



Dietary Supplements and Herbal Products

Vitamins are necessary for the proper utilization of carbohydrates, fats and proteins needed for energy and the repair of body cells. A balanced diet will provide the essential vitamins and minerals needed by the body, **but** not everyone eats or can eat a variety of foods due to personal preferences or disease disorders. At no time are supplements meant to replace your intake of a well balanced, healthy diet. Taking additional vitamins beyond the requirements has never been shown to prevent or reverse the development of chronic disease.

Supplements are used to complement your dietary intake not as a substitute for eating a healthy, balance of nutrient rich foods. In certain disease disorders, pregnancy, women of child-bearing years, children and

There are two types of vitamins:

➤ **Fat soluble (D,E,A,K)**

Fat soluble vitamins are needed in small amounts. They are not destroyed when cooking and are stored in the liver until needed. Too large a dose of the fat-soluble vitamins can be toxic (harmful). However, some diseases do interfere with the absorption of fat soluble vitamins therefore you should check with your physician or nutritionist before taking these.

Sources of fat soluble vitamins: liver, whole milk, eggs, sweet potatoes, cantaloupe, carrots, spinach, broccoli, butter, wheat germ, sunflower oil, cottonseed oil, corn oil, soybean oil, almonds, peanuts, green leafy vegetables. Vitamin K needs bile salts to be properly absorbed in the intestines and antibiotics that kill the normal flora (organism) in the intestine or severe diarrhea may result in a deficiency.

➤ **Water soluble vitamins (C, B₁ Thiamine, B₂ Riboflavin, B₃ Niacin, B₅ Pantothenic Acid, B₆ Pyroxidine, B₁₂ Cyanocobalamin, Folic Acid, and Biotin)**

Water-soluble vitamins are not stored in the body and are eliminated in the urine.

- These vitamins are easily destroyed or lost during food storage or preparation. To reduce vitamin loss refrigerate fresh produce promptly, minimize light exposure for grains and utilize the water used when cooking the vegetables in soups, stews.

teenagers with poor dietary habits and in elders it may be beneficial to add a vitamin supplement to complement the regular diet. The most useful supplement would be prenatal vitamins for women in childbearing years. The most useful supplement would be prenatal vitamins for women in childbearing years. The folate in prenatal vitamins is most important during the first few weeks of pregnancy when women often do not realize they are pregnant yet.

Dietary supplements may not be harmless during pregnancy, when nursing a baby or during certain treatment of diseases (i.e. diabetes, heart disease).

The best rule of thumb is to discuss the need for a dietary supplement with your health care provider.

Major food sources of water-soluble vitamins.

| | Grains | Fruits | Vegetables | Meats, Eggs | Legumes, Nuts, Seeds | Milk, Dairy |
|-------------------------|--------|--------|------------|-------------|----------------------|-------------|
| Thiamin | X | | | X | X | |
| Riboflavin | X | | | | | X |
| Niacin | X | | | X | X | |
| Biotin | | | X | X | X | |
| Pyridoxine | X | | | X | | X |
| Pantothenic acid | X | X | X | X | X | X |
| Vitamin B ₁₂ | | | | X | | X |
| Folate | X | | X | | | |
| Vitamin C | | X | X | | | |

Source: *Food Insight*

Each vitamin has a specific action in the body and when a deficiency occurs a disease may result i.e.

Vitamin E rickets; Vitamin C scurvy; Vitamin D severe rickets in children; osteomalacia in adults; vitamin K

excessive bleeding, B₃ pellagra B₂ affects fetal growth to name a few examples. Admittedly a vitamin deficiency can result in a disease, but the instances of these occurring in the United States under normal conditions are rare.

Minerals are essential to life and are important components of enzymes, hormones, and bone and tooth structure. Minerals serve as building blocks for other cells and enzymes, regulate fluid balance, control

the transmission of nerve impulses, and support oxygen delivery to cells and removal of carbon dioxide to name a few of their vital functions. There are 17 essential minerals and 4 ultra trace minerals in the body. A few examples of minerals are: calcium, chlorine, chromium, copper, iodine, iron, magnesium, selenium, sodium and zinc.

Sources: Eating a variety of fruits, vegetables, grains, nuts and seeds will supply necessary minerals.

Tips to consider before choosing a dietary/herbal supplement:

Dietary Supplements:

- ❖ Always check the supplement label for the serving size and active ingredients and expiration date.
- ❖ Choose a vitamin that supplies 100 % of the recommended daily value (DV). Calcium is an exception and a one-a day-type product likely does not have sufficient calcium to meet the daily requirements.
- ❖ It is usually wise to purchase brand name products that have been on the market for some time. Herbal supplements often contain active ingredients similar to prescription medications, however they do not have strict requirements like prescription medications. The herbal product can change in consistency from bottle to bottle.
- ❖ Be sure the label on the product reads "USP". This ensures the product meets certain standards established by the testing organization of U.S. Pharmacopeia (USP).
- ❖ Checking with your health care provider before taking any dietary supplement is a wise idea.
- ❖ Dietary supplements can interact with other prescription medications, over-the-counter medications and herbal products.
 - *Examples: Aspirin, vitamin E, and ginkgo biloba interact with Coumadin (a blood thinner); St. John's Wort may reduce the effectiveness of antidepressants, seizure, heart medications and certain oral contraceptives and cancer medications.*
- ❖ It may be necessary to discontinue dietary supplements 2-3 weeks prior to having surgery.
- ❖ Terms like "natural" and "herbal" do not mean the product is harmless.
- ❖ Nutritional, dietary, and herbal supplement manufactures are not are required to run studies to determine product safety or efficacy
- ❖ The FDA does not analyze the contents of dietary supplements.
- ❖ Check the label for additives; is it free of allergens?
- ❖ Store vitamins and minerals in a cool, dry place safely out of reach of children. Mega doses of vitamins are harmful.
- ❖ As a general rule be cautious about buying herbal products manufactured outside the United States.
- ❖ Generally herbal products are not recommended for individuals under 18 or older than 65. (Metabolism rates vary in these individuals.)
- ❖ **Adverse effects from the use of dietary supplements should be reported to Med Watch:**

You, your health care provider, or anyone may report a serious adverse event or illness directly to FDA if you believe it is related to the use of any dietary supplement product, by calling FDA at 1-800-FDA-1088, by fax at 1-800-FDA-0178 or reporting on-line at: <http://www.fda.gov/medwatch/how.htm>. FDA would like to know whenever you think a product caused you a serious problem, even if you are not sure that the product was the cause, and even if you do not visit a doctor or clinic. In addition to communicating with FDA on-line or by phone, you may use the Med Watch form available from the FDA Web site.

Source: <http://www.cfsan.fda.gov/~dms/ds-savvy.html>

It should be emphasized that herbal supplements are not the same as vitamin and mineral supplements. Vitamins and minerals are needed by the body in small increments for growth and function. Herbal products are considered to have medicinal value. Herbs are

fresh or dried products made into medicinal forms. Herbal preparations may interact with your other medications and should not be taken without consulting your physician.

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http://www.helpguide.org/life/supplements_dietary_nutritional_herbal.htm#vitamin

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