

Nutrition Notes from the Neuromuscular Center

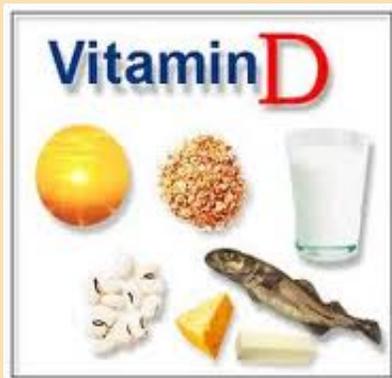
Calcium and Vitamin D

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Foods Rich in Calcium

Foods Rich in Vitamin D



Calcium and Vitamin D: Minerals Needed for Bone Health

Calcium is the most abundant mineral in the body and makes up about 39% of the body's total minerals. 99% of your calcium is found in the bones and teeth, while just 1% is in the blood and tissues. Calcium is best absorbed from foods; poor intake of this mineral can result in bone loss. Calcium helps protect against high blood pressure and helps to regulate your heartbeat and muscle tone.

Vitamin D is known as the "sunshine vitamin" and is produced naturally in the body with exposure to sunlight. It can also be absorbed through food intake, and it works alongside calcium to help build strong bones.

Why Are Calcium and Vitamin D So Important?

Osteoporosis and bone fractures are often seen in children with DMD. About 20% of males with DMD have had a fracture. Bone growth is nearly complete by the end of puberty, with only a small increase in bone strength occurring after the late teenage years. From the mid-30s on, bone loss starts to increase more than bone gain. It is part of the normal aging process that bones lose their calcium and protein content. Building bones through the intake of mineral and protein is just one component of healthy bones. Applying gravity and pressure help make stronger bones, though this may be difficult for wheelchair bound children. Steroid use can also affect your bones.

Calcium and Vitamin D work together, with Vitamin D aiding in calcium absorption in your muscles. If you do not get enough, your muscles can cramp, hurt and feel weak.

How Much Calcium Do I Need?

The amount of calcium a person needs changes with age. It also changes if you take steroids. The chart below gives the ranges needed with and without steroid use.

Calcium needs

Life Stage	Adequate Intake mg/d*	With Steroids and DMD mg/d
0-6 months	210 mg	420 mg
6-12 months	270 mg	400 mg
1-3 years	700 mg	750 mg
4-8 years	1000 mg	1200 mg
9-13 years	1300 mg	1500- 2000 mg
14-18 years	1300 mg	2000 mg
19-30 years	1000 mg	1500 mg
31-50 years	1000 mg	1500 mg
51+ years	1200 mg	1500 mg

*RDA- *Dietary Guidelines for Americans 2010*

Where Do I Get Calcium?

Calcium comes from a variety of foods. Most people get their calcium from dairy products. Milk, cheese and yogurt are common sources. You can also get it from vegetables like broccoli and dark leafy greens. The chart on the opposite side shows how much calcium is in different foods.

What about Using Supplements?

Sometimes a calcium supplement is needed if your child is unable to take in enough by food. There are many different kinds of calcium supplements. The best absorbed form of calcium is calcium citrate. It is better to take the citrate form if your child is on an antacid. Your doctor or dietitian will let you know if you need a supplement and which is best to use.

Food Sources

Food and Serving Size	Calcium in milligrams	Food and Serving Size	Calcium in milligram
Yogurt, plain 1 cup	400	Bok Choy, 1/2 cup, cooked	80
Milk, skim, 1 cup	330	Dried Figs, 5	135
Ricotta Cheese, skim, 1/2 c	337	Turnip Greens, 1/2 C Cooked	100
Swiss cheese, 1 ounce	272	Orange, 1 medium	56
Mozzarella, part skim 1 oz.	183	Collard Greens, 1/2 C, cooked	90
Canned Sardines with bones, 3 ounce	324	Broccoli, 1/2 cup cooked	36
Canned Salmon with bones, 3 oz.	181	Calcium Set Tofu, 1/2 cup	258
Enriched Soy milk, 8 oz.	300	Black-eyed peas, 1 cup	212
Enriched cottage cheese	300	Navy Beans, 1 cup	128
Enriched Orange juice	200	Almonds, 1/4 cup	94
Total Cereal, 1 cup	250	Blackstrap Molasses, 1 T	172

How Much Vitamin D Do I Need?

The amount of Vitamin D a person needs changes with age. It also changes if you take steroids. The chart below gives the ranges needed with and without steroid use.

Dietary Needs

Life Stage (Males only)	Adequate Intake		With Steroids and DMD	
	Microgram*	International Unit	Microgram	International Unit
0-6 months	5	400	20	800-1000
7-12 months	5	400	20	800-1000
1-3 years	15	600	20	800-1000
4-8 years	15	600	20	2000-4000
9-13 years	15	600	20	2000-4000
14-18 years	15	600	20	2000-4000
19-30 years	15	600	20	2000-4000
31-50 years	15	600	20	2000-4000
51+ years	15	600	20	2000-4000

*RDA- Dietary Guidelines for Americans 2010

Where Do I Get Vitamin D?

Vitamin D comes from some foods sources. Milk, eggs and some fish are common sources. Another big source is the sunshine on bare skin. The chart on the opposite page will give you how much vitamin D in different foods.

What about Using Supplements?

Sometimes a Vitamin D supplement is needed if your child is unable to take in enough by food or sunshine. There are many different kinds of vitamin D supplements. Your doctor or dietitian will let you know if you need a supplement and which is best to use.

Food Sources

Food	Vitamin D (International Units)
Catfish, 3 oz. cooked	570
Most multivitamins, 1 day's dose	400
Pink Salmon, canned ¼ cup	400
Quaker Oatmeal	140
Nutritional drinks/supplements, 8 oz.	120
Milk, enriched soy milk/yogurt	100
Enriched Juice	100
Calcium Chews	100
Breakfast cereals	40
Egg beater	40
Egg	20

Sunshine

Brief exposure of the face, arms and hands to sunlight (without any sunscreen or sun block) is thought to equal to about 200 IU vitamin D. However, north of the line running between Los Angeles and Atlanta, the UV light is too weak from late fall through early spring to make vitamin D. The heavy pigment of dark-skinned people can also prevent UV radiation from reaching into the deep layers of the skin where vitamin D is synthesized.

WEBSITES

MyPlate:

www.choosemyplate.gov

Learn about healthy eating

National Dairy Council:

www.nationaldairycouncil.org

Learn about milk and other dairy products and healthy eating for children

Spark People:

www.sparkpeople.com

A free healthy living community website

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Why Limit Soda Pop?

Colas contain phosphoric acid, which interferes with calcium metabolism and the building of bone mass. Research has shown that two or more soda pops a day can cause bone weakening.

Dexa Scans

Dexa stands for 'Dual Energy X-ray Absorptiometry'. It is the most commonly used test for measuring bone mineral density.

T-Score

A T-score is the most important score on a DEXA scan. It reveals the status of your bone density/bone loss by comparing your bone mineral density to the average healthy 30 year-old woman, or man, depending on your sex. This is the score used to designate your condition and to determine fracture risk.

Z-Score

Instead of comparing bone mineral density to that of a healthy 30-year old, the Z-score compares you to men or women of your age. This score shows how well you are doing relative to the average effects of aging on bone mass density. This score is not always given on your bone scan report, but it is helpful to be able to see your risk compared to others in your age group.