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Prevention

Calcium & Vitamin D

Calcium plays an important role in maintaining bone. Calcium alone cannot prevent or cure osteoporosis, but it is an important part of an overall prevention or treatment program.

Yet, national surveys have shown that many Americans are not consuming enough calcium. Many women, in fact, consume less than half of the daily recommended amount of calcium.

Recommended Calcium Intakes*	
Ages	Amount mg/day
Birth - 6 months	210
6 months - 1 year	270
1-3	500
4-8	800
9-13	1300
14-18	1300
19-30	1000
31-50	1000
51-70	1200
70 or older	1200
Pregnant & Lactating	1000
14-18	1300
19-50	1000

*Source: National Academy of Sciences (NAS)

One way to increase the amount of calcium in your diet is to eat calcium-rich foods like low-fat milk, cheese, broccoli and others. Many foods are fortified with calcium and are readily available and affordable. Foods like orange juice, cereals and breakfast bars have calcium added to them, so it is easier than ever before to consume the recommended level of calcium for every age. Having extra calcium in a variety of foods also makes it easier for parents who are trying to ensure that their adolescent daughters, especially, are getting enough calcium.



Another easy and economical way to boost the calcium content of many meals is to add nonfat powdered dry milk to puddings, homemade cookies, breads or muffins, soups, gravy, casseroles and even a glass of milk. A single tablespoon of nonfat powdered dry milk adds 52 mg of calcium, and 2 to 4 tablespoons can be added to most recipes.

You may add:

- 3 tablespoons to each cup of milk in puddings, cocoa or custard
- 4 tablespoons to each cup of hot cereal before cooking
- 2 tablespoons sifted into each cup of flour in cakes, cookies or breads

If you are unable to get enough calcium through your diet, your doctor can recommend an appropriate **calcium supplement**. Since there are several different types of calcium and a variety of supplements available, you should discuss the choice of calcium with your doctor.

The calcium in supplements needs to be easily absorbed by the body. You can be sure of this if the tablet dissolves almost entirely in a small glass of warm water or vinegar within 30 minutes. Also read the label to determine the actual amount of calcium in the supplement, which is usually referred to as elemental calcium.

Some people are lactose intolerant and have difficulty digesting dairy products because they lack the enzyme lactase, which is needed to break down the milk sugar lactose. Milk fermented with certain bacteria (called acidophilus) is well tolerated, as are yogurt and hard cheeses. If you are lactose intolerant, you can treat lactose-containing foods with commercial preparations of lactase or buy milk products that have already been treated.

Getting enough calcium, whether through diet or supplements, is essential to maintaining bone strength and can play a vital role in preventing osteoporosis-related fractures. Speak to a doctor or dietician about how you can get the proper amount of calcium.

Read NOF's **Strategy for Osteoporosis: Optimal Calcium Intake** for more information.

Vitamin D

Vitamin D plays a major role in calcium absorption and bone health. The relationship between calcium absorption and vitamin D is similar to that of a locked door and a key. Vitamin D is the key that unlocks the door and allows calcium to leave the intestine and enter the bloodstream. Vitamin D also works in the kidneys to help resorb calcium that otherwise would be excreted.

Vitamin D is manufactured in the skin following direct exposure to sunlight. The amount of vitamin D produced in the skin varies depending on time of day, season, latitude and skin pigmentation. Usually 10-15 minutes exposure of hands, arms and face two to three times a week (depending on one's skin sensitivity) is enough to satisfy the body's vitamin D requirement. Use of sunscreen markedly diminishes the manufacture of vitamin D in the skin, as do window glass, clothing and air pollution. Skin color also affects vitamin D production; the fairer you are, the more you make.

As adults age, the ability to make vitamin D through the skin decreases. People who are housebound and experience no sunlight exposure are unable to make vitamin D.

The major food sources of vitamin D are vitamin D-fortified dairy products, egg yolks, saltwater fish and liver. Some calcium supplements and most multivitamins contain vitamin D, so it is important to check the labels to determine how much each contains.

Experts recommend a daily intake of between 400 and 800 international units (IU). Do not take more than 800 IU per day unless your doctor prescribes it, since massive doses of vitamin D may be harmful.

New members of the NOF Family receive our quarterly newsletter, Osteoporosis Report, and a copy of our newly revised, 74-page handbook, Boning Up on Osteoporosis. Renewing members receive NOF's quarterly newsletter.

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