



How To Use A Peak Flow Meter

Peak Flow Meter Overview

The management of asthma relies on a patient's ability to monitor their asthma regularly. Self-monitoring includes assessing the frequency and severity of symptoms (such as wheezing and shortness of breath) and measurement of lung function with a peak flow meter.

Peak flow meters measure your peak expiratory flow rate (PEFR), a number that correlates with how open the lung's airways are; as asthma worsens and the airways narrow, the PEFR decreases. Monitoring can help you and your healthcare provider determine the most appropriate asthma treatment plan.

Asthma Monitoring Recommendations

Experts recommend that people with moderate to severe persistent asthma have a peak flow meter at home and know how to use it. A peak flow meter is small, inexpensive and easy for most patients to use.

The National Asthma Education and Prevention Program (NAEPP) recommends that patients use a peak flow meter to:

- Regularly monitor lung function and response to treatment over the short- and long term
- Determine the severity of an asthma attack
- Assess response to treatment during an attack

You should use an asthma diary to record your daily peak flow meter readings, exposure to potential asthma triggers, asthma medication use, and asthma symptoms. This can help to show a cause-and-effect relationship between exposure to triggers and decreases in peak flow. You can review the asthma diary with a healthcare provider to make decisions about asthma treatment.

How To Use A Peak Flow Meter

Peak flow monitoring should be performed on a regular basis, even when asthma symptoms are not present. Peak flow should also be checked if symptoms of coughing, wheezing or shortness of breath develop. You should demonstrate how to use a peak flow meter with your healthcare provider to verify that your technique is accurate.

Different brands of peak flow meters have unique features; however, these general instructions can be adapted to an individual's peak flow meter.

Getting The Best Readings

Several steps are important to make sure the peak flow meter records an accurate value:

- The peak flow meter should read zero or its lowest reading when not in use.
- Use the peak flow meter while standing up straight.
- Take in as deep a breath as possible.
- Place the peak flow meter in the mouth, with the tongue under the mouthpiece.
- Close the lips tightly around the mouthpiece.
- Blow out as hard and fast as possible; do not throw the head forward while blowing out.
- Breathe a few normal breaths and then repeat the process two more times. Write down the highest number obtained. Do not average the numbers.

IMPORTANT: Repeat the test if your tongue partially blocks the mouthpiece or if you cough or spit during the test. Most peak flow meters need to be cleaned periodically; cleaning instructions should be available when the unit is purchased.

Establishing A Baseline Measurement

Unlike a blood pressure reading or a cholesterol test, there is no peak flow measurement that is normal for everyone. For this reason, it is important to determine what peak flow value is normal for you.

To determine your **normal** peak flow measurement, you should measure your peak flow when you have no asthma symptoms. Perform three measurements with the same peak flow meter two to four times daily for two to three weeks.

You should note the highest peak flow measurement achieved; this is the "personal best". This number is used to determine if future peak flow measurements are normal or low, and is also used to create a normal range (between 80 and 100 percent of the personal best peak flow measurement).

Readings below the normal range are a sign of airway narrowing in the lungs. A low peak flow measurement can occur before asthma symptoms such as wheezing or shortness of breath develop.

Remeasure your personal best peak flow value once per year to account for growth (in children) or changes in the disease (in both children and adults). In addition, verify home peak flow measurements with readings taken with equipment in a healthcare provider's office since this equipment is more sensitive. For long term management, most clinicians will recommend peak flow testing once per day, usually in the morning.