

HOW TO USE A Metered-Dose Inhaler



A metered-dose inhaler is a device that sprays a pre-set amount of medicine through the mouth to the airways. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your inhaler correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a metered-dose inhaler. Be sure to read the instructions that come with *your* inhaler. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your inhaler. Review your technique at each follow-up visit.

1. Take off cap. Shake the inhaler. Prime (spray or pump) the inhaler as needed according to manufacturer's instructions (each brand is different).
2. If you use a spacer or valved holding chamber (VHC), remove the cap and look into the mouthpiece to make sure nothing is in it. Place the inhaler in the rubber ring on the end of the spacer/VHC.
3. Stand up or sit up straight.
4. Take a deep breath in. Tilt head back slightly and blow out completely to empty your lungs.
5. Place the mouthpiece of the inhaler or spacer/VHC in your mouth and close your lips around it to form a tight seal.
6. As you start to breathe in, press down firmly on the top of the medicine canister to release one "puff" of medicine. Breathe in slowly (gently) and as deeply as you can for 3 to 5 seconds.
7. Hold your breath and count to 10.
8. Take the inhaler or spacer/VHC out of your mouth. Breathe out slowly.
9. If you are supposed to take 2 puffs of medicine per dose, wait 1 minute and repeat steps 3 through 8.
10. If using an inhaled corticosteroid, rinse out your mouth with water and spit it out. Rinsing will help to prevent an infection in the mouth.

HOW TO CLEAN A METERED-DOSE INHALER AND SPACER/VHC

Keep your inhaler and spacer/VHC clean so they can work properly. Read the manufacturer's instructions and talk to your doctor, pharmacist, or other health care professional about how to clean your inhaler and spacer/VHC (each brand is different). When cleaning your inhaler and spacer/VHC, remember:

- Never put the medicine canister in water.
- Never brush or wipe inside the spacer/VHC.



National Asthma Education
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HOW TO USE A Dry Powder Inhaler



A dry powder inhaler delivers pre-set doses of medicine in powder form. The medicine gets to your airways when you take a deep, fast breath in from the inhaler. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your inhaler correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a dry powder inhaler. Be sure to read the instructions that come with *your* inhaler. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your inhaler. Review your technique at each follow-up visit.

1. Remove cap and hold inhaler upright (like a rocket). If the inhaler is a Diskus®, hold it flat (like a flying saucer).
2. Load a dose of medicine according to manufacturer's instructions (each brand of inhaler is different; you may have to prime the inhaler the first time you use it). Do **not** shake the inhaler.
3. Stand up or sit up straight.
4. Take a deep breath in and blow out completely to empty your lungs. Do **not** blow into the inhaler.
5. Place the mouthpiece of the inhaler in your mouth and close your lips around it to form a tight seal.
6. Take a fast, deep, forceful breath in through your mouth.
7. Hold your breath and count to 10.
8. Take the inhaler out of your mouth. Breathe out slowly, facing away from the inhaler.
9. If you are supposed to take more than 1 inhalation of medicine per dose, wait 1 minute and repeat steps 2 through 8.
10. When you finish, put the cover back on the inhaler or slide the cover closed. Store the inhaler in a cool, dry place (not in the bathroom).
11. If using an inhaled corticosteroid, rinse out your mouth with water and spit it out. Rinsing helps to prevent an infection in the mouth.

HOW TO CLEAN A DRY POWDER INHALER

- Wipe the mouthpiece at least once a week with a dry cloth.
- Do **NOT** use water to clean the dry powder inhaler.



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HOW TO USE A Nebulizer



A nebulizer is a machine that delivers medicine in a fine, steady mist. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your nebulizer correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a nebulizer. Be sure to read the instructions that come with *your* nebulizer. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your nebulizer. Review your technique at each follow-up visit.

1. Wash hands well.
2. Put together the nebulizer machine, tubing, medicine cup, and mouthpiece or mask according to manufacturer's instructions.
3. Put the prescribed amount of medicine into the medicine cup. If your medicine comes in a pre-measured capsule or vial, empty it into the cup.
4. Place the mouthpiece in your mouth and close your lips around it to form a tight seal. If your child uses a mask, make sure it fits snugly over your child's nose and mouth. Never hold the mouthpiece or mask away from the face.
5. Turn on the nebulizer machine. You should see a light mist coming from the back of the tube opposite the mouthpiece or from the mask.
6. Take normal breaths through the mouth while the machine is on. Continue treatment until the medicine cup is empty or the mist stops, about 10 minutes.
7. Take the mouthpiece out of your mouth (or remove mask) and turn off the machine.
8. If using an inhaled corticosteroid, rinse mouth with water and spit it out. If using a mask, also wash the face.

HOW TO CLEAN AND STORE A NEBULIZER

After each treatment:

- Wash hands well.
- Wash the medicine cup and mouthpiece or mask with warm water and mild soap. Do **not** wash the tubing.
- Rinse well and shake off excess water. Air dry parts on a paper towel.

Once a week:

Disinfect nebulizer parts to help kill any germs. Follow instructions for each nebulizer part listed in the package insert. Always remember:

- Do **not** wash or boil the tubing.
- Air dry parts on a paper towel.

Between uses:

- Store nebulizer parts in a dry, clean plastic storage bag. If the nebulizer is used by more than one person, keep each person's medicine cup, mouthpiece or mask, and tubing in a separate, labeled bag to prevent the spread of germs.
- Wipe surface with a clean, damp cloth as needed. Cover nebulizer machine with a clean, dry cloth and store as manufacturer instructs.
- Replace medicine cup, mouthpiece, mask, tubing, filter, and other parts according to manufacturer's instructions or when they appear worn or damaged.



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HOW TO USE A Peak Flow Meter



Peak flow meters are devices used to measure how well air is moving through your lungs.

Here are some general steps for how to use a peak flow meter. Be sure to read the instructions that come with your peak flow meter. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your peak flow meter. Review your technique at each follow-up visit. This page also tells you what the numbers on the meter mean and how they can help you and your doctor or other health care professional keep your asthma under control.

1. Always stand up. Remove any food or gum from your mouth.
2. Make sure the marker on the peak flow meter is at the bottom of the scale.
3. Breathe in slowly and deeply. Hold that breath.
4. Place mouthpiece on your tongue and close lips around it to form a tight seal (do not put tongue in the hole).
5. Blow out as hard and fast as possible.
6. Write down the number next to the marker. (If you cough or make a mistake, do not write down that number. Do it over again.)
7. Repeat steps 3 through 6 two more times.
8. Record the highest of these three numbers in a notebook, calendar, or asthma diary.

Compare the highest number with the peak flow numbers on your written asthma action plan. Check to see which zone the number falls under and follow the plan's instructions for that zone.



GREEN ZONE: 80%-100% of personal best → Take daily long-term control medication, if prescribed.



YELLOW ZONE: 50%-79% of personal best → Add quick-relief medication(s) as directed and continue daily long-term control medication, if prescribed. Continue to monitor.



RED ZONE: Less than 50% of personal best → Add quick-relief medication(s) as directed. Get medical help now.

Continued on reverse ▶

Recording peak flows at the same time daily will give you the most consistent numbers.

HOW TO FIND YOUR PERSONAL BEST OR USUAL PEAK FLOW:

- Follow the steps on page 1 to take your peak flow daily for 2 to 3 weeks when your asthma is under good control. Record the highest number each day.
- Take peak flow at the same time every day. Peak flows are lowest in the early morning and highest between noon and 5 p.m. Recording peak flows at the same time daily will give you the most consistent numbers.
- The highest number during this period of time will be your personal best number.

Your doctor or other health care professional may also want you to take your peak flow before and after using your quick-relief medicine. Follow his or her instructions.

Find a new personal best with each new peak flow meter (different meters can give different numbers).

Find a new personal best for children every 6 months to allow for growth changes.



HOW TO CONTROL Asthma Triggers



Asthma triggers are things in the indoor and outdoor environment that can make your asthma worse. Asthma triggers range from dust mites and pet dander in the home to pollen and air pollution outside. This fact sheet will help you identify your asthma triggers, teach you how to avoid them, and explain what you can do to make your home and surroundings more asthma-friendly.

Allergens

□ ANIMAL DANDER

Some people are allergic to the flakes of skin or dried saliva from animals with fur or hair.

The best thing to do:

- Keep pets with fur or hair out of your home.

If you must have a pet, then:

- Keep the pet out of your bedroom and other sleeping areas, and keep the door closed.
- Remove carpets and cloth furniture from your home. If you can't do that, keep the pet away from cloth furniture and carpets.

□ DUST MITES

Many people who have asthma are allergic to dust mites. Dust mites are tiny bugs (too small to see) that are found in every home—in dust, mattresses, pillows, carpets, cloth furniture, sheets and blankets, clothes, stuffed toys, and other cloth-covered items.

Things that may help:

- Put your mattress and pillow in special dust-proof covers.
- Wash sheets and blankets on your bed each week in hot water. Water must be hotter than 130 °F to kill the dust mites. Cold or warm water used with detergent and bleach can also kill dust mites.

- Reduce indoor humidity to below 60 percent. Between 30 and 50 percent is best. Dehumidifiers or central air conditioners can do this.
- Try not to sleep or lie on cloth cushions.
- Remove carpets from your bedroom and those laid on concrete.
- Keep stuffed toys off of the bed or sleeping area. Wash stuffed toys weekly in hot water or cooler water with detergent and bleach. Dust mites can also be killed by placing stuffed animals in the freezer overnight in a plastic bag.

□ COCKROACHES

Many people who have asthma are allergic to the dried droppings and remains of cockroaches.

The best things to do:

- Keep food and garbage in closed containers.
- Never leave food, dirty dishes, or standing water out.
- Use poison baits, powders, gels, or paste (for example, boric acid). You can also use traps.
- If a spray is used to kill roaches, stay out of the room until the odor goes away.

Continued on reverse ▶



INDOOR MOLD

- Fix leaky faucets, pipes, or other sources of water that have mold around them.
- Scrub mold off hard surfaces with soap and water, and dry completely. Wear gloves to avoid touching mold with your bare hands. If you use a cleaner with bleach or a strong smell, always ventilate the area.

POLLEN AND OUTDOOR MOLD

What to do during your allergy season (when pollen or mold spore counts are high):

- Try to keep your windows closed.
- Stay indoors with windows closed from late morning to afternoon, if you can. Pollen and some mold spore counts are highest at that time.
- If you do go outside, change your clothes as soon as you get inside and put dirty clothes in a covered hamper or container to avoid spreading allergens inside your home.
- Ask your doctor whether you need to take or increase anti-inflammatory medicine before your allergy season starts.

Irritants

TOBACCO SMOKE

- If you smoke, ask your doctor for ways to help you quit. Ask family members to quit smoking, too.
- Do not allow smoking in your home or car.

SMOKE, STRONG ODORS, SPRAYS, AND FUMES

- If possible, do not use a wood-burning stove, kerosene heater, or fireplace. Vent gas stoves to outside.

- Try to stay away from strong odors and sprays—such as perfume, talcum powder, hair spray, and paints.

Other things that bring on asthma symptoms in some people include:

VACUUM CLEANING

- Try to get someone else to vacuum for you once or twice a week. Stay out of rooms while they are being vacuumed and for a short while afterward.
- If you vacuum, use a dust mask (from a hardware store), a double-layered or microfilter vacuum cleaner bag, or a vacuum cleaner with a HEPA filter.

OTHER THINGS THAT CAN MAKE ASTHMA WORSE

- **Sulfites (used to prevent spoiling) in foods and beverages:** Do not drink beer or wine or eat dried fruit, instant potatoes, or shrimp if they cause asthma symptoms.
- **Cold air:** Cover your nose and mouth with a scarf on cold or windy days.
- **Other medicines:** Tell your doctor or other health care professional about all the medicines you take. Include cold medicines, aspirin, vitamins and other supplements, and nonselective beta blockers (used, for example, in eye drops and medicines for anxiety and high blood pressure).
- **Infections:** Certain lung infections like a cold or the flu may also make your asthma worse.

HOW TO USE A Dry Powder Inhaler – Diskus[®]



A Diskus[®] is an inhaler shaped like a hockey puck or flying saucer. It delivers pre-set doses of medicine in powder form. The medicine gets to your airways when you take a deep, fast breath in from the inhaler. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your inhaler correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a Diskus[®] inhaler. Be sure to read the instructions that come with *your* inhaler. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your Diskus[®] inhaler. Review your technique at each follow-up visit.

1. Holding the Diskus[®] flat (like a flying saucer) in one hand, place the thumb of your other hand in the thumbgrip and slide the cover open until it clicks.
2. With the mouthpiece facing you, slide the lever away from your until it clicks. This will load a dose of medicine. Do **not** tip or shake the inhaler.
3. Stand up or sit up straight.
4. Take a deep breath in and blow out completely to empty your lungs. Do **not** blow into the inhaler.
5. Place the mouthpiece of the inhaler in your mouth and close your lips around it to form a tight seal.
6. Take a fast, deep, forceful breath in through your mouth.
7. Hold your breath and count to 10.
8. Take the inhaler out of your mouth. Breathe out slowly, facing away from the inhaler.
9. Slide the cover closed.
10. If you are supposed to take more than 1 inhalation of medicine per dose, wait 1 minute and repeat steps 1 through 9.
11. If using an inhaled corticosteroid, rinse out your mouth with water and spit it out. Rinsing helps to prevent an infection in the mouth.
12. Store the Diskus[®] in a cool, dry place (not in the bathroom).

Note: A Diskus[®] inhaler has a built-in counter to tell you how many doses are left. When the counter gets to "0," throw it away. Be sure to get a refill of your inhaler before the counter gets to "0."

HOW TO CLEAN A DISKUS[®] INHALER

- Wipe the mouthpiece at least once a week with a dry cloth.
- **Do NOT use water** to clean a Diskus[®] inhaler.



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HOW TO USE A Dry Powder Inhaler – Flexhaler®



A Flexhaler® is an inhaler shaped like a small rocket. It delivers pre-set doses of medicine in powder form. The medicine gets to your airways when you take a deep, fast breath in from the inhaler. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your inhaler correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a Flexhaler®. Be sure to read the instructions that come with your inhaler. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your Flexhaler®. Review your technique at each follow-up visit.

First Use: Prime the Flexhaler® before using it the first time. To prime it, remove the cover and twist the bottom of the device as far to the right as it will go, then twist to the left as far as it will go until you hear a click. Repeat this step one more time. Your Flexhaler® is now ready for use and does not need to be primed again.

Regular Use:

1. Hold the Flexhaler® with the mouthpiece up. Remove cover and twist the bottom as far to the right as it will go, then to the left as far as it will go until you hear a click. This will load a dose of medicine. Do **not** shake the inhaler.
2. Stand up or sit up straight.
3. Take a deep breath in and blow out completely to empty your lungs. Do **not** blow into the inhaler.
4. Place the mouthpiece of the inhaler in your mouth and close your lips around it to form a tight seal.
5. Take a fast, deep, forceful breath in through your mouth.
6. Hold your breath and count to 10.
7. Take the inhaler out of your mouth. Breathe out slowly, facing away from the inhaler.
8. If you are supposed to take more than 1 inhalation of medicine per dose, wait 1 minute and repeat steps 2 through 7.
9. When you finish, put the cover back on the Flexhaler®.
10. If using an inhaled corticosteroid, rinse out your mouth with water and spit it out. Rinsing helps to prevent an infection in the mouth.
11. Store the Flexhaler® in a cool, dry place (not in the bathroom).

Note: A Flexhaler® has a built-in counter to tell you how many doses are left. When the counter gets to “0,” throw it away. Be sure to get a refill of your inhaler before the counter gets to “0.”

HOW TO CLEAN A FLEXHALER®

- Wipe the mouthpiece at least once a week with a dry cloth.
- **Do NOT use water** to clean a Flexhaler®.

HOW TO USE A Dry Powder Inhaler – Twisthaler®



A Twisthaler® is an inhaler shaped like a small rocket. It delivers pre-set doses of medicine in powder form. The medicine gets to your airways when you take a deep, fast breath in from the inhaler. To keep your asthma under control, it is important to take your medicine as prescribed by your doctor or other health care professional and to use the proper technique to deliver the medicine to your lungs. If you don't use your inhaler correctly, you won't get the medicine you need.

Here are general steps for how to use and clean a Twisthaler®. Be sure to read the instructions that come with your inhaler. Ask your doctor, pharmacist, or other health care professional (such as nurse practitioner, physician assistant, nurse, respiratory therapist, or asthma educator) to show you how to use your Twisthaler®. Review your technique at each follow-up visit.

1. Hold the inhaler upright with the pink part at the bottom.
2. Twist the cap to the left (counter clockwise) to remove it. This will load a dose of medicine. Do not shake the inhaler.
3. Stand up or sit up straight.
4. Take a deep breath in and blow out completely to empty your lungs. Do not blow into the inhaler.
5. Place the mouthpiece of the inhaler in your mouth and close your lips around it to form a tight seal. Do not cover the holes on the sides.
6. Take a fast, deep, forceful breath in through your mouth.
7. Hold your breath and count to 10.
8. Take the inhaler out of your mouth. Breathe out slowly, facing away from the inhaler.
9. When you finish, wipe the mouthpiece dry, if needed. Put the cover back on the Twisthaler® and twist until it clicks.
10. If you are supposed to take more than 1 inhalation of medicine per dose, wait 1 minute and repeat steps 2 through 9.
11. If using an inhaled corticosteroid, rinse out your mouth with water and spit it out. Rinsing helps to prevent an infection in the mouth.
12. Store the Twisthaler® in a cool, dry place (not in the bathroom).

Note: A Twisthaler® has a built-in counter to tell you how many doses are left. When the counter gets to “0,” throw it away. Be sure to get a refill of your inhaler before the counter gets to “0.”

HOW TO CLEAN A TWISTHALER®

- Wipe the mouthpiece at least once a week or as needed with a dry cloth.
- **Do NOT use water** to clean a Twisthaler®.



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