

Willesden Community Diagnostic Centre

# Spirometry

## Information for patients, relatives and carers

### What is spirometry?

Spirometry is a simple breathing test that measures **how well your child's lungs are working**. It helps assess how much air they can breathe in and out, and how quickly they can do so. This test is commonly used to diagnose and monitor lung conditions such as **asthma**.

### Why is spirometry important?

This test helps doctors:

- **diagnose asthma or other lung conditions** by measuring airflow.
- **assess lung function** and detect breathing difficulties.
- **check if asthma medication is working** by measuring lung function before and after using a bronchodilator inhaler.
- **monitor asthma over time** so we can adjust treatment if necessary.

### What is a bronchodilator response test?

A bronchodilator is a type of medication that helps **open the airways**. If spirometry results suggest your child has a blockage in their airways, we might give them a bronchodilator (usually **Salbutamol/Ventolin**) through an inhaler. After waiting **15 to 20 minutes**, we do another spirometry test to see if their breathing has improved.

This helps doctors decide whether asthma or another lung condition is affecting your child's breathing.

### What happens in the test?

#### 1. Preparation:

We will help your child sit comfortably and give them a nose clip.

We will explain the test and give them clear instructions so they know what to do.

#### 2. Spirometry test:

Your child will take a deep breath in. They will then **blow out as hard and fast as they can** into a special mouthpiece attached to a spirometer.

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We will repeat this **at least three times** to get accurate results.

### 3. Bronchodilator response test (if needed):

We will help your child will **use an inhaler with a spacer** to take the bronchodilator medication.

After **15 to 20 minutes**, we will do the spirometry test again.

### 4. Results:

The doctor will compare the results before and after the bronchodilator to see if your child's lung function has improved.

## Will it hurt?

No, spirometry is a **painless** test. Some children may feel a little **lightheaded** or **out of breath** after blowing hard, but this goes away quickly.

## How should we prepare for the test?

To get the best results, please follow these guidelines:

- **No inhalers (if possible):**  
Salbutamol (e.g. Ventolin, Salamol) for 6 hours  
Ipratropium bromide (e.g. Atrovent) for 12 hours  
Salmeterol (e.g. Seretide®, Combisal®, Sirdupla®) for 12 hours  
Formoterol (e.g. Symbicort®, Fostair®, DuroResp Spiromax® ) for 12 hours  
Relvar 12 hours
- **No caffeine (tea, coffee, cola, energy drinks, or chocolate)** for **4 hours** before the test
- **No smoking or exposure to smoke** for **2 hours** before the test
- **No vigorous exercise** for at least **30 minutes** before the test
- Wear **comfortable clothing** that does not restrict breathing

## What do the results mean?

- normal spirometry: lungs are functioning well and there is no significant obstruction or tightening of the airways. Children with asthma can still have normal spirometry, especially if they're on treatment.
- low lung function (obstructed airways): might suggest asthma or another lung condition.
- improvement after bronchodilator: suggests asthma, because their airways opened up after medication.

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- no change after the bronchodilator: might suggest a different lung condition, so we need to do more tests. Children with asthma can still have no bronchodilator response, especially if they're on treatment.

Your doctor will talk to you about the results and what they mean for your child's treatment.

## What happens after the test?

We review the results immediately. The doctor will explain whether your child has **asthma or another lung condition**.

If they have asthma, the doctor might recommend starting or adjusting **inhalers or other treatments**.

## Are there any risks?

Spirometry is very **safe**, but some children:

- feel **lightheaded** for a few seconds after blowing hard.
- have a brief **cough** after the test.
- experience **mild chest discomfort**, which usually settles quickly.

If your child feels unwell during the test, we will stop the procedure.

## Frequently asked questions (FAQs)

### 1. How long does the test take?

About **30 to 45 minutes**, including the bronchodilator response test if needed.

### 2. Can my child eat and drink before the test?

Yes, but they should not have **caffeine or large meals** for a few hours before the test.

### 3. Will my child need repeat testing?

If their asthma symptoms change, we might repeat the test to check lung function.

### 4. What if my child is nervous?

We will explain the test clearly, and the team will support them throughout.

## More information

If you have any questions, please ask your healthcare provider or contact:

📍 **Willesden Community Diagnostic Centre (CDC)**

☎ **Phone:** 020 370 46578

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 **Email:** [Imperial.CDCLungFunctionLab@nhs.net](mailto:Imperial.CDCLungFunctionLab@nhs.net)

 **Website:** <https://www.imperial.nhs.uk/our-locations/willesden-community-diagnostic-centre>

## How do I make a comment about my visit?

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Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street  
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Telephone: **020 3312 1337 / 1349**

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Willesden Community Diagnostic Centre  
Published: May 2025  
Review Date: May 2028  
Reference Number: 5268  
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