

Mannitol Challenge Testing

How to prepare and what to expect

You are scheduled for testing on:

Day

Date

Time

Your procedure checklist:

- ☐ If you have a cold or upper respiratory infection in the 6 weeks before your test, talk with your provider. Your test may need to be rescheduled.
- ☐ Tell your provider all the medications you take. You may need to follow special instructions.
- ☐ Ask your provider to explain the results of your test.

What is a mannitol challenge test?

A *mannitol challenge test* measures how well your lungs take in and release air. This test will help your doctor know if your symptoms are related to asthma and provide guidance regarding treatment.

During this test we will monitor your lungs as you inhale (breathe in) a medicine called mannitol in larger and larger doses. *Mannitol* is a type of fruit sugar that is used to sweeten foods and as an ingredient in some medicines. As you breathe, we will check how well your lungs are working.

Your test will keep going until one of these things happens:

- The amount of air you can blow out in 1 second drops by at least 15%. This measurement is called the *FEV1*.
- You take all the doses of the medicine.

What should I expect?

- After your test, we may give you a medicine called a bronchodilator. This helps open your airways if the test made them tighter.
- After each dose and after the breathing treatment, we will ask you to do more breathing tests.
- The testing time can be different for each person. It can take up to 2 hours, depending on your results.
- You might feel a little short of breath or have a cough from the mannitol.
- Asthma attacks after this test are very rare. If they do happen, they usually get better quickly with treatment.



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How should I prepare?

On the Day of Your Test

- Do **NOT** drink anything with caffeine (like coffee, tea, soda, or energy drinks).
- You do not need to *fast* (stop eating).
- Don't do any difficult exercise for 4 hours before your test.
- We may ask you to stop some of your usual medicines before the test. **Ask your healthcare provider which medicines you should stop taking and when you should stop them.** The table below shows some examples, but it is important to talk to your care team about **all** the medicines you take.

Medicines which may need to be stopped before your test

If you take this medicine...	Avoid taking it before the test for this long...
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)	12 hours
Long-acting beta agonists: <ul style="list-style-type: none">• formoterol (Foradil)• salmeterol (Serevent)• arformoterol (Brovana)• 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)	72 hours (3 days)
Leukotriene receptor antagonists: <ul style="list-style-type: none">• montelukast (Singulair)• zafirlukast (Accolate)	96 hours (4 days)

If you take this medicine...		Avoid taking it before the test for this long...
Leukotriene synthesis inhibitors: <ul style="list-style-type: none"> • zileuton/ slow-release zileuton (Zyflo) 		16 hours
Antihistamines: <ul style="list-style-type: none"> • loratadine (Claritin) • cetirizine (Zyrtec) • fexofenadine (Allegra) 		72 hours (3 days)
Xanthines: <ul style="list-style-type: none"> • theophylline 		24 hours
Cromones: <ul style="list-style-type: none"> • sodium cromoglycate • nedocromil sodium 		4 hours
Inhaled corticosteroids: <ul style="list-style-type: none"> • beclomethasone (QVAR) • budesonide (Pulmicort/Symbicort) • fluticasone propionate (Flovent/Advair) • triamcinolone (Azmacort) Long-acting inhaled corticosteroids: <ul style="list-style-type: none"> • fluticasone furoate (Breo/Arnuity) • ciclesonide (Alvesco) • mometasone (Asmanex/Dulera) 		Inhaled corticosteroids can change the results of a mannitol challenge. Talk with your provider before the test. They can tell you if you should stop using this medicine and how it might affect your test results.

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.