



**Pearl W. Yee, M.D. Inc.**

*Obstetrics • Gynecology • Medical Aesthetics • Menopause • Prevention of Hereditary Cancer  
Minimally Invasive and Robotic Gynecological Surgery*

## Calcium and Vitamin D from Your Diet and Supplements

This is a list of common foods rich in **calcium**. We encourage our patients to try to meet their required calcium intake through food to improve bone health. Calcium supplements in the form of a pill have not been shown to give the same health benefits as food sources. Due to better absorption and utilization, patients are encouraged to use mostly or entirely food sources for calcium. There is evidence that taking calcium supplements may not be the safest practice for your heart.

<b>Food Source</b>	<b>Portion</b>	<b>Calcium mg</b>	<b>approximate calories</b>
Milk, whole	1 cup	285	159
Milk, skim	1 cup	295	88
Yogurt, fat-free	1 cup	452	123
frozen yogurt	1/2 cup	450	
cottage cheese	1 cup	212	240
Cheeses	1 ounce	213	112 (parmesan, Mozz, cheddar)
ice cream	1 cup	194	257
shrimp	4 ounces	130	130
baked beans	1 cup	134	327
broccoli	1 cup	178	43 (turnip greens, arugula)
bok choy, Kale	1 cup	90	
spinach, peas	1 cup		
Orange	one medium	100	71-100
Sardines-canned	3 ounces	372	174
Salmon, canned	3 ounces	181	
Cheese Pizza	one slice	107	153
Tofu	1 oz	104mg (more if calcium sulfate)	
Almonds	1 oz/1/2C	74/214mg	
O.J. with Ca++	1 cup	300	
Soymilk	1 cup	300 (as much as milk)	
Soybeans boiled	1/4 C	88	
Fortified rice	1 cup	300	
Oatmeal	1 serving	104	
Dried Herbs	1 Tbsp	85mg (savory, celery seed, thyme, rosemary, etc)	
Sesame seeds	1 Tbsp	88mg	
Brazil nuts	1 oz	45mg	
Herring	3oz	66mg (also high in vitamin D)	

More foods high in calcium include: figs (2 have 55mg), raisins, flax seeds, sunflower seeds, white beans, corn tortillas, breads, pasta and nonfat cream cheese.

Recommended dose: Women under 50 years should consume 1,000mg/day of calcium. Pregnant, breast-feeding and postmenopausal women need to consume 1200 mg/day.

Suggestions: Keep caffeine and sodium intake at moderate levels. Moderate exercise is beneficial at multiple levels. Weight-bearing activity is good for bone strength, jumping increases hip bone density and strength and balance exercises reduce falls.

## Vitamin D Deficiency

The only two sources of Vitamin D are sunlight and diet. A majority of women tested for vitamin D level in the bay area are low. Inadequate vitamin D is a leading contributor to osteoporosis. Women who practice sun safety, elderly women and darker skinned women have a particularly low chance of adequate vitamin D from sun exposure and should take 1,000 IU/day of vitamin D3 (cholecalciferol). Alternatively, fatty fish like 4 ounces of wild salmon contains 1,000 IU of vitamin D3; but you would need to eat this every day. Other food sources like cereal and milk contain very low levels of vitamin D. If your blood vitamin D level is adequate in the winter then, you may not need a supplement.

## Vitamin D for Woman's Bone Health

Vitamin D controls calcium and phosphorus levels and the development and preservation of bone integrity. Approximately 50% of women tested are low in vitamin D levels. Vitamin D is produced by sunlight exposure, naturally found in cod liver oil, salmon, mackerel and tuna and fortified into milk, margarine and cereal. Women at high risk for vitamin D deficiency include a medical history of: obesity, pancreatic insufficiency, liver disease, renal insufficiency, inflammatory bowel disease, poor dietary intake, history of gastric bypass, fibromyalgia, primary hyperparathyroidism, treatment with steroids and certain weight loss drugs, decreased sun exposure, osteoporosis and osteopenia.

Vitamin D interacts with calcium to reduce postmenopausal osteoporosis, falls and fractures. Vitamin D also reduces stress factors in young women who exercise strenuously. Vitamin D is necessary for neuromuscular functions, muscle strength and functions involved in quick movements, which reduces falls. Studies have observed a relationship between low Vitamin D levels with cardiovascular disease and breast cancer; however, this was not confirmed in randomized studies. An association of high Vit D levels and pancreatic cancer was observed but not confirmed. The NIH does not associate Vitamin D with an increase or decrease in any cancer.

**Vitamin D status** is determined by calculating the sum of 25 hydroxy vitamin D 2 and D3 levels.

- Vitamin D deficiency is defined as levels less than 10 ng/mL
- Vitamin D insufficiency is defined as levels of 10-30 ng/mL
- Vitamin D toxicity is unusual and defined by levels in excess of 80ng/ml

Current Recommended Daily Allowance (RDA)

Age	Women	Pregnancy	Lactation	Children	Men
Birth to 13 years				200 IU	
14 to 18 years	200 IU	200 IU	200 IU		200 IU
19 to 50 years	200 IU	200 IU	200 IU		200 IU
51 to 70 years	400 IU				400 IU

**Vitamin D Sources:** Vitamin D3 is produced in the skin by solar ultraviolet radiation and naturally found in animal based foods. The synthetic vitamin D2 (ergocalciferol) made from yeast is biologically the same as vitamin D3, however is cleared from the body sooner; both are hydroxylated in the liver to 25OHD.

Supplementation with 1,000 to 2,000 IU/d of vitamin D2 or D3 is usually sufficient for patients with vitamin D levels > 20. For patients with vitamin D deficiency, or levels <20, a prescription of vitamin D 50,000 IU/week for 6-12 weeks is usually effective to raise vitamin D levels. Afterwards, patients can continue on 1,000-2,000 IU/day or 50,000 IU/month. Patients with a vitamin D level <5 should be evaluated for Celiac Sprue (intestinal absorption disorder).

**Testing and Supplementation:**

Although not required, we often have patients draw a 25 OH-vitamin D level (the most accurate measure of vitamin D) with their next laboratory tests. 25OHD is hydroxylated in the kidneys to the most active form called 1, 25 OHD. Serum vitamin D >32ng/ml is important for bone strength and levels >50 are beneficial for patients with muscle weakness issues. If you are not scheduled for any blood tests soon through your primary doctor, please have our front desk staff give you a laboratory form and call us in one week for the results. Daily vitamin D 1,000 or 2,000 IU is available over-the-counter and the higher dosages require a prescription.

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