

Your child's lung function tests

Information for children, families and carers

We have given you this factsheet because your child has been referred for lung function tests. It explains what lung function tests are and what will happen at your child's appointment so that you know what to expect and can help prepare your child. We hope it will help to answer some of the 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 are lung function tests?

Lung function tests are breathing tests that measure how well your child's lungs are working.

There are different types of lung function tests:

- **Fractional exhaled nitric oxide (FeNO)** – This test measures how sore or swollen your child's airways are.
- **Spirometry** – This test measures how fast and how long your child can blow air out of their lungs.
- **Reversibility studies** – This test measures the effect on your child's airways after taking medication (salbutamol inhaler).
- **Gas transfer studies** – This test measures how efficiently your child's lungs are at taking up oxygen from the air and transferring it into their blood.

Why does my child need lung function tests?

There are a number of reasons why lung function tests may be recommended.

Common reasons for having lung function tests include:

- to help with diagnosis
- to monitor a known lung condition
- to measure a person's fitness levels before an operation

Your child's doctor will have explained why they have referred your child for lung function tests.

How should I prepare for my child's appointment?

Clothing

Your child should wear loose clothing that does not restrict their chest or stomach movements.

Exercise

Your child must not perform any kind of strenuous exercise for at least 30 minutes before their appointment.

Eating and drinking

Your child must not:

- eat a large meal or drink a large amount of fluid for at least 2 hours before their appointment (please note that your child can continue to have sips of water up until their test)
- eat nitrate-rich foods (for example, coleslaw, carrots, dark chocolate or green leafy vegetables) for at least 3 hours before their appointment

Medication

Your child can continue to take their usual medication(s) which contain inhaled corticosteroids (for example, Clenil or Soprobec).

However, they should **avoid** taking their:

- salbutamol inhaler (blue inhaler) for at least **6 hours** before their appointment
- combination inhaler (for example, Seretide, Symbicort or Flutiform) for at least **12 hours** before their appointment

If your child has taken their blue inhaler or combination inhaler within the time frames listed above, please let us know before their appointment.

If your child uses an inhaler and/or a spacer, please ensure you bring these items with you to the appointment.

What happens if my child is unwell?

Contact us as soon as possible, using the details at the end of this factsheet, if your child has had:

- antibiotics for a chest infection in the last four to six weeks
- any operations within the last six weeks
- an ear infection in the last two weeks
- diarrhoea and/or vomiting in the last 48 hours

If your child has had any of the above, we may need to postpone their appointment. If this is the case, we will discuss this with you.

Where will the tests be performed?

Lung function tests are performed in the lung function room, which is based in the children's outpatient department. Please see your child's appointment letter for more details.

Who will perform the tests?

The lung function tests will be performed by a specially trained healthcare professional.

What will happen during the appointment?

When you arrive for your child's appointment, we will measure your child's height and weight. We will then explain each of the lung function tests in detail and answer any questions you may have. Please note that we may perform one or more lung function tests depending on the reason for your child being referred.

We have included the information below to give you a brief overview of what each of the tests involve.

FeNO

We will ask your child to take a deep breath in and then to blow out gently and smoothly through a mouthpiece for up to 10 seconds.

Spirometry

We will ask your child to take a deep breath in until their lungs feel as full of air as possible. We will then ask them to blow the air out as hard, as fast and as long as they can through a mouthpiece connected to a measuring device.

We use a range of games (for example, blowing out candles) to encourage your child to do this test as well as they can.

Reversibility studies

After the spirometry, we may give your child some medication from a salbutamol inhaler via a spacer device. If we do, we will then wait 15 to 20 minutes for the medication to take effect before asking your child to repeat the spirometry.

Gas transfer studies

We will ask your child to breathe normally through a mouthpiece. We will then ask them to take a deep breath in and then blow out the air until their lungs feel empty. When their lungs feel empty, we will then ask them to take another deep breath in and hold this for 10 seconds. We will then ask them to resume breathing normally.

We may need to repeat this test a couple of times to make sure that the data we have recorded is as accurate as possible.

We will give your child plenty of encouragement and instructions throughout all of these tests to help us get accurate results.

How long will the appointment be?

The appointment will last between 10 and 30 minutes depending on the number of tests that are needed.

What will happen after the appointment?

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

Are there any risks?

Lung function tests are very safe and rarely cause any issues after testing.

When will I receive my child's results?

We will not be able to give you any results on the day. We will send your child's results to the doctor who referred them for the lung function tests. Your child's doctor will then contact you to discuss the results.

Contact us

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

Children's respiratory team

Telephone: **023 8120 8325** or **07795 826311** (Monday to Friday, 8am to 4pm)

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