

Vitamins: Nothing Goes Without Them

WHY WE DO NOT GET ENOUGH WITH OUR FOOD – ORTHOMOLECULAR MEDICINE

Vitamins are chemical compounds the body cannot make itself and that must therefore be supplied. Besides fat, carbohydrates, proteins (amino acids), minerals and trace elements, we must ingest these with our foods or with supplements.

Within the last 200 years a number of vitamins have been discovered. They include the **fat soluble** vitamins A, D, E and K, and the **water soluble** B vitamins and vitamin C. The B vitamin group consists of a number of vitamins, namely B₁ (thiamine), B₂ (riboflavin), B₆ (pyridoxine), B₁₂ (cobalamine), folic acid (formerly B₉), pantothenic acid (formerly B₅), biotin (formerly B₈), niacin (formerly B₃).

Occasionally you will find inositol or some other compound under the heading “vitamins”, even though they are not true vitamins as the body can synthesize them. Laetrile, which has been touted to stop metastases in advanced cancer, has been termed vitamin B₁₇, but it has not yet been shown to really be a vitamin. Vitamin D, strictly speaking, is not a vitamin either, as the body can produce some of it in the skin. Nevertheless this is usually not sufficient to cover the daily requirement. The body can turn **beta carotene** into vitamin A. 6 micrograms of beta carotene are equivalent to one microgram of vitamin A.

Since the only common denominator of vitamins is that the body cannot produce them itself, their **functions** are varied. They are involved in the energy metabolism and cell division (B vitamins), are needed to build enzymes and hormones (B vitamins), transport calcium (vitamin D), are needed to build connective tissue (vitamin C) or being antioxidants protect the cells from free radicals (vitamin C and E), amongst many other functions.

Even though we have plenty of food nowadays, the **density** of the food in terms **of micro nutrients** (including vitamins) has become much lower. According to the US Department of Agriculture, the amount of vitamins in fruit and vegetables in the US has **depleted by 40%** in the past 40 years. The only thing many farmers are interested in is fast growing produce, never mind the vitamin content.

Besides the reduction of vitamin content in our food, **many people nowadays eat a poor diet** consisting mostly of sugar and fat with little vitamin content. Fast food is poor in vitamins. Storage and transport destroy much of the vitamin content of apparently healthy foods. An apple, stored two days at room temperature, will lose more than half of its vitamin C content. Processing of food often destroys the majority of micro nutrients. If you cook spinach, almost no folic acid will be left in it.

Studies conclude both that the modern human does not achieve the recommended daily average of vitamins, which are considered to be too low by many in alternative medicine, and that **primitive man had a substantially higher intake of vitamins** and other micro nutrients. Eaton estimates that primitive man had an intake of 600mg vitamin C per day versus 80mg today; folic acid 360mg versus 170mg, vitamin E 33mg versus 8mg and so forth.

A large study in Germany with 80,000 participants showed that **the majority of people are deficient** in one or more vitamins. 98% did not reach the recommended daily average of folic acid; 75% lacked vitamin D, 65% vitamin B₆, 65% vitamin B₂, 53% were missing vitamin B₁, 53% vitamin C, 49% did not have enough vitamin B₁₂, 48% vitamin A, and 42% vitamin E. The figures in the US are likely to be similar.

Taking into account the loss of vitamins during transport, storage and processing of food, one must conclude that it is very hard to achieve only the recommended daily average. **Supplementation becomes a must** to modern man, especially the one belonging to the group of people who does not have time to prepare their own food according to holistic standards.

The term **"orthomolecular medicine"** was first used by Noble Prize Laureate Linus Pauling in a paper he wrote in the journal “Science” in 1968. This paper first described the theoretical foundations for what was later to become a specialty within complementary medicine. Orthomolecular medicine uses substances natural to the human body, such as vitamins, to cure disease, but often in much higher than physiological dosages. Administered at low levels, vitamins can prevent deficiency symptoms. At much higher dosages than you would ever find in nature, however, they often have different properties and can cure or prevent disease. Because they are natural to the human body, they are usually free from harmful side effects.