

Lung Function Test Fact Sheet

Pulmonary function tests are used to detect lung diseases or to monitor the progression of a particular disease, such as COPD. Regular testing can detect lung disease in its early stages and allow for timely treatment. The most common pulmonary function test is done with a machine called a spirometer. Spirometry testing is quick, non-invasive and painless. If you regularly experience breathlessness, have difficulty breathing, or otherwise suspect you have a lung disease, the American Lung Association encourages you to ask your doctor for spirometry testing.

Spirometry is performed under various conditions with the patient breathing into a tube attached to the machine, which calculates the amount of air the lungs can hold and the rate that air can be inhaled and exhaled. The results of the test are compared with those of healthy individuals of similar height and age, and of the same sex and race.

A common spirometry measurement is FEV1 (Forced Expiratory Volume in One Second), the volume of air exhaled in the first second after a deep inhalation. For COPD patients, FEV1 is used to determine the severity of obstruction, with less than 70% considered mild and less than 35% severe.

Patients can also undergo exercise stress tests with spirometry readings taken before and after a period of exercise. In addition, some tests may involve a bronchodilator before a spirometry reading.

Besides spirometry, other tests are used to test for lung function including gas diffusion. Gas diffusion tests measure how well oxygen and other gases pass through the lung's air sacs and get absorbed by the blood. A reduced diffusing capacity could indicate COPD.