Getting active before your operation

We have given you this factsheet because we would like you to increase your activity levels before your upcoming operation. It contains an exercise programme for you to follow before your operation to help you get as fit as possible. We hope it helps to answer some of your questions. If you have any further questions or concerns, please contact us using the details at the end of this factsheet.

What are the benefits of getting active before your operation?

Increasing your exercise levels in the days and weeks before your operation will:

- make you stronger
- allow your body to cope better with the physical stress of the operation
- increase your chances of having a straightforward operation
- help you to maintain your independence after your operation
- reduce your risk of complications (extra health problems) during and after your operation
- get you home faster after your operation

It's never too late to start getting active. Fitness can always be improved, no matter your age or physical ability. As little as two to three weeks of increased exercise before having an operation has been shown to improve a person's recovery.

How often should I exercise before my operation?

Over a period of one week, adults should aim for:

- 150 minutes of moderate-intensity exercise spread evenly over a week, or 30 to 45 minutes daily over 4 to 5 days. The exercise should increase your heart rate and make you breathe faster to a point where you can talk but can't sing. Examples include:
  - brisk walking
  - gardening
  - water aerobics
  - dancing
  - riding a bike
  - hiking
  - tennis
- **or** 75 minutes of vigorous-intensity exercise spread evenly over 4 to 5 days. During this exercise, you should not be able to say more than a few words before having to take a breath. Examples include:
  - running
  - swimming
  - riding a bike at a fast pace or up hills
  - walking upstairs
  - sports (such as rugby, football, netball and hockey)
  - skipping

- aerobics
- gymnastics
- martial arts

How do I know when to stop exercising?

If you are not used to being physically active or have had a period where you have not been as active as before, it is normal to experience some muscle soreness after doing a new activity. This discomfort will usually ease as you start to do the activity more often. If your symptoms get worse, you may be increasing your level of activity too quickly. To help with this, try reducing your activity levels a little and then gradually increasing them again at a slower pace. If you feel pain when exercising, it is important to not push through the pain in the early stages. Have a rest and then try again.

How can I measure the intensity of exercise?

Modified Borg CR10 scale

You can use your breathing rate or breathlessness to determine how intense an exercise is. To do this, use the Modified Borg CR10 scale below to determine your rate of perceived exertion (RPE) during exercise. The scale ranges from 0 (no exertion or resting) to 10 (pushing yourself to the maximum). Moderate-intensity exercise should fall between 4 to 6 on the scale and vigorous-intensity exercise should be around 7 to 8 on the scale.

RPE scale	Rate of perceived exertion
10	**Maximum effort activity** Feels almost impossible to keep going. Completely out of breath, unable to talk. Cannot maintain for more than a very short time.
9	**Very hard activity** Very difficult to maintain exercise intensity. Can barely breathe and speak only a few words.
7 to 8	**Vigorous activity** Borderline uncomfortable. Short of breath but can speak a sentence.
4 to 6	**Moderate activity** Breathing heavily but can hold short conversation. Still somewhat comfortable but becoming noticeably more challenging.
2 to 3	**Light activity** Feels like you can maintain for hours. Easy to breathe and carry out a conversation.
1	**Very light activity** Hardly any exertion, but more than sleeping or watching television.

Target heart rate

Exercise naturally raises your heart rate (the number of times your heart beats per minute). With advances in technology, an increasing number of people are measuring their heart rate routinely while exercising. This is not necessary but if it is something that interests you, knowing your target heart rate (THR) for cardiovascular exercise can help ensure you exercise at the right intensity for your body without overexerting yourself.

To work out your THR, you will need to:

- Deduct **your age** from the number **220** to get your **maximum heart rate** (the highest number of beats per minute (bpm) your heart can safely achieve when it is under maximum physical stress).
- Calculate **50 to 85 per cent** of that to get your **THR** (a percentage of your maximum heart rate, with the target of working somewhere between 50% (moderate) to 85% (vigorous) of your maximum heart rate).

For example, someone aged 50 years has a **maximum heart rate** of 170bpm (220 minus 50). The **THR** a 50-year-old would want to aim for when doing cardiovascular exercise is between 85 to 145bpm (50 to 85% of 170).

A general age-based guide can be found below:

Age	Target heart rate zone (50 to 85%)	Age-predicted maximum heart rate
18 to 29	100 to 170bpm	200bpm
30 to 34	95 to 162bpm	190bpm
35 to 39	93 to 157bpm	185bpm
40 to 44	90 to 153bpm	180bpm
45 to 49	88 to 149bpm	175bpm
50 to 54	85 to 145bpm	170bpm
55 to 59	83 to 140bpm	165bpm
60 to 64	80 to 136bpm	160bpm
65 to 69	78 to 132bpm	155bpm
70+	75 to 128bpm	150bpm

High intensity interval training

High intensity interval training (HIIT) is a training method where you complete small bursts of vigorous exercise followed by short rest or low-intensity recovery periods. The small bursts of high-intensity exercise can range between 45 seconds to a few minutes. During these bursts, you should aim to work towards the higher end of your THR percentage (85%).

A HIIT session can last between 15 to 30 minutes in total.

HIIT has many benefits, including:

- it can be performed during a short period of time
- it can improve a person's cardiovascular (heart and blood vessels) health and mental health
- it can reduce visceral fat (a type of body fat that is deeper inside your body)

Walking HIIT workout

Use the modified Borg CR10 RPE scale in this factsheet when doing this walking HIIT workout below to measure your breathlessness.

1. Start with a five-minute walk to warm up your body. This walk should be at a **moderate** level of activity (**4 to 6 RPE scale**).
2. For the next 20 minutes, alternate between:
   - One minute of walking at a very hard level (**9 RPE scale**).
   - One minute of walking at a light level (**2 to 3 RPE scale**) to allow your body to recover.

   Repeat this pattern 10 times.
3. After you have completed this, walk for five minutes at an easy pace (**2 to 3 RPE scale**) to:
   - cool down
   - reduce your heart rate
   - recover your breathing.

You can easily adapt this workout for jogging and running activities.

Contact us

If you have any questions or concerns, please contact your clinical nurse specialist who will pass on your query to the physiotherapy team. A member of the physiotherapy team will then contact you.

Useful links

www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/ask-the-experts/heart-rate-exercise

www.nhs.uk/live-well/exercise/physical-activity-guidelines-for-adults-aged-19-to-64

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For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **www.uhs.nhs.uk/additionalsupport**

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