Nebulised Hypertonic Saline Treatment

Information for patients

This leaflet can be made available in other formats including large print, CD and Braille and in languages other than English, upon request.
**What does nebulised mean?**

Nebulised is a way of taking medicine by using a device (a nebuliser).

A nebuliser is a combination of a small machine (compressor) which attaches to a mouthpiece or a facemask. The mouthpiece or facemask has a small container attached into which liquid medicine can be poured.

The nebuliser then pumps air through this medicine and turns it into a fine mist, which you can breathe in to your lungs.

**What is hypertonic saline?**

Hypertonic saline is a strong salt-water solution.

**Why am I being asked to have this treatment?**

You have a lung condition that affects your airways. This treatment is most commonly used to treat bronchiectasis. Bronchiectasis is widening of the airways in your lungs. This leads to a build up of mucus, which makes infections more likely.

It can also be used to treat asthma and COPD.

Very occasionally, it is used to treat patients with lung fibrosis. This is a condition where your lungs become scarred. This treatment is only used for patients that have a cough that produces phlegm and it is making their condition worse.

**Airway mucous (‘phlegm’)**

Your airways are producing more mucous than normal. This mucous is often very thick and sticky. This can make it very difficult to cough up. This mucous will be stuck in your airways and could cause:
• **Increased breathlessness** - The mucous makes your airways narrower and more difficult to breathe through.

• **Increased coughing** – Trapped mucous is very irritating to your airways and can make you cough more often.

• **More frequent chest infections** - Trapped phlegm allows bacteria and viruses to thrive. You may be prone to frequent chest infections, which take longer to get better.

• **Worse lung function** - Lots of trapped secretions will lead to worse lung function. This means you will lose fitness more easily and find it difficult to exercise.

**How will hypertonic saline treatment help?**

When you breathe in hypertonic saline, it settles in your airways. This “pulls” water from the wall of your airways into the mucous and phlegm. This extra water within the mucous makes it runnier and much less sticky. This makes it much easier to cough up and to get them all out of your lungs.

The hypertonic saline treatment has to be used along with the different techniques you have been taught to cough efficiently (see below). It does not take the place of these techniques.

By using this treatment, we are hoping that:

• Your day-to-day symptoms such as the breathlessness and cough get better

• You have fewer chest infections

• You can stay more active and become fitter

• You should need fewer admissions to hospital due to ‘flare ups’.
What checks will I have before I start this treatment?

It is important that we have given you the right training and prescribed you the right medicines before we ask to take another medicine.

Before we think about hypertonic saline, we will make sure of the following:

**Chest Physiotherapist**

We will make sure a Physiotherapist, specialising in chest illnesses has seen you. They will assess you and teach you all the different techniques for coughing and clearing your chest effectively.

The physiotherapist will also consider if a device known as a ‘flutter’ valve would help make it easier for you to cough up phlegm.

If you have seen the Physiotherapist previously, we may ask you to have a “refresher” visit to the physiotherapist while we organise your hypertonic saline treatment.

**Other chest medicine**

If you have asthma or COPD, we will make sure you are using the right inhalers and tablets. We will also make sure that you know how to take them.

After we have checked these things, we will then need to check that it is safe for you to take this treatment and they you do not have any serious side effects. Things that we will need to consider include:

**Smoking**

Smoking makes your airways inflamed. Inflamed airways produce much more mucous than normal and it is often very sticky. This
mucous makes it harder for your normal medicines to get in your airways.

By stopping smoking, it helps to cut down the amount of mucous your lungs are producing. If you want to stop smoking, please let us know and we can make it easier for you to access the right help.

**Hypertonic saline spirometry test**

If you have very narrow airways, then it is not safe for you to take this treatment. Patients who have normal or less narrow airways may become very wheezy when they take hypertonic saline. To make sure it is safe for you to take the treatment, we would arrange a test to see how you respond to this.

- **Where?** - This would take place in the Lung Health Department in University Hospital of North Tees.

- **How?** - You would have a test called spirometry (a strong “blow” test to measure the width of your airways) before and after taking a dose of hypertonic saline.

  If your breathing does not fall significantly after the test dose and you have not become wheezy or breathless, you would be suitable to start the treatment.

After the test, you will not be given the nebuliser and treatment immediately. We will arrange for you to be contacted and given the equipment and training on how to use later.

**How will I get the nebuliser and other equipment?**

**Equipment and training**

Your Consultant will be sent the test result of your hypertonic saline spirometry trial. They will then contact a Specialist Respiratory Physiotherapist. The Physiotherapist will then contact you and
arrange delivery of the nebuliser equipment. They will teach you to give yourself the treatment and to maintain the equipment.

**Medication**

Your Consultant will speak to your GP and ask them to put nebulised colomycin on your repeat prescription.

**What strength and dose will I take?**

You will be taking 6% hypertonic saline (4mls) twice daily.

**Instructions for the use of nebulised hypertonic saline**

You should take this treatment twice a day, around 12 hours apart.

**Equipment**

- 1 vial of hypertonic saline (4ml)
- Nebuliser
- Mask or mouthpiece
- Compressor

**Instructions**

- Wash hands with warm soapy water or alcohol gel.
- Check expiry date of the saline.
- Open the vial of saline and squeeze in to the nebuliser chamber.
- Switch on compressor.
- Place face mask on face or mouth piece into mouth.
- Switch compressor on.
• Breathe regularly until the nebuliser chamber is empty.
• Turn off compressor.
• Wash hands after you have finished.

Caring for the equipment

• You must wash your nebuliser with warm soapy water daily.
• You should also boil it in water with a few drops of washing up liquid for 10 – 15 minutes once a week.

Will I need to take any other medicines while I am taking this?

You will continue to take all of your normal medicines as usual.

Very occasionally, some people feel wheezy after a few days of using it.

If you are well otherwise and you feel the benefits of using the treatment, we may consider giving you some medicine to stop the wheeze. This is usually salbutamol (2.5 mg given by your nebuliser 15 minutes before each dose of hypertonic saline).

How long will I take the treatment for?

You will usually take the treatment for a minimum of 6 months. If you are feeling better and your health has improved, you will usually continue to use it long term.
How will I be monitored while I am having this treatment?

**Physiotherapist**

The Physiotherapist who started you on the treatment will contact you regularly. They will make sure you are comfortable with the equipment and arrange for regular nebuliser servicing and supplies of new facemasks and tubing.

**Clinic**

You will be seen regularly in the clinic to check how you are doing. You may have follow up breathing tests and X-rays as part of your monitoring.

**How will you know if the treatment is working?**

Your Doctor and team will speak to you in clinic and will assess how you are responding to the treatment. They will look for the following as signs that the treatment is working:

- Your cough is better
- You are coughing up phlegm easily and feel that your chest is fully clear
- Your breathing is better
- You are having fewer and shorter chest infections.
Are there any side effects that I should know about?

The majority of patients cope well with the treatment and do not get any side effects. However, it can cause:

- Cough
- Vocal hoarseness
- Wheeze
- Chest tightness

The wheeze and chest tightness can normally be managed with salbutamol as previously mentioned.

Will it affect any of the other medicines I am taking?

No. It is safe to take with other medicines.

What should I do if accidentally take too much hypertonic saline?

If you take too much of your normal dose and you are feeling well, there is no need to worry.

If you feel unwell, phone your Doctor or Nurse immediately for advice. If they are not available, make your way to the nearest Emergency department.

What should I do if I forget to make my hypertonic saline?

Do not worry. Take your next dose as scheduled. The chance of your chest getting worse due to one missed dose is very small.
If I get a chest infection, will I still be able to have treatment?

Yes, you can have any treatment you would normally get for a chest infection. It is safe to take antibiotics and steroid tablets while you are having this treatment.

If you get a chest infection, you should keep taking your hypertonic saline treatment. Stopping the treatment during a chest infection could mean it takes you longer to get better.

Will I be able to take this treatment if I am trying for a baby, pregnant or breast-feeding?

Yes, the treatment is just very salty water. It should not have any effect on your chances of becoming pregnant.

There is no evidence of any harmful effects on pregnancy. Keeping your chest condition under good control while you are pregnant is important and this can help.

It is safe to breast feed while taking this treatment.

Keeping your chest condition under good control while you are pregnant is important. Hypertonic saline can help you do this. The choice as to whether to continue taking hypertonic saline is yours. If you choose not to, the chest team will support you and keep you as healthy as possible during your pregnancy.

Is it safe to have an operation while I am taking this treatment?

Yes, if you need an operation it is safe to keep taking this treatment.
Can I drink alcohol while I am taking this treatment?

Yes, this is not usually a problem. We would recommend you stay within the national safe recommended intake of 2 units per day, 14 units per week.

Should I take the solution with me if I am going on holiday?

Yes, if you are flying it is small enough to fit into luggage, hold or carry-on as it is not pressurised.

It is a good idea to take a clinic letter or some other document that explains why you are taking this treatment and who has prescribed it. This will help if you become unwell, or if you are admitted to hospital while you are on holiday.
This leaflet has been produced in partnership with patients and carers. All patient leaflets are regularly reviewed, and any suggestions you have as to how it may be improved are extremely valuable. Please write to the Clinical Governance Team, North Tees and Hartlepool NHS Foundation Trust, University Hospital of North Tees or Email: nth-tr.leaflets@nhs.net

**Comments, Concerns, Compliments or Complaints**

We are continually trying to improve the services we provide.

We want to know what we’re doing well or if there's anything which we can improve, that’s why the Patient Experience Team is here to help.

Our Patient Experience Team is here to try to resolve your concerns as quickly as possible. If you would like to contact or request a copy of our PET leaflet, please contact:

- **Telephone:** 01642 624719  
  **Monday – Friday,** 9.30am – 4.00pm  
  Messages can be left on the answering machine and will be picked up throughout the day.

- **Freephone:** 0800 092 0084

  Email: nth-tr.PatientExperience@nhs.net

Out of hours if you wish to speak to a senior member of Trust staff, please contact the hospital switchboard who will bleep the appropriate person.

  - **Telephone:** 01642 617617  
    **24 hours a day,** **7 days a week**

The Patient Experience Team is available to discuss your concerns in person  
**Monday – Friday,** 9.30am – 4.00pm. The office is based on the ground floor at the University Hospital of North Tees.

**Data Protection and use of patient information**

The Trust has developed a Data Protection, Caldicott and Disclosure Policy (IG5) in accordance with the Data Protection Legislation (General Data Protection Regulations and Data Protection Act 2018) and the Freedom of Information Act 2000. All of our staff respect this policy and confidentiality is adhered to at all times. If you require further information please contact the Information Governance Team.

  - **Telephone:** 01642 383551 or Email: nth-tr.infogov@nhs.net

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