

How to Properly Use Your **ASTHMA DEVICES**

For asthma control, it's important to know how to take asthma medicines correctly. This guide outlines the proper techniques for using asthma devices and equipment, such as metered dose inhalers, spacers and chambers, dry powder and breath actuated inhalers, and nebulizers. It also includes steps on how to clean spacers, chambers and nebulizers.



ASTHMA Care for Adults
Asthma Symptoms, Treatment, Health Management and Activities™

More resources for managing asthma are available in this course: aafa.org/asthmacare



Asthma and Allergy
Foundation of America

800-7-ASTHMA • aafa.org

ASTHMA Care for Adults
©2018 Asthma and Allergy Foundation of America
First Edition and Medical Review August 2018
Updated Review and Revised Edition February 2022

HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Metered Dose Inhaler?

If you use a metered dose inhaler (MDI), it is important to use it the right way. If you use it correctly, the medicine makes it into your lungs to help you manage your asthma. If you don't, the medicine might end up on your tongue, the back of your throat, or in the air. If that happens, you won't get the medicine you need, and you might not be able to control your asthma symptoms.

The National Institutes of Health's guidelines on the treatment of asthma recommend three ways to use an inhaler the right way:

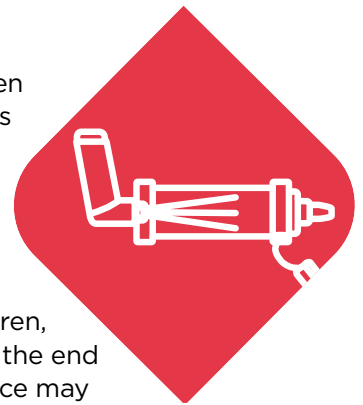
- Get trained again on the right way to use your MDI at every asthma checkup.
- Use a dry powder inhaler or breath actuated inhaler that releases a puff of medicine as you inhale on the mouthpiece.
- If it is hard for you to use an MDI, ask your doctor about other options. There are other types of inhalers that release a puff of medicine as you inhale on the mouthpiece.

What Is a Spacer or Holding Chamber?

A spacer is a plastic tube you attach to your inhaler to add space between the mouth and the MDI. This lets the medicine break into smaller droplets so you can inhale more.

A valved holding chamber adds a one-way valve to the mouthpiece of the spacer. It traps and holds the medicine, giving you time to breathe all of the medicine in.

Spacers and chambers come in many designs. For adults and older children, the end has a mouthpiece to insert into your mouth. For young children, the end may have a maskpiece to cover the mouth and nose. Your health insurance may cover much of the cost. Some kinds of spacers work better with certain MDIs. Talk with your doctor about the right spacer or holding chamber for you.



Do not use a spacer or holding chamber with a dry powder or a breath actuated inhaler.

How Do You Prime Your Inhaler?

Most MDIs need to be primed when you first open them. They also need to be primed if you haven't used the inhaler for two weeks or more.

Priming the inhaler mixes the propellant and medicine, which makes sure you get the proper dose. It is important to prime your inhaler to make sure you get the right amount of medicine in your lungs with each puff.

To prime your inhaler, remove the cap and shake it well for at least 5 seconds (about 10 hard shakes). Then spray it into the air and away from your face and other people. Repeat as many times as needed according to the directions on the medicine.



HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Metered Dose Inhaler?

How Do You Use an MDI With a Spacer or Holding Chamber?

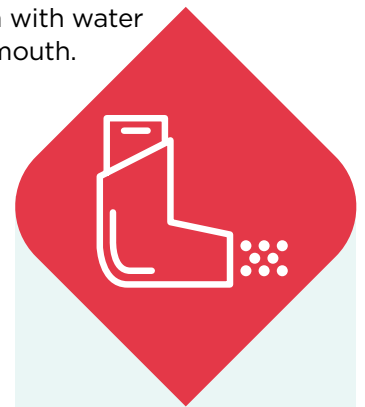
1. Stand up, if possible. Standing or sitting straight allows your lungs to fully breathe in and out. Hold your head in a normal position, not too far back or forward.
2. Remove the cap on the inhaler and shake well for at least 5 seconds (about 10 hard shakes).
3. Attach the MDI to the spacer as explained by your health care provider or in the directions that came with the spacer.
4. Place the mouthpiece of the spacer/chamber in your mouth between your teeth and above your tongue and close your lips around it. (Note: Spacers for young children have mask pieces and work differently.)
5. Press down on the top of the inhaler canister. This will put one puff of medicine into the holding chamber. Inhale slowly.
6. Hold your breath for 10 seconds and then exhale.
7. If you need to take more puffs, repeat steps 1 through 7. Your doctor will tell you how many puffs to take. Wait 1 minute between puffs.
8. Wipe off the mouthpiece and replace the cover. Store your inhaler at room temperature and keep it dry.
9. If the inhaler was a steroidal (control) medicine, rinse out your mouth with water and then spit it out. Rinsing helps to prevent thrush or sores in your mouth.

How Do You Clean Your Spacer or Chamber?

Clean your spacer or chamber once a week to remove powder residue and bacteria.

To clean your spacer or chamber:

- Remove the parts that can be removed, like the back piece.
- Soak them in warm water and dish soap for about 15 minutes.
- Rinse the parts in clean water.
- Air dry the parts. Do not dry with a towel.
- Put the spacer back together and use again when all the parts are dry.



Remember, most MDIs work better with a spacer or holding chamber, except for breath actuated inhalers (like a RediHaler™). Breath actuated inhalers use different instructions.



Asthma and Allergy
Foundation of America

800-7-ASTHMA • aafa.org

HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Metered Dose Inhaler?

How Do You Use Your MDI Without a Spacer?

It is best for everyone who uses a press-and-breathe MDI to use it with a spacer or chamber. If one is not available, you can use the inhaler directly in your mouth. Try to obtain a spacer/chamber as soon as you can.

1. Stand up, if possible. Standing or sitting straight allows your lungs to fully breathe in and out. Hold your head in a normal position, not too far back or forward.
2. Remove the cap on the inhaler and shake well for at least 5 seconds (10 hard shakes).
3. Breathe in and out a few times to get your lungs ready. You should exhale before putting the inhaler in your mouth.
4. Put the inhaler in your mouth between your teeth, above your tongue and close your lips around the mouthpiece.
5. Push down once on top of the inhaler to let out one puff of medicine. Release only one puff at a time.
6. Take a slow (3 to 5 seconds) and deep breath in through your mouth.
7. Hold your breath for 10 seconds and then exhale.
8. Relax and breathe out slowly.
9. If you need to take more puffs, repeat steps 1 to 9. Your health care provider will tell you how many puffs to take. Wait 1 minute between puffs.
10. Wipe off the mouthpiece and replace the cover. Store your inhaler at room temperature and keep it dry.
11. If the inhaler was a steroidal (control) medicine, rinse out your mouth with water and then spit it out. Rinsing helps to prevent thrush or sores in your mouth.



HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Dry Powder Inhaler?

A dry powder inhaler (DPI) delivers controller medicine as a powder. It doesn't need an aerosol spray to work.

DPIs are different than press-and-breathe inhalers. DPIs deliver the medicine when you inhale. Some people may prefer a DPI over other inhalers. Children, people with severe asthma, and people who have acute (sudden) attacks may not have enough airflow to use DPI inhalers.



1. Stand up, if possible. Standing or sitting straight allows your lungs to fully breathe in and out. Hold your head in a normal position, not too far back or forward.
2. Open the cover or remove the cap and hold the inhaler upright. If you are using a diskus, hold it flat, like a hamburger.
3. Load a dose of the medicine into the inhaler by either twisting it or flipping the lever, depending on the instructions.
4. Breathe in and out a few times to get your lungs ready, and then finally breathe out to empty your lungs before putting the inhaler into your mouth. Never breathe into your inhaler.
5. Put the end of the mouthpiece into your mouth between your teeth and above your tongue and close your lips firmly around it.
6. Breathe in fast and hard through the mouthpiece, not your nose.
7. Remove the inhaler from your mouth and close your lips. Hold your breath for 10 seconds and slowly breathe out. This is one "puff."
8. Your doctor will tell you how many puffs to take. To take another puff, repeat steps 1 through 7. Follow your Asthma Action Plan or take medicine as instructed.
9. Wipe off the mouthpiece and replace the cover if it has one. Store your inhaler at room temperature and keep it dry.
10. Rinse your mouth with water and then spit it out. Rinsing helps to prevent thrush or sores in your mouth.

Note: Dry powder inhalers DO NOT need a spacer or chamber, to be shaken, or to be primed before each use.

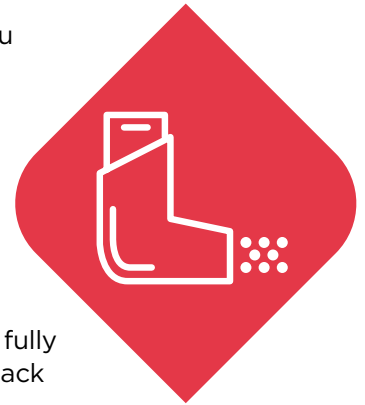


HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Breath Actuated Inhaler?

A breath actuated inhaler looks similar to a metered dose inhaler, but you just inhale to take the medicine. There are some that contain controller medicine and some that contain quick-relief medicine.

These are different than press-and-breathe inhalers. Breath actuated inhalers deliver the medicine when you inhale. Some people may prefer a breath actuated inhaler over other inhalers. Children, people with severe asthma, and people who have acute (sudden) attacks may not have enough airflow to use breath actuated inhalers.



1. Stand up, if possible. Standing or sitting straight allows your lungs to fully breathe in and out. Hold your head in a normal position, not too far back or forward.
2. Flip the cap or open the cover all the way until you hear a click. This prepares the dose of medicine.
3. Hold the inhaler upright. Be careful not to cover the air vents on the inhaler with your fingers.
4. Breathe in and out a few times to get your lungs ready, and then finally breathe out to empty your lungs before putting the inhaler into your mouth. Never breathe into your inhaler.
5. Put the end of the mouthpiece into your mouth between your teeth and above your tongue and close your lips firmly around it.
6. Breathe in fast and hard through the mouthpiece, not your nose.
7. Remove the inhaler from your mouth and close your lips. Hold your breath for 10 seconds and slowly breathe out. This is one “puff.”
8. Your doctor will tell you how many puffs to take. To take another puff, put the cap back on and repeat steps 1 through 7. Follow your Asthma Action Plan or take medicine as instructed.
9. Wipe off the mouthpiece and replace the cover. Store your inhaler at room temperature and keep it dry.
10. Rinse out your mouth with water and then spit it out. Rinsing helps to prevent thrush or sores in your mouth.

Note: Breath actuated inhalers DO NOT need a spacer or chamber, to be shaken, or to be primed before each use. Do not open the cover unless you are going to use the inhaler.



HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Soft Mist Inhaler?

Soft mist inhalers (Respimat™) release medicine through a slow moving, soft mist spray.

Soft mist inhalers need to be primed before the *first time* you use them. Priming gets the device ready for use. Follow your specific device's instructions. They can be found in the patient information paper that comes in the prescription box or on the drug manufacturer's website.

Do not use a spacer or valved holding chamber with a soft mist inhaler, and do not shake before use. When priming and using the inhaler, be careful not to get the spray in your eyes.



How Do You Put a Soft Mist Inhaler Together?

The soft mist inhaler comes in two pieces: the cartridge that holds the medicine and the inhaler that delivers the medicine. You must put the cartridge into the inhaler before you can use it.

1. With the cap closed, press the gray safety catch and pull the clear base of the inhaler.
2. Take the narrow end of the cartridge and push it into the inhaler as far as it will go.
3. Push the cartridge down firmly on a hard surface to make sure the cartridge has gone in all the way. (You will still see a small amount of the cartridge even after you push it in all the way.)
4. Put the clear base back into place.

Do not remove the cartridge or clear base once you have put inhaler the together.

How Do You Prime a Soft Mist Inhaler?

Prime the inhaler before you use it for the first time.

1. Hold the inhaler upright with the cap closed.
2. Turn the clear base in the direction of the arrows until you hear a click.
3. Flip the cap open.
4. Point the inhaler down away from your face. Press the release button.
5. Close the cap.
6. Repeat steps 1 through 5 three more times.



HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Soft Mist Inhaler?

How Do You Use a Soft Mist Inhaler?

1. Hold the inhaler upright.
2. Turn the clear base half a turn in the direction of the arrows until you hear a click.
3. Flip the cap open.
4. Breathe out slowly.
5. Bring the inhaler to your mouth. Keep your head up, looking straight ahead (do not bend your head or neck).
6. Point the inhaler to the back of your throat. Close your lips around the mouthpiece.
7. Press the release button and inhale the mist slowly and deeply.
8. When the spray stops, remove the inhaler from your mouth.
9. Hold your breath for 10 seconds.
10. Exhale slowly.
11. To take another puff, follow steps 2 through 10 (if prescribed).
12. Close the cap.

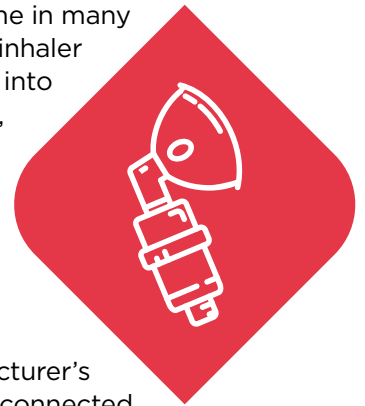


HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Use a Nebulizer Machine?

A nebulizer machine, or “breathing machine,” turns liquid asthma medicine into a mist. You then breathe in the medicine through a mask or mouthpiece. They come in tabletop, portable, and handheld models. If your doctor recommends that you use a nebulizer, it is important to know what your options are and how they work.

Nebulizers may be easier to use than some asthma inhalers. Inhalers come in many shapes and sizes. Each inhaler must be held and inhaled correctly. If the inhaler is not primed and breathed in the right way, all the medicine will not get into the lungs. You do not need to prime a nebulizer or time when you inhale, like with an inhaler. Once the nebulizer is set up and ready to use, simply breathe in and out slowly. The soft mist will get deep into your lungs where it is needed most.



To use a nebulizer:

1. Wash your hands with soap and warm water.
2. Connect the parts of the nebulizer machine according to the manufacturer's directions. Make sure the tubing and mouthpiece or mask are tightly connected.
3. Pour the nebulizer solution as prescribed into the nebulizer's medicine cup. Tighten the cap over the cup.
4. Place the mouthpiece in your mouth between your teeth and above your tongue and create a tight seal with your lips. If you use a mask, make sure you have a tight fit over your nose and mouth. Turn the machine on.
5. As the mist starts, breathe in slowly for 3 to 5 seconds. Continue until the mist stops or until there is not medicine left in the cup.
6. Turn off the machine. Rinse your mouth with water and spit it out.
7. Clean and dry the medicine cup and mouthpiece or mask.

To clean your nebulizer:

1. Wash your hands with soap and warm water.
2. Take the nebulizer kit apart. Remove the mouthpiece or mask. Disconnect the tubing from the nebulizer and the medicine cup.
3. Hold the medicine cup and gently twist the top to the left to remove it.
4. Discard remaining medicine in the medication cup. Use fresh medicine each time you use the nebulizer.
5. Rinse all the parts (except the tubing) with hot tap water.
6. Air dry in a clean environment or hand dry using a soft, clean, lint-free cloth.
7. Store the nebulizer kit in a dry bag or clean container to keep them clean and free of dust and germs.

Note: Parts of your nebulizer kit may be reusable while others may be disposable. You can confirm your replacement schedule with your insurance plan or durable medical equipment (DME) provider.



HOW TO PROPERLY USE YOUR ASTHMA DEVICES

How Do You Know When Your Inhaler Is Empty?

Inhalers have counters located on the inhaler. The counter tracks the number of puffs or doses left in the inhaler.

The counter may be on the top, bottom, or side of the inhaler. Find the location of the counter when you start a new inhaler.

Some inhalers must be primed before you first use them. Priming gets your inhaler ready for use by making sure the dosing chamber is filled with medicine and propellant (to help the medicine “propel” or spray into the lungs). This ensures you will receive the full dose of medicine.

If you use a metered dose inhaler (MDI) that needs to be primed before its first use, the dose counter will include the number of sprays needed for priming. For example, if your inhaler has 200 puffs and should be primed using four puffs, the counter will start at 204. Four of those doses will be sprayed in the air to prime the inhaler. The inhaler is ready to use when the counter hits 200.

Remember, not all inhalers need to be primed and not all priming instructions are the same. Check your inhaler’s package insert or talk to your pharmacist or doctor.

When the counter reads 0 (zero), there is no more medicine left in the inhaler. You should throw it away. Get your refill before your inhaler reaches 0! Inhalers may still spray even if the counter is at zero. This is because MDIs have both medicine and propellants inside the canister.

Check the counter after each use.

After each puff (dose) you take, check the counter to make sure it is working. By checking the counter after each use, you will know when it’s time to order a new inhaler. On some inhalers, the numbers on the counter will turn red to let you know it’s time to order a new one.

Inhalers may need to be cleaned to avoid clogging. Follow the manufacturer’s instructions on how to clean your inhaler and how often.

Do NOT put your inhaler in water to float it and see if it is empty. This does not work and could cause your inhaler not to work properly.



DIFFERENT TYPES OF ASTHMA MEDICINE

CONTROLLER MEDICINES help you prevent and control asthma symptoms. You may need to take this type of medicine every day for best results. There are several kinds of controller medicines:



Inhaled corticosteroids prevent and reduce airway swelling. They also reduce mucus in the lungs. They are the most effective long-term control medicines available.



Inhaled long-acting beta agonists open the airways by relaxing the muscles that tighten around the airways. If used, this type of medicine should always be taken in combination with an inhaled corticosteroid.



Leukotriene modifiers come as tablets, chewables or granules. They are mast cell stabilizers that prevent the release of certain natural chemicals (such as histamines or leukotrienes) into the body.



Biologics are shots or infusions given every few weeks to treat moderate to severe asthma. They work by targeting a cell or protein in your body to prevent airway inflammation. They can be expensive treatments but can improve uncontrolled asthma that doesn't respond to other treatments.



Combination inhaled medicines contain both a controller (inhaled corticosteroid) and a reliever (long-acting beta agonist). These medicines may be used as daily for control and as needed for quick-relief.

QUICK-RELIEF MEDICINES help relieve asthma symptoms when they happen. These medicines act fast to relax tight muscles around your airways. This allows the airways to open up so air can flow through them. You should take your quick-relief medicine when you have asthma symptoms. If you use this medicine more than two days a week, talk with your doctor about your asthma control. You may need to make changes to your treatment plan.



Short-acting beta agonists are inhaled and work quickly to relax the muscles that tighten around the airways. These medicines are the first choice for quick relief of asthma symptoms.



Long-acting muscarinic antagonists (also called **anticholinergics**) are inhaled but act slower than the short-acting beta agonist medicines. These medicines open the airways by relaxing the smooth muscles around the airways. They also reduce mucus production.



Combination quick-relief medicines contain both a long-acting muscarinic antagonist and a short-acting beta agonist. This combination comes either as an inhaler or nebulizer for inhalation.



SYSTEMIC CORTICOSTEROIDS are often called “steroids” and may be needed for the emergency treatment of asthma attacks that don't respond to other asthma medicines. They are sometimes used as long-term control for some people with severe asthma. They may be delivered as pills, liquid, intravenous (IV) infusion, or injection. They are absorbed into the whole body (system wide). Systemic corticosteroids have serious long-term side effects compared to inhaled corticosteroids. If you use systemic corticosteroids (like prednisone) two or more times per year, it is a sign your asthma is not controlled. Because of the significant side effects of systemic steroids, other treatment options may offer a better solution.



UNDERSTANDING SINGLE MAINTENANCE AND RELIEVER THERAPY (SMART)

What Is Single Maintenance and Reliever Therapy (SMART)?

SMART is another way to take asthma medicines¹. Instead of taking two asthma medicines – one for control and one for quick relief – you use one inhaler for both.

SMART has been used in Europe for a long time and is now recommended in the United States, according to the latest asthma management guidelines² from the National Institutes of Health (NIH). Using one inhaler for both quick relief and control is a highly effective and easier way to manage asthma.

How Does SMART Work?

SMART uses one inhaler for quick relief and controller medicine. This inhaler has two medicines and is called a combination medicine.

Based on your age and the severity of your asthma, your provider may recommend you use the combination medicine in one of two ways:

- Only as needed to relieve sudden symptoms, or
- Daily as a controller plus as needed to quickly relieve symptoms.

Which Medicines Are Used for SMART?

The current asthma management guidelines recommend a long-acting beta-agonist called formoterol to be used in combination with budesonide (an inhaled corticosteroid) for SMART. This combination is found in SYMBICORT®. Budesonide supplements the natural corticosteroids that are made by your body's adrenal glands. They are low dose and target the airways specifically. Formoterol acts quickly to open the airways and relieve sudden symptoms. It also works as a controller by keeping the airways open for up to 12 hours. (DULERA® offers formoterol in combination with a different corticosteroid called mometasone furoate.)

As of March 2022, the Food and Drug Administration (FDA) has not yet approved these medicines to be used in this way. If you are interested in SMART, talk with your doctor.

Learn more:

1. **Asthma Medicines**
aafa.org/asthma-treatment
2. **Asthma Diagnosis, Management, and Treatment in the U.S.: 2020 Guidelines**
community.aafa.org/blog/asthma-diagnosis-management-and-treatment-in-the-u-s-is-changing-what-the-new-guidelines-say

