

Using a Spacer with a Metered Dose Inhaler

What is a Metered Dose Inhaler?

The metered dose inhaler (MDI) is one method for giving an inhaled medicine to your child. The medicine is in a pressurized canister with a mouthpiece. Pressing the MDI releases a specific dose of the medication into the air. Many medicines are available in MDI form.

What is a spacer?

For most children, the MDI delivers medicine best when given through a spacer. A spacer is a general term for an open tube placed between the patient's mouth and the MDI. A valve holding chamber (VHC) is a spacer with a 1 way valve that doesn't allow the patient to breathe out into the spacer. This feature is very important because it allows young children to breathe normally and still get a reliable dose of medicine. To use the spacer with a mouthpiece shown in the photo, your child must be able to breathe in through the mouth at the right time. Usually this is someone over 6 years of age who is able to follow instructions. There are different brand names for VHCs such as Aerochamber and Optichamber.



This photo shows one type of spacer commonly used at Duke. Your child's spacer may look slightly different.

How to take an inhalation:

1. Remove the caps of the MDI and spacer.
2. Shake the MDI and insert it into the back of the spacer.
3. Breathe out as much air as possible
4. Put the mouthpiece in your mouth, then press canister once to release one dose of medication.
5. Take a deep, slow breath in. If you hear a whistling sound, you are breathing in too quickly. Hold your breath for about ten seconds; then breathe out .
6. (Optional) Breathe in again but do not press the canister.
7. Take the mouthpiece out of your mouth and breathe out.
8. Wait a few seconds before a second dose is taken and repeat steps 2 to 7.

To clean spacer:

You should read the instructions from the manufacturer of your child's spacer since instructions may vary. All spacers should be cleaned at least once per week. For most spacers, you should remove the back piece of the spacer; then soak the back piece and spacer for 15 minutes in lukewarm water and liquid detergent. Rinse with clean water and allow it to air dry in the upright position. It is not safe to put most spacers in the dishwasher.

How do you know when your child's MDI is empty?

The only way to know if your child's MDI is out of medicine is to count the doses. Each MDI can deliver a specific number of doses of medication. After the maximum number of doses has been delivered, the MDI is considered empty of medicine. Even when empty, the MDI may still give out a mist when you press it. In the past, some people have been told to place the MDI in water to see if it is empty. This is no longer recommended. Fortunately, some manufacturers have started to include automatic dose counters with the MDI's. If your child's MDI doesn't have its own dose counter, then you need to count doses so that you know when it is empty.

