智健坊 Talenten

Calcium 600 And Vitamin D3

鈣加維他命D3軟膠囊

Softgel Capsules

MADE IN U.S.A.

Quality

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 and keeping the cardiovascular system healthy. [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]

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]

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
19-30 years old	1000	600
31-50 years old	1000	600
51-70 year-old male	1000	600
51-70 year-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

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

Functions of Calcium + Vitamin D3:

- Maintain body defense [1,5,6]
- Prevent dental cavity decay and keep our teeth strong [1-3,7]
- Strengthen our bones and maintain normal development [1-3,5,6,8,9]
- Help prevent humpbacked, osteoporosis and fracture [1-3,5,6,8,9]
- Maintain proper nerve function [1-4]
- Maintain regular heartbeat and keep our heart healthy [1-6]
- Regulate muscle contraction and relaxation [1-4]
- Help regulate iron metabolism [1]
- Nourish pregnant women during pregnancy and post-natal period [1,3,5,6,12]

Recommended daily dose:

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

Reference:

1. *Institute of Medicine Committee to Review Dietary Reference Intakes for Vitamin D and Calcium; Ross AC, Taylor CL, Yaktine AL, Del Valle HB (eds). Dietary Reference Intakes for Calcium and Vitamin D. Washington DC: National Academies Press; 2011.*
2. *Heaney RP. Calcium intake and disease prevention. Arq Bras Endocrinol Metabol. 2006;50(4):685-93.*
3. *Dietary Supplement Fact Sheet: Calcium. Office of Dietary Supplements. National Institutes of Health. Reviewed: August 31, 2011. Available at http://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/.*
4. *Berchtold MW, Brinkmeier H, Müntener M. Calcium ion in skeletal muscle: its crucial role for muscle function, plasticity, and disease. Physiol Rev. 2000;80(3):1215-65.*
5. *Dietary Supplement Fact Sheet: Vitamin D. Office of Dietary Supplements. National Institutes of Health. Reviewed: June 24, 2011. Available at http://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/.*
6. *Kulie T, Groff A, Redmer J, Hounshell J, Schrager S. Vitamin D: An Evidence-Based Review. J Am Board Fam Med. 2009;22(6):698-706.*
7. *Salazar M, Gasga J. Microhardness and Chemical Composition of Human Tooth. Mat. Res. 2003;6:367-73.*
8. *Institute of Medicine of the National Academies. Report Brief - Dietary Reference Intakes for Calcium and Vitamin D. Revised: March 2011.*
9. *Strauss, Saltman PD. Spinal bone loss in postmenopausal women supplemented with calcium and trace mineral. Jour Nutr. 1994;124:1060-4.*
10. *Allen DG, Lamb GD, Westerblad H. Impaired calcium release during fatigue. J Appl Physiol. 2008;104:296-305.*
11. *Pittas AG, Dawson-Hughes B. Vitamin D and diabetes. J Steroid Biochem Mol Biol. 2010;121(1-2):425-9.*
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.*

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