

Your child's sputum induction test

Information for children, families and carers

We have given you this factsheet because we would like to carry out a sputum induction test with your child. We will either perform this test during one of your child's regular cystic fibrosis (CF) clinic appointments or we will arrange a separate appointment for it.

This factsheet explains what a sputum induction test is and what it involves, so you know what to expect and can help to prepare your child. We hope it helps to answer any questions you may have. If you have any further questions or concerns, please contact us using the details at the end of this factsheet.

What is a sputum induction test?

A sputum induction is a simple and painless test that involves collecting a sample of mucus (also known as sputum) from the lungs, which is then sent for testing.

Why does my child need a sputum induction test?

Your child is likely familiar with having cough swabs and huff or spit samples taken. While these are useful for monitoring bacteria in the lungs, they are not as accurate as a sputum sample. There are also certain tests that can only be done with a sputum sample.

A sputum induction test can help us to:

- check the health of your child's lungs
- detect if there are any harmful bacteria or infections in your child's lungs
- decide on the best treatment options for your child

How should I prepare for my child's appointment?

Eating and drinking

Your child should drink plenty of fluid on the day of their test to ensure that they are well hydrated. Please also bring a drink with you to the appointment as your child may feel thirsty after the test.



Clothing

Your child should wear clothes that they find comfortable and can easily move about in.

Items to bring with you

If your child has any of the following items, please bring these with you to the appointment:

- inhalers and spacer
- respiratory physiotherapy equipment (for example, a positive expiratory pressure (PEP) mask, or an Acapella or Aerobika device)

Who will my child see at the appointment?

The appointment will be with your child's physiotherapist.

Where will the appointment be held?

The appointment will be held in the children's outpatient department at Southampton Children's Hospital. We will contact you to arrange a suitable date and time for the test.

What will happen at the appointment?

When you arrive, we will explain what the test involves and answer any questions you or your child may have. We will then ask you if you are happy to go ahead with the test.

We will give your child a nebuliser containing a strong saline (salty water) solution and ask them to breathe in the salty mist through a mouthpiece or face mask. This will help to loosen the sputum in their lungs, making it easier for them to cough it up.

After using the nebuliser, we will perform some of your child's usual physiotherapy treatments. We will then ask your child to do some huffing (short, sharp breaths out) and coughing.

After doing a number of huffs and coughs, your child will hopefully be able to bring up some sputum into their mouth. We will give your child a sterile pot to spit this into.

If your child is not able to spit the sputum out, we may use a small suction tube (a bit like a tiny vacuum cleaner) to gently suck out the sputum from the back of their throat.

How long will the appointment take?

The appointment may take up to one hour. However, depending on how long it takes to get a sputum sample, it can be much quicker than this.

Are there any side effects?

A sputum induction test is a safe test, but as with any medical procedure there are some possible side effects.

The salty mist from the nebuliser can cause a number of temporary side effects, including:

- a tickly nose and throat
- a salty taste in the mouth (drinking water after the test can help to get rid of this)

- coughing more than usual
- wheeziness (if your child feels wheezy after the test, we may advise them to use their salbutamol (blue) inhaler, if applicable)

These side effects should resolve within 30 minutes. However, if you are concerned that your child is experiencing side effects after they leave hospital, please contact us for advice.

What will happen after the appointment?

Your child will be able to return to their usual activities immediately after the appointment.

When will I receive my child's results?

We will send your child's sputum sample for testing (this typically takes about a week). Once we receive the results, we will contact you if anything unusual is found.

If we think that your child needs any further tests or treatment, we will discuss this with you.

Are there any alternatives?

If your child is able to cough up some sputum on their own, we will not need to use a saline nebuliser for the test or any other sputum collection method.

However, it can be challenging for some children, particularly those with minimal or thick sputum, to produce an adequate sputum sample through coughing alone, even after using a saline nebuliser. If this is the case, we may need to use an alternative sputum collection method.

One alternative method is to have a bronchoscopy (a procedure that involves a doctor using a thin, flexible tube, called a bronchoscope, to directly view the airways and collect a mucus sample). This procedure is usually performed under sedation or anaesthesia (medication that makes you drowsy or sends you to sleep). It is a more invasive procedure than a sputum induction but can be very helpful when other collection methods are not successful.

We will discuss alternative methods of collecting sputum samples with you, if applicable.

Contact us

If you have any questions or concerns, please contact us.

Paediatric cystic fibrosis (CF) team

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