

Essential Minerals

Understanding the Role of Minerals in Health

What Are Minerals?

A group of 16 inorganic nutrients that the body needs for normal cell function, growth, and development. Because our bodies cannot naturally produce minerals, it is essential to consume them through our diet.

The Role of Minerals in Functional Medicine

Think of minerals as the *electrical signals* that power your body's processes. Just like electrical impulses trigger various systems in a machine, minerals activate key biochemical reactions in your body. They help generate energy, regulate muscle contractions, and support proper nerve function. Without enough minerals, these essential functions can become sluggish or disrupted.

For instance, magnesium helps regulate muscle and nerve function, while zinc supports immune response. Even though you only need them in small amounts, minerals are crucial for keeping your body's systems running efficiently.

When your body doesn't get the minerals it needs, it's like a power outage—things slow down, leading to symptoms like fatigue, muscle cramps, or weakened immunity. Ensuring your body has the right minerals is key to keeping everything functioning at its best.

Categories of Minerals

There are **two main** categories of minerals: major minerals and trace minerals. Both are essential, but they are needed in different quantities by the body.

Major Minerals

These minerals are needed in larger amounts and are essential for daily optimal functioning. They help regulate fluid balance, support bone health, and maintain overall body function.

Mineral	Health Benefits	Dietary Sources
Calcium	Bone and teeth health, muscle and nerve function, pH balance of blood.	Cheese, dark leafy greens, tofu, yogurt.
Chloride	Blood pressure control, electrolyte and fluid balance, pH balance of blood.	Sea salt, soy sauce, seaweed, tomatoes.
Magnesium	Bone health, blood sugar control, inflammation control, energy production.	Beans, cashews, dark leafy greens, seeds.
Phosphorus	Bone and teeth health, cell growth and repair, DNA and protein synthesis.	Fish, eggs, meat, milk.
Potassium	Blood pressure control, electrolyte balance, kidney health.	Avocado, banana, beans, spinach, sweet potato.
Sodium	Blood pressure control, electrolyte balance, muscle and nerve function.	Found in many foods, especially processed foods.
Sulfur	Cell structure, connective tissue health, skin, hair, and nail health.	Beans, eggs, fish, meat, nuts, poultry.

Trace Minerals

Trace minerals are needed in smaller amounts but are still essential for key body functions like immune response, metabolism, and oxygen transport.

Mineral	Health Benefits	Dietary Sources
Chromium	Blood sugar control, bone health, energy production.	Barley, broccoli, oats, tomatoes.
Copper	Antioxidant protection, bone health, cell growth.	Dark chocolate, lentils, liver, mushrooms.
Fluoride	Bone and teeth health.	Drinking water, fish, tea.
Iodine	Cellular energy, thyroid function, metabolism.	Cod, eggs, milk, sea vegetables, strawberries.
Iron	Oxygen transport, red blood cell production, immune system function.	Beans, dark leafy greens, red meats, shellfish.
Manganese	Antioxidant protection, bone production, skin health.	Beans, cinnamon, spinach, seeds.
Molybdenum	Blood plasma health, enzyme production, metabolism.	Barley, beans, lentils, oats, peas.
Selenium	Antioxidant protection, heart health, thyroid function.	Brazil nuts, fish, poultry, mushrooms, organ meats.
Zinc	Immune system function, reproductive health, sensory organ health.	Beef, chicken, mushrooms, spinach, oysters.