

Plant Stanols and Sterols

What are stanols and sterols?

Stanols and sterols are substances found in plants. They can help lower your LDL (“bad”) cholesterol and are found in many foods that come from plants. Most people eat about 300 mg of plant sterols and 60 mg plant stanols a day. A diet rich in plant foods (like a vegetarian diet) can have as much as 600 mg plant sterols per day.

You may be able to lower your bad cholesterol by 6-15% if you eat 2 grams (2000 mg) of plant sterols or stanols a day. A plant-rich diet is not enough to reach the 2 gram per day goal; therefore, you need foods with added stanols or sterols (fortified) or supplements.

Rather than prescribe or increase the dose of a medicine to lower cholesterol, your doctor may suggest daily use of stanols or sterols. For the best results, spread them out evenly throughout the day, instead of all at once. If you take more than 2 grams per day, there is no extra benefit.

How do they work?

They help to reduce the amount of cholesterol that is absorbed in the intestine. This can lead to lower LDL cholesterol in the blood. They do not affect triglyceride or HDL cholesterol. In most people, only small amounts of plant stanols or sterols are absorbed into the body.

Food Sources

Many foods are rich sources of plant sterols and stanols, such as:

- Whole grains (rice bran, wheat germ, oat bran, bran, whole wheat, brown rice),

- Some legumes (dried peas, beans, lentils, peanuts, almonds, walnuts, pecans, sunflower seeds, pumpkin seeds and sesame seeds),
- Fruits and vegetables (oranges, apples, avocado, broccoli, cauliflower, brussels sprouts vegetable oils, wheat germ oils, and berries).

However, we must eat large amounts of these foods to meet the 2 grams per day goal. Therefore, we suggest fortified foods.

Fortified Foods

Some margarine, juice, and other foods are fortified with plant stanols or sterols. The content can vary, so you should check labels or websites. Look to see how much of the food you would need to eat to reach 2 grams (2000 mg) per day.

Because the foods that are fortified with plant stanols and sterols also have calories, sugars, and fats, you should reduce the amounts of other foods you eat so you don’t gain weight. The chart on the third page gives details for some foods.

Capsules or Chews

Plant stanols or sterols also come in supplements. The content can vary, so you should check labels or websites. Look to see how much of the food you would need to eat to reach 2 grams (2000 mg) per day.

Potential Side Effects

The long-term safety of these supplements is not known. There is a genetic condition called β - sitosterolemia. This is when large amounts of sterols can be absorbed and increase the risk of heart disease (rare).

Some doctors prefer stanols over sterols because they are not absorbed. Stanols and sterols can also reduce how much carotene (similar to Vitamin A) you absorb, so make sure that your diet is rich in fruits and vegetables.

Effectiveness

While there have been many studies that show plant stanols and sterols reduce blood cholesterol, it is not known if they reduce the risk of heart and blood vessel disease.

Cost

Foods that are fortified with sterols or stanols can be expensive. Fortified foods or supplements that provide 2 grams of stanols or sterols per day will cost anywhere from \$.50 to \$1 per day.

Sources of Plant Stanols

	Serving Size	Stanol, gm per serving	Calories/ serving	Sat Fat, gm/serving	For 2 gm per day, take this amount
Benecol Spread, Light	1 Tbsp	1.0	50	1.0	2 Tbsp
Benecol Spread, Original	1 Tbsp	1.0	70	1.5	2 Tbsp
Benecol Smart Chews*	2 chews	0.8	35	0	5 chews

*Available only online.

Sources of Plant Sterols

	Serving Size	Sterol, gm per serving	Calories/ serving	Sat Fat, gm/serving	For 2 gm per day, take this amount
Promise Activ Spread, Light	1 Tbsp	1.0	45	0.5	2 Tbsp
Minute Maid Heart Wise Orange Juice	8 oz	1.0	110	0	16 oz
Rice Dream Heart Wise Rice Milk	8 oz	0.65	140	0	24 oz
Cardio Chews (Vibrant Health)	1 chew	0.5		0	4 chews
Cardio Sterol	3 cap	1.5	14	0	4 caps
Cholest Off with Reducol	1 caplet	0.45	5	0	4 caplets
Take control vegetable oil spread 60%	1 tbsp	1.7	80	1	1.5 tbsp
Orowheat Healthy Multigrain bread	1 slice	0.4	90	0	4-5 slices
Lifetime low fat cheese	1 ounce	0.65	47	0.5	3 ounces
Nature Valley Healthy Heart Granola bars	1 bar	0.4	150	0.5	5 bars
Naturemade Cholestoff - Original	2 caplets	0.45	0	0	5 caplets

***Note:** The recommended dose for cholesterol lowering is 2 grams per day of the unesterified form of stanol or sterol, which is what this table lists. Recommended doses on food labels may differ from this table because they incorrectly refer to the plant stanol or sterol ester content of the item. Use as directed by your medical provider.

Teach Back

What is the most important thing you learned from this handout?

What changes will you make in your diet/lifestyle, based on what you learned today

If you are a UW Health patient and have more questions, please call UW Health at one of the phone numbers below. You can also visit our website at www.uwhealth.org/nutrition.

Nutrition clinics for UW Hospital and Clinics (UWHC) and American Family Children's Hospital (AFCH) can be reached at **(608) 890-5500**.

Nutrition clinics for UW Medical Foundation (UWMF) can be reached at **(608) 287-2770**.

If you are a patient receiving care at UnityPoint – Meriter, Swedish American or a health system outside of UW Health, please use the phone numbers provided in your discharge instructions for any questions or concerns.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 1/2019 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#612.