



Physical activity following your cancer diagnosis

This leaflet gives information on why and how you can be active during and after your cancer treatment, and provides exercise examples and guidance on how to do them safely.

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Physical activity during and after cancer treatment

During cancer treatment, many people become less active because of the effects of treatment. Being active is a way you can help yourself during and after cancer treatment.

Maintaining or increasing your levels of physical activity can have health benefits and help to manage some of the side effects of treatment including fatigue (tiredness), pain and nausea.

There is also evidence to suggest that regular exercise may reduce the risk of certain cancers returning.

Being active during and after treatment has been shown to have the following benefits:

- maintaining strength and stamina
- managing and reducing fatigue
- improving flexibility
- boosting your immune system
- managing your weight
- strengthening your bones and reducing the risk of osteoporosis
- improving your mood and helping you relax
- reducing anxiety and depression
- reducing risk of other health conditions, including heart disease, high blood pressure and diabetes.

Working towards health

Everyone will have different starting points in relation to what they can manage.

The key messages are:

- Gradually build up what you're doing.
- Any physical activity is better than nothing.
- Spend less time sitting and more time moving.

Sedentary behaviour is now considered an independent risk factor for ill health, no matter how much exercise you do.

It is recommended by the NHS to do the following every week:

- 150 minutes of aerobic activity (for example, walking, dancing, running)
- Strength exercises twice a week (for example, weights, heavy shopping).
- Stretches or flexibility exercises twice a week (for example, yoga)

Aerobic activity

Aerobic physical activity can include walking, vacuuming, gardening, climbing stairs, and other general day-to-day activities. This makes it more realistic for you to achieve the desired level of physical activity.

You may be doing all of this already, but you need to make sure you do it at the right intensity, for example, walk a bit faster, or jog up and down the stairs.

You can gather small amounts of aerobic physical activity throughout the day to accumulate 30 minutes. Here is an example:

Housework in the morning	5 minutes
Walk to the shop (and back) in afternoon	5 minutes (x2)
Walk the dog	10 minutes
Up and down stairs in house throughout the day	5 minutes
Total	30 minutes

Strength exercises

Exercises which strengthen the muscles and bones will help you to be as independent as possible during and after your treatment.

It's important to include exercises which improve your muscle strength at least twice a week. These can include carrying heavy shopping, digging in the garden or weight training.

If you are receiving hormone treatment, strengthening exercises can help to maintain the strength of your bones and support the health of your heart.

If you have lost weight (or are losing weight) due to the cancer or the treatment, you may also want to consider the strengthening exercises. This will help you to lay down muscle rather than lose weight. Please speak to your physiotherapist for further advice.

How do I know I'm working at the right level for me?

You can measure how hard you are working by using the Talk test, the breathlessness scale or by measuring your heart rate.

The Talk test

You should aim to exercise at a moderate level using the Talk test.

How should I feel when I'm active?	
Light intensity	You are breathing easily and you can hold a conversation
Moderate intensity	You can hold a conversation, but not sing a song
Vigorous intensity	You cannot hold a conversation as you are breathing very hard

Heart rate

If you would like to use your heart rate as a guide, measure your pulse for **10 seconds** during your exercise session. Use the chart below to see what heart rate your target range to aim for according to your age bracket and treatment.

Age	During Treatment			Recovery after Treatment		6 month to year post Treatment completion	
	55%	60%	65%	70%	75%	80%	85%
20	18	19	21	23	24	26	27
25	17	19	21	22	24	25	27
30	17	19	20	22	23	25	26
35	17	18	20	21	23	24	26
40	17	18	20	21	23	24	26
45	16	18	19	21	22	24	25
50	16	17	19	20	22	23	25
55	16	17	18	20	21	23	24
60	15	17	18	19	21	22	24
65	15	16	18	19	20	22	23
70	15	16	17	19	20	21	23
75	14	16	17	18	19	21	22
80	14	15	16	18	19	20	22
85	14	15	16	17	19	20	21

Using Heart Rate Max to determine 10 second results

Which level should I be working at?

Low to moderate level

You have not exercised before or not for many months. You are receiving intravenous treatment, radiotherapy, immunotherapy, chemotherapy or surgery in the last month. This does not include hormone therapy.

Moderate to high level

You have completed your treatment, including chemotherapy, radiotherapy and at least six weeks post surgery.

IMPORTANT: If you are on beta blocker medication for your heart, you will not be able to use the heart rate table to monitor your intensity. You will need to use the Talk test or the Breathlessness scale.

Working towards fitness

Once you are achieving 150 minutes of aerobic activities and 2 days a week of strength activities you may want to then work on your fitness as well.

When you improve your fitness, you improve the way your body functions. In order to increase your fitness level, you need to exercise. This means that the activity you choose must be structured and continuous, allowing your body to work at a moderate intensity for long enough that the necessary changes can take place and produce the benefits you want.

Common exercise activities include swimming, cycling, sports, exercise classes, long walks (not short walks added together), aqua aerobics, gym work, yoga, Pilates and tai chi.

There is something for everyone, at all levels of fitness. The best thing to start with is a structured walk. It is free and can be done right outside your front door.

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

- five days a week
- 10 minute warm up and cool down plus 20 to 30 minute activity
- moderate intensity – you should feel warm and perhaps slightly breathless, but it should be manageable for you. It should not be so hard that it's not enjoyable.

Example exercise programme

See the following pages for an example exercise programme which includes all the key components of warming up, aerobic, strength and cooling down.

Warm up and cool down

Before you start and after you finish doing exercises like the ones described, it is a good idea to spend 5-10 minutes warming up and cooling down. This prepares your body for increased activity and reduces the risk of straining or aggravating your symptoms.

Exercises and stretches can be done in either a sitting or standing position. Hold each stretch for 15 to 30 seconds.

- Marching
- Pumping ankles
- Punching arms
- Arm stretches
- Arm circles
- Calf stretches
- Hamstring stretches
- Thigh stretches

Aerobic exercises

You could do these aerobic exercises including:

- Marching on the spot and include arm swing
- Sitting to standing for 2 minutes
- Step-ups onto a step for 2 minutes
- Brisk walk, jogging or cycling



Sit to stand

- Stand up and sit down using your hand(s) as required.
 - Do as many as you can in a minute.
- To progress:
- Cross your arms across your chest.



Marching

- Using support if required, march on the spot raising your knees high.
- To progress:
- Wear ankle weights attached to your ankles.



Step ups

- Climb one or two stairs or a flight of stairs quickly holding onto a rail if required.
- To progress
- Increase the speed and the amount of stairs.



Walking

- Start walking at a slow pace and increase as you feel comfortable.
- Aim to walk at a pace where you can talk, but not sing.

Strength Exercises

For each strength exercise, try to do:

- at least 1 set
- 8 to 12 repetitions in each set

To get health benefits from strength exercises, you should do them to the point where you struggle to complete another repetition. Aim to do strength exercises which target all your major muscle groups (legs, hips, back, abdomen, chest, shoulders and arms).

Once you are able to do one set of exercises, you can increase the number of sets to three. After this, you can hold arm/leg weights to increase the amount of weight to make it harder still.

If you have bone metastasis, you can still be physically active. Please speak to an oncology physiotherapist for advice on exercises that you can do to maintain your safety.

Strength exercises could include:

- wall press ups
- arm curls
- standing on your tip-toes
- lunges
- bridging



Arm curls

- Bend and straighten your arm.
To progress:
- Introduce a light weight and gradually increase.



Bridging

- Lie on your back, bend your knees and cross your arms across your chest.
- Lift your bottom up and down slowly- avoid shaking.

To progress:

- With your bottom raised, lift one leg up and then slowly lower without shaking.



Stand on your toes

- Use support if required.
- Go up onto your toes.

To progress:

- Hold each lift for up to 5 seconds.
- Wear an ankle weight.



Lunges

- Start in a standing position and use support if required.
- Take a large step forward and slowly bend your knees- try not to wobble or shake.
- Slowly return to your starting position.

To progress:

- Carry weights in each hand.



Wall push ups

- Face the wall with elbows straight and arms at shoulder height.
- Do push ups against the wall keeping your body in a straight line.



Wall squats

- Lean against the wall.
- Bend your knees slowly, as if moving into a seated position.
- Straighten your knees slowly, to stand up again.

To progress:

- Hold each squat for up to 5 seconds.

Walking

Walking is one of the easiest ways to increase activity. It can be done in your home, or outside with friends or family.

Wear a pair of comfortable, supportive shoes or trainers and loose-fitting clothes. Start with short distances and gradually increase the time and the speed of walking. For most of the walk you should be walking at a pace that makes you moderately breathless where you can hold a conversation but not sing a song.

Always remember to take water with you to keep hydrated. You can make walking part of your daily routine or as an exercise session by joining a walking group. Consider using a pedometer or phone app to motivate yourself.

Swimming

You may find swimming an enjoyable and sociable form of exercise. It can be useful if you have joint pain, as there is less pressure on joints. Swimming can help manage weight, decrease the risk of heart disease and manage swelling in your limbs caused by lymphoedema (fluid in the body's tissues).

As with walking, gradually build up the amount of swimming you do. Because the water keeps you cool you may be working harder than you realise.

Swimming is not recommended throughout your chemotherapy treatment or if you are neutropenic (low immune system). Ask your doctor, clinical nurse specialist or physiotherapist when would be a good time to start.

If you have an altered airway (a tracheostomy or laryngectomy), please ask a health care professional before swimming.

Exercise and breathlessness

When you feel breathless, the natural thing to do is to rest or avoid the activity that made you breathless. Over time, activity avoidance like avoiding stairs can lead to a reduction in overall fitness.

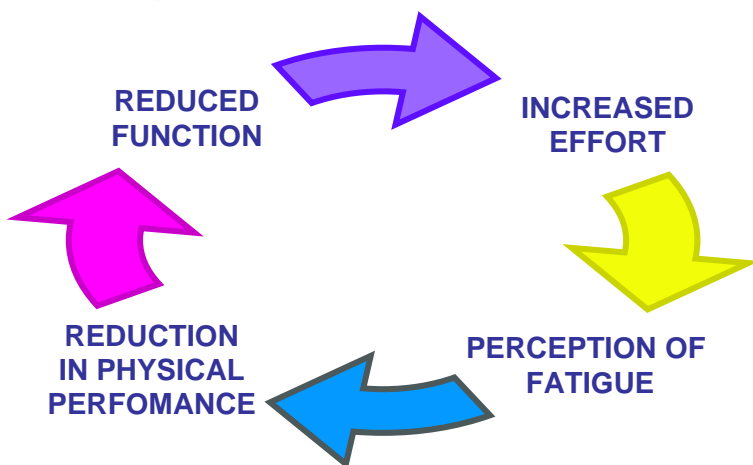
Being breathless when you exercise is normal. It is recommended to pace yourself, start slowly and gradually increase the time spent doing the activity. When you do an exercise aim to be able to talk, but not be able to sing a song. If you find it easy to talk and sing, then you may increase the speed of your activity.

If BREATHLESSNESS is affecting you doing your day to day activities, support is available. Discuss breathlessness with your physiotherapist or see contact details at back of this booklet.

Exercise and fatigue

Fatigue (persistent overwhelming sense of tiredness unrelated to activity) is a common side effect of cancer treatment. There is good evidence to show that doing physical activity can reduce your symptoms of fatigue.

The cycle below shows what can happen without regular activity. Lack of activity can lead to increased effort, increased fatigue and overall reduced fitness.



Many people have good days and bad days with fatigue. It's recommended to be physically active on your good days and bad days. Avoid doing too much on your good days, and ensure you do some activity, while pacing yourself, on your bad days.

If fatigue is affecting you doing your day to day activities, support is available. Discuss fatigue with your physiotherapist or see contact details at back of the booklet.

Precautions

If you are new to exercising it is important to seek the advice of a health professional before beginning an exercise programme. If you have other medical issues (for example, heart problems) it may be wise to discuss this with your GP first before starting a new program.

Stop exercising, or **do not** exercise, if you:

- are feeling unusually unwell
- have an irregular heart beat or chest pain
- have new or more severe pain than you are used to
- feel unusually short of breath
- feel sick or are sick during exercise
- have been vomiting within the last 24 to 36 hours
- are unusually tiredness
- have unusual muscle weakness
- have dizziness or blurred vision
- have new numbness in your hands or feet
- have had intravenous chemotherapy within the last 24hours

Be careful exercising:

- if you know your blood counts are particularly low
 - Platelets: If you know these are low, speak to your doctor or physiotherapists before exercising, especially exercises which have a large impact on your joints
 - White blood cells: If you are told you are neutropenic (have low white blood cell count) you can exercise if you feel well but do not exercise in a public place, for example, a swimming pool until your blood counts improve

- If you have a PICC line (a thin tube in your upper arm to give medication), avoid doing repetitive exercises or using weights on the arm where the PICC line is in place.
- If you have bone disease, you will want to avoid contact sports or heavy loading exercises impacting the area of bone disease. Please contact the physiotherapy team for further advice.
- If you have a stoma in your abdomen, please contact the physiotherapy team for specific advice.

If you feel especially tired from treatment on any exercise day, you could try exercising for less time, at a lower intensity than usual, or plan to exercise the following day instead.

If you consider the above and work at the correct intensity described, exercise will be enjoyable and safe.

If in doubt always speak to your doctor, nurse or physiotherapists for more advice.

Exercise in the community

- Contact your GP to find out about opportunities to get involved in exercise in your community. You may be able to be referred to the Exercise referral programme.
- Ask your exercise professional if they have had experience working with cancer patients.
- Contact your council to find out if there are any leisure centres with recreational facilities in your area.
- Make sure you attend induction sessions at the leisure centre before using exercise machines.

Example exercise diary

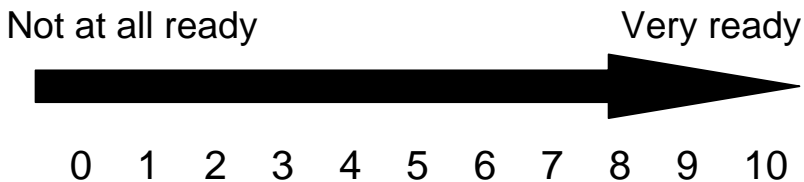
Exercise	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Sit to stand							
Marching							
Bridging							
Lunges							
Squats							
Walking							
<p>Write how many of each exercise you completed. Remember you are aiming to feel slightly breathless, where you can talk but not sing a song.</p>							

Are you ready to make a change?

Sometimes we are not sure we are ready to make a change. Perhaps we would like to become more active but we don't think we can do it right now.

The process of making a change is different for each person and can take time. It does not often happen in an orderly way. At times we may feel we are making progress, but at other times we feel we are going backwards rather than forwards.

How ready are you to make this change right now?
(Circle a number on the scale below)



How confident do you feel about being more active right now?
(Circle a number on the scale below)



If you don't feel very confident, don't worry. Just taking one step at a time will help you to make small changes.

Why did you pick this number on the scale and not a lower number?

.....
.....
.....

What would help you to be more confident about being more active?

.....
.....
.....

Plan for change

Consider what is important to you, what you would like to achieve in the next days or weeks, and what is realistic for you to complete in this time scale.

Complete the section below to help you make your goal specific to you, for example, 'I will walk five times a week in my local park for 20 minutes'

I will (write activity)
..... (write how often)
..... (write where)
..... (write how long for)

You can write more than one goal, and have short-term (days to weeks) as well as long term (months to years) goals.

Once you have made a change you need to be able to maintain the change. For example when we start a routine in the spring time where we go for a walk every day for 20 minutes, we need to make a plan for how we are going to continue when the weather is not as good. Include in your plan an alternative activity. For example 'if I am unable to go for a walk this morning, I will do this other activity instead.'

You can write other goals for yourself at the end of this booklet.

Bringing it all together

1. The reasons I want to be more active are

.....

2. I will know I have been successful when

.....

3. This is what I am going to do to be successful

.....

4. Other people can help me by

.....

5. Things that might get in the way of my plan are

.....

6. I will get round these by

.....

What if I need more help?

Being active can be difficult, especially with challenging treatment regimes, side effects or returning to normality after treatment.

Some of the things that other people have found useful include:

- reminding yourself why you want to be more active.
- sharing your plans with friends and family.
- asking your friends and family to help or join you.
- setting goals you can achieve at your own pace.
- gradually building up how much you do.
- keeping a record of how active you have been and how it makes you feel, so you can see your progress.
- choosing activities you enjoy.
- not being disheartened if you miss a session or you are going through a difficult time, just keep going
- speaking to your oncology team about any concerns.
- contacting the cancer physiotherapy team for support.
- talking to others who have been in your situation.

Support to be more active after a cancer diagnosis

Being active and staying active can be challenging at times.

If you have any specific questions regarding exercise due to your condition or side effects, please contact the oncology rehabilitation team for further advice.

If you have any questions about doing exercise due to your treatment side effects or due to the cancer, then please contact the oncology physiotherapy team using the contact details at the end of this booklet.

If you would like to contact us for support or advice, perhaps as your situation has changed, please contact us (details at the end of this booklet).

Useful sources of information

Walking for Health Organise walking groups across the UK. **t:** 020 7339 8541.

Active London Find out about the range of physical activity options near you, **w:** www.getactivelondon.com

Dimbleby Cancer Care, **t:** 020 7188 5918,
w: www.dimblebycancer.org

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.
t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.
t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk
t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

If you need an interpreter or information about your care in a different language or format, please get in touch:
t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

Contact us

The cancer physiotherapy team at Guy's and St Thomas' have a range of expertise that can support symptoms that impact on your physical wellbeing or you becoming more active.

If you have any questions or concerns about the information given in this booklet please contact us, **t:** 020 7188 9654 or email us, **e:** Active.you@gstt.nhs.uk

Please leave a message if your call is not answered. Opening hours are Monday to Friday, 8.30am-4.45pm.

Your specialist cancer nurse via the CNS helpline, **t:** 020 7188 9333

Guy's and St Thomas' hospitals offer a range of cancer-related information leaflets for patients and carers, at **w:** www.guysandstthomas.nhs.uk/cancer-leaflets.

For more information leaflets on conditions, procedures, and services offered at our hospitals, visit **w:** www.guysandstthomas.nhs.uk/leaflets

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