



Levigor®
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Calcium 600mg Plus Vitamin D3

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Maintain Healthy Bones & Teeth

Crucial Nutrients for Health Calcium is the most necessary mineral for human. 99% of the calcium in our body is stored in bones and teeth.^[1] The remaining 1% calcium is needed for muscle contraction, blood clotting and nerve transmission.^[1-4] Without enough calcium, our bones will become fragile and normal functions of body would not be carried out.^[1-4]

Vitamin D3, also known as cholecalciferol, is a fat soluble vitamin which facilitates body absorption of calcium.^[1,5,6] Vitamin D3 is produced by our skin after exposure to sunlight and also available from diet.^[1,5,6] It is metabolized in liver and kidney to an active form of metabolite.^[1,5,6] Vitamin D3 helps promote intestinal calcium absorption, enhance bone growth and calcification, and keep our teeth strong.^[1,5,6] It also increases phosphorus absorption through the intestine and reabsorption in the kidney, maintains normal level of citrate in the blood and protects against loss of amino acids through the kidneys.

Although we can obtain vitamin D3 through diet and sunlight, people nowadays mostly work indoor and thus are at risk of insufficient vitamin D3. It is essential to take dietary supplement for adequate vitamin D3 intake and as such to maintain calcium concentration.

Calcium Distribution: Bone, Blood and Muscle **BONES** Most of the calcium is located in bones and teeth. They have significant physical functions like support, protection, exercise and chewing. It also has an important function as calcium storage.^[1] Whenever the concentration of calcium in blood is too low or too high, the calcium in bones will either make replenishment to the blood through 'bone breakdown' or save the calcium back in bones.^[1-4] Teeth are part of the bones. They are the hardest thing in our body as they only contain 5% water, which can facilitate chewing and grinding.^[7]

BLOOD Normal concentration of calcium in blood is essential for blood clotting.^[1-4] It also has a particular and vital effect to our nervous system. Low concentration of calcium in blood over-excite the nervous tissue while high concentration would suppress the excitatory nerve.^[1-4] Concentration of calcium in blood is precisely controlled by our parathyroid hormone (PTH), as to strike a balance between calcium in blood and bones.^[1,3,5,6] Calcium is the messenger of the nervous system and cells. It activates different enzymes for various body functions.^[1-4]

MUSCLES Calcium is responsible for contraction of skeletal and cardiac muscles. Without calcium, we can neither retain normal heartbeat, nor maintain normal functions of important organs. For instance, our body movement and lipid metabolism would be out of control.^[1-4]

Chance of Calcium Loss Small intestine is the main organ for calcium absorption. If we consume 1000mg calcium every day, actually only one fourth of it is utilized by the body, while the rest will be excreted.^[1-3] Some post-menopause women lose calcium in bones easily due to hormonal changes in their body. It may result in fragile bone structure which can be dangerous.^[1-3,8] Therefore, calcium supplement is important to ensure sufficient calcium supply for our body.

Deficiency of Calcium and Vitamin D may cause:

- ★ Stunted or Dysplasia^[1-6,8,12]
- ★ Loss of appetite and diarrhea^[1]
- ★ Bone pain and muscle fatigue^[1,5,6,10]
- ★ Bone Fracture^[1-3,5,6,8,9]
- ★ Impaired glucose tolerance^[1,5,6,11]
- ★ Cardiovascular, nerve and muscle disorder^[1-6]
- ★ Rickets and Osteomalacia^[1,5,6]
- ★ Mood swing and short-tempered^[1]

Functions of Calcium + Vitamin D3:

- ★ Help prevent humpbacked and bone fracture^[1-3,5,6,8,9]
- ★ Regulate muscle contraction and relaxation^[1-4]
- ★ Keep our teeth strong and maintain healthy bone density^[1-3,7]
- ★ Strengthen our bones and maintain normal development^[1-3,5,6,8,9]
- ★ Nourish pregnant women during pregnancy and post-natal period^[1,3,5,6,12]
- ★ Maintain health of heart^[1-6]
- ★ Maintain body defense^[1,5,6]
- ★ Maintain proper nerve function^[1-4]
- ★ Help regulate iron metabolism^[1]

How Much Calcium and Vitamin D Do We Need? The Institute of Medicine of the National Academies has made recommendation on the daily intake value for different population: ^[8]

Recommended daily dose:

Adult and children age of 12 years and above, take 1 to 2 softgel capsules daily or as directed by physicians.

References:

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12. Black RE, Allen LH, Bhutta ZA, Caulfield LE, de Onis M et al. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. 2008;371(9608):243-60.

Age Group	Recommended dietary allowance for CALCIUM (mg/day)	Recommended dietary allowance for VITAMIN D (IU/day)
0-6 months	200*	400*
6-12 months	260*	400*
1-3 years old	700	600
4-8 years old	1000	600
9-13 years old	1300	600
14-18 years old	1300	600
19-30years old	1000	600
31-50 years old	1000	600
51-70 years old (male)	1000	600
51-70 years old (female)	1200	600
70 years old and above	1200	800
14-18 years old, Pregnant/ Lactating	1300	600
19-50 years old, Pregnant/ Lactating	1000	600

*Adequate Intake