



ADVANCED PEDIATRIC ASSOCIATES

Hand in Hand for Healthy Kids

SPIROMETRY

Spirometry is a quick, painless test in which a handheld device called a spirometer measures how much air a person's lungs can hold (air volume) and the speed of inhalations and exhalations during breathing (flow rate). The spirometer has two pieces: a mouthpiece and a tube that connects to a machine which records and displays the results.

Spirometry tells how well the lungs are working. It's used to help diagnose and monitor diseases that affect the lungs and make breathing difficult, such as asthma and cystic fibrosis. It can also be used to find the cause of shortness of breath, coughing, or wheezing; monitor treatment of respiratory problems, or evaluate lung functioning before surgery.

Before the test, your child should avoid cold medicines, caffeine, carbonated beverages, and exposure to tobacco smoke. Your child also should avoid eating a big meal before the test. If your child is taking any medications, the provider might have your child stop taking them for a certain amount of time before the test. It may also help to have your child practice for the test, such as by pretending to blow out birthday candles or blowing air at a pinwheel. On the day of the test, make sure that your child doesn't wear tight clothing that could interfere with the ability to breathe in and out deeply.

Cooperation is essential for accurate results. Your child will be standing and will wear soft nose clips to prevent air from escaping. Typically, your child will be asked to take a very deep breath, place the device in his or her mouth with the lips sealed securely around the mouthpiece, and then exhale as fast and hard as possible for as long as possible. The test may be repeated several times to confirm the accuracy of the results and is often performed before and after an inhaled asthma medication called a bronchodilator is administered. This can help determine whether a lung problem can be treated with specific medications. Spirometry usually takes 5-30 minutes, depending on the number of times the test must be done. The test should be completely painless though occasionally some children may experience temporary shortness of breath or lightheadedness. This test shouldn't be performed on kids who have chest pain, a recent history of eye or abdominal surgery, or serious heart disease.

Your provider will review the results and explain what they mean. The results are expressed as percentages and are generally considered abnormal if they're less than 80% of the normal value based on your child's age, gender, height, and weight. If you have questions or concerns about spirometry, be sure to ask us.

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