Vitamin D works together with Parathyroid hormone on the bone and kidney and controls the intestinal absorption of calcium.

Calcitonin, which is produced by the parathyroid glands, the thyroid, and thymus glands, is responsible for lowering calcium levels by moving calcium into the bones for storage.

Because bone stores of calcium can be used to maintain adequate blood calcium levels, short-term dietary deficiency of calcium generally does not result in significantly low blood calcium levels. But, over the long term, dietary deficiency eventually depletes bone stores, rendering the bones weak and prone to fracture. A low blood calcium level is more often the result of a disturbance in the body's calcium regulating mechanisms, such as insufficient parathyroid hormone or vitamin D, rather than dietary deficiency.

Calcium deficit causes nerve fibre irritability and repetitive muscle spasms. Consequently, characteristic symptoms of hypocalcaemia include perioral paresthesia, twitching, tetany, seizures and, possibly, cardiac arrhythmias. Clinical effects of hypocalcaemia include muscle weakness, decreased muscle tone, lethargy, anorexia, constipation, nausea, vomiting, dehydration, polydipsia, and polyuria. High calcium intakes consumed on a regular basis may be harmful. It is important to get your daily recommended daily calcium. The adverse effects of excessive calcium intake may include high blood calcium levels, kidney stone formation and kidney complications. Severe hypercalcaemia may produce cardiac arrhythmias and, eventually, coma.



Physiological states in the life cycle childhood, adolescence, pregnancy, lactation and old age have a strong influence on the amount of absorption needed to meet body requirement. An adequate calcium intake is essential for all ages. Recommended daily intake (of elemental calcium) varies accordingly: 400-600 mg for growing infants.

In young children, skeletal tissue is constantly growing, so demand for calcium is high. On average, young children need around 800 mg calcium daily. Adolescents have rapid growth spurts during puberty, so their bones are still growing and becoming stronger. As a result, the demand for calcium increases with recommended daily intake of 1200 mg. Adults need to maintain their intake so that these stores of calcium in the bones aren't depleted and would require 1000 mg. of calcium daily. Pregnant women and lactating mothers require additional calcium (RDA 1200 mg). Therefore, no one is exempt. In our country, calcium tablets are marketed as 500mg.tab.

Elderly persons should take as much as 1500 mg. of calcium to help prevent osteoporosis, a common condition in which bones become weak and fracture easily due to a loss of bone density. The usual form of osteoporosis occurs mainly in older persons, especially in postmenopausal women. In women affected, the most rapid rate of loss occurs in the first five years of menopause. In elderly persons in general and in post menopausal women in particular, the ability to absorb calcium is also reduced.

Dietary calcium requirements depend in part upon whether the body is growing or making new bone or milk.

Milk and milk products-milk, yoghurt, cheese, eggs and meats are excellent sources of calcium. Green leafy vegetables (spinach, amaranth), broccoli, legumes and nuts are among the best plant-derived sources. The limiting factor in the absorption of calcium from green leafy vegetables is the presence of oxalic acids with which calcium forms an insoluble compound, calcium oxalate which interferes with the absorption of calcium. ■