

Vitamin, Mineral, and Multivitamin Supplements for the Primary Prevention of Cardiovascular Disease and Cancer

The U.S. Preventive Services Task Force (Task Force) has issued a **final** recommendation statement on *Vitamin, Mineral, and Multivitamin Supplements for the Primary Prevention of Cardiovascular Disease and Cancer*.

This final recommendation statement applies to healthy adults who have no known nutritional deficiencies. It does not apply to women who are pregnant, women who may become pregnant, or to adults who are in the hospital. Adults being treated for a long-term illness should talk with their health care professional about whether this recommendation applies to them.

The final recommendation statement summarizes what the Task Force learned about the potential benefits and harms of taking vitamin and mineral supplements to

prevent cardiovascular disease (CVD, which includes heart disease and stroke) and cancer: (1) Currently, there is not enough evidence to determine whether taking a multivitamin will help prevent CVD or cancer. (2) There is not enough evidence to determine whether taking most single or paired supplements will help prevent CVD or cancer. (3) Taking vitamin E or beta carotene supplements does not help prevent CVD or cancer, and beta-carotene supplements may increase the chance of getting lung cancer for people who are already at risk of lung cancer, such as smokers.

This fact sheet explains these recommendations and what they might mean for you.

What are vitamin and mineral supplements?

Supplements are vitamins or minerals added to the diet. They can be taken in pill, capsule, tablet, or liquid form. A multivitamin is a combination of three or more vitamins and minerals.

Facts about the Use of Vitamin and Mineral Supplements

Vitamin and mineral supplements are commonly used in the United States. About half of adults say they have used at least one dietary supplement and a third say they have used a multivitamin. More women than men use supplements, and older adults are more likely than younger adults use them.

People take vitamin and mineral supplements for many reasons, including maintaining or improving their overall health, preventing illness, and slowing the progress of existing disease. This recommendation is limited to use of supplements specifically to prevent CVD and cancer.

Vitamin and mineral supplements are found in many forms, including multivitamins (a supplement containing three or more vitamins and minerals), paired supplements (a supplement containing two vitamins or minerals, such as vitamin D and calcium), and single supplements (for example, vitamin C or folic acid). Multivitamins are the most commonly used dietary supplement.

Potential Benefits and Harms of Taking Multivitamins to Prevent CVD or Cancer

The Task Force reviewed studies that examined whether taking vitamin and mineral supplements might prevent CVD or cancer. The Task Force looked at these studies because CVD and cancer are leading causes of illness and death in the United States.

The Task Force reviewed studies on multivitamins, paired supplements, and single vitamins and minerals. It found that there was not enough evidence to say whether taking multivitamins, paired vitamin and mineral supplements, or most single vitamins or minerals will help prevent CVD or cancer.

However, the Task Force did find enough evidence to make a recommendation against using two specific vitamin supplements: beta-carotene and vitamin E. The Task Force found that:

- Vitamin E supplements do not help prevent CVD or cancer.
- Beta-carotene supplements do not help prevent CVD or cancer. They also can increase the chance of getting lung cancer in people who are already at risk for lung cancer, such as current smokers.

The Final Recommendations on Vitamin and Mineral Supplements to Prevent CVD or Cancer: What Do They Mean?

Here are the Task Force's final recommendations on vitamin and mineral supplements to prevent CVD or cancer. They are based on the quality and strength of the evidence about the potential benefits and harms of taking supplements for this purpose. They also are based on the size of the potential benefits and harms. Task Force recommendation grades are explained in the box at the end of this fact sheet.

When there is not enough evidence to judge benefits and harms, the Task Force does not make a recommendation for or against—it issues an **I Statement**. When the Task Force recommends against a medicine or supplement (**Grade D**), it is because it has little to no benefit and may have potential harms. The Notes explain key ideas.

Visit the Task Force Web site to read the full **final recommendation statement**. The statement explains the evidence the Task Force reviewed and how it decided on the grades. An **evidence report** provides more detail about the studies the Task Force reviewed.

- 1 The Task Force concludes that the *current evidence is insufficient* to assess the balance of benefits and harms of the use of *multivitamins* for the prevention of *cardiovascular disease* or cancer. **I Statement**
- 2 The Task Force concludes that the current evidence is insufficient to assess the balance of benefits and harms of the use of single- or *paired-nutrient supplements* (with the exception of beta-carotene and vitamin E) for the prevention of cardiovascular disease or cancer. **I Statement**
- 3 The Task Force *recommends against* the use of beta-carotene or vitamin E supplements for the prevention of cardiovascular disease or cancer. **Grade D**

Notes

- 1 *evidence is insufficient*
The Task Force did not find enough information to determine whether taking vitamin or mineral supplements helps prevent CVD or cancer.
multivitamins
Supplements containing three or more vitamins and minerals.
cardiovascular disease
Heart disease and stroke.
- 2 *paired-nutrient supplements*
Supplements that contain two vitamins or minerals.
- 3 *recommends against*
Studies show that taking beta-carotene or vitamin E supplements to prevent CVD or cancer has no benefit and taking a beta-carotene supplement for this purpose can have harms for some people.

Should You Take a Vitamin or Mineral Supplement to Prevent CVD or Cancer?

Getting the best health care means making smart decisions about using preventive medications, screening tests, and counseling services. Many people don't get the medications, tests, or counseling they need. Others get medications, tests, or counseling they don't need or that may be harmful to them.

Task Force recommendations can help you learn about preventive medications, screening tests, and counseling services. These medications and services can keep you healthy and prevent disease. The Task Force recommendations do not cover diagnosis (tests to find out why you are sick) or treatment of disease.

Task Force recommendations also apply to some groups of people, but not others. For example, this recommendation does not apply to women who are pregnant or to those who are in a hospital.

Making a decision about taking vitamin and mineral supplements

Good nutrition is essential to overall health. For most people, the best way to get the nutrients they need for good health is through a balanced diet. A diet that is rich in vegetables and fruits, whole grains, fat-free and low-fat dairy products, and seafood and that is low in saturated fats, salt, and added sugars has been associated with a reduced risk of CVD and cancer.

When deciding whether to take vitamin and mineral supplements to prevent CVD or cancer, consider your own health and lifestyle. Think about your personal beliefs and preferences for health care. Talk with your health care professional about your risks for CVD and cancer. Be comfortable that all your questions have been answered. And consider scientific recommendations, like this one from the Task Force. Use this information to become fully informed and to decide whether vitamin and mineral supplements are right for you.



What is the U.S. Preventive Services Task Force?

The Task Force is an independent, volunteer panel of national experts in prevention and evidence-based medicine. The Task Force works to improve the health of all Americans by making evidence-based recommendations about clinical preventive services such as screenings, counseling services, or preventive medicines. The recommendations apply to people with no signs or symptoms of the disease being discussed. Recommendations only address services offered in the primary care setting or services referred by a primary care clinician.

To develop a recommendation statement, Task Force members consider the best available science and research on a topic. For each topic, the Task Force posts draft documents for public comment, including a draft recommendation statement. All comments are reviewed and considered in developing the **final recommendation statement**. To learn more, visit the [Task Force Web site](#).

USPSTF Recommendation Grades

Grade	Definition
A	Recommended.
B	Recommended.
C	Recommendation depends on the patient's situation.
D	Not recommended.
I statement	There is not enough evidence to make a recommendation.

Click Here to Learn More About Vitamin and Mineral Supplements, CVD, and Cancer

-  **Making Decisions**
(Office of Dietary Supplements, National Institutes of Health)
-  **2010 Dietary Guidelines for Americans**
(U.S. Department of Agriculture and U.S. Department of Health and Human Services)
-  **Heart and Vascular Disease**
(National Heart, Lung, and Blood Institute)
-  **What is Prevention?**
(National Cancer Institute)