

Potassium

Facts:

- ◆ Potassium in the form of K^+ is the most essential cation of the cells, according to the American Society for Nutrition Its concentration is regulated by the cell membrane through the sodium-potassium pump.¹
- ◆ Potassium accounts for approximately five percent of the total mineral content of the body.²
- ◆ Mounting evidence suggests that diets high in potassium may be protective against high blood pressure, stroke, cardiovascular disease, and possibly other degenerative diseases.³

Functions:

- ◆ Besides maintaining water balance, pH and distribution within the body, potassium is also key for a healthy nervous system, regular heart rhythm, and proper muscle function.¹
- ◆ Potassium is necessary for chemical reactions within the cells and helps in maintaining normal blood pressure and in generating electrochemical impulses.¹
- ◆ In persons with hypertension, potassium can dramatically lower both systolic and diastolic pressure.
- ◆ It functions in cell metabolism, enzyme reactions and the synthesis of muscle protein from amino acids in the blood.² It works with phosphorous to send oxygen to the brain and functions with calcium in regulating neuromuscular activity.² It is also necessary for healthy skin.¹
- ◆ Potassium will also stimulate the kidneys to eliminate poisonous wastes.²

Requirements:

There is no RDA for potassium.

Signs of Deficiency:

Excessive urinary losses caused by a high intake of salt have caused potassium deficiency to become rather common.² Symptoms include: abnormally dry skin, acne, chills, cognitive impairment, constipation, depression, diarrhea, diminished reflexes, edema, glucose intolerance, insatiable thirst, insomnia, slow and irregular heartbeat, nervousness, high cholesterol levels, muscle weakness, periodic headaches, and vomiting.

Note: Persons who are diabetic or have diseases of the digestive tract are often deficient in potassium. High sodium intake, use of diuretics, kidney disorders, high stress levels and diarrhea can disrupt potassium levels. Caffeine intake and smoking also reduce the absorption of potassium.¹

Safety:

Potassium supplements are contraindicated in those sensitive to potassium-containing supplements. People who are taking ACE inhibitors should be closely monitored by their physician before taking supplemental potassium.

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Pregnant women and nursing mothers should not take potassium supplements unless indicated by a physician.

Signs of Toxicity:

According to the American Society for Nutrition, urinary excretion usually protects against the accumulation of high amounts of potassium. Acute hyperkalemia can cause cardiac arrest, however, no dosage level was mentioned.

Current Research:

Hypertension: Researchers in Israel examined the eating habits of vegetarians whose average age was 60 versus similarly aged meat-eaters. Both groups consumed the same intake of salt and had the same genetic predisposition for hypertension. Researchers found a very low prevalence of hypertension in the vegetarians, which the researchers attributed to a potassium-rich diet of vegetables, fruits, and nuts that protected the vegetarians from developing hypertension.³ Researchers speculate that potassium is effective for hypertension because it appears to be able to “slough off” sodium.⁴ A meta-analysis of 33 randomized studies involving 2,609 subjects concluded that low potassium can be an important contributing factor to hypertension and that increased potassium intake can prevent and treat hypertension.³

Headache-Related Allergies: According to *Nutrition Almanac*, “Since potassium is essential for the transmission of nerve impulses to the brain, it has been effective in the treatment of headache-causing allergies.”²

Muscle Cramps: According to James Knochel, M.D., chief of medical services with the Veterans Administration in Dallas, Texas, potassium may help with cramps. “A potassium deficiency also impairs the ability of the muscles to use glycogen, a sugar that is their main source of energy,” Knochel states. “Potassium and other mineral deficiencies may also affect the ‘excitability’ of nerves—their tendency to fire off a series of muscle-cramping messages. And they may affect the muscles’ ‘fatigue threshold’—their ability to do more work without becoming tired or spasm-prone.”⁴

Stroke: Studies have found an inverse association between potassium intake and stroke. One study found that men who had the highest potassium intakes had a 38 percent lower risk of any type of stroke versus those men with the lowest intakes of potassium.³

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References:

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