



Micronutrients: Vitamins and Minerals

Introduction

Vitamins and minerals are substances your body needs in small, but steady amounts for normal growth, function, and health. Together, vitamins and minerals are called micronutrients. Your body can't make most micronutrients, so you must get them from the foods you eat, or in some cases, from supplements. Food preparation, medications, caffeine, tobacco, alcohol, and stress can affect the amount of nutrients available to the body. For example, drinking coffee or tea with meals can decrease iron absorption and taking antibiotics can increase your Vitamin B requirements.

Why Do I Need Vitamins?

Vitamins are needed for a variety of biologic processes to include growth, digestion, mental alertness, and resistance to infection. They also enable your body to use carbohydrates, fats and proteins, and they act as catalysts — initiating or speeding up chemical reactions. Though vitamins are involved in converting food into energy, they supply no calories.

Vitamins Can Be Either Water-Soluble or Fat-Soluble.

Water-Soluble Vitamins: Vitamin C, biotin and the seven B vitamins — thiamin (B-1), riboflavin (B-2), niacin (B-3), pantothenic acid (B-5), pyridoxine (B-6), folic acid (B-9) and cobalamin (B-12) — dissolve in water (water-soluble) and are not stored in your body in any significant amounts. Surplus water-soluble vitamins are simply excreted into your urine.

Fat-Soluble Vitamins: Any extra vitamin A, D, E or K that is not used by your body right after ingestion is stored in your body fat and/or liver. Excess fat-soluble vitamins can accumulate in your body and become toxic. You're especially sensitive to excess amounts of vitamins A and D. Because vitamins E and K affect blood clotting, talk with your doctor before taking a supplement that contains either of these vitamins if you're taking a blood thinner, such as warfarin (Coumadin).

Why Do I Need Minerals?

Minerals are the main components in your teeth and bones, and they serve as building blocks for other cells and enzymes. Minerals also help regulate the balance of fluids in your body and control the movement of nerve impulses. Some minerals also help deliver oxygen to cells and help carry away carbon dioxide. Minerals have two categories:

Major minerals: Calcium, phosphorus, magnesium, sodium, potassium, sulfur and chloride are considered major minerals because adults need them in larger amounts — more than 250 milligrams (mg) a day.

Trace minerals: Chromium, copper, fluoride, iodine, iron, manganese, molybdenum, selenium and zinc are considered trace minerals because your body needs them in smaller amounts.



Is There Any Supplement That Is Recommended For Maintaining Health?

A multi-vitamin with minerals may be beneficial in ensuring that important nutrients are being taken daily. As an example, a multi-vitamin may contain folic acid, an important B vitamin that prevents birth defects in unborn children, and that helps prevent heart disease in adults. When selecting a multi-vitamin, select one with no more than 100% of the recommended daily intake for vitamins and minerals. This ensures safety and prevents you from spending extra money on supplements that may not be worth the cost.

The Daily Reference Values For Vitamins and Nutrients (Ages 4+) Are:

Vitamin A 5,000 International Units (IU)	Calcium 1,000 mg
Vitamin C 60 milligrams (mg)	Phosphorus 1,000 mg
Vitamin D 400 IU	Magnesium 400mg
Vitamin E 30 IU	Iron 18 mg
Vitamin K 80 micrograms (mcg)	Zinc 15 mg
Vitamin B-6 2 mg	Copper 2 mg
Vitamin B-12 6 mcg	

Source: <http://www.dslid.nlm.nih.gov/dslid/dailyvalue.jsp>

Remember, a healthy diet containing plenty of fruits, vegetables, lean meats, low fat dairy and whole grains will provide the best source of important nutrients. No one food has all the vitamins and minerals, so you need to eat a variety of healthy foods. Good nutrition should be part of an overall healthy lifestyle, that also includes adequate sleep, regular physical activity, not smoking, and stress management.

For more information on supplements, visit
Operation Supplement Safety (OPSS) at: <http://hprc-online.org/dietary-supplements/opss>