Yorkshire Cancer Research

From Diagnosis to Recovery:

Embedding Exercise in Cancer Treatment Pathways

Updated December 2025

Key messages

In direct contrast to the old adage "rest is best", it is now advised that people with cancer follow a personalised cancer exercise prehabilitation and rehabilitation plan to help the body prepare for, and recover from, cancer treatment.

There is a growing body of international research that shows following a cancer diagnosis, exercising can reduce side effects and complications, support recovery, improve survival and can reduce the risk of cancer coming back.

Based upon the latest evidence, it is currently recommended that people with cancer work towards being able to do:

- At least 150 minutes of moderate intensity aerobic exercise or 75 minutes of vigorous intensity aerobic exercise (e.g. walking, jogging, cycling, swimming) each week, plus
- Two to three resistance exercise sessions each week.

However, more research is needed to determine the optimal type, amount and frequency of exercise to improve outcomes for people with cancer.

There is also growing evidence to show that exercise programmes are cost effective, improving health outcomes at a rate which is good value and leading to productivity gains. More UK-based studies are needed to further establish their cost effectiveness for the NHS.

2 hours 30 minutes moderate intensity aerobic exercise	or	**1 hour 15 minutes** vigorous intensity exercise	+	**2 - 3** resistance exercise sessions
Brisk walking 		**Running** 		**Gym** 
Leisurely cycling 		**Cycling quickly** 		**Yoga** 
Gardening 		**Football or netball** 		**Carrying heavy bags** 

Is exercise safe for people with cancer?

Exercise with tailoring to an individual's condition is safe for people with cancer.

People with cancer should avoid inactivity and be supported to be as active as possible before, during and after treatment.

How can it help people with cancer?

Being active before, during and after cancer treatment is not only safe, it can actively assist with improving common physical, psychological and cancer-related health outcomes. The current evidence also shows that exercise can reduce the risk of cancer coming back by up to 66% and dying from cancer by up to 44%.

However, despite the growing body of evidence and the potential to significantly reduce the number of people losing their lives to cancer, specialist exercise services are not routinely available for people with cancer.

How could exercise make cancer treatment more effective?

The reasons why exercising before, during and after cancer treatment influences cancer survival and cancer coming back are not fully understood but there are several emerging theories.

It can optimise treatment outcomes by helping people tolerate greater doses of treatment, access treatments previously unavailable to them as a result of improved strength and fitness, reduce postoperative complications and length of hospital stay and increase blood flow around the body in order to transport anti-cancer treatments more effectively.

Regular exercise may reduce certain growth factors and proteins in the body that help cancers to grow and spread, as well as increase the amount of natural killer cells in the blood that kill circulating tumour cells. Exercise may directly affect cancer cells themselves, as well as the effecting positive changes in the body's composition, both of which may prevent cancer cells from growing and spreading.

[1] when compared to those who are physically inactive


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Yorkshire Cancer Research's policy recommendations

1. Multi-modal prehabilitation and rehabilitation should be embedded as part of standard NHS cancer care pathways, available to all who are able to take part.

2. Exercise interventions should start as early as possible from the point of diagnosis, in advance of any cancer treatment and be integrated into all stages of a patient's cancer care package. They should be tailored to the individual's needs and abilities.

3. Best practice cancer care should include referral to a group of cancer exercise specialists that include physiotherapists, exercise physiologists and trained cancer exercise fitness instructors, alongside nutritionists and those qualified to deliver psychological support for overall wellbeing care.

4. Education and awareness should be introduced to raise the benefits of being active throughout a cancer diagnosis and beyond, for healthcare professionals and the general public.

5. More research is required within the field to further improve the evidence base, as well as consistent use of existing guidelines for a set of reporting metrics to allow for standardisation across different studies. Further evidence is needed to understand and address the barriers to attendance for groups which are under-represented on cancer prehabilitation and rehabilitation programmes, in order to address health inequalities.

Yorkshire Cancer Research

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