# All about Minerals

Minerals are inorganic compounds. Nineteen out of thirty-six are essential for optimum health. The more common ones are listed below.

## Calcium

Formation and maintenance of bones and teeth; promotion of muscular contraction & relaxation; blood clotting; transported from bones to promote nerve impulses; regulates normal heart beat; stimulates hormones; secretion activates enzyme reaction and helps in the absorption of Vitamin B12.

Sources**:** Dairy products besides butter: yogurt, cheese, milk, buttermilk, eggs, salmon, sardines, dried peas & beans, dark leafy greens besides spinach, bok choy, and kai lan.

Deficiency**:** For children - stunted growth & weak brittle bones in adults- cavities & increased risk of osteoporosis

## Copper

Manufactures red blood cells, bones, & collagen; stimulates immune system; promotes healing, absorption of iron; metabolism of fatty acids and the formation of RNA.

Sources**:** Wheat, cereals, peanuts, nuts, legumes, potatoes, yeast, oysters, shellfish, liver, cocoa, & black pepper.

Deficiency**:** Rare, however, symptoms may include anemia, nervous disorders, infertility, and Menke's Disease (kinky hair syndrome).

## Iron

Stored in hemoglobin (red blood cells); carries oxygen to body cells, and carries carbon dioxide out to be exhaled; crucial to proper muscle function, enzyme and protein makeup and energy metabolism. Two types of Iron: \* Heme Iron - easily absorbable, found in meats. \* Nonheme Iron - in vegetables, not as easily absorbed. Iron is dependent on Vitamin C to be absorbed.

Sources**:** Liver, lean meats, poultry, oysters, tuna, salmon, molasses, dried beans and prunes, broccoli, beets, spinach, eggs, legumes, almonds, raisins and apricots.

Deficiency**:** In children: ADD, restlessness, disruptiveness, and lack of concentration. In adults - anemia, fatigue, weakness, headaches & apathy.

## Magnesium

Essential for the upkeep of teeth, bones, muscle and soft tissues; the production and transport of energy, carbohydrate, protein and fat metabolism; contraction & relaxation of muscles.

**Sources:** Green vegetables especially dark leafy green vegetables, avocados, dried apricots, bananas, molasses, chocolate, soy products such as soy flour or tofu, whole grains, legumes, peanut butter, nuts and seeds.

**Deficiency:** Rare

## Phosphorus

Formation of bones & teeth, cells, enzymes; essential for the metabolism of carbohydrates, fats & proteins, kidney function, heartbeat regulation, nerve conduction, and muscle contraction; promotes growth and maintenance of cells & tissues; moves fat through the blood; moves nutrients in and out of cells.

Sources**:** High protein foods such as meat, fish, milk, cheese, eggs, yogurt, legumes & whole grains.

Deficiency**:** Rare. May show like Rickets symptoms.

## Potassium

Maintains fluid balance in the body, along with sodium. Promotes carbohydrate and protein metabolism, nerve stimulation, muscle contraction, and reduced hypertension.

Sources**:** Bananas, cantaloupes, grapefruit, tomato and orange juice, honeydew, melons, prunes, potatoes, molasses, dairy products, fish, meat, and poultry.

Deficiency**:** Drowsiness, anxiousness, nausea, weakness, and irregular heartbeat.

## Sulfur

Not considered an essential mineral. Helps to stabilize protein molecules in the body, especially hair, nails and skin molecules.

## Zinc

Essential to the synthesis of DNA and RNA, promotes protein, insulin and sperm production; aids in carbohydrate, fat, protein and alcohol metabolism; rids body of carbon dioxide, promotes healing, growth; maintenance of body tissues; promotion of senses such as smell and taste.

Sources**:** High protein foods such as beef, pork, lamb as well as poultry (especially dark meat), shellfish, legumes, whole grains, peanuts, and peanut butter.

Deficiency**:** Slow growth, loss of appetite, slow healing, hair loss as well as loss of taste and smell and also difficulty adapting to night vision.