



Methacholine Challenge Testing

How to prepare and what to expect

This handout describes a methacholine challenge test and how to prepare for it. This test is done to diagnose asthma.

You are scheduled for testing on:

DAY

DATE

TIME

If you need to reschedule or cancel, please call 206.598.4265.

Action Steps

- If you have had a cold or upper respiratory infection within 2-6 weeks prior to testing, check with your healthcare provider to postpone your test.
- Check with your healthcare provider to see if you need to hold any medications and for how long.
- Ask your healthcare provider to explain the results of your test.



During your test, we will monitor your lungs to see how they respond to the medicine.

What is a methacholine challenge test?

A methacholine challenge test measures how well your lungs take in and release air. It will tell us if you have asthma.

For this test, we will monitor your lungs as you inhale a medicine called methacholine in larger and larger doses. We will be watching for a change in your *pulmonary function test results*.

The test will continue until one of these things occurs:

- You reach at least a 20% drop in the amount of air you exhale in the first second. This measurement is called FEV1.
- You finish all the doses of the medicine.

How should I prepare?

Medicines

Before your test, we will ask you **not** to take some of your usual medicines. Ask your health care provider which medicines you should stop taking and when you should stop them.

Medication which may need to be stopped before your methacholine challenge test

If you take this medicine...	Avoid taking this long before the test...
Short-acting Bronchodilators: <ul style="list-style-type: none">• albuterol (Proventil, Ventolin, ProAir)• levalbuterol (Xopenex)• pirbuterol (Maxair)• terbutaline• metaproterenol	6 hours
Anti-cholinergic bronchodilators: <ul style="list-style-type: none">• ipatropium (Atrovent, Combivent)• oral Theophylline	12 hours
Long-acting beta agonists: <ul style="list-style-type: none">• formoterol (Foradil)• salmeterol (Serevent)• arformoterol• bambuterol• clenbuterol• protokylol	36 hours
Ultra long-acting beta agonists: <ul style="list-style-type: none">• indacaterol (Neohaler)• olodaterol (Striverdi Respimat)• vilanterol (in association with other drugs only)	48 hours
Long-acting anti-muscarinic: <ul style="list-style-type: none">• tiotropium bromide (Spiriva)• umeclidinium (Incruse)• glycopyrrolate (Seebri)• aclidinium (Tudorza)	168 hours (7 days)
Inhaled corticosteroids: <ul style="list-style-type: none">• beclomethasone (QVAR)• budesonide (Pulmicort)• fluticasone (Flovent)• triamcinalone (Azmacort)	Inhaled corticosteroids when used on a regular basis will alter the result of a methacholine challenge. Talk to your doctor or healthcare provider about the use of inhaled corticosteroids and how this type of medication may alter the result of a methacholine challenge.

What should I expect?

- After each dose and after the breathing (nebulizer) treatment, we will ask you to do several breathing tests.
- You may have some mild shortness of breath from taking the methacholine.
- After the testing is done, we will give you a nebulizer treatment that will reverse the action of the methacholine if it has caused your results to change.
- Asthma attacks after this test are very rare. If they occur, they usually respond quickly to treatment.
- The testing time varies. It may take up to 2 hours, depending on your results during the test.

On the day of your test

- It is OK to have coffee, tea, and other products that contain caffeine if these are part of your usual routine.
- You may eat as usual. You do not need to fast.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

Lung Function Testing:
206.598.4265

After hours and on weekends and holidays:
Call 206.598.6190 and ask for the Pulmonary Fellow on call to be paged.