

Cardio Pulmonary Exercise Test (CPET)

Information and advice for patients

Respiratory Physiology

What is the test?

CPET is used for diagnostic assessment of patients presenting with shortness of breath of unknown cause, assessment of lung or heart disease or for pre-surgical assessment.

What are the benefits?

CPET is a non-invasive objective test which provides very valuable information about how your heart, lungs and muscles respond to gradually increasing exercise. This lets us see how well all these systems work together under pressure, which gives more information than testing each system separately when you are resting. The results of the test will be used to help provide a diagnosis for your problems, or to assess your suitability for a treatment or operation.

What are the risks?

It is important to remember that CPET involves exercising as hard as you can, so it is expected that you will get out of breath and will feel tired. Other symptoms you may have are dizziness or fainting, abnormal blood pressure changes, lower blood oxygen levels or abnormal heart rhythms. Serious complications, such as a heart attack or stroke, are extremely rare.

Risk of adverse events

- Possibility of a complication requiring hospitalisation of less than 2 in 1,000.
- Possibility of a major cardiac event of 1.2 per 10,000.
- Possibility of mortality of 2–5 per 100,000.

You will be monitored very closely throughout the whole time you are being tested and if there is any risk to your wellbeing we will stop the test immediately.

What are the risks of not having the test?

If you decide you do not want to perform these tests then that is okay, we can only perform tests if patients are happy to consent to performing them. If you decide you do not want to perform the tests we will not be able to pass important information to your referring health professional which may affect the medical treatment that you receive.

Are there any alternatives to this test?

Alternative tests for those who are unable to perform a CPET test may involve a six minute walk test, however it is not a direct replacement for the information we gain from a CPET test.

Preparing for the test

You should continue to take all of your usual medications, unless stated otherwise in your appointment letter. You'll need to wear clothes and footwear suitable for doing exercise and bring a list of your current medication with you to your appointment. Should you be prescribed GTN spray for angina or a reliever inhaler, such as salbutamol, for Asthma, please bring these with you. On the day you should come in well rested. It's advisable that you avoid drinks with caffeine in (such as tea, coffee, cola and energy drinks) as they may affect the results. Other fluids can be continued up to the start of the test. Don't eat a heavy meal within two to three hours of the test.

If you are (or could be) pregnant, then contact the department as it may not be advisable to proceed with the test.

During the test

On arrival you should expect:

- Height and weight will be recorded to help us calculate reference ranges
- Risk factors assessed via pre-test questioning and contraindication assessment.
- An explanation of the test prior testing.
- Answer any questions you may have regarding the tests.
- Assessment of cycling action on the exercise bike.

To help us select the correct workload for the exercise test you will firstly perform a spirometry test, a fast blowing test via a mouthpiece wearing a nose peg, to assess your airways. You have most likely performed this test previously but it will have to be performed again on the day of this test.

Stickers (called electrodes) will be put onto your chest to monitor your heart rate and rhythm, we may have to shave small areas of chest hair in order to fit electrodes effectively. You will be fitted with a face mask to measure your breathing and a sensor will be put on your finger to measure the oxygen levels in your blood. A blood pressure monitor will also be fitted on your arm. Your blood pressure will be taken several times during the test. A special exercise bike is used for the test. You will be given a period of rest on the bike and after a few minutes we will ask you to start pedalling. You will need to exercise to the best of your ability and you will be encouraged to cycle for as long as you can whilst your body's response to exercise is monitored. The intensity of the cycling will be gradually increased until you feel unable to pedal any more. The more you are able to do, the more information can be given to the doctors and physiologists about your condition. The period of pedalling is usually less than 15 minutes. It is important that you do not talk whilst on the exercise bike as this can affect the measurements. We will instruct you to use hand signals if you wish to communicate with us. When you have completed the exercise, you will be monitored whilst you recover. If you feel unwell at any point during the test, it is important that you let us know. In addition if we see anything of concern we may stop the test early.

After the test?

The testing physiologist will inform you of the follow up process and you are then able to continue with your day as normal.

Follow-up

Your test results will be sent to the referring healthcare professional who is responsible for discussing the result of these tests with yourself. Please note, none of your tests results will be discussed on the day of testing.

Contact details

Respiratory Physiology Sandwell: 0121 507 3666

Respiratory Physiology City: 0121 507 4298

Respiratory Physiology MMUH: 0121 507 4650

Further information

<https://www.artp.org.uk/patients>

<https://www.asthmaandlung.org.uk/>

Sources used for the information in this leaflet

Association for Respiratory Technology & Physiology (2021). ARTP statement on cardiopulmonary exercise testing 2021. [Online]. Available at: <https://bmjopenrespres.bmj.com/content/8/1/e001121> [Accessed 16 June 2025]

Association for Respiratory Technology & Physiology (2020). ARTP Statement on pulmonary function testing 2020. [Online]. Available at: <https://bmjopenrespres.bmj.com/content/7/1/e000575> [Accessed 16 June 2025].

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A Teaching Trust of The University of Birmingham

Incorporating the Midland Metropolitan University Hospital, City Health Campus, Sandwell Health Campus and Rowley Regis Hospital.

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M7626

Issue Date: August 2025

Review Date: August 2028