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### ***Let's Live Magazine***

Dr. Royal Lee, 1958

### **Potassium—The Dynamic Mineral in Nutrition**

The role of potassium in nutrition is a dynamic one. Potassium has the ability to produce great changes in cell metabolism. It is the only mineral found in the human economy that is radioactive and upon this property may rest its ability to exert its

dynamic force.

We must think of potassium in terms of where it is and what it does in these locations. Potassium is normally found in the cell, with only a few ions in the plasma of the blood. It has been said that “potassium” is of the cell, but not of the sap.” It is interesting to note a similarity here- that potassium is also “of the land and not of the sea,” for potassium predominates over sodium in sedimentary rocks while sodium predominates over potassium in ocean water.

#### **Location Important**

This matter of the distribution of sodium and potassium in the body tissues and fluids is important. The blood plasma, or transportation system of the body, has great need for sodium, whereas the cells find potassium indispensable but sodium undesirable. An excess of sodium in the tissues has a markedly toxic effect on the heart and inhibits phagocytic activity (phagocytes being devourers of bacterial invaders).

On the other hand, an excess potassium in the plasma of the blood may cause such undesirable effects as an excessive slowing of the heart, yet without tissue potassium the heart cannot regulate its potassium. So, we may understand that sodium and potassium must be in the right places in the body to perform their physiological functions; and that when these minerals lose their home, so to speak, they may be the cause of trouble.

#### **Regulation of Balance**

The regulation of the sodium- potassium balance is the function of the hormones of the adrenal glands. The adrenal glands need vitamin C complex and some “B,” too. They also need potassium and sodium. When any of these is deficient in the diet normal balance cannot be maintained. The reason that deficiency of minerals alone may not be the cause is that an imbalance of minerals may show the same results as a deficiency. In the case of imbalance, the cause may be a dysfunction of the glandular system which is supported in its function by vitamins. Therefore, we need to know that in order for the mineral metabolism of the body to be normal it needs vitamins essential to the functioning of the glands, and that the end result of vitamin deficiency is mineral imbalance.

## **Cause of Deficiency**

We tend to have potassium deficiency by reason of the depletion of our soils in this element and by reason of the fact that the cheaper price of sodium has caused its substitution in many foods and drugs where potassium was formerly used. Potassium bicarbonate is interchangeable with sodium bicarbonate in cooking, a preferable choice in most cases.

## **Table Salt**

We tend to have sodium deficiency when we do not include enough table salt in our diet. This is aggravated in hot weather when perspiration losses further deplete sodium reserves. Herbivorous animals need extra salt to compensate for the high potassium intake in vegetables, "salt licks" being evidence of their need. Children deprived of salt have been known to crave soup (sodium oleate) because of its sodium content.

Sodium compounds in any other form than sodium chloride- ordinary table salt- may be detrimental. This same sodium chloride (table salt) is now available in a natural form of sea salt at all health food stores, and is preferred to the pure product because it contains many naturally associated trace elements. However, one should obtain a low-heat-processed sea salt, as heat treated sea salt will not support life. For example, salt water fish cannot live in water to which heat-treated sea salt has been added, but can live in water with low-heat-processed sea salt. This is just one of the many unsuspected detrimental effects when heat processes are used.

Sodium chloride is an essential constituent of the body fluids. We cannot eliminate water by osmotic transfers- we cannot perspire, our kidneys cannot eliminate waste materials and poisons- without the help of salt. Therefore, it is important that we use it in the best form; however, it must not be allowed to take the place of potassium which is the more important mineral from a physiological viewpoint.

## **Raw Potassium Sources**

Potassium is one of the principal ingredients supplied by fresh, raw, vegetables juices. Raw potato juice is one of the best sources of this essential element. It is not unlikely that the potassium supplied by cooked foods may have undergone the same deleterious process as that which makes pasteurized milk a poor source of calcium. Raw vegetables, then, and particularly green leafy vegetables, make the best source of potassium, which is good reason for their inclusion in the daily diet.

We must remember that potassium is a water soluble mineral. Therefore, much valuable potassium goes down the drain when vegetables are boiled in water or even allowed to stand at ordinary temperatures. The more water and longer standing, the less potassium in the original product. In fact, when low potassium diets are required, as in the case in certain diseased conditions, it is recommended that goods be cooked in four or five times the usual volume of water.

## **Results of Deficiency**

A deficiency of the alkali minerals- sodium, magnesium, calcium, and particularly potassium- may cause many of the same symptoms as vitamin deficiency. This is because the general function of vitamins is to promote mineral metabolism, supporting the glands of internal secretion in their important function of controlling mineral balance- in this case the adrenals.

Potassium is known to be an important factor in the support of the involuntary nervous system. For example, potassium may be a very effective remedy for "lazy colon." Potassium is also the "pace-maker" for the pulsations of the heart, in which organ it appears to have the function of supplying the electronic energy to activate the timing mechanism. In potassium deficiency the heart becomes erratic in its pulsations, and the administrations of other salts with equivalent radioactivity relieves the situation. (Rubidium is one element that can substitute for potassium, although this element is not

considered a nutritional substance and is used in this case to illustrate a point in scientific experiment.) Potassium in the blood is depleted during carbohydrate (sugar) metabolism and many people who experience a fast, racing heart after a heavy meal are suffering from a potassium deficiency brought on and aggravated by the eating of too much carbohydrate foods. This tendency for potassium deficiency may be corrected by the use of alfalfa tea, or the use of powdered kelp as a seasoning, or tablets of concentrates of alfalfa, sea lettuce or kelp.

In potassium deficiency there is more or less complete inhibition of adrenal gland function. No doubt, every disease for which cortisone or ACTH is being used is basically a deficiency disease stemming from potassium lack in some degree. So, it is apparent that sodium and potassium are partners and must not be permitted to get out of balance in our nutritional schedule.

### **Conclusion**

Include in your daily diet plenty of raw vegetables and, if possible, at least a glass of raw vegetable juice per day. Organic, low-heat processed, sea salt should be the salt seasoning for your foods, used in amounts which are compatible with the taste and, for individuals ordinarily considered healthy, need not be restricted as to amount. Do not forget that the body cannot make something out of nothing and the human body needs sodium and potassium for its normal functioning.

*Let's Live Magazine, Dr. Royal Lee, 1958, Potassium—The Dynamic Mineral in Nutrition*