

5 MINERALS

FOR ENHANCED ENERGY AND SLEEP



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CONTENT

5 Minerals for Enhanced Energy and Sleep	3
1. Potassium	4
2. Calcium	4
3. Magnesium	5
4. Iron.....	6
5. Phosphorus	6
References	8

5 MINERALS FOR ENHANCED ENERGY AND SLEEP



Do you find it hard to fall asleep or stay asleep?

You probably wake up feeling tired after hours of sleep!

Or you are constantly feeling fatigued and low in energy!

Chances are that you have a mineral deficiency.

Of course, there might be other factors such as illness, disruption of sleep routine, stress, hormonal imbalance, and poor eating habits. But, in the absence of any known cause, mineral deficiency is likely at the root of your problems.

Adequate, restful sleep goes hand-in-hand with a healthy energy level, and for you to sleep well, you need to develop a healthy sleep pattern, avoid stress and follow healthy eating habits.

In this discussion, we focus on 5 minerals for enhanced energy and sleep, how they work, the effects of their deficiencies, and food sources of these minerals.

1. POTASSIUM

Potassium is primarily an intracellular mineral, meaning that most of it is found inside cells, especially red blood cells. It is a component or cofactor in many processes within the body.

Potassium works together with sodium to regulate body fluid balance and thereby regulate blood pressure. It is involved in the conduction of electrical impulses through nerves, aiding in nervous communication throughout the body, and muscles' workings, including the heart. It also helps in the synthesis of protein from amino acids.

The metabolism of energy and the conversion of glucose to glycogen requires potassium. In addition, it helps to sleep well, thanks to its role in maintaining normal nerve and muscle functions.

Potassium deficiency can lead to many health problems, including high blood pressure, muscle weakness, muscular spasms, heart diseases, anxiety, depression, and fatigue. People who take too much caffeine, use tobacco, drink too much alcohol, or take certain drugs are more likely to be potassium deficient.

Diseases such as diabetes and kidney failure can also lead to potassium insufficiency (1), generating sleep disturbance, muscle spasms, and anxiety. (2)

Food sources of potassium

These include fruits and vegetables like avocado, bananas, oranges, apples, apricots, raisins, tomatoes, lettuce, broccoli, potatoes, parsley, and spinach. Other potassium-rich foods include nuts and seeds, herbs such as sage, horsetail, nettles, and fish such as sardines, salmon, and cod.

2. CALCIUM

Calcium is the most abundant mineral in the body, and it is the main component of bones and teeth. It is also found in body tissues, nerve cells, body fluids, and blood.

Calcium has a role in energy production and utilization at a cellular level, as it is involved in the regulation of ATP production. ATP are molecules for the storage and transfer of energy within and between cells. (3)

Calcium also has a role in sleep quality, as it plays a part in the deep sleep phase, called rapid eye movement sleep or REM sleep. REM sleep is the most restful phase of sleep. Studies have found that insufficient calcium can lead to disruption of REM sleep, meaning that even after many hours of sleep, you may wake up feeling tired. A study by the University of Pennsylvania found that increasing calcium intake to address the deficiency improves REM sleep. (4)

Food sources of calcium

To ensure that you get adequate calcium, include calcium-rich foods in your diet, such as milk and dairy products like yogurt and cheese. Other calcium foods are mustard seeds, sesame seeds, sardines, kale, and collard greens.

3. MAGNESIUM

Magnesium is one of the most important minerals in the human body, as it is involved in hundreds of processes.

Its functions comprehend regulating blood sugar, blood pressure, bone formation and maintenance, and muscle and nerve functions. Magnesium plays a role in energy metabolism and in the synthesis of the powerful antioxidant called glutathione.

Magnesium is necessary for melatonin production, a hormone produced in the pineal gland that regulates the sleep-wake or circadian cycle. It is also required in GABA production, a neurotransmitter that helps you relax by reducing anxiety and the feelings of fear to drift off to restful sleep.

Magnesium deficiency can negatively affect sleep by interfering with GABA production. A study by Grand Forks Human Nutrition Research Center shows that increasing magnesium intake can help improve sleep quality in older adults with poor quality sleep. (5)

Food sources of magnesium

These include avocados, pumpkin seeds, brown rice, spinach, lentils, and bone soup.

4. IRON

Iron is one of the most critical minerals to human life. It is a central component in red blood cells responsible for the transportation of oxygen in the body. An iron deficiency would mean that your body does not get sufficient oxygen to produce energy, causing fatigue and even anemia. Iron deficiency is more common in women, especially expectant mothers and those who have heavy menstrual flow. Vegetarians and vegans may also suffer from iron deficiency because iron from plant sources is not as easily accessible to the body as iron from animal-based sources. People with underactive thyroid and Crohn's disease are also likely to suffer from iron deficiency.

Iron deficiency can lead to fatigue, weakness, breathlessness, and anxiety, consequently causing sleep disturbance. (6)

Food sources of iron

Luckily, iron is abundant in foods, and these include beans, pulses, sesame seeds, spirulina, meat, organ meats, and leafy green vegetables like kale and spinach.

5. PHOSPHORUS

Phosphorus is an abundant mineral in the body, only second to calcium. It works together with calcium to build and maintain bones and teeth. It is also required in the production, repair, and maintenance of cells and tissues. Phosphorus plays a central role in energy metabolism, as it is necessary for ATP production, the molecule used by the body in the storage and transfer of energy between cells.

As far as sleep is concerned, the breakdown of the ATP molecules during the release of energy generates other molecules called adenosine, which plays a role in the early stages of

sleep called non-REM sleep. (7) These molecules signal for the body to relax, get drowsy and sleep, usually in the evening.

Low phosphorous, also called hypophosphatemia, causes a drop in energy levels, leading to reduced muscle strength and fatigue. Low phosphorus levels can generate anxiety, numbness, bone pain, stiff joints, and irregular breathing.

Food sources of phosphorus

Good sources of phosphorus include milk and dairy products, chocolate, ricotta, and eggnog.

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