

Pulmonary Function Test

Pulmonary function test is done to assess functioning of your lungs. It is a valuable tool in diagnosing and monitoring conditions such as [asthma](#), [emphysema](#), [bronchitis](#), [occupational lung diseases](#) and others. Being more objective, the test will give your doctor better information about your lungs than traditional methods such as auscultation by using a stethoscope. It is a noninvasive and painless procedure. It takes 15 minutes to complete. A computer based device known as Spirometer is used to do the test. Hence the test is also known as spirometry.



In this test, in a sitting or standing position, you will be asked to take a large amount of breath in and a plastic nose clip will be placed on your nostrils to prevent blowing out air through them. You will be asked to blow out air through a mouth piece (placed in your mouth with tight seal) attached to the spirometer as hard and as long as possible (usually 6 seconds). Once you cannot exhale anymore, you will be asked to complete the test by taking a quick breath in. Computer to which the spirometer is attached measures this in the form of series of graphs and numbers. You will be asked to repeat this procedure 3 times and the best of three tests will be used for further analysis.

If required, your nurse will administer a bronchodilator through a nebulizer or metered dose inhaler via spacer and the test will be repeated in a similar manner to look for any further improvement in the lung function after bronchodilator use. In asthma, there may be significant improvement of measurements in the post-bronchodilator test.

Following conditions can affect test results. Any acute illness, chronic cough, smoking within the previous one hour, using a bronchodilator medication (such as albuterol, serevent, formoterol, Advair) within the last hour, eating a heavy meal in the last hour, any respiratory infections such as flu, pneumonia, ear infections, severe cold or bronchitis in the last 3 weeks, or any recent surgery within the previous month. It is better to postpone the test if you have any of these conditions. Wearing loose and comfortable clothes will make it easier for you to do the test. Loose dentures should be removed before the test.

Following technical mistakes can give wrong results: stopping exhalation too soon or not completely; emptying the lungs due to insufficient effort at the end of the maneuver; not blowing as completely and forcefully as possible particularly during the initial portion of the maneuver, failure to maintain an airtight seal around the mouthpiece or on the nose (leaks); pursing the lips as with a musical instrument, obstructing the mouthpiece with the tongue or dentures; and or bending over or not extending the chin.

Test results when trended over time can give valuable information about the health of your lungs and improvement or deterioration of diseases such as asthma, emphysema or bronchitis. The spirometry is also useful in diagnosing and monitoring occupational lung diseases and assessing fitness for anesthesia before surgery if you have any chronic lung disease.

Children under six may not be able to complete the test. Most of the insurance companies cover the expenses involved, but some may require prior authorization. Check with your insurance for further details. Call us to [schedule an appointment](#).