

CALCIUM

By Vadim Mejerson, Ph.D

One of the most essential minerals, significant in building and maintaining strong bones and teeth, instrumental in regulation of heartbeat and other muscle contractions and important in proper blood clotting.

Moreover, many scientists believe that a chronic shortage of dietary calcium is one critical factor that leads to osteoporosis. Each day, adults lose some calcium in urine, feces and to lesser extent, through skin.

If these losses are not balanced by adequate amounts of calcium in the diet, the body draws calcium from the skeleton. The bones then begin to break down in order to supply the body's need for the mineral, in maintaining the proper blood level of calcium.

How Much Calcium Is Enough ?

An intake of calcium of 1,000-1,500 milligrams per day (through diet or diet plus supplements) is considered to be helpful in protection against development of osteoporosis.

People, particularly women, should get plenty of calcium in their diet throughout life. Certainly, children and teenagers need an adequate calcium intake as they are growing.

Studies show that the usual intake of calcium for adult women (ages 24-75) in the United States is 450-550 mg per day. This is well below the current Recommended Dietary Allowance (RDA) of 800 mg per day for women and men who are over 18 years old.

Studies cited by the 1984 National Institutes of Health's Consensus Development Conference on Osteoporosis led the conference panel to offer the opinion that the RDA for calcium is too low, especially for postmenopausal women, and may well be too low for men.

The panel recommended that women consume the following amounts of calcium each day:

1. Premenopausal and older women receiving estrogen , need about 1,000 mg of calcium per day, that it to maintain a calcium balance.
2. Postmenopausal women, who are not on estrogen, need about 1,500 mg of calcium per day.

Pregnant or nursing women, who are 19 years of age , or older, the panel recommends 400 mg above the normal requirement, or total of 1,400 mg.

Pregnant or nursing women, who are 19 years of age or younger, the panel recommends 800 mg above the normal requirement, or total of 2,000.

If the average American women consumes an estimated 500 mg of calcium per day, then an additional of 500 -1,000 mg of calcium are needed, that is roughly the amount of calcium in two to four servings of milk or several servings of other calcium - rich foods.

In addition, men who increase their calcium intake may prevent age-related bone loss as well.

It may be helpful to consult a physician or a nutritionist who can calculate the amount of calcium in one's usual diet. If there is a need for additional calcium, here is a list of some sources:

Calcium Sources:

1. Low fat dairy products, dark green vegetables such as collard, turnip, and mustard greens, kale and broccoli. Spinach is not a good source of calcium because although it is high in calcium and other nutrients, it contains substances (oxalates) that diminish absorption of calcium. Other sources are: sardines, canned salmon(with bones), and oysters. Tofu and soymilk are often fortified with calcium, people who avoid dairy products.

Here are the calcium values for some of the high calcium foods:

1c	skim milk	302 mg
1c	plain lowfat yogurt	415 mg
1/2 c	lowfat cottage cheese	70 mg
2/3 c	cooked broccoli	88 mg
3 oz	sardines	372 mg
3 oz	salmon with bones	167 mg
4 oz	tofu (processed with calcium sulfate)	145 mg

If you have difficulty to reach the daily levels of calcium intake, taking supplements could be a solution. Different formulations of supplements contain different amounts of elemental calcium. It is important to read the product label. Calcium carbonate, for example is 40 percent calcium.

That is, 100 mg of calcium carbonate contains 40 mg of calcium or “elemental calcium”. In the case of calcium lactate (13 percent calcium), 250 mg of the compound would contain about 34 mg of calcium. Calcium gluconate is 9 percent calcium.

Calcium supplements are often found in the form of tablets. Chewable tablets and powders may be available. One source of calcium carbonate is oyster shells, so this compound is some times called “oyster shell calcium”.

Certain antacids contain calcium carbonate: in fact , one popular brand is virtually 100 percent calcium carbonate with only added sweeteners and flavorings. Other antacids with calcium carbonate also contain aluminum, which can hamper the intestine’s ability to absorb calcium from food.

If you cannot get enough calcium in your diet and you must take supplements , here is some information to keep in mind:

1. There is evidence that taking supplements between meals promotes better absorption.
2. Bone meal and dolomite should not be taken regularly. Although they are both high in calcium, they also tend to contain high amounts of lead and other toxic metals.
3. Avoid taking aluminum containing antacids as a regular source of calcium.
4. Drink a full glass of water when taking a calcium supplement.
5. Levels of calcium that exceed 1,000- 1,500 mg per day, can cause kidney stones in susceptible people. Thus, people with kidney stone history should not take supplements without medical supervision.

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