

BMDA Bone Health and Vitamin D

Vitamins are essential to good health. They help the body function properly. You can get vitamins through the foods that you eat or by taking supplements.

Vitamin D is a fat-soluble vitamin. It is stored in the liver and fatty tissue. The body may store it for a long time and use it slowly.

Vitamin D

Vitamins have many functions. Some vitamins, such as vitamin D, act like hormones in the body. Vitamin D helps the body absorb calcium and phosphorus from food and supplements. The body needs vitamin D, calcium and phosphorus for bone health and bone strength.

Sources of Vitamin D

The 2 main sources of vitamin D are:

1. Sun exposure: the skin makes vitamin D after you have spent about 15-20 minutes in the sun. This depends on your age and skin color. Ask your doctor how much sun is best for you.
2. Dietary sources of vitamin D:
 - Fatty fish, such as salmon, mackerel and tuna
 - Liver
 - Fortified cereals
 - Fortified breads
 - Oysters
 - Cheese
 - Fortified drinks like milk, orange juice and soymilk
 - Butter
 - Egg yolks
 - Supplements

Types of Vitamin D

The 2 main types of vitamin D act the same way in the body:

- Vitamin D2 is in the form of ergocalciferol. These come from plants.
- Vitamin D3 is in the form of cholecalciferol. These come from animals and fish.

Recommended Daily Amount of Vitamin D

You should get 600 to 800 international units (IU) of vitamin D per day from all sources. Some people need more vitamin D. If you are not getting enough vitamin D from your diet, you can take supplements.

Do not take more than 2,000 milligrams of calcium per day and 4,000 IU of vitamin D per day. Keep in mind that it is best to take vitamin D and calcium together. Talk with your doctor to know the best amounts for you.

Vitamin D Deficiency

Vitamin D deficiency is a condition when you do not get enough vitamin D from your diet, supplements or the sun. Without enough vitamin D, the body will take calcium and phosphate from the bones. This is where the body stores these minerals. This often leads to:

- Soft and weak bones
- Lower bone density or mass
- Osteoporosis, a condition in which bones become fragile and are more likely to break

Poor bone health may put you at risk of bone fractures. Your doctor will complete a physical exam and request diagnostic tests to confirm if you have vitamin D deficiency.

Signs and Symptoms of Vitamin D Deficiency

The signs and symptoms of vitamin D deficiency vary from person to person. Vitamin D deficiency usually does not lead to symptoms. Symptoms may include bone pain or tenderness in the arms, legs or spine. Some people may have muscle weakness.

Risk for Vitamin D Deficiency

You may be at risk of vitamin D deficiency if you:

- Have limited sunlight exposure
- Do not eat enough vitamin D, such as with a vegan diet
- Have dark skin
- Have reduced kidney function
- Are lactose intolerant
- Have chronic diarrhea or malabsorption, such as Crohn's disease or celiac disease
- Have had gastric banding surgery or other intestinal or pancreatic surgeries
- Are obese
- Smoke

Treatment for Vitamin D Deficiency

To treat vitamin D deficiency, you may need to eat more vitamin D-rich foods, take supplements or medicines. Talk with your doctor about which option is best for you.

Prevention

Good bone health may prevent conditions like osteoporosis. Make sure to exercise regularly, limit caffeine and alcohol, and get the recommended amounts of vitamin D each day.