

# Vitamin D Information Page

## NJ Interagency Council on Osteoporosis (ICO)

**Vitamin D** is essential for strong bones and teeth. It promotes calcium absorption and maintains adequate serum calcium and phosphate concentrations to promote normal bone growth and maintenance. Vitamin D also supports cell growth, neuromuscular and immune function, and reduction of inflammation. Most people do not get enough Vitamin D in their diet alone unless it is rich in fish, milk and fortified foods. If you take a multivitamin, you do not need additional vitamin D supplementation unless your doctor says you have a special condition.

Recommended Dietary Allowances (IU/day) <sup>1</sup>		
AGE	RDA	UL <sup>2</sup>
0-12 months	400 IU	1000-1500 IU
1-8 years	600 IU	2500-3000 IU
9-18 years	600 IU	4000 IU
19-50 years	600 IU	4000 IU
51-70 years	600 IU	4000 IU
>70years	800 IU	4000 IU

Institute of Medicine. *Dietary Reference Intakes for Calcium and Vitamin D*. Washington, DC: The National Academies Press; 2011.

1. Recommended Dietary Allowance (RDA) intake that meets the needs of 97.5% of the North American population. 600 IU is also recommended for pregnant and lactating women. 40 IU = 1 microgram (i.e., 600 IU = 15 mcg)
2. Tolerable Upper Intake Level (UL) above which there is risk of adverse events. The UL is not intended as a target intake due to no consistent evidence of greater benefit at levels above the RDA. UL for 0-6 mos. (1000 IU/d); 6-12 (1500 IU/d); 1-3 (2500 IU/d); 4-8 (3000 IU/d)
3. Adequate Intake (AI) reference value; no RDAs established for infants.

### Blood Level of Vitamin D [25(OH)D] and Health Status<sup>1</sup>

ng/mL <sup>2</sup>	Health Status
<12	Vitamin D <b>deficiency</b> , leading to rickets in infants and children and osteomalacia in adults
12-20	Generally considered <b>inadequate</b> for bone and overall health in healthy individuals
>20	Generally considered <b>adequate</b> for bone and overall health in healthy individuals
>50	Emerging evidence links <b>potential adverse effects</b>

<sup>1</sup>The 2011 Institute of Medicine report determined that 20 ng/mL or above was adequate. Many laboratories report levels between 20-30 ng/mL are low, but currently there is not enough evidence to justify a more positive outcome for levels >30 ng/mL for the general population. Higher levels may be indicated for special disease conditions. <sup>2</sup>Nanogram per milliliter (ng/mL); 1ng/mL = 40nmol/L. <sup>3</sup>Note that >50ng/mL in seasonal outdoor workers may occur, and is not associated with known adverse outcomes.

See your doctor if you are concerned about your blood Vitamin D levels.

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## Selected Food Sources of Vitamin D

FOOD	IU Per Serving	Daily Needs (based on 600 IU/d)
Salmon (sockeye), cooked, 3 ounces	447	75%
Mackerel, cooked, 3 ounces	388	65%
Tuna fish, canned in water, drained, 3 ounces (higher if canned in oil, drained)	154 (229 IU)	26 (38)%
Mushrooms, white, cooked, 1 cup (content is higher for shitake and if fortified)	156	26%
Orange juice fortified with vitamin D, 1 cup. Check labels since levels may vary	137	23%
Milk, nonfat, reduced fat, and whole, vitamin D-fortified, 1 cup	115-124	~20%
Yogurt has none unless fortified with 20% of the DV for vitamin D, 6 ounces	88	15%
Liver, beef, cooked, 3.5 ounces	49	8%
Sardines, canned in oil, drained, 2 sardines	46	8%
Egg, 1 large (vitamin D is found in yolk)	41	7%
Ready-to-eat cereal, fortified with 10% of the DV for vitamin D, 0.75–1 cup	40	7%
Cheese (Swiss, Munster, Provolone), 1 ounce	6	1%

See USDA website for more information: <http://ods.od.nih.gov/vitaminD-HealthProfessional/#h3>