



Royal Papworth Hospital
NHS Foundation Trust

Respiratory Physiology Methacholine challenge test

A patient's guide

The Respiratory Physiology department performs various tests which help in the diagnosis and treatment of patients with breathing problems. Your doctor has requested this methacholine challenge test which will be performed in the department by clinical physiologists.

What is a methacholine challenge test?

A methacholine challenge test determines if your airways are over-sensitive. Over-sensitivity can be caused by inflammation and is a feature of asthma and some other conditions affecting the lungs. Methacholine is a medication which, when inhaled by people with over-sensitive airways, causes the airways to narrow.

What does the test involve?

The methacholine challenge test takes approximately 60 minutes to perform depending on your sensitivity. A standard blowing test is performed at the start of the test to obtain baseline measurements. Increasing doses of methacholine are then inhaled via a nebuliser for between 1 and 16 breaths.

The blowing test is performed 2 minutes after each dose of methacholine until a 20% change is detected or the test is completed.

What are the risks/side effects?

Possible side effects from performing the test include cough, headache, dizziness, light-headedness, breathlessness and hot flushes. In addition, airway narrowing can be associated with breathlessness, chest tightness, cough and wheeze. If any of these symptoms occur, they will be short-lived and any effects from airway narrowing will be quickly reversed with nebulised salbutamol. Significant airway narrowing will not be seen in people who do not have over-sensitive airways.

Preparing for the visit

In preparation for the methacholine challenge test please stop taking the following medication, temporarily, for the length of time shown in the table (continue any other medication as normal):

Time to withhold	Medication
6 hours	Short-acting Beta2 Agonists e.g. salbutamol (Ventolin, Salamol), terbutaline (Bricanyl)
12 hours	Short-acting Anticholinergic e.g. ipratropium bromide (Atrovent)
36 hours	Long-acting Beta2 Agonists or combined inhalers containing these e.g. salmeterol (Serevent), formoterol (Easyhaler, Atimos, Oxis), combined inhalers e.g. Seretide, Fostair, Symbicort
48 hours	Ultra Long-acting Beta Agonists or combined inhalers containing these e.g. oladaterol, indacaterol, vilanterol combination inhalers
7 days	Long-acting Anticholinergic or combined inhalers containing these e.g. tiotropium (Spiriva), aclidinium (Eklira), glycopyrronium (Seebri), umeclidinium (Incruse)
24 hours	Oral theophylline

If you are unsure of any medication details, please contact the Respiratory Physiology department on 01223 638207.

In addition, if you have an upper respiratory tract

infection (common cold) within two weeks of your appointment, please contact the department.

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

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