

Patient Education

University of Washington National Center of Excellence in Women's Health



Building and Keeping Strong Bones: Calcium, Vitamin D and Exercise

How much calcium is right for me?

We all need calcium – women, men, kids and teens – but our needs change throughout life. Look at the table below and see what you need now.

Group	Elemental Calcium (needed per day in milligrams (mgs))
Children 1-3 years	500
Children 4-8 years	800
Children/young adults 9-18 years	1300
Adults 19-50 years	1000
Women and Men 50+ years	1200

My daily goal: _____



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How can I reach my daily calcium goal?

By eating enough high calcium foods, calcium fortified food and drinks, taking calcium supplements or a combination of all three!

Dairy Products

Item	Serving Size	Calcium (mgs)
Yogurt, low fat plain	1 cup	415
Yogurt, low fat with fruit	1 cup	372
Milk, nonfat, 1%, 2% or whole	1 cup	300
Cheese, Swiss	1 oz	272
Cheese, mozzarella, part skim	1 oz	207
Frozen yogurt	½ cup	150

Vegetables and Legumes

Item	Serving Size	Calcium (mgs)
Tofu with calcium	½ cup	120 to 350
Turnip greens, cooked	½ cup	134
Kale, cooked	½ cup	103
Navy beans, cooked	½ cup	62
Mustard greens, cooked	½ cup	52
Broccoli, cooked	½ cup	47

Other Foods

Item	Serving Size	Calcium (mgs)
Oysters	½ cup	100
Canned pink salmon with bones	3 oz	150
Canned sardines	8 medium	350

Learn to read the labels. The amount of calcium in foods is referred to in terms of percent of the RDA (recommended daily allowance) and is based on a 1000 mg per day requirement. So 1% of the RDA equals

10 mg of elemental calcium. For example, 30% of the RDA equals 300 mg of calcium. Just add a zero to the percent on the label.

Also, some orange juice, soy and rice milk is supplemented with calcium and may contain as much as a glass of milk.

Should I take calcium supplements?

If you have a hard time eating enough high calcium foods, supplements are a great way to get the calcium you need. It comes in a number of forms (calcium carbonate, calcium citrate, etc.) The elemental calcium content is what is important. Here are some examples, but there are many more. Read the label to find the amount of elemental calcium in each pill.

Calcium Tablets

Drug	Elemental calcium per tablet (mg)
Calcium carbonate	600
Caltrate 600 (Lederle)	600
Os-Cal 500 (SK Beecham)	500
Tums 500 (SK Beecham)	500
Calcium citrate	200
Citracal (Mission)	
Calcium phosphate	600
Posture-D (Whitehall)	

How should I take my calcium?

- Calcium is best absorbed if taken in small amounts throughout the day. Divide the daily dose into smaller amounts if the total daily dose is 500 mg or more per day.
- Use of manufactured supplements is best. Calcium as bone meal or dolomite may contain lead or other heavy metals as contaminants.
- Calcium supplements should not be taken with high fiber meals or with bulk-forming laxatives.

- If using a calcium carbonate supplement, take it with meals to assure high stomach acid for maximum absorption. Calcium citrate is the most well absorbed type of calcium.
- Drink plenty of fluids while using supplements to reduce bloating and constipation.

How much vitamin D should I get?

All vertebrates including humans obtain most of their vitamin D from sunlight (UVB.) Latitude, season, time of day and pollution in the atmosphere influence production. In Seattle, latitude 47 degrees N, exposure to sunlight between late October and early April will not produce any significant amounts of vitamin D in the skin. Dark skin pigmentation, skin aging and sunscreen reduce skin production of vitamin D. Vitamin D deficiency is especially common among the elderly.

Recommended Daily Vitamin D Intake In the Absence of Adequate Sunlight

Population Group	Daily
Birth to age 50	200 IU
Age 51-70	400 IU
Age 70 and over	600 IU
Homebound/Institutionalized Elderly	800 IU

There is usually plenty of vitamin D in a multivitamin, and some calcium supplements also include vitamin D – just check the label.

What kind of exercise should I get to help build my bones?

Weight bearing (walking, jogging, dancing, skiing, etc.) and resistive exercises (weight training, and vigorous water exercises) are effective forms of exercise for purposes of increasing bone mass.

Goal: 30-40 minutes of weight bearing exercise 3 to 4 times a week

- Exercise is site specific. For example, if the wrist is exercised, the bone density in the wrist will increase, but not in other parts of the body.
- If exercise ceases, bone mass will be lost.

- Bone must be overloaded for exercise to be effective. That is, the exercise must provide loads greater than those to which the body is used to.
- The most effective resistance training is done with high loads and low repetitions. Doing ten repeats with a heavy weight is better than 50 reps with a lighter weight.
- For persons who are very inactive, even non-weight bearing exercises may help.
- If you are out of shape, check with your doctor first and think about working with a trainer or physical therapist at least to start.
- Persons with established osteoporosis should AVOID spinal flexion exercises (forward bending) and should be encouraged to do spinal extension exercises. An exercise program for persons with established osteoporosis should be supervised by a health professional.

Questions ?

Call (206) 598-5500

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC Clinic staff are also available to help at any time.

Women's Health Care Center:
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Your Health Care Provider:

Notes:

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