

World Physical Therapy Day, clinical area sheet 6

The role of physical therapy in cancer

Physical therapists are exercise experts, providing support for a wide range of people to optimise their physical ability. They prescribe exercise as part of a structured, safe and effective programme.

Their skills can help in preventing and treating the four main non-communicable diseases in the world, as identified by the United Nations: cardiovascular disease, respiratory disease, diabetes and cancer.

Cancer is an umbrella term used to describe more than 100 different diseases with the common characteristic of uncontrolled malignant cell growth. It is a leading and growing cause of death worldwide, with the total number of cases globally increasing, as the world population grows and ages.

The growing global population with cancer faces unique challenges – from their disease and from the treatments they receive. Physical therapists can make a unique contribution to helping them achieve health and a good quality of life. The prescribed exercises and lifestyle advice that physical therapists provide can also help people reduce their risk of getting cancer.

Cancer facts

Cancer is a leading cause of death worldwide and accounted for 7.6 million deaths (around 13% of all deaths) in 2008.

Source: International Agency for Research on Cancer

<http://globocan.iarc.fr/factsheets/populations/factsheet.asp?uno=900>

Deaths from cancer worldwide are projected to continue to rise to over 11 million in 2030.

More than 30% of cancer can be prevented by modifying or avoiding key risk factors, including:

- being overweight or obese
- physical inactivity.

Other risk factors include:

- tobacco use
- low fruit and vegetable intake

- alcohol use
- HPV-infection
- urban air pollution
- indoor smoke from household use of solid fuels.

Source: World Health Organization

www.who.int/mediacentre/factsheets/fs297/en/

The link between physical activity and cancer

Large population studies have identified a strong association between lower levels of physical activity and higher cancer mortality. Walking or cycling an average of 30 minutes per day has been associated with a 34% lower rate of cancer death and a 33% improved cancer survival.

Source: Orsini N, Mantzoros C S et al. Association of physical activity with cancer incidence, mortality, and survival: a population based study of men. *British Journal of Cancer*. 2008 98: 1864-1869

Increasing numbers of studies are indicating that physical activity can reduce the incidence of cancer. World Health Organization recommendations say that undertaking 150 minutes of moderate intensity aerobic physical activity a week can reduce the risk of breast and colon cancers. The same amount of exercise can also reduce the risk of diabetes and heart disease.

Source: *Global Recommendations on Physical Activity for Health*, released by the World Health Organization in 2011

http://www.who.int/dietphysicalactivity/factsheet_recommendations/en/index.html

According to the International Agency for Research on Cancer: "Physical activity is one risk factor for non-communicable diseases which is modifiable and therefore of great potential public health significance. Changing the level of physical activity raises challenges for the individual but also at societal level."

<http://www.un.org/apps/news/story.asp?NewsID=37467&Cr=cancer&Cr1>

Physical activity helps people with the effects of treatment for cancer

A systematic review of controlled trials of physical activity interventions in cancer survivors, during and after treatment, showed that physical activity had a significant effect. A large effect was shown on upper and lower body strength, and a moderate effects on fatigue and breast-cancer-specific concerns. Exercise was generally well-tolerated during and after treatment, with minimal adverse events. The study abstracted data from over 82 studies.

Source: Speck RM, Courneya KS et al. An update of controlled physical activity trials in cancer survivors: a systematic review and meta-analysis. *J. Cancer Surviv*. 2010 Jun;4(2):87-100.

A panel of experts convened by the American College of Sports Medicine concluded that exercise training is safe during and after cancer treatments and results in improvements in physical functioning, quality of life and cancer-related fatigue in several cancer survivor groups.

Source: Schmitz KH, [Courneya KS](#) et al. American College of Sports Medicine roundtable on exercise guidelines for cancer survivors. *Med Sci Sports Exerc.* 2010 Jul;42(7):1409-26.

Physical activity helps improve outcomes for people with cancer

Studies have indicated a relationship between higher physical activity levels and lower mortality in cancer survivors. A recent meta-analysis reported that, post-diagnosis, physical activity reduced breast cancer deaths by 34%, all causes mortality by 41% and disease recurrence by 24%.

Source: Ibrahim EM, Al-Homaidh A. *Physical activity and survival after breast cancer diagnosis: meta-analysis of published studies. Med Oncol.* 2010 Apr 22.

Studies also indicate the volume of exercise necessary to bring benefits. The Nurses' Health Study reported 50% fewer cancer recurrences in women who exercised more than three hours per week. Among people who have had colo-rectal cancer, a study found a 50% lower rate of recurrence and related death in those who exercised more than six hours per week.

Source: Holmes, MD, Chen WY et al. *Physical activity and survival after breast cancer diagnosis. JAMA* 2005 293: 2479-2486.

Meyerhardt J A, Giovannucci E L et al. *Physical Activity and Survival After Colorectal Cancer Diagnosis. Journal of Clinical Oncology* 2006 Vol 24, No 22 (August 1): 3527-3534.

Current lack of physical activity among people with cancer

Generally, cancer survivors display low levels of physical activity. A study has reported that in Canada less than 22% of cancer survivors are physically active.

Source: Courneya KS, Katzmarzyk PT et al. *Physical activity and obesity in Canadian cancer survivors: population-based estimates from the 2005 Canadian Community Health Survey. Cancer* 2008 Jun;112(11):2475-82.

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