ALKALIZING WITH SODIUM BICARBONATE AND POTASSIUM CITRATE

by Walter Last

Our metabolism works best when the lymph fluid is slightly acid while the blood is always slightly alkaline. If the diet is deficient in minerals or the cellular energy production is inefficient, and produces much lactic acid instead of oxidizing nutrients to carbon dioxide and water, then the body gradually becomes too acid. This leads to loss of minerals and inflammations with pain and oversensitivity. Chronic inflammations cause most of the discomfort and health deterioration associated with chronic diseases. The most common conditions associated with inflammations are infections and Candida problems, autoimmune diseases, including arthritis, and cancer.

To reduce and eventually stop destructive inflammations the body needs to be alkalized. This is best done with mineral-rich vegetables, especially green leaf-vegetables and green protein powders such as spirulina, chlorella, and wheat grass or barley grass powder. However, until the inflammation is under control it is often helpful or necessary to use in addition alkalizing remedies such as sodium bicarbonate and potassium citrate. Both are 'natural' as the body produces large amounts of sodium bicarbonate to neutralize the stomach acid when it enters the intestines, and potassium citrate is the strongest alkalizing agent in citrus fruit.

When you dissolve sodium bicarbonate in water it is more alkaline than potassium citrate but inside the body potassium citrate becomes a stronger alkalinizer. Another difference is that sodium bicarbonate should not be taken with meals as it then reduces our stomach acid which is needed for digestion, but potassium citrate can be mixed with meals.

All this seems to show that potassium citrate is a better choice for alkalizing than sodium bicarbonate but which one is preferable really depends on some additional factors. The following conditions favour the use of potassium citrate:
1. A diet relatively high in sodium and low in potassium as in a conventional Western diet
2. Raised and especially high blood pressure
3. Kidney problems or water retention/edema.

Sodium bicarbonate, on the other hand, is called for
1. With low blood pressure
2. With a diet high in fruits and vegetables and low in salted foods.

For those who do not fit into one of these categories it may actually be best to take both alkalizers at a ratio of 2 parts of sodium bicarbonate to 1 part of potassium citrate. These may be mixed and taken together in the same drink, or they may be taken separately during the day. If you take more than 1 teaspoonful then space the alkalizers out during the day.

How much and for how long?

Sodium is the most abundant mineral in the blood and lymph fluid while potassium is highest inside cells. Therefore a sudden high intake of potassium can cause an imbalance in the blood, and higher amounts need to be distributed over several meals. A diet high in fruit and vegetables may provide 5 g of potassium daily while a normal 'good' diet supplies about 3 g. A level teaspoon of about 5 g of potassium citrate contains about 1 g of potassium. This amount 3 times a day with drinks or mixed with meals is about the upper recommended daily intake.

If there are no contraindications for sodium intake, then sodium bicarbonate in higher amounts is somewhat less critical. The best way to take it is with a drink some time (e.g. half an hour) before meals or, generally easier to 'stomach', 2-3 hours after meals. Another recommended way is to dissolve a teaspoon of bicarbonate in a large glass of water, stir in a teaspoon of psyllium hulls and drink immediately, best soon after rising. In all you may use up to 3 rounded teaspoons of bicarbonate spaced out over the day.

There are two ways of estimating how much to take and for how long. The simpler way is just to go by the amount of pain and other discomfort caused by an inflammation. The more inflammation and pain, the more alkalinizer you may take. When problems subside then you reduce the amount of alkalinizers, and eventually the minerals in a good diet may be sufficient to keep you well.
The other possibility and the better option is from time to time to measure the pH or acid-alkaline balance of your saliva or urine. The saliva is a better indicator of the condition of the lymph fluid but urine is easier to test. Take so much alkalizer that your urine during the day is mostly above pH 7 or slightly alkaline (pH 7 is neutral). To check your urine you may buy pH papers with a range from about 4 or 5 to 8 or 9 (see the Internet for suppliers).

Alternatively you may use turmeric dissolved in water or better methanol as explained in www.health-science-spirit.com/calcium.html. Turmeric changes colour at pH 6.8. Above this it is red and below 6.8 it is yellow. Therefore when the urine sample turns red you can assume that it is neutral or slightly alkaline.

If the overacidity was caused by an unbalanced food intake with too much acid-forming foods and not enough alkalizing foods, then the urine may respond within days to alkalizing remedies and foods. Acid-forming foods are generally high in phosphorus, such as meat, fish and eggs. Also sugar and refined cereals low in minerals increase acidity. However, if the overacidity is caused by damage to the oxidizing component of the cellular energy production then the overproduction of lactic acid may continue for a long time until health is sufficiently improved, for instance when a systemic Candida infection has been removed.

Another common cause of overacidity are allergies, especially food allergies. If you avoid an allergenic food for several days the urine may become more alkaline but if you then reintroduce the food, urine and saliva become again more acid within hours. You can make a urine test about two and a half hours after eating the food. To reduce or stop an allergic reaction take in a drink a rounded teaspoon of 2 parts of sodium bicarbonate and 1 part of potassium citrate. If necessary repeat this dose an hour later.

However, in the long term there is a price to pay for trying to make your lymph fluid alkaline: the body may gradually start forming calcium deposits. That is good for teeth, bones and joints, but you do not want other tissue to calcify as this will cause stiffness and speed up aging. This is what commonly happens with chronic inflammations anyway - over the years they cause calcium to accumulate in the inflamed areas, and this reduces inflammation and increases stiffness.

Therefore, when chronic inflammation and its related disease processes are no longer a problem but stiffness increases instead, then it is best to lower the pH of urine and saliva to a slightly acid pH level of about 6.4 to 6.8 or to when turmeric just turns from red to yellow.

**Summary for taking alkalizers**

The following recommendations are the maximum amounts. Start with a lower dose and increase gradually up to 3 teaspoons daily. It is important to check your pH and adjust the intake of alkalizers as your pH moves into the required range.

**How to use Potassium citrate:** Start with ½ a teaspoon 3 x /day and increase slowly as too much all at once can cause detox symptoms. You can increase up to 1 level teaspoon 3 x a day directly mixed with meals, or with some diluted vegetable or fruit juice, or stir into a green drink (a mix of spirulina, wheat or barley grass, and chlorella is great).

**How to use Sodium bicarbonate:** Take at least ½ hour before a meal or 2 to 3 hours after a meal, up to 1 rounded teaspoon 3 times daily. You may also add 1 teaspoon each of sodium bicarbonate and psyllium hulls to a large glass of water, stir and drink immediately, best soon after rising.

**Directions for combining Potassium citrate and Sodium bicarbonate:** You may use both at a ratio of 2 parts of sodium bicarbonate to 1 part of potassium citrate, or alternatively you may also mix equal parts or use more potassium. These may be taken together in the same drink such as diluted juice or a green drink; take at least ½ hour before or 2 to 3 hours after a meal. **If using them separately** you may take 1 teaspoon of sodium bicarbonate each early in the morning and late in the afternoon, and a teaspoon of potassium at midday; you may also use any other sequence.

**When to test your pH:** To beat inflammation initially test several times a day without much attention to mealtimes and, except for morning urine, it should be above pH 7. For those who want to reduce stiffness, 6.0 to 6.5 in the morning is OK but then throughout the day it should be between 6.5 and 7.0. After initially testing more frequently it is OK later to test only occasionally, perhaps once or twice a week, best 3 hours after a meal or snack at the same time of the day.