

# CALCIUM OSTRONG

## Composition:

Elemental Calcium.....250 mg  
Vitamin D3.....125 I.U

## Indications:

1. Calcium Strong tablets are indicated as a basic dietary supplement.
2. As a prophylactic treatment of the relevant vitamin and mineral deficiency states during pregnancy and/or lactation. Calcium with Magnesium is necessary for the development of strong bones and teeth, also prevents muscle cramping, risk of colon cancer, maintain regular heart beat, protect against osteoporosis and helps relax the central nervous system with added zinc.

## Description:

Calcium is absorbed from the small intestine by both active and passive mechanisms. At low and moderate intakes of calcium, calcium is absorbed via active transfer. Active transfer depends on the action of the active form of vitamin D, 1,25-dihydroxycholecalciferol or  $1,25(\text{OH})_2 \text{D}_3$ . Vitamin D-induced calcium transport involves the synthesis of the calcium-binding protein, calbindin. Calbindin serves as a calcium translocator. It also serves as a cytosolic calcium buffer. Calcium is typically freed from calcium complexes during digestion and is released in a soluble and probably ionized form for absorption. Low molecular weight complexes, such as calcium carbonate, may be absorbed intact.

As calcium intakes increase, the active transfer mechanism becomes saturated and an increasing proportion of calcium is absorbed via passive diffusion.

The absorption efficiency of calcium varies throughout the life span. It is highest during infancy when it is about 60%. In prepubertal children, it is about 28%. During early puberty, at the time of the growth spurt, it increases to about 34% and then drops to 25% two years later where it remains for several years. Absorption efficacy increases during the last two trimesters of pregnancy. It does decline with aging. In postmenopausal women, fractional absorption of calcium declines on the average of 0.21% yearly. Men lose absorption efficiency at about the same rate as women. Absorption efficiency appears to vary with the different calcium complexes. In one study, absorption efficiency from a 250 milligram dose of calcium citrate malate was found to be 35%; from calcium carbonate, 27%; and from tricalcium phosphate, 25%. For comparison, calcium absorption efficiency from milk was found to be 29%. Some, but not all, studies suggest that calcium is more efficiently absorbed from calcium citrate and calcium citrate malate than it is from calcium carbonate. The efficiency of absorption of calcium from a calcium supplement is greatest when calcium is taken at doses of 500 milligrams or lower. Individuals with achlorhydria absorb calcium from calcium carbonate poorly unless the calcium carbonate supplement is taken with food.

Calcium that is unabsorbed from the intestine is excreted in the feces. Greater than 98% of calcium from the glomerular filtrate is reabsorbed. Renal reabsorption is primarily regulated by parathyroid hormone or PTH.

Approximately 40% of calcium in the plasma is bound to proteins, primarily albumin; about 50% of calcium in the plasma is diffusible ionic calcium and about 10% is diffusible, but is complexed with such anions as phosphate and citrate.

### **CONTRAINDICATIONS**

Calcium supplementation is contraindicated in those with hypercalcemia. Conditions causing hypercalcemia include sarcoidosis, hyperparathyroidism, hypervitaminosis D and cancer.

Calcium supplementation is contraindicated in those hypersensitive to any component of a calcium-containing supplement.

### **PRECAUTIONS**

Supplemental calcium taken without food may increase the risk of kidney stones in women and possibly also in men. It is thought that taking supplemental calcium without food limits the opportunity for the beneficial effect that calcium may have in binding oxalate in the intestine. Therefore, it is advisable that supplemental calcium be taken with food. Those who form calcium-containing kidney stones are generally advised not to take supplemental calcium.

### **Dosage:**

As per the physician's advice

**Presentations:** 10 tablets  
**MRP**  
34.70

**Retailer**  
27.76

**Stockist**  
24.98