

Baking Soda and Baking Powder

Agatha M. Thrash, M.D.

Preventive Medicine

Major changes occur in blood chemistry when we eat. Some food substances must be taken in several gram quantities to make a major change in the chemical components of the blood. Fiber falls in that category. Other food substances require only milligram quantities to change the composition of the blood. Salt is one of these. Even one-half of one percent of a food such as salt can cause a major alteration in blood constituents. Much the same can be said of baking soda or baking powder: not a great deal is required before the effect on the blood is profound. Since blood bathes every cell in the body, any substance dissolved in blood will have an influence on tissues.

Baking soda consists mainly of sodium bicarbonate. Both sodium and bicarbonate are natural substances in the body, but the metabolic control of both of them is very tight. Excess amounts of either cause a derangement in physiology. For the body, excess bicarbonate represents a threat, as it can alter profoundly the pH of the blood, and indirectly of many tissues of the body. Thus we can say that the entire system is deranged by the use of baking soda. Some vitamins in foods and in the blood (thiamine, vitamin C) are largely destroyed by too much baking soda.

Not only is the blood involved in deleterious alterations, but so is the stomach. As everyone knows, the stomach requires a very acid medium in order to do its work the very best. The pH of the stomach's contents should be around 1.5 to 3, whereas the pH of a solution of baking soda may be at a pH around 9. Most foods by contrast will be at a pH around 4 to 7. The introduction of alkalizing substances into the stomach causes digestion to be delayed while the stomach produces more acid. The production of larger quantities of acid is depleting to the energy of the stomach. Further, since the stomach may not be able to stop producing the acid just at the proper quantity, excessive acid may be temporarily produced causing the susceptible individual to be more likely to get a peptic ulcer.

One study revealed that sodium bicarbonate reduces both heart and systemic oxygenation. It may lead to actual oxygen starvation of the heart muscle in some people with that disease (Ref. *THE AMERICAN JOURNAL OF MEDICINE*, 87:7. July 1989).

Another potentially injurious substance in baking soda is sodium. For some people with a family history of hypertension, the use of baking powder could cause hypertension to appear earlier. Population studies reveal that the higher the intake of sodium, the greater the incidence of hypertension in that group. Baking powder is simply baking soda to which neutralizing substances have been added in order to make the effects of the alkaline baking soda less objectionable. The chemicals used to neutralize add their own harmful effects while not reducing the harm from the baking soda. These chemicals include three principle types: Phosphate, aluminate, and tartrate. Phosphate causes the kidneys to put out calcium in the urine, thus reducing blood calcium. The bones

subsequently suffer. Aluminum, used in almost half the baking powder in the U.S., is still under investigation as a possible factor in Alzheimer's disease. It also helps demineralize bones. Furthermore, alum is a powerful astringent and irritant of the stomach. The third chemical, tartrate, can injure the kidneys causing nephritis.

So; the best policy is to learn cooking and baking techniques that do not require these chemicals to make the breads light and pleasant.

For more information contact:

Uchee Pines Lifestyle Center

30 Uchee Pines Road #75

Seale, Alabama 36875

Tel. 334-855-4764

www.ucheepines.org