

Respiratory Physiology Lung Function and Sleep Unit

# Bronchial Challenge testing using Mannitol

**This leaflet explains about your Mannitol challenge test, including the benefits, risks, alternative options and what you can expect when you come to hospital.**

**If you have any further questions, please speak to a healthcare professional caring for you.**

## What is a Mannitol challenge test?

Mannitol is a naturally occurring sugar which, when inhaled in small doses under controlled conditions, mimics the body's response to an allergen. It changes the amount of fluid in the airways which causes an inflammatory response. The classic example of this is hay fever or the inflammation seen after an insect bite. In people with asthma there is an over-reaction to Mannitol within the airways. This is hypersensitivity of the airways. A "mannitol challenge" test is a simple test that involves inhaling a fine mannitol powder via an inhaler and performing a breathing test at each dose.

## Why should I have a Mannitol challenge test?

You have been referred for a Mannitol challenge test to confirm or rule out a diagnosis of asthma by identifying whether the airways are hypersensitive. This could be due to the presence of a cough of unknown origin which is often a symptom of asthma.

## What does the test involve?

The procedure will be explained to you in detail on the day of the test. You will be asked to inhale increasing amounts of Mannitol and the response of your airways will be measured after each dose by

asking you to breathe in as deeply as possible and then to blow out as quickly as possible into a machine through a disposable mouthpiece with your nose sealed with a nose clip. You will be asked to repeat each step up to nine times, following which you may be administered an inhaler and be asked to repeat the breathing test one last time.

### How can I prepare for my Mannitol challenge test?

Please **stop taking** the following medication for the time stated prior to your appointment:

Please note: If you are struggling without your respiratory medication and it is clinically needed to be administered, please take your medication but notify us immediately as your appointment will most likely need to be rescheduled. We will not be able to give Mannitol if you have taken your respiratory medication.

MEDICATION	HOW LONG PRIOR TO TEST
Leukotriene receptor antagonists: MONTELUKAST ZAFIRLUKAST	4 Days
Long-acting bronchodilators, including: SPIRIVA (TIOTROPIUM), ELIPTA Antihistamines, including: CETIRIZINE FEXOFENADINE LORATADINE	3 Days
Longer acting bronchodilator, including: SALMETEROL FORMOTEROL	24 Hours

Combined Bronchodilator/Corticosteroid Inhaler, including: SERETIDE SYMBICORT FOSTAIR DUORESP RELVAR Oral Bronchodilator: THEOPHYLLINE	
Inhaled Corticosteroid, including: BECLOMETASONE BUDESONIDE FLUTICASONE Anti-cholinergic Bronchodilator, including: IPRATROPIUM BROMIDE (ATROVENT)	12 Hours
Short-acting Bronchodilators: SALBUTAMOL BRICANYL VENTOLIN Inhaled Non-Steroidal Anti-Inflammatory Agents, including: SODIUM CROMOGLYCATE SODIUM NEDOCROMIL	8 Hours

### **What must I NOT DO before my Mannitol challenge test?**

- Do not smoke for at least six hours prior to the test.
- Do not undertake vigorous exercise on the day of the test.

- Do not wear any tight clothing that may restrict your breathing.
- Do not eat a heavy meal for two hours prior to the test.
- Do not drink coffee, tea, cola drinks, chocolate or other drinks / food containing caffeine on the day of the test.
- Do not take alcohol for four hours prior to testing.

### **Please contact us if**

- You are coughing up blood.
- You have had a heart attack or stroke in the last three months.
- You have had an aortic aneurysm.
- You have had recent eye surgery.
- You have uncontrolled hypertension or intracranial pressure elevation risk.
- You are pregnant or breast-feeding.
- You have hypersensitivity to Mannitol or to gelatine as this is used to make the Mannitol capsules.
- The results will go to the referring clinician who will explain them to you at your next clinic appointment. Please note that you will not be given the results on the day of your test.
- If you are unsure about whether you need to stop any medication or have any questions about this test, please contact us using the telephone number on this leaflet.

### **PLEASE ALLOW 60 MINUTES FOR THIS APPOINTMENT**

### **Will I experience any discomforts or side effects?**

The test is safe. The powder may make your throat dry and we will provide you with water during the test. Sometimes the test may make you cough or short of breath. Any test symptoms can be reversed using another inhaler (Salbutamol) that is given, if needed

at the end of the test.

### **Contact us**

If you have any questions or concerns about your bronchial challenge test, please contact us on 020 8725 1667.

**For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit [www.stgeorges.nhs.uk](http://www.stgeorges.nhs.uk)**

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### **Additional services**

#### **Patient Advice and Liaison Service (PALS)**

PALS can offer you advice and information when you have comments or concerns about our services or care. You can contact the PALS team on the advisory telephone line Monday, Tuesday, Thursday and Friday from 2pm to 5pm.

A Walk-in service is available:

Monday, Tuesday and Thursday between 10am and 4pm

Friday between 10am and 2pm.

Please contact PALS in advance to check if there are any changes to opening times.

The Walk-in and Advisory telephone services are closed on Wednesdays.

PALS is based within the hospital in the ground floor main corridor between Grosvenor and Lanesborough wings.

**Tel:** 020 8725 2453 **Email:** [pals@stgeorges.nhs.uk](mailto:pals@stgeorges.nhs.uk)

## NHS UK

The NHS provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

**Web:** [www.nhs.uk](http://www.nhs.uk)

## NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

**Tel:** 111

## AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website ([www.accessable.co.uk](http://www.accessable.co.uk)). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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