



# Nutrition and Cancer



## Basic description

If Americans ate a healthy, balanced diet that emphasized plant foods, engaged in regular physical activity, and maintained a healthy weight, as many as one-third of all cancer deaths in the United States could be prevented. Factors that can affect cancer risk include types of foods, how food is prepared, portion sizes, fat content, food variety, and overall balance of the diet. For the majority of Americans who do not use tobacco, dietary choices and physical activity are the most important modifiable determinants of cancer risk.

## Strength of evidence

Over the past few decades, recommendations for healthy diets have been developed by many federal government agencies and national voluntary organizations such as the American Cancer Society. These recommendations are based on strong evidence and state-of-the-art research which demonstrates that maintaining a healthy weight (BMI less than 25), consuming a diet of mostly plant foods (vegetables, fruits, whole grains, beans), and limiting saturated fat and refined grains and sugars are associated with a reduced risk of chronic diseases, including many types of cancer.

## Cancers affected

Numerous scientific studies have demonstrated that dietary habits affect cancers at many sites. Strong scientific evidence has concluded that diets high in fruits and vegetables have protective effects against lung, esophageal, stomach, and colon cancers.

Overweight and obesity are associated with increased risk for cancers of the breast (in post-menopausal women), colon, endometrium, esophagus, and kidney. Evidence is highly suggestive that obesity also increases risk for cancers of the pancreas, gallbladder, thyroid, ovary, and cervix, as well as multiple myeloma, Hodgkin lymphoma, and aggressive prostate cancer.

Alcohol consumption is an established cause of cancers of the mouth, pharynx, larynx, esophagus, liver, and breast.

## Opportunities for risk reduction

Although no diet can guarantee full protection against any disease, the best opportunity for Americans to reduce their risk of cancer is by following these important guidelines:

### Maintain a healthy weight throughout life.

- Balance caloric intake with physical activity.
- Avoid excessive weight gain throughout life.
- Achieve and maintain a healthy weight if currently overweight or obese.

### Adopt a physically active lifestyle.

- **Adults:** Engage in moderate to vigorous activity, above usual activities, for 30 minutes or more on five or more days of the week. Engaging in 45 to 60 minutes of moderate to vigorous activity on five or more days per week may further enhance reductions in the risk of breast and colon cancer.
- **Children and adolescents:** Engage in at least 60 minutes per day of moderate to vigorous physical activity at least five days per week.

### Eat a variety of healthy foods, with an emphasis on plant sources.

- Choose foods and beverages in amounts that help achieve and maintain a healthy weight.
- Eat five or more servings of a variety of vegetables and fruits each day.
- Choose whole grains over processed (refined) grains and sugars.
- Limit consumption of processed and red meats.

### If you drink alcoholic beverages, limit consumption.

## Emerging trends

Emerging trends in the area of nutrition and cancer include:

**Role of the environment** The environments in which many Americans live, work, play, and go to school are barriers to healthy lifestyles and contribute powerfully to the obesity epidemic. Attempts to change individual behavior without addressing environmental barriers will have limited long-term impact on health outcomes. Research is currently under way to determine the impact of and strategies for addressing a variety of environmental issues, including the widespread availability, marketing, and advertising of inexpensive, energy-dense processed foods and beverages, especially targeting children and youth; and increasing portion sizes, especially of restaurant and fast-food meals.

**Overweight and obesity** Increasing trends in weight gain and obesity raise concern over future cancer rates. Trends in children are especially alarming. Research on effective environmental and policy changes to impact overweight and obesity trends is currently under way.

**Specific nutrients** Researchers continue to investigate, for example, the possible link between lycopene (an antioxidant found in tomatoes) and reduced risk for prostate cancer, and calcium and reduced risk for colon cancer. Some studies have suggested that soy products may reduce the risk of breast and prostate cancers, although more research is needed to confirm a link.

## Additional resources

To learn more about nutrition and cancer and the American Cancer Society's programs, please call our toll-free number at 1-800-227-2345 or visit our Web site at [www.cancer.org](http://www.cancer.org).

Additional information on cancer may be found at:

- **National Cancer Institute  
Cancer Information Service**  
Toll-free number: 1-800-422-6237  
Web site: [www.cancer.gov](http://www.cancer.gov)

## Bottom line

Healthy eating habits and other factors could reduce cancer mortality in the United States by as much as one-third. Cancer risk can be reduced by adopting an overall dietary pattern that emphasizes plant foods (vegetables, fruits, whole grains, beans) and helps to maintain a healthy weight; being physically active on a regular basis; and limiting alcohol consumption.

The ability to make healthy choices is often affected by factors within the environments in which people live, work, learn, and play. Public, private, and community organizations should work to create social and physical environments that support the adoption and maintenance of healthy nutrition and physical activity behaviors through:

- Increased access to healthy foods in schools, worksites, and communities
- Provision of safe, enjoyable, and accessible environments for physical activity in schools and for transportation and recreation in communities.

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We **save lives** and create more birthdays  
by helping you stay well, helping you get well,  
by finding cures, and by fighting back.

[cancer.org](http://cancer.org) | 1.800.227.2345