

3. How To Increase Calcium in the bones Naturally?

To meet calcium needs for strong bones, one requires to know the following:

- a). The average daily requirement of calcium
- b). How to increase the absorption of calcium from the digestive tract?
- c). How to prevent calcium loss from the body?
- d). How to prevent calcium loss from the bones?
- e). How to increase the calcium supply to the bones?
- f). Knowledge of good dietary sources of calcium

a). Average daily calcium requirement -In an adult male or female, the daily dietary calcium requirement is 600-800 mg. Pregnant and lactating women, growing children, and young adults require twice as much calcium in their daily diet. The need for calcium is also higher in older adults over the age of 65 because they have lower stomach acidity and absorb calcium poorly. The human body is very competent in recycling and conserving calcium. So in most cases, there is no need to take medical supplements of calcium, especially in doses higher than 500mg daily. That is provided the dietary intake is good.

b). How to increase absorption of calcium from the digestive tract – To maximize calcium absorption in the digestive tract, one requires to:

- **Normalize Vitamin D level**—Calcium absorption from the digestive tract is dependent on normal Vitamin D levels in the body. The deficiency of Vitamin D is a major cause of inadequate calcium absorption. The easiest and most reliable way to get vitamin D is sun exposure for 30-60 minutes in the morning. Sun exposure can provide 80% of the vitamin D needed by the body (see the details of sunbathing for maximizing vitamin D intake below).
- Eat foods rich in calcium (see below)
- Minimize or avoid smoking and alcohol
- Eliminate the use of acid- reflux medications- To eliminate acid reflux disease, eat early before 8 PM, three to four hours before bedtime, and eat more alkaline foods (see picture below)



c). ***How to prevent calcium loss from the body?***— The calcium loss from the body via urine increases if the diet is rich in salt, as indicated above. Excess consumption of salt in packaged foods is a significant cause of bone thinning in modern city dwellers.

d). ***How to prevent calcium loss from the bones?***— The foods which make the body acidic remove calcium carbonate from the bones making bones weak and thin. The body is alkaline, and when there is more acid residue in the body from the food, more calcium gets removed from the bones to balance the alkaline state of the body. Minimize acidic foods in the diet (see picture above acidic vs. alkaline foods). Meat eaters lose more calcium in the urine.

e). ***How to Increase calcium and Vitamin D supply to the bones?*** -- The bones get their nutrition from muscle blood vessels. If the muscles are not moving, the precious cargo of calcium and vitamin D can not reach the bone to do the work of

building strong bones. Lack of exercise and physical activity is another big reason for bone-thinning amongst the city dwellers.

So always remember, "Strong muscles build strong bones."

f). *Good dietary sources of calcium*--The good dietary sources of calcium are:

- Dairy (milk, curds-dahi, buttermilk)- Cow milk is a good source of calcium and vitamin D provided the cows are grazing grass under the Sunlight in open pastures. Unfortunately, most milk sold in cities worldwide is from Farm-raised cows. These cows get fed unnatural cornmeal, are locked up indoors, and given antibiotics and hormones to produce ten times the average amount of milk produced by the cows raised naturally (40 to 50 liters versus 4-5 liters) a day. Therefore, the milk from farm cows is deficient in both calcium and Vitamin D. Another problem with milk is that most adult Asian populations do not have lactase enzymes in the digestive tract to digest the milk. Therefore milk causes bloating, indigestion, and acidity. The fermented milk products such as curds and thin buttermilk (chaach), on the other hand, carry lactase enzymes and are better digested by Asians.
- Green Vegetables and soybeans
- Lentils and legumes
- Seeds and nuts

Food Products Versus Calcium Content

Food Product	Calcium in mg
Dahi/ Curd one cup (225 ml)	300
Cooked Spinach & Dark green vegetables (225gm)	150
Soybean (225gm)	175
Lentils & Legumes (100gm)	200
Nuts & Seeds (28gm-one fistful)	80
Poppy Seeds/ Chia seeds (two teaspoons-10gm)	130

Sesame seeds (two teaspoons-10gm)	90
Curry Leaves (10gm)	80
Black raisins or Munacca (7-8 pieces)	60
Gingelly seeds (bhanjira-10gm)	145
<i>NOTE: Recommended dietary intake (RDI) of calcium is: 600 mg in an adult, 800 mg over 65, and 1000 mg in growing children and pregnant/ lactating mothers.</i>	