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Exercising during and after treatment for cancer

A guide for patients and their carers

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Contents

What is fatigue? 2
Why exercise? 3
Exercises 5
How much exercise should I do? 8
What the evidence shows 12
Who can I ask for further information and support? 15

"Prevention is better than healing because it saves the labour of being sick"

Thomas Adams, 17th Century Physician

Introduction

The aim of this booklet is to teach you a simple exercise programme and give you advice about staying active and improving your fitness. This will help you to improve your quality of life during and after treatment for cancer.

During chemotherapy and radiotherapy many people have muscle weakness, stiffness and fatigue because of their cancer or from the treatment. The fatigue can be severe and limits activity. Inactivity leads to muscle wasting and loss of function.

When you are in hospital, wearing your own clothes may help you to feel more 'normal' and add to your general well-being. It is also a good idea to sit out of bed as often as possible and try to take short walks during the day. This can help with your breathing, blood pressure, digestion, core stability and mood.

What is fatigue?

Fatigue is when you have less energy to do the things you would normally do or want to do. Fatigue is the most common side effect of cancer treatment. This is different from the fatigue of everyday life. Fatigue related to cancer treatment can appear suddenly and can be overwhelming. It is not relieved by rest and can affect you physically, psychologically and emotionally.

What to look for:

- feeling as if you have no energy
- sleeping more
- feeling tired even after sleeping
- not wanting to or being able to do normal activities
- less attention to personal appearance
- difficulty thinking or concentrating.

What you can do:

- balance rest and activities
- plan important activities for when you have the most energy
- try to do things you have to do throughout the day rather than all at once
- get enough rest and sleep, perhaps with short naps
- remember that fatigue caused by treatment is short-term and that your energy will slowly return after treatment ends
- ask for help when you need it
- eat a balanced diet and drink plenty of water
- exercise regularly at light-to-moderate intensity.

Why exercise?

Regular exercise reduces the risk of heart disease, improves lung function, reduces being overweight and minimises the impact of aging. So **Be active Stay active**. This message applies as much to cancer patients as to anyone else – perhaps even more.

It is important to try and exercise a little if you can, even when you are not feeling too well. Research shows that exercise can help with the side effects of treatment such as fatigue, pain, nausea and vomiting. It can also improve your mood and feelings of confidence. Too much exercise can make you tired, so can too little. It's important to find your own level. More importantly, the research shows that exercise can reduce the risk of the cancer coming back.

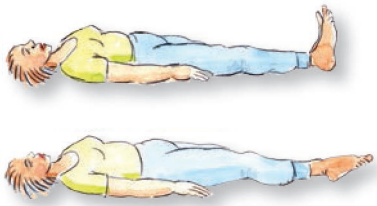
Exercise as much as you can to keep muscles working as well as possible. Exercise helps prevent problems caused by long-term bed rest, such as stiff joints, weak muscles, breathing problems, constipation, fragile skin, poor appetite and low moods.

Benefits of regular exercise:

- maintains or improves physical abilities
- improves balance, reducing risk of falls and fractures
- prevents muscle wasting caused by inactivity
- reduces risk of heart disease
- prevents osteoporosis
- improves blood flow to legs and reduces risk of blood clots
- improves independence to do the normal activities of daily living
- improves self-esteem
- reduces anxiety and depression
- decreases nausea
- increases ability to maintain social contact
- reduces symptoms of fatigue
- improves ability to control weight
- improves quality of life.

Exercises

The following ten exercises can be done on the bed or sitting in a chair. They are suitable for all ages and abilities and are designed to improve circulation and prevent your joints from becoming stiff. These exercises can help to maintain and improve your muscle strength as well as your general mobility and function. If you can, begin by doing each exercise 5 times (except exercise 1). As your strength improves, gradually increase to 10.



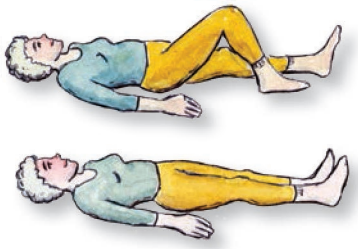
On the bed:

1. Ankle exercises:

a) Pull your feet quite briskly up and down, 10 times each leg.

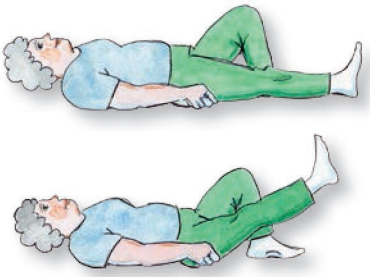
b) Circle ankles in a clockwise and anticlockwise direction, 10 times each leg.

2. Knee flexion / extension:
Bend and straighten your knee, 5 times each leg.



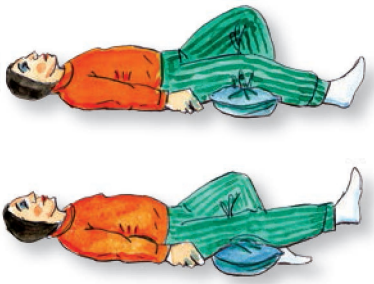
3. Static quadriceps:
Pull your foot and toes up, push your knee firmly into the bed and tighten your thigh muscle allowing your heel to lift slightly off the bed, 5 times each leg.

4. Abduction / adduction:
Bring your leg out to the side as far as you can and then back to mid position, 5 times each leg.



5. Straight leg raise:
Keep your leg straight by pushing knee down into bed, pull your foot and toes up and lift leg approximately 20cm (8in) off the bed, 5 times each leg.

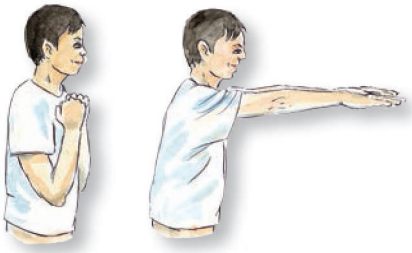
6. Inner range quadriceps:
Place a pillow or rolled up blanket or towel under your knee. Pull your foot and toes up, tighten your thigh muscle and straighten your knee (keep knee on the pillow or blanket). Hold for a count of 3 and slowly relax your leg, 5 times each leg.



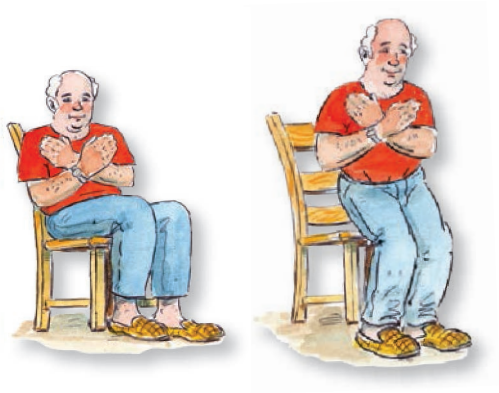
Sitting in a chair:

7. Inner range quadriceps:
Pull your toes up, tighten your thigh muscle and straighten your knee. Hold for a count of 3 and slowly relax your leg, 5 times each leg.

8. Arm exercises:
Lift both arms up above your head and then out in front of you, 5 times.



9. Sit to stand:
Sitting on a chair with your arms crossed, stand up and then sit down slowly, 5 times.



10. Deep breathing exercises:
Relax your shoulders, correct your posture by straightening your back, place hands on the sides of your chest, breathe in slowly through your nose, expanding your chest and feeling the movement under your hand, hold 3 seconds, then breathe out.

Practise by taking 3 deep breaths every 30 minutes.

How much exercise should I do?

Each person's exercise programme should be based on what is safe, effective, and enjoyable. Your exercise should take into account any exercise programme you have already been given, what you can do now and any physical limitations.

The type of cancer you have, your cancer treatment, your stamina, strength and fitness level all affect your ability to exercise. What may be low or moderate intensity for a healthy person may seem like a high intensity activity for someone with cancer. Some people can safely begin their own exercise programme. But if you are in doubt about how much you can do or you are unable to do these exercises on your own, the physiotherapist can help you and give advice on a suitable personal exercise programme.

As well as doing the ten exercises, keep active by walking 'little but often'. How much you do depends on your energy levels and whether you are still on treatment or you have finished your treatment. If in doubt, ask your doctor or physiotherapist for advice on how much exercise is safe for you.

Step 1: Health

Maintaining an active lifestyle is the key to good health. Being inactive is a risk to your health. To be 'active' you must try to:

> accumulate at least 30 minutes of physical activity throughout the day. During the 30 minutes you must work at moderate intensity, meaning you are very slightly breathless.

Physical activity can include walking, hoovering, gardening, climbing stairs – general everyday activity. Perhaps you are doing all this now, but you need to do it at the right intensity, for example, walk more briskly!

Here's an example:

In the morning:	housework	5mins
In the afternoon:	walk to the shop	5 mins (there and back)
	walk the dog	10 mins
Throughout day:	walk up and down stairs	5 mins
Total:		**30 mins**

The key is to establish new **active habits**. Soon you will do them without thinking, just like you clean your teeth in the morning.

Remember: take the active choice throughout the day. Every minute counts!

Step 2: Fitness

As your fitness improves, you will be able to increase your activities and also your levels of exercise.

To increase your fitness level, you need to exercise. This means that the activity is structured and continuous.

Your body must work at a moderate intensity for long enough to produce the benefits you want.

Common exercises include: swimming, cycling, sports, exercise classes, long walks (not short walks put together), aqua aerobics, gym work, yoga and Tai Chi. There is something for everyone, at all levels of fitness. The best thing to start with is a structured walk – it's free and can be done right outside the front door.

To gain fitness you need to try to build up to:

- exercise 3 to 5 days a week
- 20 to 30 minutes' activity of your choice (+ warm up and a cool down – 10 minutes each)
- moderate intensity. Feel warm, maybe slightly breathless but it's manageable for you. It shouldn't be so hard that it's not enjoyable.

Remember. The most important thing is the habit of exercise. Start with one session a week and continue until you feel ready to add a second, then a third. This may take months, but one session a week is better than none!

Listen to your body and work at your own pace. Pick things you enjoy and are realistic for you. Try new things and vary what you do so you won't get bored – one week may be different from the next.

Ask what's available at your local sports centre. You may find something you really enjoy and new friends along the way.

NB. Swimming is not recommended throughout chemotherapy or radiotherapy treatment. Please ask your doctor, nurse or radiographer when it would be a good time to start.

Safe practice

Do not exercise, or stop exercising, if you have or develop any of the following symptoms:

- unusual fatigue or muscle weakness
- an irregular pulse
- leg pains or cramps
- chest pain
- feeling sick or are sick during exercise
- vomiting within previous 24 to 36 hours
- dizziness, blurred vision
- difficulty breathing or numbness in your hands or feet
- intravenous chemotherapy within previous 24 hours
- low blood counts (platelets, white and red blood cells).

If you feel especially tired from the treatment, try exercising for a shorter time, at a lower intensity, or plan to exercise the following day instead. Energy levels during treatment tend to go up and down. As long as you recognize this, exercise should then be enjoyable and safe.

What the evidence shows

There are almost 300,000 new cases of cancer a year in the UK. About one million people are living with cancer. Medical research around the world shows that appropriate exercise improves outcomes for patients and survivors – both physically and mentally – by improving self-esteem and quality of life. Three to five hours per week of moderate intensity exercise also reduces the risk of secondary cancers by a half.

Exercise for cancer patients: longer life, less recurrence

Research suggests that:

- A healthy lifestyle including exercise and a good balanced diet can help prevent cancer.
- Exercise for cancer patients can also keep cancer from returning. "Several recent studies suggest that higher levels of physical activity are associated with a reduced risk of the cancer coming back, and a longer survival after a cancer diagnosis," said Kerry Courneya, PhD, Professor and Canada Research Chair in Physical Activity and Cancer at the University of Alberta in Edmonton, Canada.

- Being overweight after completing treatment is associated with shorter survival times and higher risk of cancer recurrence.
- Women who exercise after completing breast cancer treatment may live longer and have less recurrence. Colorectal cancer survivors who exercised lived longer than those who didn't.
- Exercising could help you live a longer life.

Exercise for cancer patients: what's in it for me?

The benefits of exercise for the general population are well-known. But what if you're a cancer patient?

"Exercise has many of the same benefits for cancer survivors as it does for other adults," says Courneya. Some of these benefits include an increased level of fitness, greater muscle strength, leaner body mass, and less weight gain. In other words, exercise for cancer patients can make you fitter, stronger and healthier – like anyone else who exercises.

After a cancer diagnosis, people slow down. Stress, depression, and feeling sick or fatigued from cancer or its treatment all tend to make people less active. The problem is that most people stay less active after treatment. "As a long-term solution to the

problem of fatigue, taking it easy and avoiding activity is not a good solution," says Courneya. "It is important for cancer survivors to get back to exercising to help their recovery."

Here in the UK, a recent study showed that a group-based exercise programme during treatment for breast cancer was a safe, low cost and effective way to provide short and long term physical and psychological benefits.

Dr. Campbell (Cancer Care Research Centre, University of Stirling) says "this study shows that 'rest is not necessarily best' all the time during treatment and that keeping active during and after treatment is crucial to improving all aspects of your quality of life and helping you get back to normal".

Who can I ask for further information and support?

Staff at The Christie

If you have any queries during or after your treatment at the Christie, you can speak to a ward nurse, outpatient nurse, your doctor or the physiotherapist.

Christie information

The Christie produces a range of patient information booklets. Some of these are listed below. Large print versions are also available. You can download these from the website or contact the cancer information centre on **0161 446 8100**.

- Where to get help
- Eating – help yourself
- Eating well following treatment and recovery from cancer

Smoking cessation and alcohol advice service

Tel: **07392 278408** or **0161 956 1215**

Macmillan Cancer Support

Freephone **0808 808 00 00**
Monday to Friday, 9am to 8pm
Textphone **0808 808 0121**

Macmillan Support is a national cancer charity with an information service. Calls are answered by specially trained cancer nurses who can give you information on all aspects of cancer and its treatment as well as benefits and finance. If you are a non-English speaker, interpreters are available. Macmillan Support booklets are also free to patients, their families and carers.

World Cancer Research Fund (WCRF UK)

This is the web site of the World Cancer Research Fund, United Kingdom – the leading national charity for research and education programmes. www.wcrf-uk.org

www.netfit.co.uk

A website with general information and fitness.

Cancer Research UK: Physical activity, exercise and cancer

Read about the links between physical activity and cancer, and how keeping active can help to reduce your risk. www.cancerresearchuk.org

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard.

If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

Contact The Christie Hotline for urgent support and specialist advice

The Christie Hotline: 0161 446 3658

Open 24 hours a day, 7 days a week

Visit the Cancer Information Centre

The Christie at Withington **0161 446 8100**
The Christie at Oldham **0161 918 7745**
The Christie at Salford **0161 918 7804**

Open Monday to Friday, 10am – 4pm.

Opening times can vary, please ring to check before making a special journey.

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