

Calcium and Vitamin D Requirements

Calcium is needed to regulate heart function, conduct nerve impulses, secrete hormones and clot blood. If the body does not get enough calcium daily, it will steal from the bones. Postmenopausal women need 1200 mg a day (premenopausal women need 1000 mg a day).

Food is the best source of calcium, containing trace minerals to help absorption. Magnesium and phosphorus are adequate in most diets. A well balanced diet is critical to bone health. Most women consume about half the calcium they need.

What to look for in a Calcium supplement

Calcium exists in nature only in combination with other substances. These substances are called *compounds*. Several different calcium compounds are used in supplements, including:

- calcium carbonate
- calcium phosphate
- calcium citrate

These compounds contain different amounts of *elemental calcium*, which is the actual amount of calcium in the supplement. It is important to read the label carefully to determine how much elemental calcium is in the supplement and how many doses or pills to take.

Calcium supplements are available without a prescription in a wide range of preparations and strengths, which can make selecting one a confusing experience. Many people ask which calcium supplement they should take. The "best" supplement is the one that meets your needs. *Ask yourself these questions:*

- How well does my body tolerate this kind of supplement? Does it cause any side effects (like gas or constipation)? If so, you may want to try another kind or a different brand. Calcium phosphate is usually easier to tolerate, but harder to find.
- Is this kind of supplement convenient? Can I remember to take it as often as recommended each day? Can I chew or swallow it?

Other Important Things to Consider

Purity: Look for labels that state "purified" or have the USP (United States Pharmacopeia) symbol. Avoid calcium from unrefined oyster shell, bone meal, or dolomite without the USP symbol, because it may contain high levels of lead, mercury and other toxic metals.

Absorbability: Most brand-name calcium products are absorbed easily in the body. If you are not sure about your product, you can find out how well it dissolves by placing it in a small amount of warm water for 30 minutes and stirring it occasionally. If it hasn't dissolved within this time, it probably will not dissolve in your stomach. Chewable and liquid calcium supplements dissolve well because they are broken down before they enter the stomach.

Calcium, whether from food or supplements, is absorbed best by the body when it is taken several times a day in amounts of 500 mg or less, but taking it all at once is better than not taking it at all. Calcium carbonate is absorbed best when taken with food. Calcium citrate can be taken anytime.

Calcium Interactions: Calcium supplements may reduce the absorption of the antibiotic tetracycline. Calcium also interferes with iron absorption. You should not take a calcium supplement at the same time as an iron supplement.

The Best Sources of Calcium from Food

DAIRY	Amount	Calcium in mg
Milk, nonfat (powdered)	¼ cup	377
Milk, skim, Lactaid, whole, 1% - 2%	1 cup	300
Yogurt, plain (lowfat)	1 cup	415
Yogurt, fruit flavored (lowfat)	1 cup	314
Cheese, Swiss	1 ounce	272
Cheese, Monterey Jack	1 ounce	212
Cheese, Mozzarella (low moisture, part skim)	1 ounce	207
Cheese, Cheddar	1 ounce	204
Cheese, Parmesan (grated)	1 tablespoon	69
Cottage Cheese	½ cup	63
Ice Cream	½ cup	84
Fruits and Vegetables	Amount	Calcium in mg
Collards, cooked from frozen	½ cup	179
Turnip greens, cooked from frozen	½ cup	125
Kale, cooked from frozen	½ cup	90
Broccoli	½ cup	47
Chard, cooked	½ cup	51
Orange	1 medium	52
Protein	Amount	Calcium in mg
Sardines (canned with bones)	3 ounces	322
Salmon, pink (canned with bones)	3 ounces	181
Tofu, firm (processed with calcium)	½ cup	258
Almonds, shelled	1 ounce	80
Soybeans, cooked	½ cup	88
Dried beans, cooked (lima, navy, kidney)	½ cup	25-64
Calcium-Fortified Foods		Check labels

Vitamin D

As we are more careful with sun exposure, vitamin D, the "sunshine vitamin" is deficient in 70% of Americans. This tends to increase with age. Most experts now recommend 800 IU to 1200 IU per day. This should be vitamin D₃ (cholecalciferol) which is 3 times more potent than vitamin D₂ (ergocalciferol).

Vitamin D is added to milk, cereals, and is found in saltwater fish. Vitamin D can be taken in large amounts once a week or spread out, like Calcium needs to be. Most calcium supplements now have D₃ added, but not all have enough. Be careful to read labels.

15 minutes of sun exposure to face and arms 4 times a week will also provide adequate Vitamin D for most people, but this must be balanced against concerns about skin damage.

Vitamin D is essential for Calcium absorption and mineralization of bone. Deficiency has other effects that are widespread. These include increased risk for breast, colon and prostate cancer and increased risk for diabetes. Skin, nails and muscles are weakened and the immune system is less efficient with low Vitamin D levels.

If a severe deficiency is found, doses as high as 50,000 IU weekly may be used for a few months. Never do this without a prescription! Too much Vitamin D can cause nausea, joint pain, tingling sensations in the mouth and severe abdominal pain. Levels can be followed with a simple blood test.