

# Vitamins and Minerals

## LESSON 4

Vitamins and minerals play a key role in chemical reactions of the body. There are two classes of vitamins: water soluble (B vitamins and C) and fat soluble (vitamins A, D, E, & K). Water soluble vitamins circulate freely throughout your body and excesses are excreted in the urine, so that overdoses rarely occur. Fat soluble vitamins are absorbed and stored in the body. Due to this storage, consuming too much of a fat-soluble vitamin can be harmful!

Minerals form structural components in the body and participate in key chemical reactions. There are approximately 25 minerals that are important for good nutrition. And like fat soluble vitamins, some minerals are toxic if taken in excess (e.g. iron, copper, chlorine, magnesium, manganese, iodine, fluoride).

Although all the vitamins and minerals are important to your health, some nutrients have recently received special attention.

### THE ANTIOXIDANT VITAMINS

Scientists have shown that with the help of antioxidant nutrients (vitamins C, E, beta carotene and selenium), our bodies are better equipped to prevent the development of certain chronic medical conditions including cancer, cardiovascular and immune diseases, cataracts and perhaps aging itself.

Our bodies can produce and take in from the environment substances called "free radicals." These substances can damage important body tissues resulting in development of the medical conditions listed above. Studies have shown that the body defends against such damage with the help of antioxidant nutrients. It is believed that meeting the Daily Value or RDA for these nutrients is sufficient to provide these benefits. Food sources of antioxidants include fruits and vegetables, whole grain products and cereals, as well as fish and other seafood.

### CALCIUM

It is critical that you consume adequate amounts of the mineral calcium to reduce your risk of developing osteoporosis, a disease which causes bones to become fragile, porous and more susceptible to fractures. In addition to helping to build strong bones and teeth, calcium also aids in muscle contraction and regulation of heart rhythm, the functioning of the nervous system, the activation of enzymes and blood clotting. A National Institute of Health Consensus Panel recommends 1000mg of Calcium or more per day for adults over the age of 25. Milk, yogurt and many of the Advanced Health Systems Nutritional Food Products are excellent sources of calcium. Vegetables (such as broccoli and kale), canned salmon, sardines, and calcium fortified orange juice are also good ways to increase your calcium intake.

### CHOOSING HEALTHY ALTERNATIVES

Eating a wide variety of foods is the best way to satisfy your body's nutritional needs; however, it is difficult to consume all needed vitamins and minerals with a reduced calorie diet. Therefore, a multivitamin supplement is recommended. Here are some guidelines to help you overcome the challenge of choosing a daily multivitamin:

- Select a supplement which provides several vitamins and minerals rather one pill for each vitamin and mineral you want to take. It's not only easier to remember to take 1 daily pill, but also more economical.
- Be sure to include fat soluble vitamins (A, D, E), B vitamins (thiamin, riboflavin, niacin, B6, B12, folate, pantothenic acid), Vitamin C and minerals (copper, iron, zinc).
- Look for a multivitamin that provides 100% -200% of the US RDA or Daily Value for the major vitamins and minerals. However, remember that doses that are 5-10 times higher than the RDA may be harmful to you.

