

Measuring Your Peak Flow Rate

A peak flow meter is a portable, inexpensive, hand-held device that measures your ability to push air out of your lungs. Air flow is measured by the amount of air that you can blow out in one "fast blast."



Peak flow meters come in two ranges to measure the air pushed out of your lungs. A

low range peak flow meter is for small children, and a **standard range peak flow**

meter is for older children, teenagers, and adults. An adult has much larger airways than a child and needs the larger range.



There are several types of peak flow meters available. Talk to your healthcare provider or pharmacist about which type to use.

Who Can Benefit from Using a Peak Flow Meter?

People who have asthma can benefit from the use of a peak flow meter, as well as some people with chronic bronchitis and emphysema. A peak flow meter may be most useful for people that are newly diagnosed and those with persistent asthma. If you need to adjust your daily medication for asthma, a peak flow meter can be an important part of your asthma management plan.

A peak flow meter can be especially helpful to use with young children who may not be able to communicate about trouble breathing. Children as young as five are usually able to use a peak flow meter to help manage their asthma.

Why Should I Measure My Peak Flow Rate?

Asthma sometimes changes gradually. Your peak flow rates can show you if your asthma is getting worse, even before you feel symptoms. A peak flow meter may help you and your healthcare provider identify causes of your asthma at work, home, or play.

Measuring your peak flow can you help you:

- Follow the steps on your asthma action plan, such as deciding when to use your quick-relief asthma medicine or deciding when to seek emergency care.
- Identify where (location) and when (time of day) asthma symptoms start, so you make a plan to avoid your asthma triggers.

Also, peak flow readings can help your healthcare provider make decisions about your treatment and adjust your medicines as necessary.

How Do I Use a Peak Flow Meter?

Step 1: Before each use, make sure the sliding marker or arrow on the Peak Flow Meter is at the bottom of the numbered scale (zero or the lowest number on the scale).

Step 2: Stand up straight. Remove gum or any food from your mouth. Take a deep breath (as deep as you can). Put the mouthpiece of the peak flow meter into your mouth. Close your lips tightly around the mouthpiece. Be sure to keep your tongue away from the mouthpiece. In one breath, blow out as hard and as quickly as possible (like you are blowing out candles on a birthday cake). Blow a "fast hard blast" rather than "slowly blowing" until you have emptied out nearly all the air from your lungs.

Step 3: The force of the air coming out of your lungs causes the marker to move along the numbered scale. Note the number on a piece of paper.

Step 4: Repeat the entire routine three times. (You know you have done the routine correctly when the numbers from all three tries are very close together.)

Step 5: Record the highest of the three ratings. Do not calculate an average. This is very important. You can't breathe out too much when using your peak flow meter, but you can breathe out too little. Record your highest reading.

Step 6: Measure your peak flow rate close to the same time each day. You and your healthcare provider can determine the best times. One suggestion is to measure your peak flow rate twice daily between 7 and 9 a.m. and between 6 and 8 p.m. You may want to measure your peak flow rate before or after using your medicine. Some people measure peak flow both before and after taking medication. Try to do it the same way each time.

Step 7: Keep a chart of your peak flow rates. Discuss the readings with your healthcare provider.

How Do I Chart My Peak Flow Rates?

Chart the **HIGHEST** of the three readings. This is called, "**your personal best.**" The chart could include the date at the top of the page with AM and PM listed. The left margin could list a scale, starting with zero (0) liters per minute (L/min) at the bottom of the page and ending with 600 L/min at the top.

You could leave room at the bottom of the page for notes to describe how you are feeling or to list any other thoughts you may have.

What Is a Normal Peak Flow Rate?

A "normal" peak flow rate is based on a person's age, height, sex, and race. A standardized "normal" may be obtained from a chart comparing the patient with a population without breathing problems.

You may have trouble finding a “normal” peak flow rate on your own. Therefore, it is important for you and your healthcare provider to discuss what is considered "normal" for you.

Once you have learned your usual and expected peak flow rate, you will be able to better recognize changes or trends in your asthma.

How Can I Determine a Normal Peak Flow Rate for Me?

Peak flow rates are commonly split into three zones. The colors of a traffic light – green, yellow, red – are used to represent the three zones. In general, a normal peak flow rate can vary as much as 20 percent.

Be aware of the following general guidelines. Keep in mind that recognizing changes from "normal" is important. Your healthcare provider may suggest other zones to follow.

Green Zone: 80 to 100 percent of your usual or "normal" peak flow rate signals **all clear**. A reading in this zone means that your asthma is in good control. Keep using the medicines as directed.

Yellow Zone: 50 to 80 percent of your usual or "normal" peak flow rate signals **caution**. This zone indicates that your airways are narrowing, and you need to take action. Take the additional medicine(s) listed in the yellow zone of your asthma action plan. Call your doctor and let them know.

Red Zone: Less than 50 percent of your usual or "normal" peak flow rate signals a **medical alert**. This zone indicates that there is severe airway narrowing. Take your quick-relief medicine right away. Contact your healthcare provider right away and if symptoms don't improve, call 911 or go the nearest emergency room.

Some healthcare providers may suggest zones with a smaller range, such as 90 to 100 percent. Always follow your healthcare provider's suggestions about your peak flow rate.

Asthma Action Plan Based on Peak Flow Readings

It is important to know your peak flow reading, but it is even more important to know what you will do based upon that reading. Work with your healthcare provider to develop an asthma action plan that follows your green, yellow, and red zone.

Record the peak flow readings that your healthcare provider recommends for your green zone, yellow zone, and red zone. Then work out with your healthcare provider what you plan to do when your peak flow falls in each of those zones.

American Lung Association My Asthma Action Plan

Name: _____ DOB: ____/____/____

Severity Classification: Intermittent Mild Persistent Moderate Persistent Severe Persistent

Asthma Triggers (list): _____

Peak Flow Meter Personal Best: _____

Green Zone: Doing Well

Symptoms: Breathing is good - No cough or wheeze - Can work and play - Sleeps well at night

Peak Flow Meter _____ (more than 80% of personal best)

Control Medication(s) Medicine _____ How much to take _____ When and how often to take it _____

Physical Activity Use Albuterol/Levalbuterol _____ puffs, 15 minutes before activity
 with all activity when you feel you need it

Yellow Zone: Caution

Symptoms: Some problems breathing - Cough, wheeze, or tight chest - Problems working or playing - Wake at night

Peak Flow Meter _____ to _____ (between 50% and 70% of personal best)

Quick-relief Medication(s) Albuterol/Levalbuterol _____ puffs, every 4 hours as needed

Control Medication(s) Continue Green Zone medicines Add _____ Change to _____

You should feel better within 20-60 minutes of the quick-relief treatment. If you are getting worse or are in the Yellow Zone for more than 24 hours, THEN follow the instructions in the RED ZONE and call the doctor right away!

Red Zone: Get Help Now!

Symptoms: Lots of problems breathing - Cannot work or play - Getting worse instead of better - Medicine is not helping

Peak Flow Meter _____ (less than 50% of personal best)

Take Quick-relief Medicine NOW! Albuterol/Levalbuterol _____ puffs, _____ (how frequently)

Call 911 immediately if the following danger signs are present:

- Trouble walking/talking due to shortness of breath
- Lips or fingernails are blue
- Still in the red zone after 15 minutes

Emergency Contact Name _____ Phone (____) _____-____

Emergency Contact Name _____ Phone (____) _____-____

Date: ____/____/____

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When Should I Use My Peak Flow Meter?

Use of the peak flow meter depends on several things. Its use should be discussed with your healthcare provider.

If your asthma is well controlled and you know the "normal" rate for you, you may decide to measure your peak flow rate only when you sense that your asthma is getting worse. More severe asthma may require several measurements daily.

Don't forget that your peak flow meter needs care and cleaning. Dirt collected in the meter may make your peak flow measurements inaccurate. If you have a cold or other respiratory infection, germs or mucus may also collect in the meter.

Proper cleaning with mild detergent in hot water will keep your peak flow meter working accurately and may keep you healthier.