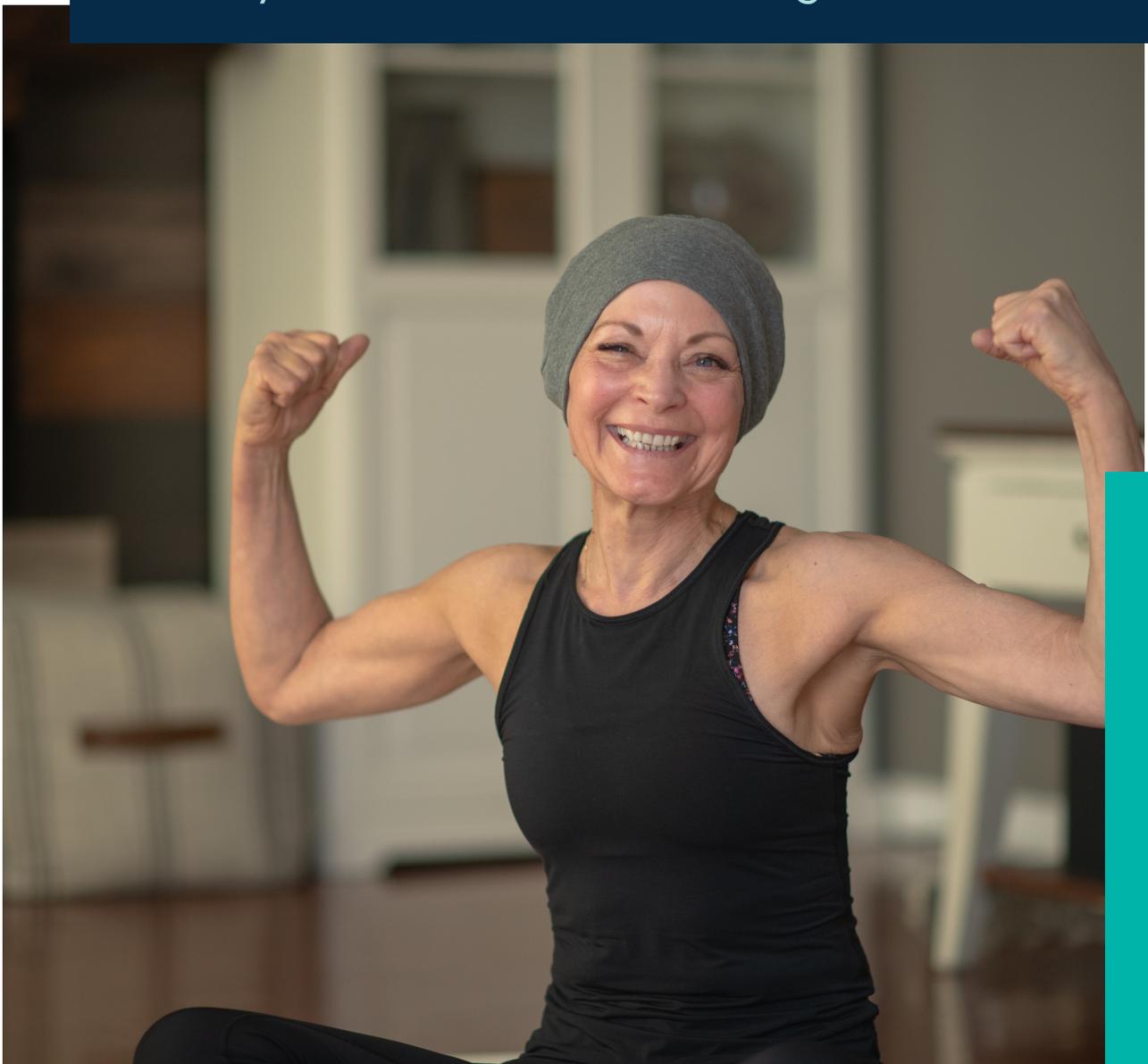


Moving through cancer



"Exercise is medicine and should be prescribed to everyone after a cancer diagnosis"



The impact of cancer on the body



Hospitals do not send stroke patients or joint replacement patients' home without a detailed plan to help them regain as much of their normal functioning as possible. These people are routinely referred for rehabilitation. Yet, cancer patients are routinely discharged with little or no guidance on how to deal with the impairments that remain after their treatment is done.

The side effects of cancer and cancer treatment greatly impact people's quality of life and overall health. These side effects can be very serious and include:

- Pain
- Fatigue
- Loss of strength
- Reduced cardiac function
- Sleep issues
- Weight changes
- Body image issues
- Cognitive impairment
- Peripheral neuropathy





Guidelines & Research

A range of organisations have endorsed exercise guidelines for people with cancer, including the American Cancer Society, National Comprehensive Cancer Network, Clinical Oncology of Society Australia, American College of Sports Medicine and Exercise and Sports Science Australia.

NCCN Guidelines for Survivorship Care For Cancer-Related Late and Long-Term Effects (2020) & Survivorship (2021) recommend Physical Activity/Exercise to assist with:

- Cardiovascular Health • Lymphoedema Management
- Fatigue • Sexual Dysfunction • Pain Management
- Cognitive Dysfunction • Hormones & Hot Flashes

Those who experience moderate to severe side effects or at moderate to severe risk should be referred to an oncology exercise specialist



COSA – Exercise in cancer care (2020)

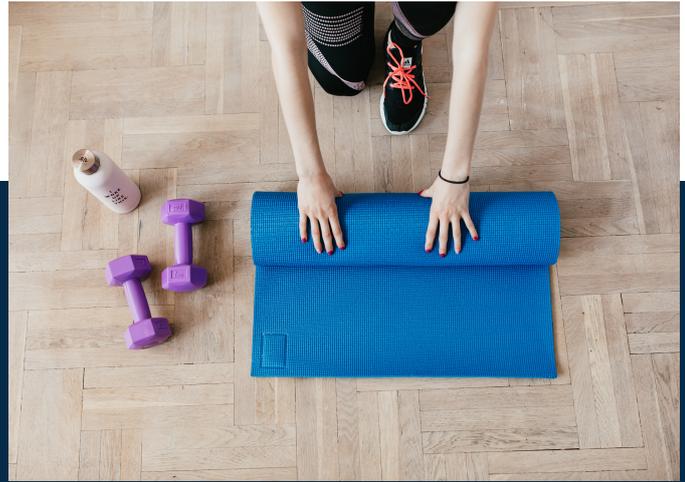
- Exercise to be embedded as part of standard practice in cancer care and to be viewed as an adjunct therapy that helps counteract the adverse effects of cancer and its treatment
- All people who have had a cancer diagnosis to avoid inactivity and return to normal daily activities as soon as possible following diagnosis.
- All people who have had a cancer diagnosis to participate in regular physical activity.
- Exercise recommendations to be tailored to the individual's abilities noting that specific exercise programming adaptations may be required for people with cancer based on disease and treatment-related adverse effects, anticipated disease trajectory and their health status
- Effective exercise prescriptions can be delivered across a variety of settings including hospital, cancer treatment centre, community and home-based (i.e. self-managed)

Accredited exercise physiologists or physiotherapists with experience in cancer care are the most appropriate health professionals to prescribe and deliver exercise programs to people with cancer.

All health professionals involved in the care of people with cancer have an important role in promoting these recommendations



Physical Activity Guidelines



Current recommendations are for people who have had a cancer diagnosis to participate in regular physical activity with the aim, as able, of reaching and maintaining:

- at least 150 minutes of moderate intensity or 75 minutes of vigorous-intensity aerobic exercise each week
- two to three resistance exercise sessions each week involving moderate- to vigorous intensity exercises targeting the major muscle group

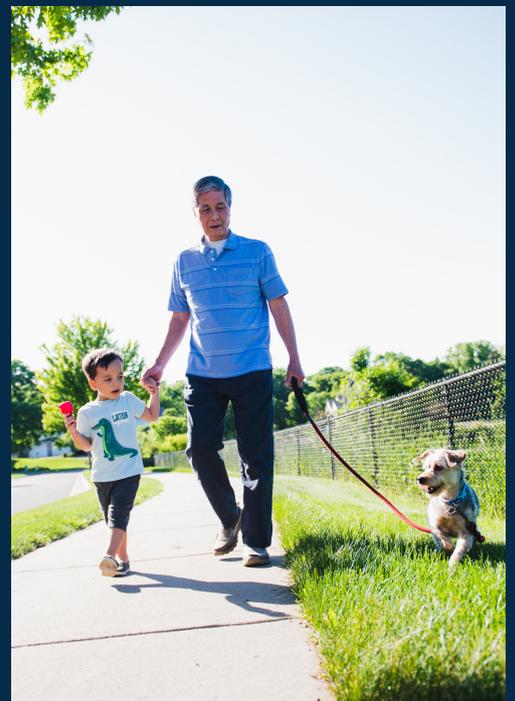
Aerobic Exercise Examples:

- Walking
- Dancing
- Swimming
- Cycling
- Step Class

Resistance Exercise Examples:

- Pilates
- Weight Lifting
- Resistance Bands

The key is to get your heart rate up and get a bit of a sweat happening. Something is better than nothing, but you will get more benefit if you work up a sweat





Physical Activity and Survival

Post-diagnosis physical activity is associated with :

- 26–69% lower risk of cancer-specific mortality
- 21%–35% lower risk of cancer recurrence,
- 25%–48% decreased risk of all-cause mortality

when comparing those in the highest versus lowest post-diagnosis physical activity categories

Breast cancer survivors who were the most physically active had a 42% lower risk of death from any cause and a 40% lower risk of death from breast cancer than those who were the least physically active.

Physical activity after a colorectal cancer diagnosis is associated with a 30% lower risk of death from colorectal cancer and a 38% lower risk of death from any cause.

Physical activity after a prostate cancer diagnosis is associated with a 33% lower risk of death from prostate cancer and a 45% lower risk of death from any cause.

Potential Mechanisms



- Exercise may reduce the risk of cancer mortality and recurrence by enhancing the ability of patients to physically tolerate greater dosages of cancer treatment
- Exercise may reduce the rate and magnitude of anticancer therapy dose modifications by increasing functional capacity and attenuating the severity of treatment-related adverse effects, therefore allowing for higher treatment completion rates.
- Similarly, improved fitness has been associated with enhanced surgical outcomes including less complications and morbidity
- There is also the possibility that exercise may improve the effectiveness of anticancer treatments by normalising the tumour microenvironment and potentially increasing transport of systemic therapies to cancer cells.
- Many preclinical studies of physical activity, but not all, show substantial reductions in tumour growth in response to exercise.



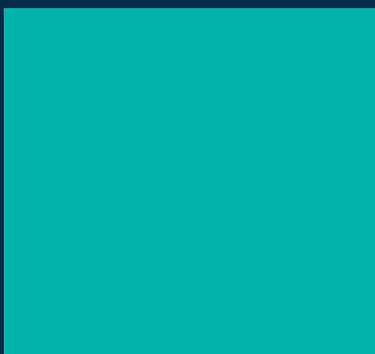
The benefits of exercise

There is strong evidence that exercise helps with many of the side effects of cancer and cancer treatment. Currently, the research shows that exercise can help with:

- Anxiety
- Depression
- Health-Related Quality of Life
- Physical Function
- Lymphoedema
- Sleep
- Bone Health

The required amount of exercise to achieve these benefits is:

- 12 week program at least
- 30 minute sessions
- 2-3 x per week
- Supervised by a professional
- Aerobic and Resistance Exercises



Examples of resistance exercises



- Consult with your oncology team or an oncology trained health professional prior to starting a new exercise program.

Lie on your back with your knees bent, holding a weight in each hand. Reach the weights directly up to the ceiling. Lower your arms slowly out to the side, keeping a small bend in your elbows. Once your arms reach the floor, reverse the movement bringing your arms back up towards the ceiling.



Lie on your back with your arms relaxed by your side. Leading with your thumb, slowly lift up your weaker arm until it is pointing directly up to the ceiling. Hold this position before returning your arm back down to your side.



Lie on your back with your legs bent, feet on the floor and a weight in each hand. Bring your arms out to the side and bend your elbows. Reach the weights directly up to the ceiling, and control the movement back down to the start position with your elbows out to the side.



Lie on your back holding a weight in each hand. Stretch your arms vertically up to the ceiling, keeping the elbows straight. Bend the elbows, lowering the weights down towards your shoulders, maintaining a vertical in the upper arms.



Grasp the weight in one hand with the palm facing forwards and hold your arm straight down by your side. Bend your arm, bringing the weight towards your shoulder. Control the movement as you lower the weight back down, and repeat.



Examples of resistance exercises



- Consult with your oncology team or an oncology trained health professional prior to starting a new exercise program.

Lie on your back with your knees bent and your feet flat on the floor. Gently tilt your pelvis as if you are imprinting your lower back into the floor and lift your hips up into the air while still holding your pelvis level. Then lower, keeping your navel drawn in and slowly lowering your spine back down onto the floor, one vertebrae at a time. Keep your buttocks tight, until your pelvis rests back down on the floor.



Lie on your back with your legs bent and feet flat on the floor. Straighten your affected leg out so that it is flat. Tighten your abdominal and thigh muscles, and lift this leg directly up, keeping the knee completely straight. Control the movement as you lower the leg back down onto the floor



Lie on your back with your legs bent and your feet flat on the floor. Raise one leg, and then the other leg, up to the table-top position, with your hips and knees at 90 degrees. Maintaining a strong stable position with your back, lower one heel down towards the floor, then return to the table-top position. Repeat with the other leg.



Lie on your side, making sure there is a straight line from your head, through your trunk, down your legs to your toes. Straighten your legs and pull the toes up towards you. Raise the top leg straight up, then control the motion back down. Ensure your leg goes directly up, as though sliding up and down a wall.



Getting the right advice for you



How to find someone who can help guide you after a cancer diagnosis:

PINC & STEEL: <https://au.pincandsteel.com>

Discuss physical activity with your oncologist – services may be available through your cancer therapy centre.

Google search:

- Oncology Physio near me
- Cancer Rehab near me

Reach out to The Positive Health Project – we offer Telehealth appointments so you can get specialised advice no matter where you live.

www.thepositivehealthproject.com.au



Resources and Articles

NCCN Guidelines for Survivorship Care For Cancer-Related Late and Long-Term Effects (2020) & Survivorship (2021)

<https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1466>

COSA – Position Statement 2020 – Exercise in Cancer Care

<https://www.cosa.org.au/media/332757/cosa-position-statement-v3-dec2020-web-final.pdf>

<https://pubmed.ncbi.nlm.nih.gov/30780085/>

<https://pubmed.ncbi.nlm.nih.gov/28453622/>

https://www.acsm.org/docs/default-source/files-for-resource-library/exercise-guidelines-cancer-infographic.pdf?sfvrsn=c48d8d86_4

<https://au.pincandsteel.com>

https://exerciseright.com.au/wp-content/uploads/2019/10/Cancer-eBook_2019_FINAL2510.pdf

<https://www.cancercouncil.com.au/get-support/cancer-survivors/exercise-and-cancer/>