

## Calcium and Vitamin D

### What are calcium and vitamin D?

- Calcium and vitamin D are nutrients you need to maintain bone strength and density.
- You need calcium for blood clotting, muscle contraction, and normal nerve function.
- You need vitamin D for calcium absorption and transport to the bones.



### How much do I need?

**Calcium:** A measurement of calcium in the blood does not tell us if you are receiving enough of this nutrient in our diet. Therefore, we use the recommended intake levels listed in the table on the next page.

**Vitamin D:** Vitamin D levels are measured with a lab test called 25-hydroxy vitamin D. The SCCA normal reference range for 25-hydroxy vitamin D is 30-50 mg/ml.

You might need more calcium and vitamin D if you:

- Are taking prednisone or a similar corticosteroid drug.
- Have osteopenia or osteoporosis.
- Are a child or teen.
- Are older than 70 years.

### How do I read a food label for calcium and vitamin D content?

Read nutrition facts panels for calcium and vitamin D content. Calcium is measured in milligrams (mg), and vitamin D is measured in micrograms (mcg). Vitamin D may also be measured in International Units (IU); 1000 IU is equal to 25 mcg.

## Daily calcium and vitamin D requirements

Age and sex	Calcium (mg)	Vitamin D (mcg)
Male or female 1-3 years	700 mg	15 mcg
Male or female 4-8 years	1000 mg	15 mcg
Male or female 9-18 years	1300 mg	15 mcg
Female 19 –70 years	1200 mg	15 mcg
Male 19-70 years	1000 mg	15 mcg
Male or female <u>&gt; 70 years</u>	1200 mg	20 mcg
Receiving steroid therapy:		
1-5 years	1000 mg	15mcg
6-8 years	1200 mg	15mcg
9-18 years	1500 mg	20mcg
≥18 years	1500 mg	25mcg
Adults with osteopenia or	1500 mg	25mcg

## Choosing a calcium and vitamin D supplement

If you are unable to get enough calcium or vitamin D from food, consider a supplement. Vitamin D can either come in a calcium supplement or be taken separately. Discuss which is best for you with a dietitian.

### Tips to remember when taking a supplement

- Take supplements 2-3 times a day for better absorption. We only absorb up to 500 mg at one time.
- Do not take a calcium supplement within 2 hours of MMF or Myfortic®.
- Calcium citrate products such as Citracal® can be taken with or without food.
- Calcium carbonate, gluconate and phosphate products such as Caltrate®, calcium chews, gummies, and Tums® must be taken with food for best absorption and to prevent stomach and/or intestinal upset.

### Calcium content of selected supplements

Calcium supplement	Serving size	Calcium (mg)	Vitamin D (mcg)
Caltrate 600 + D®	1	600	10
Citracal + D®	1	315	5
Calcium + vitamin D chews	1	500	5
Tums® D.	1		
○ Regular Strength	1	200	0
○ E-X	1	300	0
○ Ultra	1	400	0
○ 500 Calcium Supplement		500	0
Calcium gummies	2	500	25

Most multivitamins contain 200 mg calcium and 10 mcg vitamin D. You can get the rest of your calcium and vitamin D with diet and/or supplements. See tables below for high calcium and vitamin D content foods.

## Foods with high calcium content (actual amount varies by brand)

Food	Serving size	Calcium (mg)
<b>Dairy</b>		
Milk (nonfat, 1%, 2%, whole, buttermilk)	1 cup	300
Nonfat milk powder (dry)	1/3 cup	300
Kefir	1 cup	250
Yogurt	¾ - 1 cup	200-500
Ricotta cheese	½ cup	300
Swiss cheese	1 oz	270
Cheddar, mozzarella, Monterey jack cheese	1 oz	200
String cheese stick	1 oz	150
Parmesan cheese	1 Tablespoon	70
Cottage cheese	½ cup	70
<b>Dairy alternatives</b>		
Soy milk	1 cup	300
Almond milk	1 cup	450
Coconut, oat, rice milk	1 cup	200-400
Almond, soy, coconut yogurt	¾ - 1 cup	50-200
<b>Plant foods</b>		
Tofu, firm	½ cup	130
Soybeans, cooked and shelled	½ cup	90
Juice, calcium-fortified	1 cup	300
Breakfast cereals, calcium-fortified	1 cup	200-500
Protein bar	1 bar	200-350
Greens, raw (turnip, bok choy, collards, chard, dandelion, mustard, beet)	1 cup	150-180
Spinach, cooked	½ cup	120
Broccoli	1 cup	100
Beans (black, kidney, garbanzo, white, pinto, etc)	½ cup	40-75
Almond butter	2 Tablespoons	85-100
Nuts (almonds, hazelnuts, walnuts, Brazil nuts)	¼ cup	100-150
Sesame seeds	1 Tablespoon	90
<b>Other</b>		
Sardines, with bones	3 oz	150-200

## Foods with high vitamin D content (actual amount varies by brand)

Food	Serving size	Vitamin D (mcg)
Seafood		
Herring	3 ounces	32
Halibut	3 ounces	13
Canned salmon	3 ounces	13
Mackerel	3 ounces	8
Canned tuna	3 ounces	5
Shrimp	3 ounces	4
Sardines	2 each	1.5
Milk and soy products		
Milk (nonfat, 1%, 2%, whole, buttermilk)	1 cup	2.5
Soy milk, calcium/vitamin D fortified	1 cup	2.5
Tofu	½ cup	3
Other		
Juice, calcium/vitamin D fortified	1 cup	2.5

\*Not all foods on this list are allowed on the Immunosuppressed Patient Diet. If you have questions about foods on this list, please contact your Fred Hutchinson Cancer Center dietitian or call 206-606-1148 to be directed to a dietitian.

## Resources

National Institutes of Health, Office of Dietary Supplements: (Calcium):  
[ods.od.nih.gov/factsheets/Calcium-Consumer](https://ods.od.nih.gov/factsheets/Calcium-Consumer)

(Vitamin D): [ods.od.nih.gov/factsheets/VitaminD-Consumer](https://ods.od.nih.gov/factsheets/VitaminD-Consumer)

The Vegetarian Resource Group: [vrg.org/nutrition/calcium.htm#table1](https://vrg.org/nutrition/calcium.htm#table1)

This education resource was intended to be given as a part of a nutrition consult by a Fred Hutch dietitian. Questions? Ask a Fred Hutch dietitian at [nutrition@seattlecca.org](mailto:nutrition@seattlecca.org)