

MONTHLY NUTRITION HIGHLIGHTS

About Vitamin D and Vitamin D Deficiency

What does vitamin D do?

Vitamin D is a fat-soluble vitamin that is found in food and can also be made in your skin after exposure to the sun. Vitamin D sends signals that tell the body to absorb calcium from the digestive system and put it place like your bones. It is also important for immunity, growth and development, and communication between some types of cells.

What happens if my vitamin D is low?

Vitamin D Deficiency is very common in people with obesity as well as after bariatric surgery. This is part of what may contribute to high rates of bone loss that many studies find in post-operative patients.

If you do not have enough vitamin D you can develop a condition called osteomalacia - a softening of your bones. Many times, this is a "silent condition" which means that you have no obvious symptoms that you feel. When you have osteomalacia your bones become soft and weak, and they can break much more easily. You may get weak muscles, or bone pain (especially in your hips and back).

If vitamin D deficiency becomes severe or continues over a long period of time, there can be permanent disability due to bone loss. Serious problems may also develop with the nervous system and immune system.

What are other symptoms?

- Muscle tics, twitches or spasms (especially facial)
- Unexplained fracture
- Seizure
- Depression, Seasonal Affective Disorder
- Loss of balance, increased falling
- Arrhythmia, hypertension
- Breast, prostate, colon cancers

Where can I get vitamin D?

Humans make vitamin D in our skin in response to sun exposure. So one way to get vitamin D is to get adequate sunlight without or with very minimal SPF (sun screen protection above SPF 8 blocks almost 100% of vitamin D production). Fatty fish, dairy products, fortified soy products, eggs and liver are good dietary sources of vitamin D. If you have a vitamin D deficiency, your doctor may recommend supplemental vitamin D in addition to diet and sunlight. If you are supplementing vitamin D, it is also important to make sure that you have adequate calcium.

Other important things

As a fat-soluble vitamin, vitamin D can have side effects and toxicity if taken at doses that are too high or taken for too long. For this reason, it is not good idea to take high dose vitamin D on your own, unless instructed to do so by your doctor. Also, if your doctor has placed you on

a high dose of vitamin D, it is very important to take it as directed and to follow instructions for follow-up laboratory evaluations.

Bariatric Advantage® Vitamin D
(Dry vitamin D3 capsules and Liquid Vitamin D3)

Because vitamin D deficiency is common both before and after bariatric surgery, Bariatric Advantage offers a variety of ways to increase vitamin D intake. Vitamin D3 can be found in all of our multi-formulas and our calcium products to support the maintenance of healthy stores. We also make two stand-alone products for individuals who require additional vitamin D over and above the maintenance level. We have a 5000 IU capsule of dry vitamin D3 and a Liquid Vitamin D3 that can be dosed at 5000 IU or 10,000. The liquid product is an emulsion in medium chain triglycerides to support absorption. We only used the D3, cholecalciferol, form of vitamin D as current research indicates this is the preferred form.

Dry Vitamin D3
One Capsule Contains

Vitamin D3 (cholecalciferol)	5000 IU
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Liquid Vitamin D3
One Measured Dropper Contains

Vitamin D3 (cholecalciferol)	10,000 IU
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