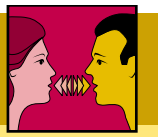
CLIENT TEACHING GUIDELINES
Mineral Supplements



General Considerations

- The best source of minerals and electrolytes is a well-balanced diet with a variety of foods. A well-balanced diet contains all the minerals needed for health in most people. An exception is iron, which is often needed as a dietary supplement in women and children. Note that herbal preparations of chamomile, feverfew, and St. John's wort may inhibit iron absorption.
- The safest course of action is to take mineral supplements only on a health care provider's advice, in the amounts and for the length of time prescribed. All minerals are toxic when taken in excess.
- Keep all mineral–electrolyte substances out of reach of children to prevent accidental overdose. Acute iron intoxication is a common problem among small children and can be fatal. Also, supervise children in using fluoride supplements (eg, remind them to spit out oral rinses and gels rather than swallow them).
- Keep appointments with health care providers for periodic blood tests and other follow-up procedures when mineral–electrolyte supplements are prescribed (eg, potassium chloride). This helps prevent ingestion of excessive amounts.
- Minerals are often contained in multivitamin preparations, with percentages of the recommended dietary allowances supplied. These amounts differ in various preparations and should be included in estimations of daily intake.

Self- or Caregiver Administration

- Take iron preparations with or after meals, with approximately 8 oz of fluid, to prevent stomach upset. Do not take iron with coffee or other caffeine-containing beverages, because caffeine decreases absorption. (Take iron and caffeine preparations at least 2 hours apart). Do not crush or chew slow-release tablets or capsules. With liquid preparations, dilute with water, drink through a straw, and rinse the mouth afterward to avoid staining the teeth. Expect that stools will be dark green or black.
- With potassium preparations, mix oral solutions or effervescent tablets with at least 4 oz of water or juice to improve the taste, dilute the drug, and decrease gastric irritation. Do not crush or chew slow-release preparations. Take after meals initially to decrease gastric irritation. If no anorexia, nausea, vomiting, or other problems occur, the drug can be tried before meals because it is better absorbed from an empty stomach. Do not stop taking the medication without notifying the physician who prescribed it, especially if also taking digoxin or diuretics. Excessive amounts should also be avoided. Do not use salt substitutes unless they are recommended by a health care provider; they contain potassium chloride and may result in excessive intake. Serious problems may develop from either high or low levels of potassium in the blood.

- Most adolescent and adult females probably benefit from a calcium supplement to achieve the recommended amount (1000 to 1300 mg daily). The amounts consumed in dairy products and other foods should be considered and the UL of 2500 mg daily should not be exceeded.
- Although selenium is being promoted as an antioxidant that decreases cardiovascular disease and cancer, there is limited evidence of such benefits and extra selenium intake is not currently recommended for anyone.
- Although zinc is being promoted for treatment of the common cold and to promote wound healing, there is insufficient evidence to support such uses. With colds, zinc reportedly helps some people and does not help others. With wounds, zinc is reportedly beneficial only if the client has a zinc deficiency. More studies are needed before supplemental zinc can be recommended for general use.

PRINCIPLES OF THERAPY

Prevention of an Excess State

When a mineral is given to correct a deficiency state, there is a risk of producing an excess state. Because both deficiency and excess states may be harmful, the amount of mineral supplement should be titrated closely to the amount needed by the body. Larger doses are needed to treat deficiency states than are needed to prevent deficiencies from developing. In addition to producing potential toxicity, large doses of one mineral may cause a relative deficiency of another mineral or nutrient.

Drug Selection

Oral drug preparations are preferred, when feasible, for preventing or treating mineral disorders. They are safer, less likely to produce toxicity, more convenient to administer, and less expensive than parenteral preparations.

Management of Sodium Disorders

Hyponatremia

Treatment of hyponatremia is aimed at restoring normal levels of serum sodium. This can be done with isotonic NaCl solution when hyponatremia is caused by sodium depletion and with restriction of water when hyponatremia is caused by fluid volume excess (water intoxication).