



ASTHMA SELF-MAINTENANCE

Peak flow monitoring info for parents

Importance:

Peak Expiratory Flow (PEF) provides a simple way of measuring breathing ability. It is reproducible, demonstrating the severity of air flow obstruction (severity of asthma attack). PEF can be measured with **hand-held devices** called *peak flow meters*. A peak flow meter helps a person tell if the insides of their lung passages are getting more swollen and constricted, and that a severe asthma episode may be coming. Peak flow meters are designed to monitor, NOT diagnose asthma. Children need to be instructed on how to appropriately use a peak flow meter. It should be demonstrated to the child, with frequent review of proper technique.

Personal Best:

A child's *personal best* reading is the most appropriate reference value by which to compare repeated readings. It can be a useful reading for long-term daily monitoring, as well as short-term monitoring and evaluating exacerbations. The personal best measure gives you a starting level to see if your breathing is better or worse (with medicine or activity) compared to where you started from when you were not ill. A personal best peak flow reading is the highest peak flow number achieved over a two to three week period (when asthma is under good control). Good control means the child feels good, and does not have any asthma symptoms. Each child's personal best peak flow reading is different, and may be higher or lower than the peak flow of someone the same height, weight, and gender. Personal best should be reestablished with a new meter and every 6 months to allow for lung growth.

How to Measure:

To find a personal best peak flow number, take peak flow readings at least once a day for two to three weeks. Measure peak flow at these times:

- ◆ In the morning and evening for two to three weeks. If this is not possible, then the same time every day, preferably in the morning.
- ◆ Each time the patient takes quick-relief medicine, to relieve asthma symptoms
- ◆ Any other time the child or provider feels is necessary

Outlying Values:

If a PEF reading is recorded that is considerably higher than other values, this reading should not be considered a personal best reading. It may merely be the result of the tongue partly over the opening, "spitting" into the flow meter, or coughing. Caution should be used in establishing a personal best when an outlying value is observed. **If a person is in respiratory distress, and having trouble taking in deep breaths—rather than having them keep trying to get a more accurate reading, check the peak flow reading AFTER they have had a chance to use their quick relief medication.**

Flow Variability:

When the morning PEF is below 80% of the patient's personal best, PEF should be measured more than once daily (again before taking quick-relief medication). The additional measurements of PEF will enable the child to determine if their asthma is continuing to worsen or is improving after taking medication. If their asthma is in fact worsening, they will be able to more quickly respond. Periodically, children should assess their PEF in the morning and in the afternoon, for one to two weeks. This is a way to assess variability, which is an indicator of the current level of the patient's asthma severity.