



Prehabilitation – prepare for your lung surgery

i Important information for
all patients preparing for
lung surgery

About this booklet

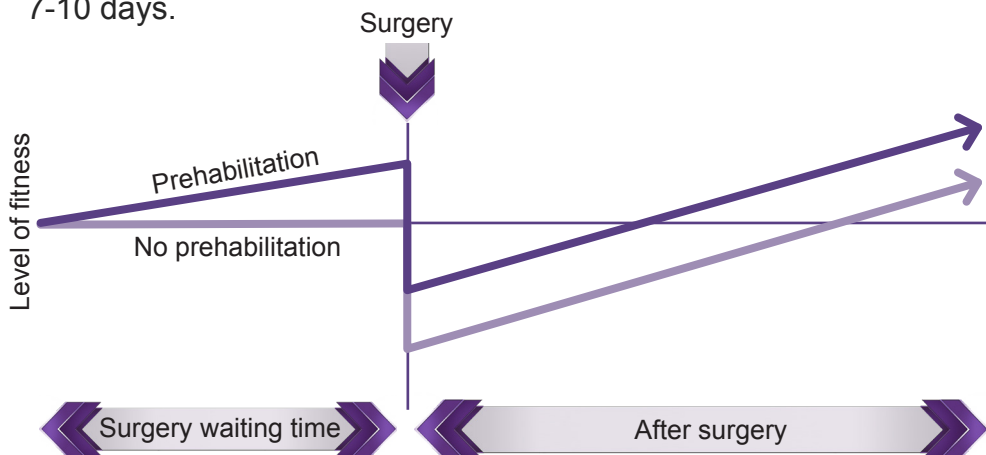
The purpose of this booklet is to provide patients with information about how to improve your health and level of fitness before treatment or surgery.

You may have been given a date for surgery or are waiting to hear if surgery is required. The information is applicable in both of these cases.

What is Prehabilitation and why is it important?

Prehabilitation is designed to maximise an individual's overall general health and exercise level to enable them to withstand the effects of treatment or surgery and introduces steps you can take to help you prepare for your upcoming procedure. The actions you take now can help you recover quicker, reduce the risk of complications and reduce the time you spend in hospital. Many people are happy to know they can do something during the waiting time for surgery to improve their health.

You may only have a short time between potential diagnosis and your treatment/surgery, however, small changes can make a big difference. The benefits of prehabilitation can be seen in as little as 7-10 days.



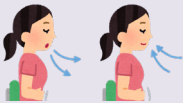
Prehabilitation means your journey to recovery starts before your treatment/surgery has even begun through physical, nutritional and psychological support.

Benefits of prehabilitation

- Reduce length of stay in hospital
- Reduce complications after surgery
- Improve physical function
- Improve overall fitness
- Improve emotional wellbeing
- Improve nutritional health
- Provide a sense of control and purpose
- Enhance quality of life
- Promote long-term positive health behaviour

Prehabilitation is not a standalone treatment, it consists of many key components to help you 'Get READY' for surgery:

Get READY



Respiratory exercises



Eat well



Activity



Dental and oral hygiene

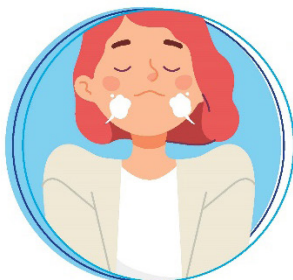


Your lifestyle and wellbeing

Respiratory exercises

Below are the step by step instructions for the deep breathing exercise. Aim to do this exercise 3 times a day, ideally morning, noon and in the evening.

Positioning is important: before you start, make sure you are sitting upright and not in a slumped position. Take a couple of practice breaths with your hands on the side ribcage so you can understand how your chest feels as you breath in and out.



◀ Step 1

Take a deep breath in through your nose, hold for 3 seconds and breath out slowly through your mouth.

Repeat 3 times.

Step 2 ▶

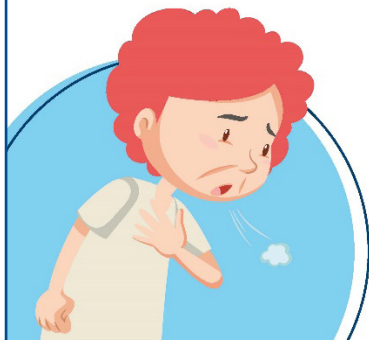
Huff - sharply breathe out through your mouth. This is the same action as using your breath to steam up a mirror.

Repeat 3 times.



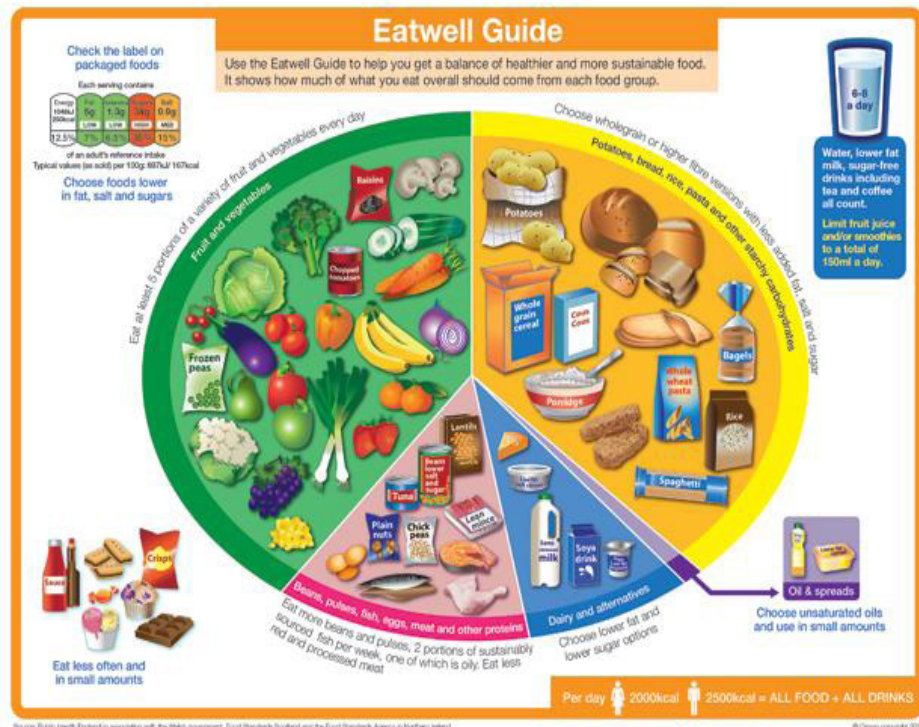
◀ Step 3

Cough.



Eat well

Eating a balanced diet is an important part of maintaining good health to help prepare for your surgery. The Eatwell Guide shows you how much of what you eat should come from each food group.



Fruit and vegetables: Aim to eat at least 5 portions of a variety of fruit and vegetables each day.

Bread, rice, pasta or other starchy carbohydrates: Starchy food should make up just over a third of the food we eat. Choose higher fibre wholegrain varieties, such as wholewheat pasta and brown rice, or simply leave skins on potatoes.

Milk and dairy products: Good sources of protein and vitamins. They are an important source of calcium too. Try to choose low fat varieties to limit your intake of saturated fat.

Meat, fish, eggs and beans: These foods are good sources of protein, vitamins and minerals. Pulses, such as beans, peas and lentils are good alternatives to meat because they are lower in fat and higher in fibre and protein too. Choose lean, low fat, cuts of meat and mince, and eat less red and processed meat like bacon, ham and sausages. Aim for at least 2 portions of fish every week, 1 of which should be oily, such as salmon or mackerel.

Choose unsaturated oils and spreads, and eat in small amounts: Unsaturated fats are healthier fats and include vegetable, rapeseed, olive and sunflower oils. Remember all types of fat are high in energy, but should be eaten sparingly.

Information source:

<https://www.nhs.uk/live-well/eat-well/the-eatwell-guide/>

For people who are underweight, have recently lost weight unintentionally or have a poor appetite, it is important to maintain a stable weight and prevent further weight loss prior to your surgery. The following ideas may help you to increase your energy and protein intake:

- Eat little and often. Aim to have 3 meals and 3 snacks per day
- Avoid 'low fat', 'sugar-free', or 'diet' products
- Choose the meals you enjoy
- Have a nourishing dessert/pudding – full fat yogurt, rice pudding or sponge and custard
- Have a pint of full fat milk everyday – for example on cereal, milky drinks or in puddings
- Add butter or margarine, cream or cheese to mashed potatoes, vegetables, scrambled eggs and hot pasta
- Have drinks (tea/coffee/juice) with or after meals as these can fill you up if taken just before food.

Activity

There is strong evidence that it is safe to stay active in the time leading up to surgery. You should try and do 30 minutes of activity every day. If you cannot manage this in one go, try breaking the activity into smaller manageable periods, for example, 10-15 minutes activity in the morning and then 10-15 minutes in the afternoon.

Physical activity doesn't have to mean a lot of hard work or expense, it could just be going out for a walk, gardening, or using your stairs at home. Examples of activities include:

- Walking
- Running/Jogging
- Climbing stairs (instead of taking the lift)
- Avoiding sitting down for long periods of time
- Completing day-to-day activities whilst standing
- Housework
- Playing with children or grandchildren
- Gardening
- Dancing
- Socialising
- Cycling/exercise bike
- Swimming
- Yoga
- Pilates
- Zumba

You may feel breathless when exercising. This can show if you are exercising to an appropriate level. As a general rule you should aim to be a little breathless, but still be able to hold a conversation with someone. If you are too puffed out to be able to do this you must stop, catch your breath and then carry on. You should aim to be working to level 3-5 on the Rate of Perceived Exertion (RPE) scale (see overleaf).

RPE Scale – rating of perceived exertion

0	Nothing at all	
0.5	Very very light	
1	Very light	
2	Fairly light	
3	Moderate	
4	Somewhat hard	
5	Hard	
6		
7	Very hard	
8		
9		
10	Very very hard (maximal)	

I already exercise and am quite fit. What should I do?

If you already exercise regularly and your Consultant is happy for you to do so, then please continue with your routine. Keeping up your fitness will help you cope with your treatment better and exercise may also help you to cope with the worry and anxiety upcoming surgery brings. Please discuss with a healthcare professional involved in your care if you have any concerns regarding activities or exercises.

We have included a general exercise programme you can complete in your own home.

Before you start your exercise, please make sure:

- You are wearing appropriate clothing and footwear
- You have a large, clear space to perform the exercises – move any hazards e.g. rugs/low tables
- You have an appropriate aid or help if you need support with your exercises

Normal feelings whilst exercising:

- Warm and slightly red in the face
- A little sweaty
- Increased breathing rate and heart rate – but you should still be able to talk

Reduce the exercise intensity if you are feeling:

- Uncomfortably hot or sweaty
- Unable to talk or hold a conversation
- Excessively tired or out of breath

STOP and contact your GP or seek appropriate medical attention if you feel:

- Dizziness or nausea
- Chest pain
- Significant pain or discomfort
- Extreme breathlessness and are struggling to regain your breath

Warm up:

1

March on the spot:

Standing freely, march on the spot lifting your knees as high as feels comfortable. You can use a chair or counter-top to hold on to for balance if required. This can also be done seated if you are unable to complete in standing. **Complete for 1 minute.**



2

Shoulder circles:

Keeping your arms straight, lift your arm up and round in a circular movement both forwards and then backwards. **Repeat 5 times in each direction.**



3

Torso rotations:

Keeping your hips straight, rotate your chest and shoulders to the left then the right. **Repeat 5 times on each side.**



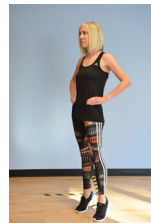
Main exercises:

Sit to stand:



Sitting in a chair and keeping your feet hip width apart, push on the arms of the chair to stand up. Slowly and controlled, sit back down. Repeat 10 times.

Heel raises:



Standing freely or holding on to a wall/chair for support, rise up to your toes. Hold here for 3 seconds and slowly release your heels back down to the floor. Repeat 10 times.

Mini squats:



Standing freely or using a chair/wall for support, slowly bend your knees to a comfortable angle and release back to standing. Repeat 10 times.

Hip abductions:



Standing freely or using a chair/wall for support, lift your leg out to the side, keeping your knee straight. Repeat 10 times with each leg.

Hip extensions:



Standing freely or using a chair/wall for support, lift your leg out behind you, keeping your knee straight. Repeat 10 times with each leg.

Shoulder raises:



Take a deep breath in and on exhale slowly raise one or both arms straight up in line with your ears. Slowly drop them back down by your side. Repeat 10 times.

Cool down:

It is very important to complete a cool down after exercise to help restore your body to a resting state. After completing your exercise programme, you should perform any of the following for around 3-5 minutes, gradually slowing your pace.

1

Gentle walk



2

Marching on the spot



3

Side stepping



In addition, complete a cycle of the deep breathing exercise on page 4.

Dental and oral hygiene

Good dental and oral hygiene reduces the risk of lung complications after surgery and improves your overall general health. You should aim to:

- Brush your teeth for two minutes, at least twice a day
- Use a fluoride mouthwash
- Use dental floss

For more information on recommendations for dental and oral hygiene including teeth cleaning guide, please refer to the NHS Inform website: www.nhsinform.scot

Your lifestyle and wellbeing

As well as eating well, it is also important to consider your lifestyle in relation to smoking and alcohol.

Stopping smoking

Giving up smoking is one of the most important steps in getting healthy before your operation. If you continue to smoke right up to the time of your operation, this will increase your risk of complications and affect your progress.

To get help stopping smoking:

- Speak to your local pharmacist
- Call Smokeline on 0800 84 84 84

Alcohol

You should also limit the amount of alcohol you drink. Do not exceed national recommendations, which are currently 14 units per week for both men and women.

At a glance



2.2 units

1 pint
of beer/
lager/cider
(4% ABV)



1.5 units

330ml bottle
of beer/lager/
cider
(4.5% ABV)



2.2 units

175ml
glass of
wine
(12.5% ABV)



3.1 units

250ml
glass of
wine
(12.5% ABV)



9.8 units

750ml
bottle of
wine
(13% ABV)



1 unit

25ml
measure
of spirits
(40% ABV)

For more information on healthy lifestyle choices, visit the NHS Inform website: www.nhsinform.scot

Speech and Language Therapy

If you have noticed any changes in your ability to chew or swallow recently, or if this is something you have experienced in the past, please let us know. These difficulties might include coughing or spluttering when eating or drinking, or foods sticking in your throat. It is useful for us to know if this has been an issue for you.

It is also useful for us to know if you have noticed any changes in your voice. For example your voice becoming weaker, hoarse, breathless or strained when talking.

For further information please contact Speech and Language Therapy on 0141 951 5121.

Occupational Therapy

If you are experiencing any difficulties with daily tasks after your surgery e.g. standing for prolonged periods in the kitchen or pulling up on furniture to stand, you may be referred to Occupational Therapy.

On the ward we can provide techniques to assist you or we can discuss equipment for your home.

If you are having any difficulties with these tasks before your admission, please contact your local Occupational Therapy team or GP.

Prehabilitation at NHS Golden Jubilee

You may see a Physiotherapist who will help improve your physical function and overall strength. They will have a discussion with you to see how much exercise you currently manage and if there are ways in which you could improve this. They will tailor any advice to suit your individual ability.

What does the programme involve?

The Physiotherapist will complete an initial assessment where you will be asked some questions and to complete some exercise tests to establish your current level of fitness. They will create a home exercise programme based on your initial assessment which will be made up of cardiovascular, strengthening and lung training exercises as appropriate.

Before your surgery the Physiotherapist will meet with you again where you will repeat the exercise tests. They will tell you more about what to expect after the surgery and things you can do to help your recovery.

We hope you find Prehabilitation gives you the guidance you can use to positively impact the time leading up to your surgery and help you take control of your health and wellbeing.

Further information

Your healthcare team are here to support you. Any question that is important to you is important to us. Please contact us on 0141 951 5121 if you need help or advice at any point or to discuss any of the information in this booklet.

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