

Let's Talk About...

Exercise challenge test

The exercise challenge test determines whether your child has exercise-induced airway narrowing. You may have also heard your child's healthcare provider talk about exercise-induced asthma (EIA) or exercise-induced bronchoconstriction (BRON-co-con-strick-shun, also called EIB). Seeing if the airways become narrow while exercising can help in diagnosing and managing asthma.

What is the exercise challenge test?

During the exercise challenge test, your child will exercise for about 10 minutes. The exercise intensity will be increased based on your child's heart rate response and their aerobic capacity.

Before exercising, at many timed intervals during exercising, and after exercising your child will be asked to blow forcefully into a spirometer, a tool that measures lung capacity. They will wear a nose clip, and their heart rate and oxygen saturation will be monitored during exercise.

How do I prepare my child for the exercise challenge test?

Your child should wear loose-fitting, comfortable clothing and athletic shoes right for exercising. Make sure your child does not do heavy exercise at least four hours before the test or eat a heavy meal before the test.

Before starting the exercise challenge, your child must be able to perform pulmonary function tests by blowing forcefully into a spirometer. If they can't adequately perform pulmonary function tests, your child's healthcare provider will cancel the challenge.

Medicines	When to stop taking
Inhaled beta-agonists in conventional doses <ul style="list-style-type: none"> • Short-acting (e.g., Ventolin, Proventil, ProAir) • Long-acting (e.g., Serevent, Advair, Symbicort, Dulera) 	6 hours before test 36 hours before test
Inhaled anticholinergics <ul style="list-style-type: none"> • Short-acting (e.g., Atrovent) • Long-acting (e.g., Spiriva) 	12 hours before test 48 hours before test
Antihistamines <ul style="list-style-type: none"> • Short-acting (e.g., Benadryl) • Long-acting (e.g., Claritin, Zyrtec, Allegra) 	48 hours before test 3 days before test

Your child should not take medicines that can change their airways' responsiveness to exercise. This chart above shows when your child should stop taking these medicines before the exercise challenge test.

If you have any questions about your child's medicines and whether they need to stop taking them before the test, call your child's healthcare provider.

You will need to sign a consent form before your child begins the test.

What happens during the exercise challenge test?

- Before beginning to exercise your child will blow forcefully into a spirometer, a tool that measures lung capacity, to determine baseline lung function.
- Your child will then run on the treadmill for about 10 minutes.
- Once off the treadmill, your child will rest for 5 minutes and then blow into the spirometer 5, 10, 15, 20 and 30 minutes after exercising.



- If your child's lung function decreases to a certain level at any point during spirometry testing, your child's respiratory therapist will give albuterol. They will then wait 10 minutes and have your child blow into the spirometer again.
- If your child's lung function has not reached a certain level of pre-exercise spirometry when 30 minutes have passed, they will receive albuterol.
- After 10 minutes, your child will blow into the spirometer and re-measure their lung function to ensure it has returned to the certain pre-exercise level. Your child's healthcare provider will be told if your child's lung function does not return to the certain pre-exercise level.

The total test will take about 90 minutes to 2 hours to complete. A pediatric pulmonologist will then interpret the results, and your child's healthcare provider will discuss the results with you.

What are the potential side effects of the exercise challenge test?

While rare, your child could experience the following complications during or after the exercise test:

- Falling
- Heartbeat irregularities
- Wheezing
- Shortness of breath
- Your child may be injured because they are unfamiliar with the equipment. If this happens, hospital staff members will be ready to help and provide emergency treatment, if needed.

What if I have questions about the exercise challenge test?

- If you have any questions about preparing your child for the exercise challenge test or about the procedure, contact your child's healthcare provider.

