

# Metered dose inhaler with holding chamber (spacer) to a tracheostomy

## What is a metered dose inhaler (MDI)?

An MDI, or inhaler, is a device that has medicine in it to help with breathing. It delivers medicine into the lungs. The MDI needs to be used in a certain way or it will not work.

## What is a holding chamber (spacer)?

A holding chamber, or spacer, is a plastic tube with an adapter that can be attached directly to a tracheostomy (trach). It connects to the MDI. The spacer helps more of the medicine get into the lungs where it can help your child.

If your child uses the MDI without a spacer:

- A lot of the medicine can stick to the tongue and throat instead of going to the lungs. This “wastes” the medicine and decreases how well it works.
- They may have more side effects from the medicine, as more of it enters the bloodstream from the mouth.

## How should my child use an MDI with spacer to the trach?

Follow the directions from your child’s respiratory therapist, nurse or doctor closely. Read the directions on the medicine, MDI and spacer labels carefully before use. Some guidelines to follow include:

1. Wash your hands well with soap and water for at least 20 seconds.
2. Have your child stand or sit up straight. If your child cannot stand or is on a ventilator (vent), have them in the upright position.
3. Take off the cap. Shake the inhaler well. (If it is a new inhaler or has not been used for several days, read the manufacturer’s instructions for how to prime the inhaler first.)
4. Attach the MDI, or inhaler, to the spacer.
5. Place the MDI with spacer on the trach.
6. Press down on the inhaler to spray the medicine into the spacer.
7. Keep the MDI with spacer in place until your child takes 6 or 7 deep breaths.
  - The number of breaths needed to remove all the medicine can vary based on the size of the child.
  - Small babies may need to take 6 to 10 breaths to empty the spacer.
  - If counting breaths is a problem, slowly count to 10.



**In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.**

## MDI with holding chamber (spacer) and trach, continued

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8. Remove the MDI with spacer.
9. If the doctor prescribed more than 1 puff, wait at least 1 minute between puffs. Shake the MDI before each puff and repeat steps 5 thru 8.

### How should I use the spacer with my child on the vent?

1. Follow the first 4 steps listed on page 1.
2. Place the MDI with spacer between the trach and the exhalation valve on the vent circuit.
3. Press down on the MDI to spray the medicine into the spacer.
4. Keep the MDI with spacer in place until your child takes 6 or 7 deep breaths.
  - The number of breaths needed to remove all the medicine can vary based on the size of the child.
  - Small babies may need to take 6 to 10 breaths to empty the spacer.
5. If the doctor prescribed more than 1 puff, wait at least 1 minute between puffs. Leave the spacer in place. Remove the MDI, and shake before each puff.



### How can I keep track of how much medicine is left?

Many inhalers come with a dose counter. If yours does not have one, be sure to keep track of how much of the medicine your child uses. Some ways that may help include:

- Count the number of doses your child uses each day, and write it on a calendar. This is the best way to keep track.
  - Mark what day you start using a new MDI. Then you can keep track of the number of doses left.
  - Compare the number of doses used with the number of doses on the canister. Most canisters tell you how many doses they have in them.
    - For example: if your child uses 4 puffs each day from a 200-puff canister, get it refilled in 45 to 50 days.
- Place a blank label on the inhaler. Place a “✓” (check mark) on the label after each puff until you reach the number of puffs listed on the canister.
- Write a refill date on the canister each time you get a new MDI at the drug store. If your child uses about the same number of doses each day, you will know to get a refill at about the same time each month. This only works if your child does not use the MDI for extra rescue doses.

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## **MDI with holding chamber (spacer) and trach, continued**

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Do **NOT** float your canister in water to see if it sinks or floats. This is **NOT** accurate and may lead to not having medicine when your child needs it.

Be sure to refill your child's prescription before the canister runs out. An MDI never feels like it is getting empty. You must keep up with the number of puffs used, including puffs used to prime the MDI.

### **How should I clean the spacer?**

- Rinse the spacer as needed with warm, running water.
- Clean them 1 time each week with warm water and soap.
- Allow the spacer to air dry between uses.
- Do not clean or dry the inside of the spacer with a cloth or fabric. This can create an electric charge on the inside of the spacer. The charge will decrease the amount of medicine that goes to your child's lungs.
- One time each week, rinse the mouthpiece (boot) that holds the MDI canister with warm running water. Do not soak it. When placing the canister back into the dried boot, prime it with 1 puff.
- See the manufacturer's instructions for more details.

**This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.**

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