

## Respiratory Physiology

# Lung function tests

### What are lung function tests?

Lung function tests are breathing tests that are designed to show how well your lungs and airways are working. Your doctor/consultant has asked that you have these tests carried out.

These tests measure how well you breathe, and how much and how fast you can move air in and out of your lungs. They can also tell us how well your lungs can take oxygen in from the air and transfer it into your bloodstream so your body can use it.

You will be asked to perform either a spirometry test or a full set of lung function tests. Occasionally it is necessary to assess a patient's response to an inhaler whilst in the department.

### Spirometry

This is the first lung function test which will be carried out. It is a test that measures how much and how fast you can move air in and out of your lungs.



## Patient Information

**A full set of lung function tests includes the following:**

### **Lung volumes**

Measures the total amount of air the lungs can contain.

### **Gas transfer**

Measures the ability of a gas to go from the air sacs (alveoli) in the lungs into the blood stream.

### **Bronchodilator response**

Bronchodilators are medicines that help open narrowed airways.

### **Why test lung function?**

Lung function tests are done to:

- determine the cause of a breathing problem, shortness of breath, wheeze, or cough
- confirm a diagnosis of lung disease
- measure the severity of lung problems and monitor progress in lung disease
- evaluate a person's lung function before surgery
- monitor the effectiveness of treatment for lung diseases, for example inhalers

### **What happens during the tests?**

The procedures are fairly simple, and you will need to perform four different blowing tests.

- You will be seated in an upright position either within the lung function equipment or opposite the equipment in a chair with arms.
- You will wear a nose clip to make sure no air passes in or out of your nose during the test
- Then you will be asked to breathe into a mouthpiece connected to a recording device
- You will need to perform multiple attempts of each test.

## Patient Information

The exact procedure is different for each type of test and will be explained in full by the physiologist on the day of your test. It is normal practice for the respiratory physiology staff to ask for you to enter the department on your own. If you feel that you have to have the support of a relative or friend, for example to interpret, please discuss this with the staff on the day of your appointment.

### **What must I do before the tests?**

On the day of the appointment, you will need to:

- avoid taking any breathing tablets or using your inhaler/s and/or nebulisers before your appointment – however, if you need to take your inhalers, please do so but let the physiologist know before you start testing
- refrain from smoking and consumption of alcohol on the day of the test
- refrain from eating a large meal
- refrain from undertaking any form of heavy exercise before coming to the unit
- wear comfortable and unrestrictive clothing

If you are taking tablets/inhalers for any conditions, please bring them with you to the hospital.

If you have a current chest infection and are taking a short course of antibiotics and prednisolone, please call the department to re-arrange your appointment or ask for advice if you still need to attend your appointment.

Doing the above will ensure that the test is as accurate as possible

### **How long does the test last?**

The full lung function tests last approximately 1 hour, and spirometry lasts approximately 15 minutes. Tests may be repeated at a later date to measure improvement after assessment and treatment. If it is necessary to assess your response to an inhaler, this will extend your visit by approximately 20 to 30 minutes, so please allow enough time for this.

## Patient Information

### **Will I feel any pain or discomfort during or after the tests?**

During the tests, you may cough or feel a little lightheaded after breathing in and out rapidly. You may also experience temporary shortness of breath, but you will be given the chance to rest in between the tests. Some people may experience slight tremor or palpitations from the inhaled bronchodilators.

There are usually no aftereffects from lung function tests. However, some patients may feel a little tired when they finish. When the tests are over, you can resume your normal activities.

### **What happens after the tests have been completed?**

Your test results will not be discussed with you at this appointment but will be sent to the doctor/consultant who asked for the test. They will then discuss the results with you at your next appointment.

Please remember that our staff are here to help you. If you have any questions about these tests, please call us on 024 7696 6734.

### **Other information**

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact the Department of Respiratory Physiology on extension 024 7696 6734 and we will do our best to meet your needs.

#### **Document History**

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