

## Calcium Sources in Food

Serving Food Item	Size	Calcium Content (mg)
<b>Milk</b>		
Whole	8 oz	291
Skim	8 oz	302
Calcimilk <sup>®</sup> (lactose reduced low-fat milk)	8 oz	500
<b>Yogurt</b>		
Plain, low-fat*	8 oz	250-400
Fruit, low-fat*	8 oz	250-400
Frozen, fruit	8 oz	240
Frozen, chocolate	8 oz	160
<b>Cheese</b>		
Mozzarella, part skim	1 oz	207
Muenster	1 oz	203
Cheddar	1 oz	204
Ricotta: part skim	4 oz	335
Cottage: low-fat (2%)	4 oz	78
<b>Ice Cream: Vanilla (11% fat)</b>		
Hard	1 cup	176
Soft serve	1 cup	236
<b>Fish and Shellfish</b>		
Sardines: canned in oil, drained (inc. bones)	3 oz	375
Salmon: pink, canned, drained (inc. bones)	3 oz	167
Shrimp: canned, drained	3 oz	100
<b>Vegetables</b>		
Bok choy: raw	1 cup	250
Broccoli: fresh, cooked & drained	1 cup	136
Broccoli: frozen, cooked & drained	1 cup	100
Soybeans: cooked & drained	1 cup	175
Collards: fresh, cooked & drained	1 cup	150
Turnip greens: fresh, cooked & drained	1 cup	200
Carrots	1 cup	50
Tofu	4 oz	150*
<b>Fortified Foods</b>		
Calcium-fortified milk	8 oz	500
Fruit juice with added calcium	8 oz	300
Cereal with added calcium (without milk)	3/4 cup	250

\*The calcium content of tofu processed with calcium salts can be as much as 300 mg per 4 oz. The label should provide specific information.

Source: "Boning Up on Osteoporosis," National Osteoporosis Foundation, 1997.

## Estimation of Daily Calcium Intake

To calculate your daily calcium intake, please complete the following chart:

Source of Calcium	mg
Dairy-free diet	300
Dairy products (300 mg per serving)	—
Calcium-fortified foods	—
Calcium supplements	—
<b>Total Calcium Intake</b>	—

Adapted with permission from MR McClung, Oregon Osteoporosis Center

*Adequate calcium  
and vitamin D  
are necessary for  
bone health at  
any age*

Brochure Developed by  
**The Osteoporosis Education  
Task Force Endocrine Nurses Society (ENS)**

Phone: 301-941-0249, Fax: 301-941-0259

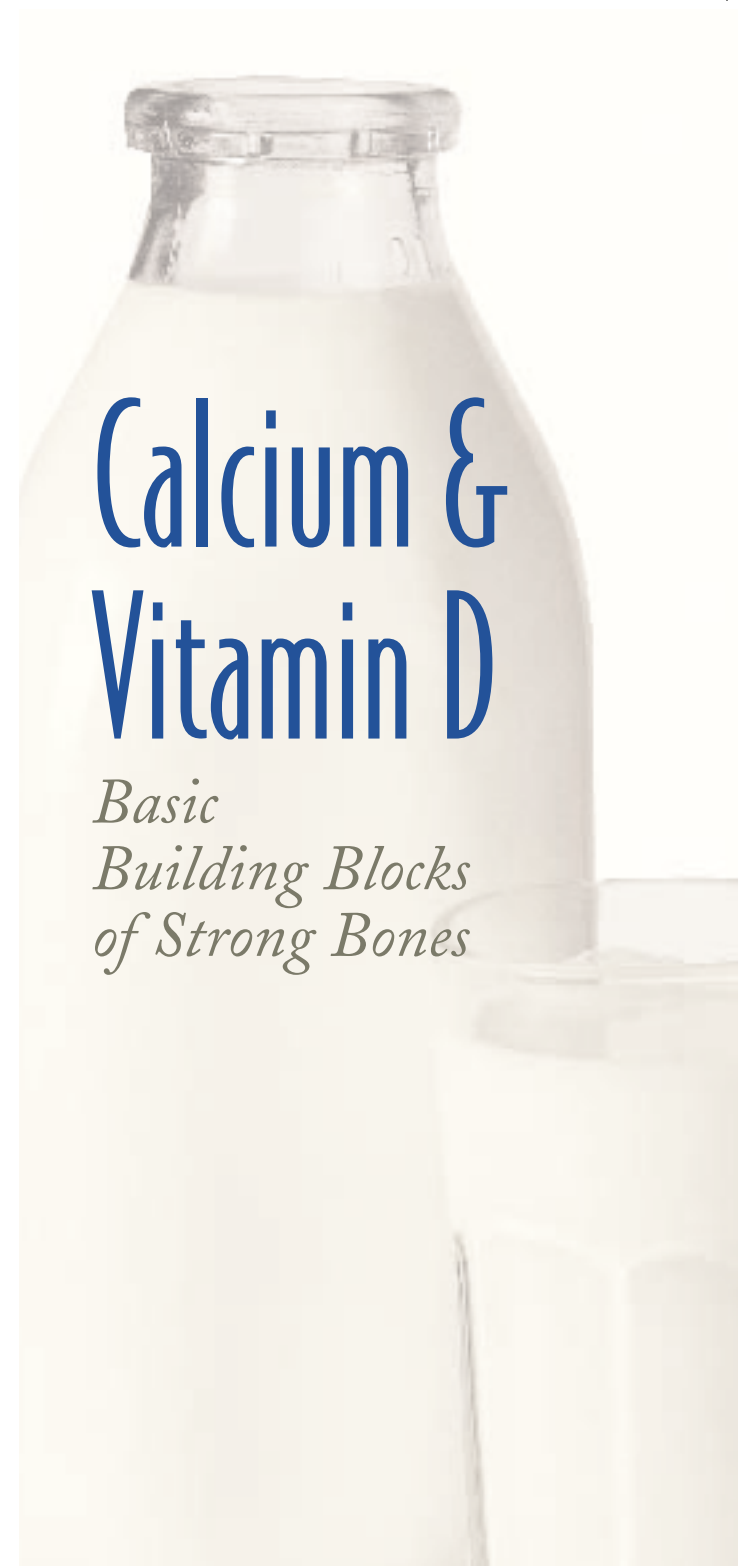
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# Calcium & Vitamin D

*Basic  
Building Blocks  
of Strong Bones*



## The Importance of Calcium and Vitamin D

Bone is made up of calcium and protein. The skeleton is continually being renewed, a process by which old bone is removed and new bone is formed. This renewal process requires an adequate calcium intake to maintain bone health over a lifetime. Individual needs for calcium change as we age. The demand for calcium is greatest during childhood and adolescence when growth is occurring and bone is being made faster than it is removed. Some bone loss in adulthood is normal, but excessive loss, especially in postmenopausal women and older men, can lead to bone fragility and fractures. Getting enough calcium helps protect bones by slowing the rate of bone loss. Vitamin D helps the body absorb calcium. Older adults may not get enough vitamin D to maximize calcium absorption, since this absorption process tends to become less efficient with aging. Adequate calcium and Vitamin D are necessary for bone health at any age, but may not be enough to prevent bone loss in some people.

## Calcium: Requirements & Sources

The National Institute of Health updated recommended dietary allowances for calcium intake in 2000.

### Recommended Calcium Intakes (mg/day)

<i>Children, aged 9-17</i>	<i>1300 mg</i>
<i>Adults, aged 18 and older</i>	<i>1000-1500 mg</i>

Examples of natural sources of calcium-rich foods are dairy products. An 8 oz. glass of milk, a carton of yogurt or 2 oz. of hard cheese each contain about 300 mg calcium. Other foods high in calcium include tofu, almonds, soy drinks, calcium-fortified juices and cereals.

A diet lacking in calcium-rich foods usually provides about 300 mg of calcium per day. If you have difficulty getting your daily calcium from

foods, calcium supplements are available to make up the difference. To increase absorption, divide the calcium supplements into equal doses of no more than 500 mg. Calcium is available in a well-balanced diet or in a multivitamin with minerals.

Calcium supplements are widely available in a variety of forms including chewable tablets and liquid preparations. The most common types are calcium carbonate and calcium citrate. Each has certain advantages and limitations. Calcium carbonate is usually inexpensive and contains the most amount of elemental calcium (the actual amount of calcium provided in a supplement). It must be taken with a meal, as it requires stomach acid to be absorbed. Calcium citrate is a good alternative. It is easily absorbed, can be taken with or without food and is less likely to cause constipation or intestinal upset. Calcium citrate is usually more expensive and requires that you take more pills to get an adequate amount of elemental calcium.

If you take a supplement, be sure to drink six to eight glasses of water each day.

If you have a history of kidney stones, you should consult your healthcare provider before increasing your calcium intake.

Reading supplement labels can be confusing. Here are some guidelines to help:

- Look for the % daily value or RDA (recommended daily allowance).
- Whatever this percentage is, add a "0" to find out how much actual pure calcium (elemental calcium) is in the serving. For example, if the nutrition facts of the label reads 50%, that means 500 mg of calcium per serving.
- Calculate how many tablets are needed per serving.
- Serving sizes can vary; it may take two or more tablets to get the amount of calcium listed per serving.

## Vitamin D: Requirements and Sources

The recommended dietary allowance for vitamin D is between 400 and 800 international units per day.

Natural sources of vitamin D can be found in fortified milk, egg yolks, saltwater fish and liver. Getting at least 15 minutes of sun exposure daily will help your body form its supply. During the winter in cold climates, or if you wear a sunscreen or protective clothing, or simply don't get outdoors that much, your body will not be able to process the vitamin D from sunlight. It has also been found that as we age, our skin becomes less efficient at processing vitamin D.

Vitamin D can be obtained in supplements. Most multivitamins contain 200 to 400 (IU) of vitamin D. Check the label to be sure. You can also get calcium supplements with vitamin D added. Vitamin D is available as a separate tablet, however it is a little harder to find. Most health food stores sell vitamin D separately. The vitamin D dose does not have to be taken at the same time as the calcium supplement to be effective.

## Summary

The combination of getting adequate calcium and vitamin D plus taking medicine to treat osteoporosis is more beneficial for bone than just taking the medicine by itself.

In the case of both calcium and vitamin D, more is not necessarily better. While adequate intake is needed, it is also important not to get too much. Do not take more than a total of 2000 mg of calcium (diet plus supplement) or 800 IU of vitamin D per day, unless your healthcare professional has specifically directed you to get more. If you are a postmenopausal woman with risk factors for osteoporosis, or if you already have osteoporosis, your healthcare professional can determine which of the treatments are right for you.