dr Folland says.

Athletes for years have sworn that taking a spoonful of bicarbonate of soda (baking soda) helps them to keep going for longer. For years, experts doubted that there was anything other than a placebo effect to these claims until they subjected the substance to rigorous examination. Most exercise scientists investigating the trend for “soda-doping” among athletes and gym-goers have shown that it offers significant benefits for endurance and speed.”

At Loughborough University, for instance, physiologists reporting in the June issue of the International Journal of Sports Medicine showed that swimmers who took baking soda about one hour before a 200m event were able to shave a significant time off their usual performances. Dr Jonathan Folland, who led the study, says that it is not uncommon for top swimmers to take sodium bicarbonate (another name for the substance) before a competition to give them an edge. Indeed, he showed that of nine swimmers tested, eight recorded their fastest times after ingesting a supplement of the common baking ingredient - sodium bicarbonate.

### Where are Bicarbonates Created in the Human Body and Why?

The chloride ion from the sodium chloride (salt) binds to an acid or proton forming HCL as a waste product of sodium bicarbonate production. HCL has a pH of 1 and is highly toxic to the blood and tissues and the cause of indigestion, acid reflux, ulcers, diabetes, cancer, hyponatremia, edema, tonsillar herniation and death. When large amounts of acids, including HCL, enter the stomach from a rich animal protein or dairy product meal, such as meat and cheese, or from starchy foods from root vegetables like potatoes or during extreme exercise, acid is withdrawn from

the acid-base household. The organism would die if the resulting alkalosis - or  $\text{NaHCO}_3$  (base flood) or base surplus - created by the stomach was not taken up by the alkalophile glands (salivary glands, pancreas, kidney, pylorus glands, Brunner's glands, Lieberkuhn glands and liver) that need these quick bases in order to build up their strong sodium bicarbonate secretions. These alkalizing glands and organs are the stomach, pancreas, Brunner's glands (between the pylorus and the junctions of the bile and pancreatic ducts), Lieberkuhn's glands in the liver and its bile with its strong acid binding capabilities which it has to release on the highly acidic meat, cheese, potato, acid water or metabolic and/or respiratory acids from over-exercise to buffer its strong acids of nitric, sulphuric, phosphoric, uric and lactic acids in daily metabolism, respiration and excessive or over-exercise.

Bicarbonate acts to stimulate the ATPase by acting directly on it [12].

The simple household product used for baking, cleaning, bee stings, treating asthma, cancer and acid indigestion is so effective in treating disease that it prevents patients from having to be put on kidney dialysis. The findings have been published in the Journal of the American Society of Nephrology. Bicarbonate is a truly strong universal concentrated nutritional medicine that works effectively in many clinical situations that we would not normally think of. Bicarbonates of sodium and potassium are a prime emergency room and intensive care medicine that can save a person's life in a heartbeat and it is also a supermarket item that you can take right off the shelf and use for more things than one can imagine - including diaper rash.

Dr. SK Hariachar, a nephrologist who oversees the Renal Hypertension Unit in Tampa, Florida stated, upon seeing the research on sodium bicarbonate and kidney disease, "I am glad to see confirmation of what we have known for so long. I have been treating my patients with bicarbonate for many years in attempts to delay the need for dialysis, and now we finally have a legitimate study to back us up. Not only that, we have the added information that some people already on dialysis can reverse their condition with the use of sodium bicarbonate".

A dialysis technician at the same center as Dr. Hariachar, who used to be on dialysis himself for 2 years as a result of kidney failure, had his kidneys miraculously start functioning to the point where dialysis was no longer needed. He states that he was prescribed oral doses of sodium bicarbonate throughout his treatment, and still takes it daily to prevent recurrences of kidney failure. Dr. Hariachar maintains though, that not everyone will be helped by taking bicarbonate. He says that those patients who have difficulty excreting acids, even with dialysis using a bicarbonate dialysate bath, that, "oral bicarbonate makes all the difference."

### The Stomach, Pancreas and Kidneys Naturally Produce Sodium Bicarbonate every Day

The exocrine section of sodium bicarbonate from the stomach and the pancreas has been greatly ignored in the treatment of diabetes and cancer even though its impairment is a well documented condition. The stomach and the pancreas is primarily responsible for the production of sodium bicarbonate necessary

for normal alkalization of food and liquids ingested. Sodium bicarbonate is so important for protecting the kidney's that even the kidneys get into the act of producing sodium bicarbonate. We now know the common denominator between hyponatremia, inflammation, edema, diabetes, kidney disease, and cancer is the lack of sodium and potassium bicarbonate or the body's inability to produce sodium and potassium bicarbonate because of a lack of mineral salts in the diet. When the body is hit with reductions in sodium bicarbonate output by these three organs, acid conditions build up and then the entire body physiology begins to change from a state of oxygenation to fermentation. Likewise when acid build-up outstrips these organs normal sodium bicarbonate capacity, cellular, tissue, glandular and organ deterioration begins.

The stomach, pancreas and the kidneys alone produce about five hundred grams (about one pound) of sodium and/or potassium bicarbonate per day in an attempt to neutralize dietary and/or metabolic acid in the blood and interstitial fluids that surround the body cells.

The stomach, pancreas and the kidneys monitor and control the acidity or "acid-base" (pH) balance of the blood and tissues. If the blood and tissues are too acidic, the stomach and/or the kidney's make sodium bicarbonate to restore the blood and tissue pH back to a delicate pH balance of 7.365. If the blood or tissues are too alkaline, then the kidney excretes sodium bicarbonate into the urine to restore the 7.365 alkaline balance. Acid-base balance is the net result of two processes, first, the removal of sodium bicarbonate subsequent to hydrogen ion production from the metabolism or dietary constituents; second, the synthesis of "new" sodium bicarbonate by the stomach and/or the kidney's [13]. The stomach and kidneys pull salt, water and carbon dioxide from the blood to make sodium bicarbonate to maintain the alkaline design of the body during all functions of the body from the ingestion of food or drink to exercise. The chemical formula is as follows:  $\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2 = \text{NaHCO}_3 + \text{HCL}$ . The waste product of sodium bicarbonate is hydrochloric acid which is eliminated by kidneys as an acidic excretion of the urine.

It is considered that normal adults eating ordinary Western diets have chronic, low-grade acidosis which increases with age. This excess acid, or acidosis, is considered to contribute to many diseases and to contribute to the aging or rotting process. Acidosis occurs often when the body cannot produce enough sodium bicarbonate ions (or other alkaline compounds) to neutralize the acids in the body formed from metabolism and eating and drinking highly acid foods and drinks like chicken, pork, beef, dairy products, coffee, tea, alcohol, chocolate, soft drinks, just to name a few. We are also testing bottled mineral water and finding that these waters are acidic and may contribute to overall tissue acidosis.

Acid-buffering by means of base supplementation (The pH Miracle pH our Salts) of sodium bicarbonate is one of the major roles of dialysis. Sodium bicarbonate concentration in the dialysate (solution containing water and chemicals (electrolytes) that passes through the artificial kidney to remove excess fluids and wastes from the blood, also called "bath.") should be personalized in order to reach a midweek pre-dialysis serum sodium bicarbonate concentration of 22 mmol/l [14]. Use of sodium bicarbonate in dialysate has been shown in studies to

better control some metabolic aspects and to improve both treatment tolerance and patients' life quality. Sodium bicarbonate dialysis, unlike acetate-free bio filtration, triggers mediators of inflammation and apoptosis [15].

One of the main reasons we become over-acid is from over-consumption of animal protein, dairy products, high sugar fruit, grains, alcohol, coffee, tea, chocolate, soft drinks and over-exercise or under-exercise. Eating meat and dairy products may increase the risk of prostate cancer, research suggests [16]. We would find the same for breast and other cancers as well metastatic cancers [17]. Conversely mineral deficiencies are another reason and when you combine high protein intake with decreasing intake of alkaline minerals you have a dis-ease in the making through lowering of pH into highly acidic conditions. When protein breaks down in our bodies they break into strong acids, such as, nitric, uric, sulphuric and phosphoric acid.

Unless a treatment actually removes acidic toxins from the body and increases oxygen, water, and nutrients most medical interventions come to naught.

These metabolic and dietary acids must be excreted by the kidney's because they contain sulphur, phosphorus, and/or nitrogen which cannot break down into water and carbon dioxide to be eliminated as weak acids. In their passage through the kidney's these strong acids of nitric, sulphuric, phosphoric and uric acid must take a basic mineral with them because in this way they are converted into their neutral salts and don't burn or destroy the kidney's on their way out. This would happen if these strong acids were excreted in their free acidic form.

Substituting a sodium bicarbonate solution for saline infusion prior to administration of radiocontrast material seems to reduce the incidence of nephropathy Thomas PK [18].

Sodium and potassium bicarbonate ions neutralize the acids that cause chronic inflammatory reactions. Hence, sodium and potassium bicarbonate are of benefit in the treatment of a range of chronic inflammatory and autoimmune diseases. Sodium and potassium bicarbonate are well-studied and used salts with known effects. Sodium and potassium bicarbonate are effective in treating poisonings or overdoses from many chemicals and pharmaceutical drugs by negating their cardio toxic and neurotoxin effects [19]. It is the main reason it is used by orthodox oncology - to mitigate the highly toxic effects of chemotherapy.

Sodium and potassium bicarbonates possess 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.

Sodium and potassium bicarbonate intravenous infusions are indicated in the treatment of metabolic acidosis, which may occur in severe renal disease, uncontrolled diabetes, and circulatory insufficiency due to shock or severe dehydration, extracorporeal circulation of blood, cardiac arrest, tonsillar herniation due to cerebral edema, severe primary lactic acidosis and hyponatremia due to excessive or over-exercise. During heavy exercise, if the resulting lactic acid is not adsorbed by the collagen fibers, the

specific acid catchers of the body, the blood pH will drop and the body will go into a coma and the person will die.

The total collection of these fibres is the largest organ of the body called SCHADE, the colloidal connective tissue organ. No liquid exchange occurs between the blood and the parenchyma cells, or in reverse, unless it passes through this connective tissue organ. This organ connects and holds everything in our bodies in place. This organ is composed of ligaments, tendons, sinew, and the finer fibres that become the scaffolding that holds every single cell in our bodies in place. When acids are stored in this organ, which includes the muscles, inflammation or edema and pain develop. The production of lactic acid is increased with excessive exercise and the ingestion of milk, cheese, yogurt, butter, ice cream, high sugar fruit and starchy root vegetables like potatoes.

That is why I have stated, "acid is pain and pain is acid or acid is edema and edema is pain". You cannot have one without the other. This is the beginning of latent tissue acidosis leading to irritation, inflammation, edema and degeneration of the cells, tissues and organs and eventual or sudden death. It is why we are seeing so many amateur and professional athletes pass out and die on the playing fields. Metabolic, respiratory and gastrointestinal acids can and do kill and death can be obverted by simply maintaining the alkaline design of the body fluids with protective hydration of alkaline sodium bicarbonate fluids.

The acid/alkaline balance is one of the most overlooked aspects of diagnostic medicine. In general, the world population is heavily acidic, excepting alkalarian vegans (those who ingest raw, organic green fruit, vegetables, mineral salts, alkaline water and unsaturated seed and nut oils), and even their bodies have to face increasing levels of environmental toxic exposure, which may contribute to an acidic pH condition of the blood and then tissues.

With over 30 years of research and testing over 100,000 individual samples of blood and over 100,000 samples of urine and saliva, I have come to the conclusion that the human body is an acidic producing organism by function - yet, it is an alkaline organism by design. Eating animal protein, especially meat and cheese, sugar, fermented foods, starchy foods like potatoes, acidic water, alcohol, coffee, tea, chocolate, and excessive exercise or under-exercise, obsessive behaviors, lack of rest, lack of sunshine, and emotional stress are deadly acidic lifestyle choices.

All enervation, under-performance, sensitivity, irritation, inflammation, edema, catarrh, in duration, ulcerations, degeneration, aging and cancerous conditions are caused by a four letter word - ACID, which is an acronym which stands for:

A: Acidic food and drink, attitudes and activities,

C: Compromised internal acidic environment,

I: Illness and dis-ease, and,

D: Desire for more acidic foods, drinks, attitudes and activities, and the cycle repeats itself [20].

We ingest acidic medicines to lessen the symptoms of our illness. We stimulate the body with unhealthy forms of energy providing quick, often temporary relief from our symptoms which

begins the cycle all over again creating a very powerful pattern of poor health and dis-ease.

### Conclusion

The pH Alkalinizing Lifestyle and Diet is a low acid producing diet and lifestyle that focuses on the foundational principal that the body is alkaline by design and yet acidic by function. This makes this program the ultimate program for preventing and reversing aging and the onset of sickness and disease. I would say that the pH Alkalinizing Lifestyle and Diet is the perfect diet and lifestyle for a longer healthier life [20].

### Acknowledgment

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### Conflict of Interest

None.

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