

# Vitamins: Fat vs. Water-Soluble

## Understanding the Health Impact of Vitamins

### What Are Vitamins?

Vitamins are essential nutrients that your body needs to perform a wide range of functions, from energy production to immune support and cellular repair. **Of the 13 vitamins, the majority must be obtained through the diet, as the body cannot produce them on its own.** These vitamins are categorized into two groups: fat-soluble (A, D, E, K), which are stored in the body, and water-soluble (C and the B vitamins), which must be replenished more frequently. Both types are critical for maintaining optimal health and preventing deficiencies.

### The Role of Vitamins in Functional Medicine

Think of vitamins as the body's "maintenance team." Just like a crew working behind the scenes to keep everything running smoothly, vitamins are constantly supporting essential functions that keep you healthy. They ensure that your cells repair themselves, your immune system stays strong, and your energy levels stay consistent.

Fat-soluble vitamins act like long-term specialists, staying in the body and stepping in when needed, while water-soluble vitamins work on a daily basis, needing regular replenishment to keep everything in top shape. Without this "maintenance crew," your body can start to experience fatigue, poor immunity, or other disruptions, making it essential to provide them with the right support through your diet.

# Categories of Vitamins

Vitamins are divided into two main categories: *fat-soluble and water-soluble*. Both are essential, but they differ in how they are stored and processed in the body.

## Fat-Soluble Vitamins

Fat-soluble vitamins are stored in the body’s fatty tissues and liver. Since they can be stored, they do not need to be consumed as frequently, but excess intake of these vitamins can accumulate over time.

Vitamin	Health Benefits	Dietary Sources
Vitamin A	Supports vision, skin health, and immune function.	Carrots, sweet potatoes, liver, leafy greens.
Vitamin D	Regulates calcium and phosphate for bone health, supports immune function.	Fish, fortified dairy products, sunlight exposure.
Vitamin E	Acts as an antioxidant, protects cells from damage, supports skin and eye health.	Nuts, seeds, vegetable oils, spinach.
Vitamin K	Helps with blood clotting and bone health.	Leafy greens, broccoli, Brussels sprouts, cabbage.

## Water-Soluble Vitamins

Water-soluble vitamins are not stored in the body and must be replenished regularly. Any excess is excreted, making it important to consume them consistently through your diet.

Vitamin	Health Benefits	Dietary Sources
Vitamin C	Supports immune function, acts as an antioxidant, aids in collagen production.	Citrus fruits, strawberries, bell peppers, broccoli.
Vitamin B1 (Thiamine)	Helps convert food into energy, nerve function.	Whole grains, pork, legumes, nuts.
Vitamin B2 (Riboflavin)	Helps break down proteins, fats, and carbohydrates, supports skin health.	Eggs, milk, green vegetables, almonds.
Vitamin B3 (Niacin)	Supports digestion, skin health, and nerve function.	Meat, fish, peanuts, avocados.
Vitamin B5 (Pantothenic Acid)	Supports energy production and hormone synthesis.	Chicken, whole grains, broccoli, avocado.
Vitamin B6	Supports brain development, immune function, and hemoglobin production.	Poultry, fish, potatoes, bananas.
Vitamin B7 (Biotin)	Supports hair, skin, and nail health, aids in metabolism.	Eggs, almonds, spinach, sweet potatoes.
Vitamin B9 (Folate)	Crucial for cell division, supports DNA synthesis, especially important during pregnancy.	Leafy greens, beans, citrus fruits, fortified cereals.
Vitamin B12	Supports red blood cell production, helps maintain nerve function.	Fish, meat, dairy, fortified cereals.

