

Respiratory medicine

Test before starting nebulised hypertonic saline treatment

Information for patients, relatives and carers

Introduction

This leaflet has been designed to give you information about **the test needed before you have nebulised hypertonic saline treatment**. It answers some of the questions that you or those who care for you may have. It is not meant to replace the discussion between you and your medical team. Instead, it aims to help you understand more about what is discussed. If you have any questions about the information below, please contact us.

What is nebulised hypertonic saline treatment?

You have a condition (like bronchiectasis) that allows thick sticky mucus to build up in your airways. This mucus can be very difficult for you to cough up. This might mean you cannot clear your airways. This can be very uncomfortable.

Mucus can also block some of your smaller airways. This can cause low blood oxygen levels, which can need hospital treatment.

Nebulised hypertonic saline treatment helps make the mucus less thick and easier to cough up. If you can clear the mucus, you:

- should have fewer flare ups of uncomfortable symptoms
- should need fewer stays in hospital

The hypertonic saline is turned into a mist (nebulised), which patients inhale.

Testing the treatment is right for you

We use this test to make sure nebulised hypertonic saline is the right treatment for you. Your doctor has asked us to do the test, which has 3 stages.

The lung function department is the best place to do the test. Our staff are experts at looking for any negative side effects. And because we control the environment, we know it will not affect the results.

Some patients get chest tightness when they inhale hypertonic saline. The test means we will know if this happens to you. Then we can make sure this tightness does not happen when you're at home.

If you get chest tightness, we can give you another nebulised medication. This is salbutamol. We'll give it to you before you try inhaling the hypertonic saline again.

What is a nebuliser?

A nebuliser is a device that can deliver high doses of medicine quickly and easily. It works by changing liquid medicine into a fine mist. You then breathe this mist in through a face mask or mouthpiece.

We will use a nebuliser in Stage 2 of the test to give you hypertonic saline, and salbutamol, if needed.

What to expect on the day

You will be seen by a member of the respiratory physiology team.

We start by checking your recent medical history to make sure it is safe to perform the tests. We also check your height and weight so that we can interpret the results correctly.

For the tests:

- you will breathe into the test equipment through a mouthpiece attached to the measuring equipment
- you will wear a nose clip so that no air can pass through your nose. This is to make sure that we measure all the air that you breathe

We will normally ask you to perform each test a minimum of three times. This makes sure the results are consistent. You'll be able to rest in between the measurements.

We will always ask for your verbal consent before performing any tests.

The test will last for about 90 minutes.

The test has 3 stages.

Stage one – spirometry

This test looks at the:

- volume of air you can breathe out (exhale)
- speed at which you can breathe out

The respiratory physiologist will ask you to blow as fast and as long as possible into a device called a spirometer. This test usually takes about 15 minutes.

It is important to obtain accurate and reliable readings. If we are unable to get good repeatable measurements or if your values are below a set point, we will not be able to move on to the next stage.

Stage two – inhaling medication solution

Once we have repeatable spirometry measurements in Stage one, we will start the main part of the nebuliser assessment.

If you regularly use salbutamol nebulisers or inhalers at home:

- we will give you a dose of salbutamol
- we will immediately give you a dose of hypertonic saline solution using the same nebuliser, until the full dose has finished.

If you **do not use salbutamol nebulisers or inhalers at home:**

- we will give you a dose of hypertonic saline solution

Stage three – repeating spirometry measurements

1. We wait for 15 minutes after the nebuliser has finished
2. We'll then repeat the spirometry tests. This is how we can monitor any changes in the values you achieve. We want to check that the values do not fall by 20% or more during the time you are with us.

During this period, you may experience some symptoms like wheezing and coughing. This is normal. It often improves while we wait to repeat the spirometry measurements.

3. After 30 minutes, we repeat the spirometry for a second time.

We want to check again that your values are like what you achieved at the start of testing. If this is the case, and you feel well, the test is over. You can go.

4. **If the spirometry values do not match**, or you are still experiencing symptoms such as cough, wheeze or chest tightness, we may give you some salbutamol via the nebuliser to improve these symptoms.
5. We wait another 20 minutes to allow the salbutamol to take effect.
6. We repeat the spirometry tests.
7. The results and symptoms should have improved at this point, and you can go.
8. We will pass your results to your doctor. They will decide about your treatment. Someone will contact you to teach you how to prepare the medication for use.

How to prepare for the test

Make sure you come to the right hospital for your test. You can find this on your appointment letter.

To get the best possible results, we ask that you:

- do not smoke on the day of the test
- do not drink alcohol for at least four hours before the test
- do not do heavy exercise at least 30 minutes before the test
- **do** wear loose and comfortable clothing on the day of the test

Inhalers, nebulisers and medications

If you take inhalers, we're happy for you to continue taking these as you would normally. This will better mimic your situation at home.

But if you use salbutamol nebulisers already, and can do so, please avoid using these the day of the test.

If you are unsure about your medications, please contact the lung function laboratory for further advice.

If your doctor has given you a prescription or any medication specifically for this test, please bring these with you.

Side effects

These tests are very safe and there are rarely any issues after testing. As mentioned before, you may get some chest tightness from the inhaled hypertonic saline.

You may also get some light headedness from the spirometry test.

These side effects will usually only last as long you are with us. They should not affect you after testing is over.

Useful contacts

Your appointment letter will tell you which hospital your test is booked at. The telephone numbers for each site are listed below.

Lung Function Lab numbers:

Hammersmith Hospital 020 3313 2352

St Mary's Hospital 020 3312 6022

If you need to change your outpatient appointment with the doctor/nurse, call the **outpatient booking office** on 020 3313 5000.

For information about getting to our hospital sites, including public transport and parking information, please visit the Trust's website: www.imperial.nhs.uk

If you smoke, have you considered quitting?

Smokefree – support and advice for those looking to stop smoking: www.nhs.uk/smokefree

How do I make a comment about my visit?

We aim to provide the best possible service. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**). The PALS team will listen to your concerns, suggestions or queries. They are often able to help solve problems for you.

call: **020 3313 0088** email: imperial.pals@nhs.net

Or, if you need to **complain**, contact the Complaints department.

call: **020 3312 1337 / 1349** email: ICHC-tr.Complaints@nhs.net

write: Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street, London W2 1NY

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team: imperial.communications@nhs.net

Wi-fi

Wi-fi is available at our Trust. For more information visit our website: www.imperial.nhs.uk

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