WHAT'S NEW
From the U.S. Preventive Services Task Force
An Overview of Recommendations

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Routine Vitamin Supplementation to Prevent Cancer and Cardiovascular Disease

What Does the USPSTF Recommend?

The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against the use of supplements of vitamins A, C, or E; multivitamins with folic acid; or antioxidant combinations for the prevention of cancer or cardiovascular disease. The USPSTF recommends against the use of beta-carotene supplements, either alone or in combination, for the prevention of cancer or cardiovascular disease.

This recommendation applies only to the use of vitamin supplements by healthy adults to prevent cancer and cardiovascular disease. The Task Force did ***not*** review evidence for vitamin supplementation in patients with known or potential nutritional deficiencies—including pregnant and lactating women, children, the elderly, and people with chronic disease—or special populations of patients, such as those taking medicines that require vitamin supplementation.

What Does the Evidence Indicate?

There is inadequate evidence that vitamins, when taken to supplement a healthy diet, can prevent heart disease or cancer. Studies reviewed by the Task Force were not of long enough duration for the Task Force to draw clear conclusions. The longest study reviewed by the USPSTF lasted 5-6 years, which may not have been long enough to rule out a possible benefit. The results from high-quality studies are mixed. A few observational studies suggest a possible benefit of some vitamin supplementation on both heart disease and cancer, but the results from other studies show no benefit. Even for the observational studies that show some benefit, the Task Force could not be certain whether the benefit could be attributed to vitamin supplementation or to other factors.

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Should People Take Vitamin Supplements?

With the exception of vitamin supplements that can cause harm, there is little reason to discourage people who wish to take vitamins from doing so. Taking vitamin supplements does not

What's New from the U.S. Preventive Services Task Force is a series of fact sheets based on recommendations of the USPSTF. The USPSTF systematically reviews the evidence of effectiveness of a wide range of clinical preventive services—including screening, counseling, and chemoprevention (the use of medication to prevent disease)—to develop recommendations for preventive care in the primary care setting. **This fact sheet presents highlights of USPSTF recommendations on this topic and should not be used to make treatment or policy decisions.**

More detailed information on this subject is available in the following evidence summaries: Routine Vitamin Supplementation to Prevent Cardiovascular Disease; Routine Vitamin Supplementation to Prevent Cancer; and Routine Vitamin Supplementation to Prevent Cancer: Update of Evidence from Randomized Controlled Trials,1999-2002. These evidence summaries, and the USPSTF Recommendations and Rationale, can be found on the Agency for Healthcare Research and Quality (AHRQ) Web site (http://www.preventiveservices.ahrq.gov) and through the National Guideline Clearinghouse (http://www.guideline.gov). The Summaries of the Evidence and the USPSTF Recommendations and Rationale are available in print by subscription through the AHRQ Clearinghouse (1-800-358-9295, or ahrqpubs@ahrq.gov).

replace the need to eat a healthy diet, although taking vitamin supplements may be appropriate for people whose diet does not provide the recommended daily allowance of specific vitamins. Recommended daily allowance information is available from the Institute of Medicine's Dietary Reference Intake (DRI). All patients should receive information about the benefits of a diet rich in fruit, vegetables, and legumes, as well as information about other foods and nutrients that should be emphasized or avoided.

Taking vitamins does not replace the need to eat a healthy diet.

What Are the Potential Harms of Vitamin Supplements?

Beta-carotene supplements were associated with an increased risk for lung cancer among smokers, especially heavy smokers, in 2 randomized clinical trials (RCTs); the effects of beta-carotene supplementation among nonsmokers are unknown. Moderate doses of vitamin A may reduce bone mineral density. High doses of vitamin A may be toxic to the liver and put pregnant women at risk for delivering babies with birth defects. People who choose to take vitamins should be encouraged to adhere to the dosages recommended in the DRI of the Institute of Medicine, since the potential harms of higher dosages outweigh the potential benefits.

For more information on vitamin supplementation, contact the following organizations:

healthfinder®
http://www.healthfinder.gov

Institute of Medicine (IOM) Dietary Reference Intake
http://www.ag.uiuc.edu/~ffh/DRI's_for_Vitamins.htm

U.S. Department of Health and Human Services

Agency for Healthcare Research and Quality
www.ahrq.gov

U.S. Preventive Services Task Force

Members of the USPSTF represent the fields of family medicine, gerontology, obstetrics-gynecology, pediatrics, nursing, prevention research, and psychology. Members of the U.S. Preventive Services Task Force at the time this recommendation was finalized were:

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