

## American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention: Reducing the Risk of Cancer with Healthy Food Choices and Physical Activity

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**ABSTRACT** The American Cancer Society (ACS) has set aggressive challenge goals for the nation to decrease cancer incidence and mortality—and to improve the quality of life of cancer survivors—by the year 2015.

To address these critical goals, the ACS publishes the *Nutrition and Physical Activity Guidelines* to serve as a foundation for its communication, policy, and community strategies and ultimately, to affect dietary and physical activity patterns among Americans.

These guidelines, published every five years, are developed by a national panel of experts in cancer research, prevention, epidemiology, public health, and policy, and as such, they represent the most current scientific evidence related to dietary and activity patterns and cancer risk.

The American Cancer Society guidelines include recommendations for individual choices regarding diet and physical activity patterns, but those choices occur within a community context that either facilitates or interferes with healthy behaviors. Therefore, this committee presents one key recommendation for community action to accompany the four recommendations for individual choices for nutrition and physical activity to reduce cancer risk. This recommendation for community action underscores just how important community measures are to the support of healthy behaviors by means of increasing access to healthful food choices and opportunities to be physically active.

The ACS guidelines are consistent with guidelines from the American Heart Association for the prevention of coronary heart disease as well as for general health promotion, as defined by the Department of Health and Human Services' 2000 Dietary Guidelines for Americans.<sup>1,2</sup> (*CA Cancer J Clin* 2002;52:92-119.)

\*See pages 104 and 105.

steaming may be the best ways to preserve the nutritional content in vegetables.

*Should I be juicing my vegetables and fruits?* Juicing can add variety to the diet, and can be a good way to consume vegetables and fruits, especially for those who have difficulty chewing or swallowing. Juicing also improves the body's absorption of some of the nutrients in vegetables and fruits. However, juices may be less filling than whole vegetables and fruits and contain less fiber. Fruit juice, in particular, can contribute loss of calories to one's diet. Commercially juiced products should be 100% vegetable or fruit juices and should be pasteurized to eliminate harmful microorganisms.

#### Vegetarian Diets

*Do vegetarian diets reduce cancer risk?* Vegetarian diets include many health-promoting features; they tend to be low in saturated fat and high in fiber, vitamins, and phytochemicals (e.g., flavonoids, etc.). It is not possible to conclude at this time, however, that a vegetarian diet has any special benefits for the prevention of cancer. Vegetarian diets differ in composition, although all avoid consumption of red meat. A vegetarian diet can be quite healthful if it is carefully planned and provides adequate calories. Diets including lean meats in small to moderate amounts can be just as healthful. The greater the restriction of food groups in a particular diet, the more possibility there is of dietary deficiencies. Strict vegetarian diets that avoid all animal products, including milk and eggs, should be supplemented with vitamin B12, zinc, and iron (especially for children and premenopausal women).

#### Vitamin A

*Does vitamin A lower cancer risk?* Vitamin A (retinol) is obtained from foods in two ways: preformed from animal food sources, and derived from beta-carotene in plant-based

foods. Vitamin A is needed to maintain healthy tissues. Vitamin A supplements, whether in the form of beta-carotene or retinol, have not been shown to lower cancer risk, and high-dose supplements may, in fact, increase the risk for lung cancer.<sup>14,15</sup>

#### Vitamin C

*Does vitamin C lower cancer risk?* Vitamin C is found in many vegetables and fruits. Many studies have linked consumption of vitamin C-rich foods with a reduced risk for cancer. The few studies in which vitamin C has been given as a supplement, however, have not shown a reduced risk for cancer.<sup>16,17</sup>

#### Vitamin E

*Does vitamin E lower cancer risk?* One clinical trial showed that men who took vitamin E (50 mg/day) had a lower risk of prostate cancer compared with men who took a placebo,<sup>18</sup> but this observation has yet to be confirmed.

#### Water and Other Fluids

*How much water and other fluids should I drink?* Consumption of water and other liquids may reduce the risk of bladder cancer, as water dilutes the concentration of carcinogens and shortens the time in which they are in contact with the bladder lining. Drinking at least eight cups of liquid a day is usually recommended, and some studies indicate that even more may be beneficial.<sup>19</sup>

#### AMERICAN CANCER SOCIETY GRADES FOR BENEFIT VERSUS HARM

To review the strength of the scientific evidence, a guidelines subcommittee used a method of summarizing the evidence similar to the methods used by other expert panels. For example, the US Preventive Services Task Force

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