



**Royal Papworth Hospital**  
NHS Foundation Trust

# Respiratory Physiology Mannitol challenge test

A patient's guide

The mannitol challenge is a test to determine if your airways are over-sensitive. Over-sensitivity can be caused by inflammation and is a feature of asthma. Your doctor has requested this test which will be performed in the Department of Respiratory Physiology by a Clinical Physiologist.

Mannitol is a naturally occurring sugar alcohol commonly used as an ingredient in tablets. When inhaled by people with over-sensitive airways mannitol causes the airways to narrow. This is monitored using a simple breathing test.

Airway narrowing can be associated with breathlessness, chest tightness, cough or wheeze. If any of these occur it will be short-lived and any effect will be quickly reversed with a salbutamol inhaler. Mannitol will not have any effect on the airways of people who do not have over-sensitive airways.

During the challenge mannitol is inhaled as a powder in increasing doses from an inhaler. A simple breathing test is performed before and after each dose until a 15% change is detected or the test is completed. The test will take approximately 30 to 60 minutes to perform.

Inhalation of the powder may cause coughing. Other side effects of the test may include headache, dizziness, light-headedness, breathlessness, wheezing, chest tightness, itchy eyes, runny nose, nausea, sore or irritated throat. However, these are only temporary and should resolve before you leave the department.

In preparation for the mannitol challenge, please stop taking the following medication temporarily, for the length of time shown in the table opposite:

Time to withhold	Medication
6 to 8 hours	<b>Inhaled non-steroidal anti-inflammatory agents</b> e.g. sodium cromoglycate (Intal), nedocromil sodium (Tilade)
8 hours	<b>Short-acting beta<sub>2</sub> agonists</b> e.g. salbutamol (Ventolin, Salamol), terbutaline (Bricanyl)
12 hours	<b>Inhaled corticosteroids</b> e.g. beclometasone (Clenil, Qvar), budesonide (Pulmicort), fluticasone (Flixotide)
12 hours	<b>Short-acting anticholinergic</b> e.g. ipratropium bromide (Atrovent)
24 hours	<b>Inhaled corticosteroids plus long-acting beta<sub>2</sub> agonists</b> e.g. Seretide, Fostair, Symbicort
24 hours	<b>Long-acting beta<sub>2</sub> agonists</b> e.g. Serevent, Oxis
24 hours	<b>Theophylline</b> e.g. uniphyllin
72 hours	<b>Long-acting anticholinergic</b> e.g. tiotropium bromide (Spiriva)
72 hours	<b>Antihistamines</b> e.g. cetirizine (Zyrtec), chlorphenamine (Piriton), fexofenadine, loratadine
96 hours	<b>Leukotriene-receptor antagonists</b> e.g. montelukast (Singulair)

If you are unsure of how long to withhold your medication, please contact the Respiratory Physiology department on 01223 638815.

In addition, if you have an upper respiratory tract infection (common cold) within the two weeks before your appointment, please contact the department.

Please also avoid caffeinated drinks and vigorous exercise for four hours before the test.

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