

## Lung Function Testing

There are several tests that we perform here in the laboratory. Your doctor has requested that you have one or more of the following tests:

Flow Volume Loops, before and after bronchodilator

You will be asked to breathe normally at first on the machine, then take a full breath in, then blow out as hard and as fast as you can and continue blowing until your lungs are emptied. You will then be asked to breathe in rapidly to a full breath. You may need to do this several times. The scientist will then give you 4 puffs of an inhaler and ask you to take a seat again in the waiting room. After 10 minutes you will be called back in to repeat the test to see if the inhaler has improved your lung function.

Lung Volumes (Body Plethysmography)

You will be asked to sit in the body box with the door closed for the first minute. Then you will be asked to position the nose clip and commence breathing on the mouthpiece keeping your lips tight. After your breathing has become stabilized a shutter in the machine will now close and you are asked to perform panting breaths in and out against the closed shutter for approximately 3 seconds. The shutter is then opened, and you will be asked to breathe out fully, then breathe in fully, then out again fully then return to normal breathing. You will be asked to do this several times

Gas Transfer

This test is used to assess how well your lungs can absorb oxygen. You will need to breathe normally on the mouthpiece, then breathe out all the way followed by a full breath in fast and hold your breath for 10 seconds, then blow out all the way. It is important to keep your lips very tight during this test. You will need to repeat this test to show consistency.

## Bronchial Provocation Test

Your doctor has requested a test to investigate how reactive your airways. You may need to stop some of your medications for breathing or hay fever before the test, so please contact the lab if you have not been given a list of withholding times for these medications. You will be given a consent form to read through and sign before commencing the test.

Firstly, you will be asked to perform a flow volume loop as listed earlier. You will be asked to breathe in a dry powder and hold your breath for five seconds. After 60 seconds you will be asked to blow into a machine, in a similar manner as explained with flow volume loops. This is repeated several times, as the amount of mannitol is increased. Towards the end of the test you will be given an inhaler and then asked to blow into the machine again after approximately 10 minutes

## 6 Minute Walk Test

Your doctor would like us to check your oxygen levels and heart rate while doing light exercise. You will have an oximeter probe attached to your finger to observe oxygen saturation and pulse readings during the test. You will be asked to walk as briskly as possible for 6 minutes. If you need to stop the test due to shortness of breath, chest or leg pain briefly or completely you may do so and state the reason for needing to stop. You will be asked to rate your shortness of breath before, after 6 minutes and after a recovery period on a scale of 1-10.

## Allergen Skin Testing

You will need to withhold from using any antihistamines for 72 hours prior to testing. You will need to sit with your arm extended out on a pillow. The scientist will need to draw on your arm to allocate areas for each skin allergen to be applied. The scientist will then apply a drop of each allergen and then using a small needle, prick the skin to introduce the allergen. The second allergen applied is a positive control which will become itchy, so don't be alarmed as this is meant to happen. The positive control will be measured after 10 minutes and the allergens will be measured after 20 minutes.

## Respiratory Muscle Strength

For this test we will be measuring the strength of your diaphragm and respiratory muscles. You will start by breathing normally then to obtain the expiratory strength you will be asked to breathe in fully. A shutter will then close and you will be asked to blow as hard as you can against the shutter, keeping your lips tight and using your hands to help keep your lips tight on the mouthpiece. To obtain the inspiratory pressure you will be asked to breathe out all the way, then a shutter will close, and you will be asked to breathe in as fast as you can against the shutter. In both directions you will need to try and maintain the effort for at least 3 seconds.

## FENO: Fractional Exhaled Nitric Oxide

The doctor has asked that you have a FENO test. This is to check for types of asthma and if so, would you benefit from a particular set of inhalers. The test is very quick, but we do ask that you fast and don't smoke for one hour before the test. We also ask that you don't do any exercise before the test. If you are currently using any inhalers such as Ventolin, Asmol or Bricanyl, please refrain from using these if possible, for 4 hours prior to your test. When you perform the test, we will ask you to breathe in through a small machine, then blow back steady for approximately 10 seconds.

If you have any further queries, please ask the physiologist when you come in for your test or prior by phoning 04666 48772