# BLOOD CANCERS & EXERCISE

**PUBLIC**

## WHAT IS BLOOD CANCER?

Blood cancer occurs when blood cells aren't made properly. They grow out of control and spread throughout the bloodstream. They develop in the spongy bone marrow found in the middle of bones and interrupt the function of normal blood cells. The main types of blood cancers are lymphoma, leukaemia, myeloma, myelodysplastic syndromes and myeloproliferative diseases. Blood cancers represent approximately seven percent of all new cancer diagnoses worldwide.

## WHY IS EXERCISE IMPORTANT FOR BLOOD CANCER?

People with blood cancer often endure lengthy therapies (e.g. chemotherapy) that reduce their physical capacity. Common side effects of blood cancer such as severe anaemia (abnormally low levels of red blood cells or haemoglobin) and thrombocytopenia (abnormally low levels of platelets) cause high levels of fatigue. High doses of corticosteroids and long periods of bed-rest, particularly during stem cell transplantation, lead to muscle wasting. Collectively, blood cancer and its treatment-related side effects reduce quality of life.

Exercise reduces fatigue and depression in people with blood cancer (Knips et al., 2019). More research is required to confirm whether there are additional benefits of exercise specifically in people with blood cancer. In saying that, exercise has demonstrated many important benefits in other cancer populations, which may also benefit people with blood cancer, such as:

- Increasing cardiorespiratory fitness, muscle strength and endurance and balance
- Improving physical function and ability to perform activities of daily living
- Improving bone health and reducing falls risk
- Improving cognitive function
- Improving quality of life

Exercise also reduces the risk of developing chronic diseases such as diabetes, cardiovascular disease and dementia.

## IS EXERCISE SAFE FOR PEOPLE WITH BLOOD CANCER? BARRIERS / CONTRAINDICATIONS TO EXERCISE

Everyone with blood cancer should talk to their health professional about engaging in exercise, because it is important to engage in exercise in a way that is safe and will provide the most benefit to the individual

Some people with blood cancer have changes to the bone that increases the risk of fracture. If you have bone problems consult an appropriately qualified exercise professional (Physiotherapist or Accredited Exercise Physiologist) to reduce your risk of falls and fractures. These exercise professionals will consider the location, size and spread of your bone issues and prescribe appropriate activities to strengthen your muscles and improve your balance whilst avoiding high impact, flexing and twisting movements in the areas of the bone damage.

If you have thrombocytopenia (platelet count <20 × $10^9$/L) you will have a higher risk of bleeding. In this case, it is recommended that you choose exercises that are low impact (e.g. walking) and have a low falls risk. When exercising, we encourage you to breath normally (i.e. avoid holding your breath) and closely monitor your body for any bruising and bleeding.

People with blood cancer often experience moderate-to-severe levels of fatigue from the disease, its treatments and side effects. If you experience high levels of fatigue or have low haemoglobin (<80 g/L), you may need to adjust the intensity or duration of exercise to accommodate fatigue or weakness. When exercising, we encourage you to monitor signs and symptoms of fatigue and exertion.

If you have neutropenia (neutrophils <1.5 × $10^9$/L), a low white blood cell count (i.e. <2.0 × $10^9$/L), or a fever (oral temperature >38°C), work with your doctor to achieve full health before commencing an exercise program. When your doctor confirms it is safe for you to exercise, minimise your risk of infection by cleaning all equipment before use, be vigilant with hand-washing and use of hand sanitiser, avoid group and public exercise and initially exercise at a low-to-moderate intensity.

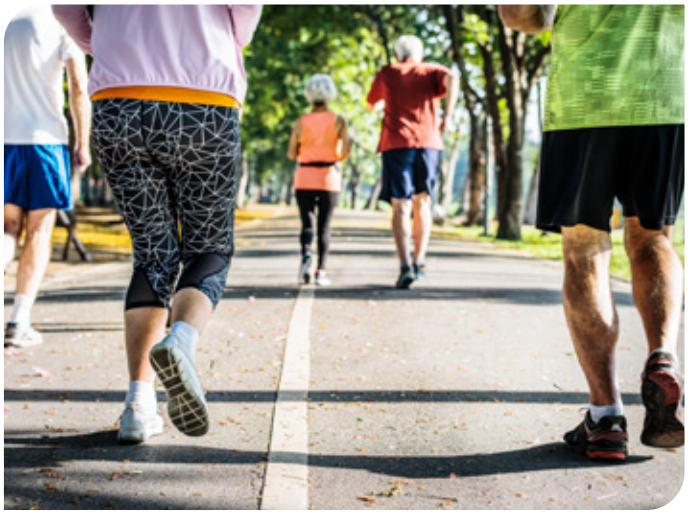
## WHAT TYPE OF EXERCISE IS BEST?

People with blood cancer are recommended to progress towards and, once achieved, maintain participation in:

- at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic exercise (e.g. walking, jogging, cycling, swimming) each week; and
- two to three resistance exercise (i.e. lifting weights) sessions each week involving moderate-to vigorous-intensity exercises targeting the major muscle groups

## HOW CAN PEOPLE WITH BLOOD CANCER BECOME AND REMAIN ACTIVE?

- Consult an Accredited Exercise Physiologist or Physiotherapist to ensure your exercise plan is tailored to your abilities, disease- and treatment-related adverse effects, anticipated disease trajectory and health status.
- Choose activities you enjoy, this will help you stick with your exercise plan.
- Something is better than nothing so start low, even just a few minutes a day, and progress slowly.
- Did you know that simple activities such as taking the stairs or walking even a little further than usual can help improve your overall health?



## RELATED INFORMATION AND REFERENCES

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Exercise is Medicine Australia www.exerciseismedicine.org.au
Exercise Right www.exerciseright.com.au
Find a Physiotherapist www.choose.physio
Find an Accredited Exercise Physiologist www.essa.org.au

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