



430 The Boardwalk, Suite 206  
Waterloo, Ontario, N2T 0C1  
[www.kwcps.com](http://www.kwcps.com)

Tel: 519-741-5252  
Fax: 519-741-5772  
e-mail: [kwcpsbookings@golden.net](mailto:kwcpsbookings@golden.net)

## **Pulmonary Function Test**

Pulmonary function tests are a group of tests that measure how well the lungs take in and release air and how well they move gases such as oxygen from the atmosphere into the body's circulation.

### **How the test is performed**

Spirometry measures airflow. By measuring how much air you exhale, and how quickly, spirometry can evaluate a broad range of lung diseases. In a spirometry test, while you are sitting, you breathe into a mouthpiece that is connected to an instrument called a spirometer. The spirometer records the amount and the rate of air that you breathe in and out over a period of time.

For some of the test measurements, you can breathe normally and quietly. Other tests require forced exhalation after a deep breath. Sometimes you will be asked to inhale a medicine to see how it changes your test results.

The most accurate way to measure lung volume, is to sit in a sealed, clear box that looks like a telephone booth (body plethysmograph) while breathing in and out into a mouthpiece. Changes in pressure inside the box help determine the lung volume.

To measure diffusion capacity, you inhale and hold a harmless gas, called a tracer gas, for a very short time. The concentration of the gas in the air you breathe out is measured. The difference in the amount of gas inhaled and exhaled measures how effectively gas travels from the lungs into the blood. This test allows the doctor to estimate how well the lungs move oxygen from the air into the bloodstream.

### **How to Prepare for the Test**

Do not eat a heavy meal before the test. Do not smoke for 4 - 6 hours before the test. If this is your first visit to us, please hold all short acting inhalers for 4 hours and long acting inhalers for 12 hours. If this is a follow up visit, inhalers do not need to be held.

Please bring a list of your current medications.



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## How the Test Will Feel

Since the test involves some forced breathing and rapid breathing, you may have some temporary shortness of breath or lightheadedness. You breathe by sealing your lips tightly around a mouthpiece, and you'll have nose clips on.

## Why the Test is Performed

Pulmonary function tests are done to:

- Diagnose certain types of lung disease (such as asthma, bronchitis, and emphysema)
- Find the cause of shortness of breath or cough
- Measure whether exposure to chemicals at work affects lung function
- Check lung function before someone has surgery

It also can be done to:

- Assess the effect of medication
- Measure progress in disease treatment

There may be other reasons why your health care provider asks for this test.