



Physical Activity & Cancer

Basic Description

Research indicates that being physically active reduces cancer risk. The American Cancer Society recommends that adults engage in at least 30 minutes of moderate to vigorous physical activity, above usual activities, on five or more days per week. There is increasing evidence that suggests 45 to 60 minutes of intentional activity may further reduce the risk of breast and colon cancers. Because of increasing trends in overweight and obesity among youth and the impact that excess weight has on increasing cancer risk, the American Cancer Society added a recommendation on physical activity and youth to its 2001 Guidelines on Nutrition and Physical Activity for Cancer Prevention: Children and adolescents should engage in at least 60 minutes of moderate to vigorous physical activity per day at least five days a week.

Regular physical activity protects against cancer in a variety of ways. Activity can protect against cancer indirectly by helping to reduce overweight and obesity, which are associated with an increased risk of cancers of the colon and rectum, breast in postmenopausal women, 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. Physical activity also impacts cancer risk directly. For colon cancer, physical activity promotes the movement of food through the bowel, thereby reducing the length of time the bowel lining is exposed to potential cancer-causing compounds (carcinogens). For breast cancer, in addition to its role in controlling weight, physical activity may act directly by reducing circulating levels of hormones (such as estrogen, insulin, and insulin-like growth factors), associated with cell and tumor growth.

Physical activity also reduces the risk of heart disease and diabetes. Physical activity recommendations of the American Heart Association and the American Diabetes Association are consistent with those of the American Cancer Society. In addition, physical activity can be beneficial for individuals during and after cancer treatment and in recovery from treatment. Studies have shown improvements in cardiovascular fitness, muscle strength, and body composition, as well as fatigue, anxiety, depression, and self-esteem. While there has been limited research on the impact of physical activity on cancer recurrence, because of evidence that physical activity reduces risk of some primary cancers, heart disease, and diabetes, those who have had cancer are encouraged to follow the American Cancer Society's recommendations on physical activity for cancer prevention.



Strength of Evidence

Being physically active reduces the risk of developing certain kinds of cancer. There is convincing evidence that people who participate in moderate to vigorous levels of physical activity have a lower risk of developing colon and breast cancer than those who do not. Regardless of the impact physical activity has on weight control, activity alone reduces cancer risk. In addition, being overweight increases cancer risk, so it is likely that physical activity reduces the risk of numerous types of cancer because of its role in weight management. Researchers are currently investigating the effect physical activity has on other types of cancer. Some research suggests that physical activity may also be beneficial in reducing the risk of prostate and endometrial cancers.

Cancers Affected

There is scientific evidence that moderate to vigorous physical activity five or more days per week will reduce the risk of colon and breast cancers. While general recommendations on physical activity are to be moderately active for 30 or more minutes on five or more days per week, evidence suggests that 45 to 60 minutes of moderate to vigorous activity will further reduce the risk of breast and colon cancers. Research also suggests a relationship between physical activity and reduced risk of cancers of the endometrium and prostate. Scientists are currently investigating the relationship between increased physical activity and a reduced risk of ovarian, testicular, lung, and kidney cancers.

There are other benefits as well:

- Physical activity helps cancer patients overcome fatigue from chemotherapy.
- Other studies have suggested that an outpatient wellness program that includes aerobic exercise and strength training can improve strength and endurance for patients undergoing radiation therapy or chemotherapy.
- Several studies indicate that physical activity for cancer patients results in an improved attitude and a renewed feeling of empowerment — important measures of quality of life after cancer surgery or other therapy.

Opportunities for Risk Reduction

There are many risks for cancer that an individual cannot control, such as aging or genetics; however, people can reduce their risk of cancer by achieving and maintaining a healthy weight while being active on a regular basis. The American Cancer Society recognizes the importance of physical activity in reducing cancer risk and maintaining good health and recommends that healthy adults be moderately to vigorously active for 30 minutes or more on five or more days per week. Children and adolescents should engage in at least 60 minutes per day of moderate to vigorous physical activity on at least five days per week. Consider the following:

- Combining physical activity and a nutritious diet is the best way to maintain a healthy weight.
- Walking briskly (three or four miles an hour) for about two miles is an example of moderate activity.
- Other ways to exercise include biking, jogging, swimming, and gardening; even housework or dancing can be beneficial.
- The recommended 30 minutes or more do not need to be continuous to be beneficial.
- Previously sedentary individuals should begin physical activity slowly, working up to a goal of at least 30 minutes of moderate activity on five or more days per week.
- Previously sedentary men over age 40, women over age 50, or adults with chronic diseases or risk factors for cardiovascular disease should consult their health care provider before starting a regular exercise program.
- Cancer patients should ask their doctors about an appropriate activity program.

Emerging Trends

Emerging trends in the area of physical activity and cancer include:

Policy and environmental change Research is currently investigating strategies for changing environments (schools, worksites, communities) to be more supportive of physically active lifestyles. Evidence continues to accumulate on the positive impact that community design can have on physical activity levels and on weight control.

Specific cancers Research on the effect of physical activity on endometrial, ovarian, prostate, lung, kidney, and testicular cancers is underway.

Risk reduction Researchers are studying a number of ways in which physical activity may work to reduce cancer risk — through making the immune system stronger, shortening the time it takes food to move through the intestines, altering body composition, and changing hormone levels.

Additional Resources

To learn more about physical activity and cancer and the American Cancer Society's programs, please call 1-800-ACS-2345 (toll free) or visit our Web site at www.cancer.org.

Additional information on physical activity and cancer may be found at:

- **National Cancer Institute**
Cancer Information Service
Telephone: 1-800-4-CANCER (toll free)
Internet Address: www.cancer.gov

Bottom Line

Regular physical activity is important for overall good health. It not only reduces the risk of breast, colon, and possibly other cancers, but it also reduces the risk of cardiovascular disease and diabetes. It is also beneficial for cancer survivors. The American Cancer Society encourages adults to engage in moderate to vigorous physical activity for 30 minutes or more on five or more days per week. Children and adolescents should engage in moderate to vigorous physical activity for at least 60 minutes on at least five days per week.



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