

Respiratory physiology cardiopulmonary exercise testing (CPET)

Patient information sheet

What is a cardiopulmonary exercise test?

The test is used to assess the response of your heart and lungs to exercise. It can give useful information about the way your heart and lungs function.

What does the test involve?

Your height and weight will be recorded. Stickers (called electrodes) will be put onto your chest to monitor your heart rate and rhythm. You will be fitted with a face mask to measure your breathing and a sensor will be put on your forehead 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.

Will the test involve any additional procedures?

Spirometry

Before the test, you will be asked to breathe into a machine called a spirometer. The spirometer takes measurements that help us to assess how well your lungs work. You may be asked to repeat the test a few times to get a consistent reading. Sometimes we may also ask you to breathe into the spirometer again at the end of the test, to see if there is any change in the readings following exercise.

Blood gas test

We may also take a blood sample from either your earlobe or your wrist to give us additional information on how well oxygen is getting into your blood. We will do this before and after the exercise test. It is particularly useful if we are unable to record your oxygen levels adequately with the forehead sensor. If the earlobe blood sample is required, we will apply some deep heat to your earlobe to increase the blood flow. This will make your ear feel warm. We will use a small lancet to scratch your earlobe which will cause your earlobe to bleed gently. We will collect a few drops of blood in a glass tube and analyse the amount of oxygen in the blood.

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Large print copies and alternative language versions of this leaflet can be made available on request.

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How long will the appointment take?

The appointment may last up to one and a half hours. This includes spirometry, explanation of the test, setting up of the equipment and a period of monitoring before and after the test. The length of time you pedal for will vary depending on your age and fitness but will not be more than 15 minutes.

What do I need to do to prepare for the test?

- Ensure that you are well rested on the day of the test.
- Do not do any strenuous exercise on the day of the test.
- Wear loose fitting, comfortable clothing that will allow you to move your legs freely. Avoid wearing long clothes as this will make it difficult to cycle.
- Wear trainers or flat shoes.
- Long hair should be tied back.
- Take all of your usual prescribed medication on the day of the test (unless you have been given specific instructions not to).
- If you use an inhaler please take this as normal and bring this with you.
- If you have been prescribed GTN spray, please bring this with you.
- You do not need to be fasting, but please do not eat anything substantial for two hours before the test.

You may need to reschedule the test if you feel unwell. If you feel that you cannot give your best effort for the test, please contact the department as soon as possible.

Please contact the department if you are pregnant.

What are the risks of this test?

The risks with the exercise test are the same as for moderate exercise. The number of patients who develop problems during the test is low, but occasionally people do develop problems such as abnormal blood pressure, abnormal heart rhythm, fainting, nausea or vomiting or chest pain. It is for this reason that the tests are conducted in hospital under close supervision. It is exceptionally rare for any serious complications to occur.

When will I be told the results of the test?

Your results will be sent to the doctor who requested the test. The referring doctor will be able to tell you the result of the test and what it means to you.

Who can tell me more about the test?

You will be given the opportunity to ask questions about the test at the time of your appointment. You can also contact the department before attending for the test, using the contact details below.

Contact details:

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