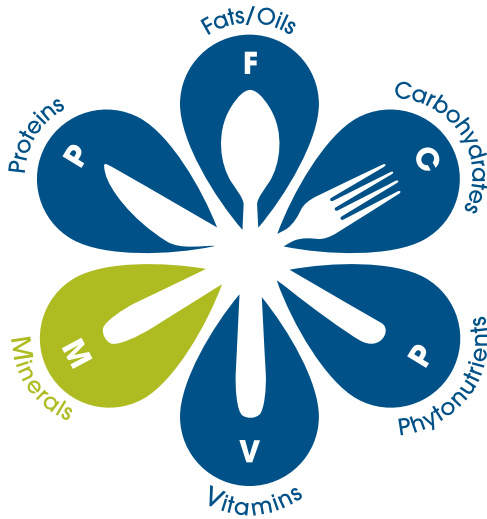




Micronutrients: Minerals



Micronutrients are nutrients the body needs small amounts of in order to function properly. This class of nutrients includes minerals, vitamins, and phytonutrients.

Minerals are a group of 16 inorganic nutrients (i.e., nutrients that do not contain carbon) that the body needs for normal cell function, growth, and development. The body can't make minerals. They are known as essential nutrients, because it is essential for us to consume them. Minerals are grouped into two categories: major minerals and trace minerals.

Major Minerals

Major minerals are minerals that your body needs on a daily basis in significant amounts in order to maintain fluid balances in the body. Individual minerals also have additional health benefits.

Major Mineral	Health Benefits	Best Food Sources
Calcium	Bone and teeth health Muscle and nerve function Regulating pH balance of blood	Cheese, dark leafy greens (collard greens, kale, mustard greens, spinach, turnip greens, etc.), sardines, sesame seeds, tofu, yogurt
Chloride	Blood pressure control Electrolyte and fluid balance Regulating pH balance of blood	Soy sauce, table salt; small amounts in breads, meats, milk, vegetables
Magnesium	Bone health Controlling blood sugar Controlling inflammation Energy production Nervous system and mood balance	Beans (black, navy, soy), cashews, dark leafy greens (spinach, Swiss chard, etc.), quinoa, seeds (pumpkin, sesame, sunflower)
Phosphorus	Bone and teeth health Cell/tissue growth and repair DNA, protein synthesis Energy production	Fish, eggs, meat, milk, poultry
Potassium	Blood pressure control Electrolyte and fluid balance Kidney health	Avocado, banana, beans (lima, soy), beets, dark leafy greens (spinach, Swiss chard), lentils, potato, sweet potato, yogurt

Major Minerals (cont.)

Major Mineral	Health Benefits	Best Food Sources
Sodium	Blood pressure control Blood volume control Electrolyte and fluid balance Muscle and nerve function	Almost all foods contain sodium. Processed foods (especially processed meats) contain extremely high levels and should be limited or avoided. Adding a high-quality salt to your food is a good way to ensure adequate intake.
Sulfur	Cell structure Connective tissue health Controlling inflammation and pain Insulin production Metabolism Skin, hair, and nail health	Beans, eggs, fish, meats, milk, nuts, poultry

Trace Minerals

Trace minerals are minerals that your body only needs a small amount of in order to function properly. Individual minerals also have additional health benefits.

Trace Mineral	Health Benefits	Best Food Sources
Chromium	Blood sugar control Bone health Brain health Digestion Energy production Eye health and vision Hearth health Skin health	Barley, black pepper, broccoli, green beans, lettuce (romaine), oats, tomatoes
Copper	Antioxidant protection Bone health Cell/tissue growth and repair Cholesterol balance Energy production Nervous system health	Apricots (dried), asparagus, dark chocolate, dark leafy greens, lentils, liver (beef), mushrooms, nuts, seeds, shrimp
Fluoride	Bone and teeth health	Drinking water, fish, tea
Iodine	Cellular energy Metabolism Thyroid function Thyroid hormone production	Cod, eggs, milk (cow), salmon, sardines, sea vegetables, scallops, shrimp, strawberries, tuna
Iron	Energy production Immune system function Oxygen transport Red blood cell production Respiration	Asparagus, beans, bok choy, cumin, dark leafy greens (collard greens, spinach, Swiss chard, etc.), eggs, leeks, lentils, organ meats, parsley, poultry, red meats, shellfish, turmeric
Manganese	Antioxidant protection Blood sugar control Bone production and health Skin, hair, and nail health	Beans, cinnamon, cloves, dark leafy greens (collard greens, kale, spinach, Swiss chard, etc.), oats, pineapple, rice (brown), seeds, turmeric

Trace Minerals (cont.)

Trace Mineral	Health Benefits	Best Food Sources
Molybdenum	Blood plasma health Enzyme production Metabolism	Barley, beans, lentils, oats, peas
Selenium	Antioxidant protection DNA, protein synthesis Heart health Immune system function Reproductive health Thyroid function	Asparagus, beef, Brazil nuts, clams, cod, mushrooms, organ meats (liver, kidney), oysters, poultry, salmon, sardines, shrimp, tofu, tuna
Zinc	Immune system function Male reproductive health Metabolism Sensory organ health (taste, vision) Skin health	Asparagus, beans, beef, chicken, lamb, mushrooms, oysters, scallops, seeds (pumpkin, sesame), shrimp, spinach

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