

Instructions for 2 week PEF monitoring

Peak flow (PEF) monitoring is used for the assessment of respiratory symptoms, and in the diagnosis and followup of asthma. Your healthcare provider will give you instructions on which medication you should use during this PEF monitoring. Usually the diagnostic evaluation is done without any maintenance medication for asthma. When evaluating treatment response or status of already diagnosed asthma, maintenance medication is usually continued without any changes.

To undertake the PEF monitoring, you will need a manual PEF measurement device and a form for writing down the results, or a digital PEF device with remote connection to a smartphone app. The measurements are done in the same way, but the digital device will transfer measurement results automatically to the software and the app will also remind you of the measurement schedule.

PEF measurement

PEF measurement is done on the same way with all device types. A video instruction on the correct way to do the peak flow measurement is found at our website (pef.fi). The measurement is done either seated or standing, but always in the same position.

- take the PEF device to your hand and zero the indicator on the manual device
- breathe a few normal breaths
- inhale maximally
- bring the mouthpiece of the PEF device to your mouth between teeth and squeeze your lips tightly around the mouthpiece so that no air leaks when blowing into the meter. Keep your tongue on the bottom of the oral cavity to avoid blocking the mouthpiece.
- blow a maximally strong short exhalation. In the peak flow measurement, there is no need to exhale your lungs completely empty, but the beginning of the exhalation must be maximally strong and fast. However, it should be a blow, not a cough.
- read the result from the scale as accurately as possible, do not round the values up or down
- write the result down on the PEF form

It is important that stop at the maximal inhalation is for only the minimum time it takes to bring the mouthpiece to your mouth. Do not hold your breath. In the beginning this might feel difficult, but it becomes easier after doing the measurement a few times on your own pace. If you have dentures, you can test if it is easier to blow with or without the dentures. However, do the measurement always in the same way.

Measurements at each measuring instance

During the PEF monitoring, each measuring instance consists of three (3) blows that are completed consecutively. Between measurements take a short break to rest and even out your breathing. If the two best values are over 20 litres/min, do an additional 1-2 measurements for repeatability. Write down all measurement results. At each instance, altogether a maximum of five (5) measurements are done before and after the reliever medication. The healthcare professional interpreting your results will take these additional measurements into account, you don't need to worry about the interpretation.

Scheduling of PEF measurements

The regular PEF measurements are done in the morning immediately after waking up and in the evening at the approximately same time or before going to bed. The measurements are continued for 14 days or 2 full weeks.

First you blow at least three baseline measurements and write the results to the "Before medication" column. Then take the reliever medication according to the instructions given by your doctor. The name of the reliever medication and the dose to be taken, are written on the PEF monitoring form. If you have been given instructions to use a spacer with aerosol medication, use it also during the PEF monitoring. After taking the reliever medication, wait for the assigned time for the medication to take effect. This is usually around 15 minutes.

If you have questions on which medication you should be using or the dosage or timing of your medication, ask your healthcare provider for more advice.

After waiting for the assigned time after reliever medication, do at least three PEF measurements in the same way as the previous measurements and write all results down in the column marked "After medication".

Symptom measurements

In addition to regular PEF measurements done in the morning and in the evening, symptom measurements are undertaken when you have increased levels of symptoms compared to your normal situation. These kinds of situations can occur e.g. during the night, when exercising or being exposed to an provoking agent like an allergen.

When observing symptoms, do the measurements in the same way as on other measuring instances. Do at least three baseline measurements, take the instructed reliever medication, wait for 15 minutes and then do the three after medication measurements. Symptom measurements are important since they show the real life variability and factors that trigger symptoms to you individually. Remember to write down on the form also your observations on which situations these symptoms occur and which factors might have triggered the symptoms.

Reporting of results

When you have finished the 14 day monitoring period, return the measurement results to the healthcare provider following their instructions. On the website (www.pef.fi) there is an electronic form, which can be used to illustrate the results on graphic form. The electronic form is available only in Finnish.

If you have a digital PEF device with remote monitoring, the results are usually transferred automatically. If you have borrowed the remote measurement device, follow the instructions given in returning it.

If you have any questions during the PEF monitoring, contact your healthcare provider for personalized advice.