

Respiratory Physiology Lung Function and Sleep Unit

Bronchial Challenge – 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 doctor or nurse 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. A "mannitol challenge" test is a simple test that involves inhaling a fine mannitol powder via an inhaler and performing spirometry manoeuvres at each dose.

Why should I have a mannitol challenge test?

Your doctor has referred you for a bronchial challenge test to identify if your airways are hypersensitive, which could contribute towards the diagnosis of asthma.

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.

MEDICATION	HOW LONG PRIOR TO TEST
Leukotriene receptor antagonists: MONTELUKAST ZAFIRLUKAST	4 Days
Long-acting bronchodilator: SPIRIVA (TIOTROPIUM), ELIPTA Antihistamine: CETIRIZINE FEXOFENADINE LORATADINE	3 Days
Longer acting bronchodilator: SALMETEROL FORMOTEROL Combined Bronchodilator/Corticosteroid Inhaler: SERETIDE SYMBICORT FOSTAIR DUORESP RELVAR Oral Bronchodilator: THEOPHYLLINE	24 Hours
Inhaled Corticosteroid: BECLOMETASONE BUDESONIDE FLUTICASONE Anti-cholinergic Bronchodilator: IPRATROPIUM BROMIDE (ATROVENT)	12 Hours
Short-acting Bronchodilators: SALBUTAMOL BRICANYL VENTOLIN Inhaled Non-Steroidal Anti-Inflammatory Agents: 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 tests
- 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
- 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 used to make capsules
- The results will go to your doctor 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.

What happens during the test?

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. The response of your airways will be measured after each dose by asking you to breathe in as deeply as possible, and then blow out as quickly as possible into a machine through a disposable mouthpiece and with your nose sealed with a nose clip.

PLEASE ALLOW 60 MINUTES FOR THIS APPOINTMENT

Will I experience any discomforts or side effects?

The test is safe, and you should not experience any severe complications during the test. 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 easily 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 or respiratoryphysiology@stgeorges.nhs.uk

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough wings (near the lift foyer).

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

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

Web: 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). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



Reference: RES_BCM_01 **Published:** August 2022 **Review date:** August 2024