



Penny Brohn UK
Living Well with Cancer

Physical activity

Evidence-based information to help you self-manage your cancer experience



About this booklet

Physical activity is any movement of the body which uses energy. It includes things one might do in daily life, such as housework and walking, as well as organised sports and exercise classes.

There is good quality research evidence to suggest that physical activity helps with depression, anxiety, fatigue, aerobic fitness, quality of life, weight management, muscular strength, physical functioning and more. Other evidence indicates that physical activity can reduce the risk of cancer recurrence and mortality. People with cancer who engage in physical activity, report benefits to their wellbeing, confidence levels and sense of control.

This evidence-based information sheet aims to provide clearly sourced and reliable information to help you make informed choices about physical exercise in general and a range of exercises on offer at Penny Brohn UK's National Centre to support people with cancer. If you'd like more information on how to access the range of services Penny Brohn UK provides, please contact our **Helpline on 0303 3000 118**. We're able to provide our services free of charge, thanks to the charitable donations and voluntary contributions which fund our work.

How to use this booklet

This sheet is split into sections to help you get the information you need to start exploring different physical activities. We've included information about cost and safety of these therapies as well as quotes from people who have tried the different activities. At the end of each chapter you'll find contact details about organisations who represent these therapies.

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About physical activity

Physical activity is any movement of the body using skeletal muscles that burns energy. It includes organised sports and exercise classes such as aerobics or yoga, and working out at the gym^{1,2}, but also daily activities like cleaning and walking up the stairs.

Physical activity is categorised according to the level of intensity, which depends on how many calories are used. Activities which make you feel warmer and slightly breathless, but you're still able to talk easily, are moderate intensity. Vigorous activities make your heart beat very fast, it's hard to catch your breath and you can't talk comfortably.

Physical activity, including walking, is one of the best ways to maintain a healthy weight. Any activity you choose to do needs to be at least moderate for most health benefits, although any activity is better for you than being inactive¹.

Vigorous activities can provide additional health benefits³. Weight training and weight-bearing activities are also beneficial for health, as they help to develop muscle strength, build bone and maintain functional ability. This can involve use of weights or using one's own body weight as resistance³. Exercises which increase flexibility and balance are useful for maintaining healthy joints and preventing falls.

A photograph of a person's legs and feet, likely during a physical activity. The person is wearing black leggings and a purple and white striped ankle band. There are black markings on the lower leg. The background is blurred, showing other people and a gym-like setting. A green text box is overlaid on the right side of the image.

What do people say about physical activity?

Research studies known as qualitative studies ask people about their experiences. They can provide information from a personal perspective, but can't tell us if an exercise is likely to work for everyone.

In three studies participants with breast cancer reported that physical activity had both psychological and physical benefits⁷. They said that physical activity gave them a sense of empowerment and control, and that physical fitness improved strength, reduced fatigue, improved health, relieved pain and reduced stress and anxiety.

In one study, people said that physical activity gave them focus, structure and hope for the future. In another, people felt that physical activity had helped them in their return to work¹³.

What is the evidence on physical activity?

There is high quality evidence to suggest that physical activity is beneficial for depression⁷, anxiety⁸, fatigue⁹, aerobic fitness¹⁰⁻¹², quality of life¹³⁻¹⁴, immune function¹⁵, muscular strength¹⁶⁻¹⁸, body composition^{17,18,19}, physical functioning^{10, 18} and other cancer site-specific symptoms^{20,21,22,23,24,25}. The World Cancer Research Foundation's report: *Diet, Nutrition, Physical Activity and Cancer: a Global Perspective*⁴ shows there is clear evidence that being overweight or obese puts you at risk of 12 types of cancers, and 150 minutes of moderate exercise per week helps protect against at least three types of cancers.

How does it help with specific symptoms people with cancer experience?

There's a large amount of high quality evidence from randomised controlled trials, on the benefits of physical activity for people with cancer. Further research combining the statistics and outcomes of these trials was used to give an overall result. Cancer-related fatigue, depression, anxiety, quality of life and physical function were all assessed. Physical activity can help with many cancer-related symptoms, here we have listed three common symptoms and how being active can help:

Depression - Analysis of a collection of studies into the benefit of exercise for people with a range of cancers found an overall reduction of depressive symptoms following aerobic exercise. The most significant reduction was in breast cancer survivors⁷.

Anxiety - In a review of the results of 82 studies of breast cancer survivors, women reported an increased sense of control, 'respite from cancer', a sense of 'moving forward' and an increased ability to manage their emotions⁸.

Fatigue - A review of 56 studies (28 on people with breast cancer) looking at cancer-related fatigue found a significant reduction of fatigue following a range of activities (aerobic exercise and low intensity) both during and post-treatment⁹.

Is it safe?

On the whole, exercise is considered safe for people with cancer and the negative impact on health from being inactive outweighs any risks associated with physical activity³, but do bear in mind the following when taking up any exercise:

- To prevent pain, nausea or fatigue from worsening, don't engage in high intensity exercise when you're experiencing these or other debilitating symptoms.
- Consider the site of your treatment when planning activities and get advice before doing exercise involving the area; especially if you're still healing or have any complications.
- If your immunity has been lowered, beware of the risk of infection from public fitness centres and swimming pools⁵.
- If your cancer has spread to the bone, you have osteoporosis or numbness in your feet, avoid high impact exercise, contact sport and be careful with exercises involving balance, such as running on a treadmill, in order to prevent falls and fractures.
- Avoid vigorous activity if you have a temperature, a deep vein thrombosis or if your platelet count is very low.
- If you've had your lymph nodes removed, build up upper body resistance exercises slowly, to avoid lymphoedema⁶. To prevent lymphoedema from getting worse, during or after exercise wear a compression garment.

If exercise is difficult because of cancer or cancer treatments, or if there's any pain on exercising, advice should be sought from a health professional or a trained fitness instructor who has experience of working with people with cancer.

How much do I need?

Here at Penny Brohn UK, we follow the Department of Health guidelines¹, suggesting that people work towards achieving 30 minutes of moderate intensity exercise five times a week. We recommend engaging in a form of exercise that brings enjoyment and it's also worth bearing in mind that activities such as gardening, shopping or playing with children can be considered 'exercise'. Any form of physical activity

is recommended and far outweighs being inactive.

A few tips:

- Exercising in a group can provide social support, build confidence and increase motivation.
- Aerobic exercise, resistance training, balance and flexibility training are all useful in different ways and an ideal exercise programme will involve a little of all four.
- It's very important that exercise is started in small amounts and only gradually increased.
- It's best to start with a gentle warm-up and finish with a cool-down that involves some muscle stretches. Some mild muscle ache after starting or increasing exercise is normal and should resolve within 24-48 hours.
- At Penny Brohn UK, we offer aerobic exercise, Qi Gong, mindful movement, yoga and Nordic walking sessions. These activities are suitable for people with varying levels of fitness and there are no expectations upon people to 'perform'.
- Get a little digital help with an exercise app such as the Active 10 app.

Organisations that represent physical activity

Department of Health

www.dh.gov.uk

UK active

www.ukactive.com

Organisations that train fitness instructors to work safely with people with cancer

CanRehab

canrehab.co.uk

Wright Foundation

www.wrightfoundation.com



About yoga

As a traditional discipline derived from Indian culture, yoga can include aspects of physical postures (asana), breathing techniques (pranayama), and meditation (dhyana), chants (mantras) and wisdom teachings (sutras) to encourage health and relaxation. In Western healthcare yoga exists as a complementary therapy and physical activity practice. Most yoga sessions also include an element of relaxation. An overview of several studies identified Hatha yoga (a general category that includes most yoga styles) as effective for decreasing anxiety, depression and pain with no adverse side effects.

What do people say about yoga?

As with many types of complementary therapy one of the main reasons that people with cancer use yoga is because it makes them feel good. Yoga teachers promote it as a natural way to help you relax and cope with stress, anxiety and depression. Generally, it can help to lift your mood and enhance wellbeing. Some people with cancer say it helps calm their mind so that they can cope better with their cancer and its treatment. Others say it helps to reduce symptoms and side effects such as pain, tiredness, sleep problems and depression.

What do people from Penny Brohn UK say about yoga?

'[Yoga] Has helped me feel more accepting of my pace of recovery.'

'Very relaxing: yoga has been something I've been meaning to do for a long time. I feel fitter and now want to do some more exercise.'

'Confidence improved for my return to work as I feel more flexible/less stiff in my back.'

'I would feel the other stresses in my life (considerable) would have a bigger impact on me without the class.'

'Gives me a focus, sense of wellbeing and community.'



What is the evidence on yoga?

Yoga is a safe and potentially beneficial activity for people with cancer, when practised with a qualified and experienced practitioner. A review looked at the evidence from 13 randomised controlled trials, to assess the physical and psychological benefits of yoga for cancer patients and survivors. The most consistent findings were improvements in depression^{1,2,3,4}, distress^{5,6}, anxiety^{1,2,3} and quality of life^{1,4,6,7,8}.

In another study - of breast cancer survivors who practiced yoga - they reported relief from stress and anxiety, and transferability of yoga to general life, which helped people to cope with difficult situations such as doctor's visits.

Is it safe?

Qualified teachers usually recommend the following safety measures:

- Allow at least two hours after eating before doing yoga
- Don't do yoga alone at home until you've practiced it with a qualified teacher
- Tell your teacher about any medical problems you have, including back and joint problems, before you begin
- Stop and tell your teacher if any posture is painful for you
- Never try difficult postures, such as head and shoulder stands, without first being shown how to do this by a qualified teacher
- Women who are pregnant, or have their period, shouldn't practice certain postures (your teacher will advise you about which these are)
- Drink plenty of water after every class.

Are there any legal issues?

It's not a legal requirement for a yoga teacher to hold a qualification. However, several reputable associations in the UK train, test and certify teachers.

Organisations that represent yoga**The British Wheel of Yoga**

www.bwy.org.uk
01529 306851

British Council of Yoga Therapy

www.bcyt.co.uk

The Independent Yoga Network

www.independentyoganetwork.org
01902 689218

About Nordic walking

Nordic walking is a method of walking with poles that was introduced in Finland in the early 20th century. Nordic walking poles are different from regular walking poles due to their easy-to-use design, including wrist straps which enable the user to plant the poles behind them.

Nordic walking sessions are offered by a professionally trained instructor and the activity is promoted as a simple method for maintaining and improving physical health. It can be used on grass or on roads, making it a versatile and accessible activity.

Specific to people with cancer, recent research has shown that pole walking may help to improve shoulder function for women who have had breast cancer. Nordic walking is considered a safe form of exercise for women with breast cancer related lymphoedema in the arm.



What do people say about Nordic walking?

In a qualitative study a small group of women with breast cancer reported increased energy and shoulder mobility after joining a Nordic walking group for 10 weeks. The women reported they found Nordic walking enjoyable and benefited from the social aspect of the group.

What do people from Penny Brohn UK say about Nordic walking?

‘The chat with other group members is as therapeutic as the exercise.’

‘Being part of the group motivates me to get out when I might not otherwise!’

‘My overall fitness level has improved. I’m very keen to walk as much as possible now and keep up my fitness.’

‘I find I sleep better after attending the group, and notice an increased sense of wellbeing, which means I am better disposed to attending to life’s demands and chores.’

What is the evidence on Nordic walking?

The physical benefits of Nordic walking or pole walking have been documented in various studies mainly involving women with breast cancer, or who are recovering from treatment. It was found across these studies that Nordic walking is a safe rehabilitation for women who have been treated for breast cancer. A recent review of several studies looked at the health benefits of Nordic walking for a range of conditions, including cancer, the review found that Nordic walking is beneficial for heart rate, blood pressure, oxygen uptake and quality of life.

How does it help with specific symptoms people with cancer experience?

Overall, there's limited research which looks at Nordic walking specifically for cancer patients. The existing research suggests that Nordic walking, or less specific, pole walking, may be particularly^{1,2,3} beneficial following treatment for breast cancer. However, the positive effects of any kind of aerobic exercises are well documented and, as such, Nordic walking should be considered a gentle and useful form of exercise for people with cancer.

Arm lymphoedema - One of the studies looked at arm lymphoedema⁴, after an eight week pole walking programme a significant reduction of lymphoedema was reported across three different measures.

Shoulder function - A study looked at the effects of walking poles on shoulder function in breast cancer survivors by monitoring one group using walking poles and another not using poles^{4,5}. This study found that an eight week walking pole exercise programme significantly improved muscular shoulder function, helping breast cancer survivors perform activities of daily living and regain an independent lifestyle.

General wellbeing - In another study which consisted of a 10 week exercise programme of pole walking, participants reported and showed signs of increased shoulder mobility, energy and they also benefited from the social aspect of the group activity⁵.

Is it safe?

Nordic walking is considered a safe activity and is suitable for people of all ages and levels of fitness. It's important to learn the correct technique from a qualified instructor, to avoid risk of physical discomfort or injury. Medical conditions should be discussed with the instructor before attending a session.

Are there any legal issues?

Although there is no legal requirement for Nordic walking instructors to have undertaken training; Nordic Walking UK lists and trains accredited instructors. They will have completed a two day practical training course plus assessment, and will hold a minimum level 2 fitness-based qualification. Instructors can also train with British Nordic Walking.

Organisations that represent Nordic walking**Nordic Walking UK**

www.nordicwalking.co.uk
0845 260 9339

British Nordic Walking

www.britishnordicwalking.org.uk
01446 773876

About Qi Gong

Qi Gong is a Chinese practice that combines gentle movements, breathing techniques and meditation intended to improve the flow of 'Qi energy' through the body. In traditional Chinese culture Qi is regarded as the life force energy that flows through all living things. They believe disease states occur when the flow of Qi becomes blocked or unbalanced. Qi Gong is offered by trained instructors to help with physical, psychological and spiritual health.

In the context of cancer, recent research suggests that Qi Gong may be beneficial for quality of life, fatigue and biological outcomes, such as inflammation and immune responses.

Whilst more high quality research is needed, Qi Gong is considered a safe and gentle activity that may be beneficial for people with cancer.

A photograph of a person wearing a blue long-sleeved shirt, performing Qi Gong movements outdoors. The person's hands are positioned in front of them, palms facing each other, in a gentle, meditative pose. The background shows a clear blue sky and some green foliage.

What do people from Penny Brohn UK say?

'Qi Gong is very important for both exercise and mindfulness/development of spirituality. It gives me a powerful way of connecting to myself at home too.'

'I feel calm and more focused.'

'Qi Gong helps calm me. I feel more relaxed and 'alive' after each session. Energy levels have increased (which has been an issue for me).'

What happens in a session?

- Qi Gong sessions usually last between 20 minutes and an hour¹. Teachers may vary greatly in terms of training and experience and it's important to find a teacher with experience in teaching those with cancer.
- Sessions involve fluid, rhythmic movements of the body, similar to those practiced in Tai Chi (an ancient martial art from China that combines deep breathing and relaxation with flowing movements). Poses may also be held for short periods of time.
- The teacher will ask participants to focus on their breathing and may encourage visualisation, for example visualising the flow of Qi around the body.
- No special clothes or equipment is needed, but loose fitting clothing is helpful with the flowing movements.

What is the evidence on Qi Gong

Research suggests that Qi Gong may be beneficial for quality of life⁷, fatigue⁶, immune function⁴ and inflammation²⁻⁷. However, most studies of Qi Gong in cancer care are not high quality; although they give generally positive results, they should be treated with some caution.

How can Qi Gong help with certain cancer-related symptoms?

Fatigue and distress - A study looked at the impact of a Qi Gong intervention in senior prostate cancer survivors⁶. This study found that the half of the group that practised Qi Gong had much bigger improvements in fatigue and distress than the group that did regular stretching exercises.

Quality of life - In a study of women with breast cancer, one half of the group followed an eight week programme of Qi Gong and the other a standard aerobic exercise programme⁷. Out of the two, the group who practiced Qi Gong experienced an improvement in quality of life.

Is it safe?

There are no reports within literature of adverse effects associated with Qi Gong. It's essential that medical circumstances are discussed with

Are there any legal issues?

Qi Gong is offered by trained instructors to help with physical, psychological and spiritual health however the professional practice of Qi Gong is not regulated by law and there are no reputable organisations in the UK that train and certify Qi Gong practitioners/therapists. There are organisations which represent Qi Gong in the UK.

Organisations that represent Qi Gong

British Health Qi Gong Association

www.healthqigong.org.uk

Health Qi Gong Federation UK

www.healthqigong.net

Organisations that offer support and information for people with cancer

Cancer Research UK
0808 800 4040
www.cancerresearchuk.org

Macmillan Cancer Support
0808 808 0000
www.macmillan.org.uk

NHS 111
111
www.nhs.uk

More information on complementary therapies

NHS Evidence
www.evidence.nhs.uk

CAM Cancer
www.cam-cancer.org

Contact us

Helpline: 0303 3000 118
Weekdays 9.30am-5pm
(24 hour answerphone)

Email: helpline@pennybrohn.org.uk

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Statement

Our information and research is designed to help you make informed choices about the services that we provide. From time to time for illustrative purposes, we make reference to commonly available products (such as relaxation CDs and popular self-help books). We do not endorse or advertise the use of any specific product.

Disclaimer

While we make every effort to use up to date and reliable sources, we can't accept liability for errors in the sources that we use and we can't guarantee to find all the information relevant to your enquiry or request. All responsibility for interpretation of and action upon that information rests with you. This information and advice is offered on the understanding that if you intend to support your treatment with complementary or alternative approaches, then it is advisable to consult your medical team to ensure that they have a complete understanding of your situation and the complementary or alternative approach that you are considering.

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