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## What's a Peak Flow Meter?

Everyday exposure to asthma triggers can cause airway inflammation in kids with asthma, even if they're not experiencing breathing difficulties. Airway inflammation builds over time, leaving kids at risk for unexpected flare-ups. They might feel fine, even as their airways are becoming swollen, narrow, and blocked.

Just listening to your child's breathing might not help you detect inflamed or obstructed airways. But an inexpensive, portable device called a peak flow meter can measure lung function, and this information can help you manage your child's asthma and avoid major flare-ups.

A peak flow meter measures the flow of air as it's expelled from the lungs. To do this, your child will blow into the peak flow meter (as if blowing up a balloon). A marker will slide up a scale on the meter as your child blows out to indicate how much air was exhaled. The peak flow is the number where the marker stops on the scale.

A peak flow meter can tell you and your doctor:

- the severity of your child's asthma
- how well he or she is responding to medications during an attack
- whether the asthma is getting worse

If the peak flow is lower than usual, you know that your child's airways are inflamed and obstructed, making it difficult to blow air into the meter. This means that lung function isn't at its best and a flare-up might be on the way. This advance warning gives you a chance to take preventive measures, such as giving medicine.

Using a peak flow meter is simple:

- Set it to zero.
- Have your child stand up and take a deep breath.
- Have your child blow as quickly and strongly into the device as possible.
- Record the number that the meter reads (this is known as a reading).
- Repeat three times and note the highest recorded number (not the average).

## Using an Asthma Action Plan

The highest recorded number isn't the whole story. You should compare it with your child's personal best — the highest peak flow meter reading your child has ever gotten. Your doctor can help establish this personal best early in treatment. After that, your child may need to take regular readings as established in the asthma action plan that the doctor recommends. Compare these readings with the personal best each time.

The doctor will establish three zones of peak flow meter readings based on your child's personal best reading. The asthma action plan will include instructions about what to do for readings in each zone:

- Any reading in the **green zone**, or **safety zone**, means the peak flow is 80% (or better) of your child's personal best — in other words, the airways are open.
- Any reading in the **yellow zone**, or **caution zone**, means that the peak flow is between 50% and 80% of your child's personal best. Your child might be at risk for a flare-up or may already be having symptoms. Talk with your doctor about what to do for readings in the yellow zone, or follow the instructions in the asthma action plan.
- Any reading in the **red zone**, or **danger zone**, means that the peak flow is less than 50% of your child's personal best and he or she needs medication immediately. You also should call your doctor.

Peak flow meters need little care, but they do need to be washed regularly with hot water and mild soap. They also come in two ranges — one for younger kids and another for older kids, teens, and adults. Kids as young as 3 have been able to use peak flow meters, although the readings are most reliable in those older than the age of 5 or 6.

Peak flow meters are only useful if you and your child use them as recommended, record the results, and communicate those results to the doctor. Encourage your child now to be diligent about using the peak flow meter and start a habit that will carry into adulthood.

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