Essential Minerals

Drs. Foster & Smith Educational Staff

Minerals are relatively simple molecules compared to other nutrients which can be large and complex. Minerals make up only 0.7% of the body, yet are vital to its function.

Function of minerals

Minerals perform many different functions in the body such as the formation of bone and cartilage, maintenance of fluid and acid/base balance, transportation of oxygen in the blood, normal functioning of muscles and nerves, and production of hormones. Minerals work with vitamins, enzymes, and other minerals in the body to produce their effects.

Classes of minerals

Minerals are usually grouped into macro and micro categories. Macro-minerals are needed in greater amounts in the diet, and are found in larger amounts in the body than micro-minerals.

Macro-minerals include:
Calcium (Ca) and Phosphorus (P)
Magnesium (Mg)
Potassium (K)
Sodium (Na) and Chloride (Cl)

Micro-minerals include:
Copper (Cu)
Iodine (I)
Iron (Fe)
Manganese (Mn)
Selenium (Se)
Zinc (Zn)

Mineral balance and supplementation

The proper balance of minerals in a pet's body is extremely important and related to the amount of each mineral in the diet, the ability of the animal to absorb the minerals from the intestine, and any disease conditions which could cause excess loss or retaining of various minerals. A high quality vitamin/mineral supplement which contains the proper balance of vitamins and minerals and is given according to directions will not harm a normal animal and in many cases will be beneficial. On the other hand, too much or too little of one mineral can affect the action of others. Supplementation or withholding of one or even several specific minerals can create imbalances and possibly disrupt an animal's nutritional health. In rare cases, changing the mineral balance may be needed to correct a specific deficiency or excess due to a pet's inability to utilize the normal level of a particular nutrient, and should only be done under the direct care of a veterinarian.

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