



ASTHMA CARE

Your guide to managing asthma

ASTHMA-SAFE HOMES PROGRAM

Bureau of Environmental and Occupational Health

<https://www.dhs.wisconsin.gov/asthma/ashp.htm> | JUNE 2023

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SECTION 1: WHAT IS ASTHMA?

THE BASICS

Asthma is a chronic lung disease. It is caused by swelling in the airways. This makes them more sensitive and smaller than normal. When asthma is not under control, three things happen that make it hard to breathe:

- 1 Your airways become swollen.** The walls thicken and there's less room for air to move through.
- 2 Your airways make more mucus.** Mucus is a thick liquid that your body makes. Mucus is made to protect your nose, throat, and airways. When you have asthma, your lungs makes too much mucus. This mucus can block your airways.
- 3 The muscles around your airways tighten.** Your airways have muscles around them that are usually loose. When you have asthma, these muscles can tighten so that less air gets through.

These three things can cause wheezing, coughing, chest tightness, and trouble breathing. If your asthma is not under control, these can get worse over time.

Fortunately, there are several ways to manage your or your child's asthma. They include learning about asthma, controlling asthma triggers, monitoring changes in symptoms or lungs, and using medication.

REVIEW QUESTIONS:

What does it feel like when you have an asthma attack?

What happens in your body to cause asthma symptoms?

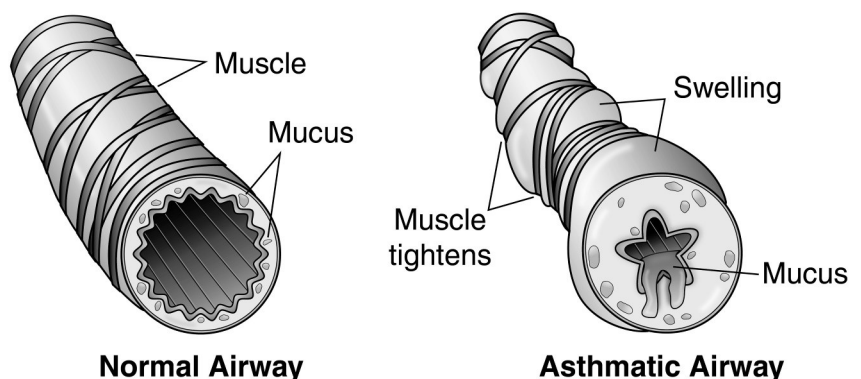


Photo credit: UW Health



SECTION 2: COMMON SYMPTOMS

COMMON SYMPTOMS

Each person with asthma may have different symptoms, which can change through time. Most people with asthma experience one or more of these symptoms:

Coughing

An asthma cough is usually dry and hard to stop. The cough is not just from a cold. Coughing from asthma is often worse at night or early morning, and after exercise.

Wheezing

Wheezing is a squeaky or high-pitched whistling sound when you breathe. When you wheeze, it feels hard to push air out of the lungs.

Chest tightness

Chest tightness can feel like something is squeezing your chest. This happens when your airways swell and your chest muscles squeeze.

Shortness of breath

Some people feel like they can't catch their breath, especially when they're being active, like walking up stairs, exercising, or playing sports.

PREGNANCY AND ASTHMA

If you're pregnant, it's especially important to manage your asthma properly. If your asthma is well-controlled, there is no significant risk to you or your unborn child. But, if you have uncontrolled asthma, it may cause serious complications such as pre-eclampsia, premature birth, and low-birth weight. Tell your doctors that you have asthma and discuss your treatment plan. Do not stop your regular asthma medication without discussing it with your primary care physician or your allergist.

REVIEW QUESTION:

What are the four most common symptoms of asthma?

If your asthma symptoms are frequent and severe, talk to your doctor about doing more to control your asthma.

Call your doctor if:

- You have asthma symptoms more than two days a week.
- You are using your quick-relief inhaler more than two days a week.
- Your asthma wakes you up two or more times a month.
- Your asthma is getting in the way of your everyday activities.



SECTION 3: ASTHMA ATTACKS

SIGNS OF AN ASTHMA ATTACK

An asthma attack happens when your asthma is not well controlled and is getting worse. There are **early** signs and **emergency** signs of an asthma attack.

Early Signs include:

- Coughing
- Wheezing
- Chest tightness
- Shortness of breath
- Daytime fatigue
- Nighttime sleep disruption
- Use of rescue inhaler

These symptoms indicate that you are in the **yellow zone** of your asthma action plan.

Emergency signs include:

- Rescue medication is not working
- Breathing is faster or harder and keeps getting worse
- Nose opens wider (flares)
- Skin between the ribs pulls in (this is called retractions)
- Walking, talking, or sleeping is difficult
- Coughing won't stop

These symptoms indicate that you are in the **red zone** of your asthma action plan.

REVIEW QUESTIONS:

What does it feel like when you have an asthma attack?

Do your symptoms change as your asthma attack gets worse?

When to take rescue medication:

Take quick relief (rescue) medication when early signs begin. Your asthma action plan tells you which medications to use.



SECTION 4: ASTHMA TRIGGERS

ASTHMA TRIGGERS

Triggers are things that make your asthma worse, so it is important to know how to avoid them. This can help reduce the swelling in your lungs, your symptoms, and even the amount of times you need to use your rescue medication.

Triggers can be **irritants** or **allergens**, among others. Items you receive through the Asthma-Safe Homes Program can help reduce asthma triggers in your home. Ask your asthma educator how to use them.

IRRITANTS

Irritants are airborne substances like smoke, strong smells, or air pollution that can trigger your asthma.



Smoke: If you can smell smoke, it is hurting your lungs.

- If you are a smoker, consider quitting. Ask your asthma educator for resources.
- Do not let others smoke in your house or car.
- Avoid secondhand smoke.
- Anything that burns can make smoke and trigger an asthma attack. This includes campfires, incense, candles, and smudging.



Strong smells or chemicals: Strong smells can make asthma worse.

- Limit contact with strong smells from cleaning products, perfumes, hair sprays, paints, diffusers, candles, cooking fumes, and campfires.
- Ask your asthma educator for recipes for asthma-friendly cleaning solutions.
- Use a kitchen exhaust fan or open a window when cooking.



Air pollution: Poor air quality can make asthma worse.

- Check outdoor air quality online or on the news.
- Spend less time outside on poor air quality days.
- Use an air purifier to improve indoor air quality.



SECTION 4: ASTHMA TRIGGERS

ALLERGENS

An allergen is something you breathe in and can cause an allergic reaction. Allergies affect some people, but not everyone. When allergens are breathed into the lungs, they cause swelling and asthma attacks.



Pollen: Grass, trees, and weeds make pollen. This includes tree pollen in spring, grass in summer, and ragweed and molds in fall.

- Keep windows closed and spend time in air conditioning when pollen counts are high.
- Do outdoor activities in the afternoon, when pollen counts are lower.
- Ask your doctor if you need to add or increase your medication before the allergy season starts.



Animal dander: All pets with fur or feathers make dander. Dander is protein found in skin flakes, urine, poop, saliva, and hair.

- If you are allergic to pets, the best way to decrease asthma symptoms is to remove the pet from the home. If that is not possible, consider keeping pets out of your bedroom.



Dust mites: Dust mites are tiny bugs that are too small to see. They live in dusty places like mattresses, furniture, carpets, and stuffed animals.

- Cover pillows and mattresses in dust-proof covers.
- Wash all bedding weekly in hot water with soap.
- Use a HEPA vacuum on carpets, area rugs, and floors regularly.



Pests: Droppings or body parts of cockroaches and other pests can be inhaled.

- Keep sinks, tables, and floors clean.
- Seal cracks and openings in cabinets and walls.
- Keep food and trash in closed containers.



Mold and moisture: Mold grows in moist areas. You can find it in the bathroom, basement, under sinks, in potted plants, and along windowsills.

- Clean moldy surfaces with a bleach-free cleaner, such as vinegar, baking soda, or soap/water.
- Reduce indoor humidity by using a dehumidifier and/or air conditioner.
- Fix leaky sinks, pipes, tubs, or toilets.

Talk to your doctor about what may be causing your allergy symptoms and worsening your asthma. You and your doctor may decide that allergy testing is an option for you.





SECTION 4: ASTHMA TRIGGERS

OTHER TYPES OF TRIGGERS



Colds and viruses: Colds can make asthma worse.

- Follow your asthma action plan.
- Take your asthma medication.
- Wash your hands often.
- Get a flu shot every year.



Weather changes: Asthma symptoms may be worse if it is really cold or really hot outside.

- Cover nose and mouth with a scarf on cold days.
- Stay indoors in air conditioning if possible on hot and humid days.



Exercise and being active: It is important to be active; however, some activities may make asthma symptoms worse.

- Start activity slowly. Warm up for 10 minutes before activity.
- Talk to your provider or nurse about taking asthma medication before activity. Taking medication before activity can keep asthma symptoms away during exercise.
- If you cannot be as active as you want, talk to your doctor.

REVIEW QUESTIONS:

Which trigger affects your asthma the most?

What can you do to avoid or remove these triggers?





SECTION 5: ASTHMA MEDICATIONS

ASTHMA MEDICATIONS

Although there is no cure for asthma, medications are the **best** way to control and treat asthma. Most people with asthma need two kinds of medication: **long-term control (daily) medication** and **quick relief (rescue) medication**. These medications work differently, and should be taken the right way to keep your asthma in control and minimize side effects.

LONG-TERM CONTROL (DAILY) MEDICATION

(Preventive)

These are medications that you take every day for a long time. Long-term control (daily) medication helps to decrease swelling in the airway and keep the airway open. This makes it easier to breathe.

Long-term control (daily) medication is most effective when you take it every day.

- Take this medication every day, even if you do not have asthma symptoms.
- When these medications are used every day, your asthma symptoms will decrease. The chances of having an asthma attack will also decrease.
- These medications work slowly. It may take a few days to a few weeks before you feel better.
- When these medications are taken every day, a quick relief medication is not usually needed more than two times a week. There may be times when quick relief medication is needed more than twice a week, such as during illness or exercise.



There are four main kinds of long-term control (daily) medication:

1. Inhaled corticosteroids
2. Combination inhalers
3. Leukotriene modifiers
4. Anticholinergic bronchodilators

(Learn more about them on the next two pages.)



SECTION 5: ASTHMA MEDICATIONS

TYPES OF LONG-TERM CONTROL (DAILY) MEDICATION

Inhaled corticosteroids

(Common names: Flovent, Qvar, or Budesonide)

What is it?

This medication comes as an inhaler or a liquid for a nebulizer. It's the most effective anti-inflammatory medication for most people.

What does it do?

It decreases swelling and mucus in the airway.

What else should I know?

- Do not stop taking this medication without talking to your doctor.
- It can cause irritation in your mouth and throat. Rinse your mouth after using the medication to prevent this.

Combination inhalers (corticosteroids and long-acting bronchodilators)

(Common names: Advair, Dulera, or Symbicort)

What is it?

These inhalers have two medications in them—a corticosteroid and long-acting bronchodilator.

What does it do?

The corticosteroid decreases and prevents swelling and mucus in the airway. The long-acting bronchodilator relaxes the muscles around the airway, keeping it open.

What else should I know?

- Do not increase or stop this medication without talking to your doctor.
- It can cause irritation of the mouth and throat. Rinse your mouth after using the medication to prevent this.



SECTION 5:

ASTHMA MEDICATIONS

TYPES OF LONG-TERM CONTROL (DAILY) MEDICATION CONT.

Leukotriene modifiers

(Common name: Singulair)

What is it?

This medication is a pill that you chew or swallow.

What does it do?

It blocks the immune system from causing airway swelling. It also helps with swelling and mucus in the nose caused by allergies.

What else should I know?

It works best if taken before going to sleep at night.

Anticholinergic bronchodilators

(Common names: Spiriva or Atrovent)

What is it?

This medication is an inhaler or liquid for a nebulizer.

What does it do?

It prevents constriction of bronchioles and airways. It's often used to treat COPD.

What else should I know?

- It can take an hour to begin working, so do not use this medication instead of a rescue inhaler.
- Rinse your mouth after using the medication to prevent dry throat or mouth.



SECTION 5:

ASTHMA MEDICATIONS

QUICK RELIEF (RESCUE) MEDICATION

(Common names are Albuterol and Levalbuterol)

What is it?

Also known as short acting bronchodilators, these medications give you immediate relief of your symptoms. Everyone who has asthma needs a quick-relief medication to stop asthma symptoms before they get worse.

What does it do?

- Rescue medication makes it easier to breath by relaxing the muscles that are squeezing the airways.
- Improves asthma symptoms 5-15 minutes after taking it.
- The medication should work for up to four hours.

What else should I know?

Some people have restlessness, nervousness, shaking hands, fast or pounding heartbeat when they take quick relief medications. These symptoms are temporary and can be decreased by using a spacer.

Quick relief medication should only be taken for asthma symptoms or before activities. If this medication is used too often it could be a sign of poorly controlled asthma.

Steroid medications by mouth

What is it?

This medication comes as a liquid, melting tablet or pill. These are not the kind of steroids that people use to build muscle.

What does it do?

- It is an extra medication sometimes needed to help with swelling and mucus during an asthma attack.
- It can take 6-8 hours for them to fully take effect.

What else should I know?

This type of medication should only be used when asthma symptoms are very bad. If steroids are needed more than once a year, see a doctor or asthma specialist because extra medications may be needed.

Some people get more energy when this is taken, have trouble settling down, or trouble sleeping. Some children have more behavioral problems with this medication. Take it earlier in the day to prevent sleep problems.

Sometimes the doctor will give instructions to slowly decrease the medication dose. This means taking less medication every day until it is stopped. This is called a steroid taper.



SECTION 5: ASTHMA MEDICATIONS

EXAMPLES OF ASTHMA MEDICATIONS

Most people with asthma need two kinds of medication: **long-term control (daily) medication** and **quick relief (rescue) medication**. This diagram shows examples of the different types of medication that can be used for asthma.

American Lung Association.

Asthma and COPD Medicines

Quick Reliever Medicines								How-To Videos		
Short-Acting Beta₂-Agonists (SABA)										
Albuterol Sulfate HFA <small>albuterol sulfate 90 mcg</small> 	Albuterol Sulfate Neb <small>0.64 mg/3 mL, 1.25 mg/3 mL, 2.5 mg/3 mL</small> 	ProAir[®] Digihaler[™] <small>albuterol sulfate 117 mcg</small> 	ProAir[®] RespiClick[™] <small>albuterol sulfate 117 mcg</small> 	Proventil[®] HFA <small>albuterol sulfate 120 mcg</small> 	Ventolin[®] HFA <small>albuterol sulfate 90 mcg</small> 	Xopenex HFA[®] <small>levosalbutamol tartrate 90 mcg</small> 	Xopenex[®] Neb <small>levosalbutamol hydrochloride 0.31 mg/3 mL, 0.63 mg/3 mL, 1.25 mg/3 mL</small> 			
Short-Acting Muscarinic Antagonists (SAMA)										
Atrovent[®] HFA <small>ipratropium bromide 17 mcg</small> 	Atrovent[®] Neb <small>ipratropium bromide 200/500 mcg</small> 									
Short-Acting Combinations (SABA-SAMA)										
Combivent[®] Respimat[™] <small>ipratropium bromide and albuterol 200/500 mcg</small> 										
Maintenance/Controller Medicines										
Inhaled Corticosteroids (ICS) asthma only										
Alvesco[®] HFA <small>ciclesonide 89/160 mcg</small> 	ArmonAir[™] RespiClick[®] <small>fluticasone propionate 55/113/227 mcg</small> 	Arnuity[®] Ellipta[™] <small>fluticasone furoate 109/200 mcg</small> 	Asmanex[®] HFA <small>mometasone furoate 109/200 mcg</small> 	Asmanex[®] Twisthaler[™] <small>mometasone furoate 119/220 mcg</small> 	Budesonide Inhalation Suspension <small>0.25 mg/2 mL, 5 mg/2 mL, 1 mg/2 mL</small> 	Flovent[®] Diskus[™] <small>fluticasone propionate 50/100/200 mcg</small> 	Flovent[®] HFA <small>fluticasone propionate 44/119/220 mcg</small> 	Pulmicort[®] Flexhaler[™] <small>budesonide 90/180 mcg</small> 	Pulmicort Respules[®] <small>budesonide inhalation suspension 0.25 mg/2 mL, 0.5 mg/2 mL, 1 mg/2 mL</small> 	QVAR[®] Redihaler[™] <small>budesonide glycopyrrone 43/90 mcg</small>
Combination Therapy (Inhaled Corticosteroid - Long-Acting Beta₂-Agonists) (ICS-LABA)										
Advair Diskus[™] <small>fluticasone propionate and salmeterol 100/50, 200/50, 500/60 mcg</small> 	Advair[®] HFA <small>fluticasone propionate and salmeterol 45/21, 115/21, 230/21 mcg</small> 	AirDuo[®] RespiClick[™] <small>fluticasone propionate and salmeterol 55/14, 113/14, 227/14 mcg</small> 	Breo[®] Ellipta[™] <small>fluticasone and vilanterol 100/25, 200/25 mcg</small> 	Symbicort[®] <small>budesonide and formoterol fumarate dihydrate 80/4.5, 160/4.5 mcg</small> 	Dulera[®] <small>mometasone furoate and formoterol fumarate dihydrate 50/5, 100/5, 200/5 mcg</small> 	Wixela[™] Inhub[™] <small>fluticasone propionate and salmeterol 100/50, 200/50, 500/60 mcg</small> 	Triple Therapy (ICS-LABA-LAMA) Trelegy Ellipta[™] <small>fluticasone/vilanterol/umeclidinium 100 mcg/62.5 mcg/25 mcg</small> 		Breztri Aerosphere[®] <small>budesonide glycopyrrone formoterol fumarate 160/9/4.6 mcg</small> 	
Long-Acting Muscarinic Antagonists (LAMA)										
Incruse[®] Ellipta[™] <small>umeclidinium 62.5 mcg</small> 	Lonhala Magnair[®] <small>lumeclidinium 25 mg/2 mL</small> 	Spiriva[®] HandiHaler[™] <small>tiotropium bromide 18 mcg</small> 	Spiriva[®] Respimat[™] <small>tiotropium bromide 1.25 mcg</small> 	Tudorza[™] Pressair[™] <small>acclidate bromide 400 mcg</small> 	Yupelri[®] Neb <small>rephenacin 175 mcg/3 mL</small> 	Long-Acting Beta₂-Agonists (LABA) COPD only				
Brovana[®] Neb <small>formoterol 15 mcg</small> 	Perforomis[®] Neb <small>formoterol fumarate dihydrate 20 mcg</small> 	Serevent[®] Diskus[™] <small>salmeterol xinafoate 50 mcg</small> 	Striverdi[®] Respimat[™] <small>olodaterol hydrochloride 2.5 mcg</small> 	LAMA-LABA COPD only		Anoro[®] Ellipta[™] <small>umeclidinium and vilanterol 55/22, 62.5/25 mcg</small> 	Bevespi Aerosphere[®] <small>glycopyrrone and formoterol 9/4.6 mcg</small> 	Duakir[®] Pressair[™] <small>acclidate and formoterol 400/72 mcg</small> 		Stiolto[®] Respimat[™] <small>tiotropium bromide and formoterol fumarate 2.5/2.5 mcg</small>
Add-On Medicines				Use a valved holding chamber/spacer		Definitions				
Monoclonal Antibody (biologics, injection)	PDE4 Inhibitor	Leukotriene Receptor Antagonists (LTRA)	All HFA inhalers should be used with a compatible valved holding chamber/spacer.		<ul style="list-style-type: none"> ICS = Inhaled Corticosteroid ICS-LABA or LAMA-LABA = Combination Therapy ICS-LABA-LAMA = Triple Therapy LABA = Long-Acting Beta₂-Agonist LAMA = Long-Acting Muscarinic Antagonist LTRA = Leukotriene Receptor Antagonist SABA = Short-Acting Beta₂-Agonist SAMA = Short-Acting Muscarinic Antagonist SMART = Single Maintenance and Reliever Therapy 					
Cinqair[®] <small>mepolizumab 100 mg</small> 	Dupixent[®] <small>dupilumab 100/200/300 mg</small> 	Fasenra[™] <small>benralizumab 30 mg</small> 	Daliresp[®] <small>roflumilast 500/500 mcg</small> 	Singulair[®] <small>montelukast sodium 45/10 mg</small> 	Zyflo[®] <small>zileuton ER 600 mg</small> 					

Disease States: **A** Asthma **C** COPD **G** Generic **S** SMART Therapy

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Lung HelpLine: 1-800-LUNGUSA | Lung.org

Photo credit, above: American Lung Association

To talk to your doctor about what proper inhaler use means for you.

Instructions should be outlined on your asthma action plan.





SECTION 6: MEDICATION DEVICES

THE FOUR TYPES OF ASTHMA MEDICATION DEVICES

Most asthma medications need to get into the lungs to work, but different types of inhalers require different ways to use them. It is important to learn how to use your inhaler correctly. Ask your doctor, pharmacist, or asthma educator to show you how to use it. There are four devices that can be used to take asthma medication.

1. Metered-dose inhaler (MDI): Commonly called a pump or puffer, this device is a small canister that delivers a measured dose of medication through your mouth to your airways.

- The medication is mixed with a safe gas that pushes the medication out very fast.
- The medication comes out in the form of a mist that can be breathed into the lungs.
- **A spacer should always be used with metered-dose inhalers.** Spacers help slow down the speed of the medication so it can get into the lungs, and not stick to the mouth or throat.
- Take your inhaler with you when you leave home.

2. Dry powder inhaler (DPI): This device delivers a pre-set amount of asthma medication in powder form.

- The medication comes out in the form of a powder, which can be breathed into the lungs.
- To get the medication in the lungs, you have to breathe in deep and fast.
- A spacer should **not** be used when taking this medication.
- Take your inhaler with you when you leave home.

REVIEW QUESTIONS:

Why should you use a spacer with your inhaler?

What medication do you take in an emergency?



SECTION 6: MEDICATION DEVICES

3. Respimat® Soft Mist™ Inhaler (SMI): This is a device that holds water-based medications inside a can.

- The medication comes out of the inhaler as slow mist and looks like a cloud.
- The medication does not contain extra chemicals to help it get to the lungs.
- A spacer should **not** be used when taking this medication.
- An inhaler can travel with you when you leave home.

4. Nebulizer: This is a device that provides the medication in a fine, steady mist.

- A nebulizer mixes air with a liquid medication to make a mist.
- The mist is breathed into the lungs through a mask or a mouthpiece connected to the nebulizer.
- A nebulizer requires electricity or a battery.
- A nebulizer takes 10 to 15 minutes longer to use than an inhaler.
- A nebulizer does not work better than an inhaler with a spacer.
- The device is useful for infants, young children, and adults who have trouble using an inhaler.

Special instructions:

- Make sure to keep track of the number of doses left in an inhaler. Some inhalers have a counter, and some do not.
- If the metered-dose inhaler does have a counter, discard it once it gets to zero even if more medication seems to be coming out.
- If the metered-dose inhaler does not have a counter, keep track of how many puffs are used each time the inhaler is used.
- Do not keep the inhaler in very hot or very cold temperatures.
- Use the inhaler only as directed by the doctor.



SECTION 7: USING AN INHALER AND SPACER

WHY USE A SPACER WITH AN INHALER?

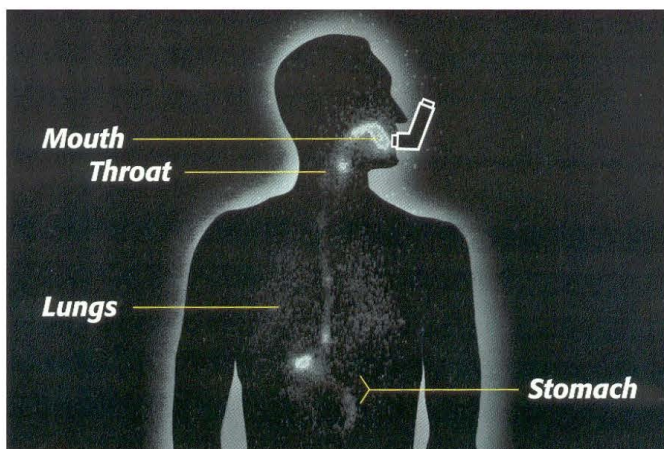
Using a spacer is the most effective way to use your medications. If you do not have a spacer, ask your provider.

Spacers

Spacers should always be used with metered-dose inhalers. It helps slow down the speed of the medication so it can get into the lungs and not to other parts of the body. They can be helpful in ensuring that a larger amount of medication makes it to your lungs.

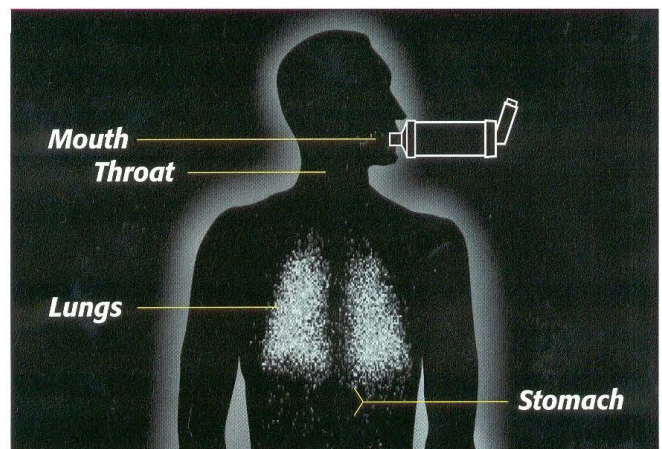
How do I clean a spacer?

- Remove the inhaler from the spacer.
- If possible, take the pieces of the spacer apart.
- Soak (do not scrub) the pieces of the spacer in warm soapy water for 10 minutes.
- Rinse the spacer with warm water to remove any leftover soap.
- Let all the parts dry completely before putting the spacer back together.



Inhaler alone

When an inhaler is used alone, medicine ends up in the mouth, throat, stomach and lungs.



Inhaler used with spacer device

When an inhaler is used with a spacer device, more medicine is delivered to the lungs.

“Comparative respiratory deposition of ^{99m}Tc labeled particles of albuterol using a metered dose inhaler, a metered dose inhaler with Aerochamber® spacer and OptiChamber® spacer in healthy human volunteers using gamma-scintigraphy,” R. Beihn, PhD, Scintiprox, Inc., Indianapolis, IN and D. Doherty, MD, Dept. of Pulmonology, University of Kentucky Medical Center, Lexington, KY, 1997.

Images kindly provided by Respiroics HealthScan Inc.

Allies Against Asthma, Center for Pediatric Research, 855 W. Brambleton Ave., Norfolk, VA 23510, 757-668-6435



SECTION 7: USING AN INHALER AND SPACER

HOW TO USE AN INHALER AND SPACER

How to use a metered-dose inhaler with a valved holding chamber (spacer)


Prime a brand-new inhaler: Before using it for the first time, if you have not used it for more than 7 days, or if it has been dropped.

	1. Shake inhaler 10 seconds.
	2. Take the cap off the inhaler and valved holding chamber. Make sure the mouthpiece and valved holding chamber are clean and there is nothing inside the mouthpieces.
	3. Put inhaler into the chamber/spacer.
	4. Breathe out away from the device.
	5. Put chamber mouthpiece in mouth.
	6. Press inhaler once and breathe in deep and steadily.
	7. Hold your breath for 10 seconds, then breathe out slowly. If you need another puff of medicine, wait 1 minute and repeat steps 4-7.
	8. Rinse with water and spit it out.

Proper inhalation technique is important when taking your asthma medicine(s) and monitoring your breathing. Make sure to bring all your medicines and devices to each visit with your primary care provider or pharmacist to check for correct use, or if you have trouble using them.

For more videos, handouts, tutorials and resources, visit Lung.org.

Scan the QR Code to access How-To Videos



You can also connect with a respiratory therapist for one-on-one, free support from the American Lung Association's Lung Helpline at 1-800-LUNGUSA.

Photo credit: American Lung Association



SECTION 8: USING AN INHALER

HOW TO USE AN INHALER

Using a spacer is the most effective way to receive your medications. If you do not have a spacer, ask your provider.



How to Use a Metered-Dose Inhaler without a Valved Holding Chamber or Spacer

Prime a brand-new inhaler: Before using it for the first time, if you have not used it for more than 7 days, or if it has been dropped.

	1. Shake inhaler 10 seconds.
	2. Take the cap off the inhaler and make sure it is clean and there is nothing inside of the mouthpiece.
	3. Breathe out away from the device.
	4. Put inhaler mouthpiece in mouth.
	5. Press inhaler once and breathe in deep and steady.
	6. Hold your breath for 10 seconds, then breathe out slowly. If you need another puff of medicine, wait 1 minute and repeat steps 3-6.
	7. Rinse with water and spit it out.

Proper inhalation technique is important when taking your asthma medicine(s) and monitoring your breathing. Make sure to bring all your medicines and devices to each visit with your primary care provider or pharmacist to check for correct use, or if you have trouble using them.

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REVIEW QUESTION:

Can you demonstrate your inhaler technique?

Photo credit: American Lung Association



SECTION 9:

ASTHMA ACTION PLANS

ASTHMA ACTION PLAN

An asthma action plan is a plan that the doctor will make for you. This plan will help manage your asthma.

The asthma action plan will help you know:

- How to take your asthma medications and what they do.
- What your asthma triggers are and how to avoid them.
- What early signs of an asthma problem are.
- What to do when asthma symptoms begin.
- What to do when asthma symptoms get worse.
- When to call the doctor.

The plan is split into three colored zones: green, yellow, and red. Follow the steps under each zone.

Green means “GO.” Asthma is in good control and there are no asthma symptoms.

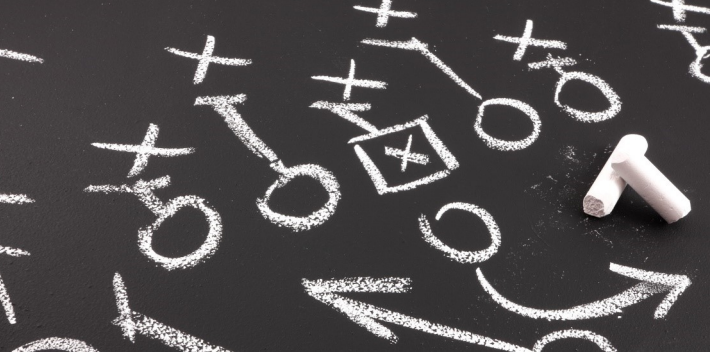
- Take long-term control (daily) medication every day even if there are no asthma symptoms.
- Take rescue medication 15 minutes before exercise or sports if needed.

Yellow means asthma symptoms are starting to act up. Symptoms like coughing, runny nose, wheezing, or chest tightness might be starting.

- Start quick relief medication right away to keep symptoms from getting worse.
- Continue to take the green zone daily control medications.
- Call the doctor if you are in the yellow zone for more than 24 hours.
- Follow any special instructions given by the doctor.

Red means danger. It has become very hard to breathe. Take immediate action.

- Increase the quick relief medication as instructed in the plan and call the doctor right away.
- If the doctor cannot be reached, go to the emergency room or call 911.



SECTION 9: ASTHMA ACTION PLANS

Recommended version for school-aged children



Asthma Action Plan for Home & School

Name: _____ Birthdate: _____
 Asthma Severity: Intermittent Mild Persistent Moderate Persistent Severe Persistent
 He/she has had many or severe asthma attacks/exacerbations

<p>😊 Green Zone Have the child take these medicines every day, even when the child feels well.</p> <p>Always use a spacer with Inhalers as directed.</p> <p>Controller Medicine(s): _____</p> <p>Controller Medicine(s) Given in School: _____</p> <p>Rescue Medicine: Albuterol/Levalbuterol _____ puffs every four hours as needed</p> <p>Exercise Medicine: Albuterol/Levalbuterol _____ puffs 15 minutes before activity as needed</p>
<p>😬 Yellow Zone Begin the sick treatment plan if the child has a cough, wheeze, shortness of breath, or tight chest. Have the child take all of these medicines when sick.</p> <p>Rescue Medicine: Albuterol/Levalbuterol _____ puffs every 4 hours as needed</p> <p>Controller Medicine(s): _____</p> <p><input type="checkbox"/> Continue Green Zone medicines: _____</p> <p><input type="checkbox"/> Add: _____</p> <p><input type="checkbox"/> Change: _____</p> <p>If the child is in the yellow zone more than 24 hours or is getting worse, follow red zone and call the doctor right away!</p>
<p>😱 Red Zone If breathing is hard and fast, ribs sticking out, trouble walking, talking, or sleeping. Get Help Now</p> <p>Take rescue medicine(s) now</p> <p>Rescue Medicine: Albuterol/Levalbuterol _____ puffs every _____</p> <p>Take: _____</p> <p style="text-align: center;">If the child is not better right away, call 911 Please call the doctor any time the child is in the red zone.</p>

Asthma Triggers: (List)

School Staff: Follow the Yellow and Red Zone plans for rescue medicines according to asthma symptoms. Unless otherwise noted, the only controllers to be administered in school are those listed as "given in school" in the green zone.

- Both the asthma provider and the parent feel that the child may carry and self-administer their inhalers
 School nurse agrees with student self-administering the inhalers

Asthma Provider Printed Name and Contact Information:

Asthma Provider Signature:

Date:

Parent/Guardian: I give written authorization for the medications listed in the action plan to be administered in school by the nurse or other school members as appropriate. I consent to communication between the prescribing health care provider/clinic, the school nurse, the school medical advisor and school-based health clinic providers necessary for asthma management and administration of this medication.

Parent/guardian signature:

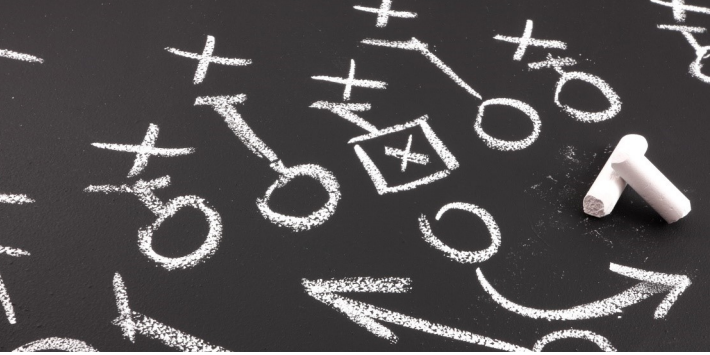
School Nurse Reviewed:

Date:

Date:

Ask your child's doctor for an asthma action plan. They should be reviewed at least every year.

From the American Academy of Allergy, Asthma, and Immunology



SECTION 9: ASTHMA ACTION PLANS

Recommended version for adults

Asthma Action Plan



General Information

Name _____
 Emergency Contact _____ Phone Number _____
 Physician/Health Care Provider _____ Phone Number _____
 Physician Signature _____ Date _____

Severity Classification	Triggers	Exercise
<input type="radio"/> Intermittent <input type="radio"/> Mild Persistent <input type="radio"/> Moderate Persistent <input type="radio"/> Severe Persistent	<input type="radio"/> Colds <input type="radio"/> Smoke <input type="radio"/> Weather <input type="radio"/> Exercise <input type="radio"/> Dust <input type="radio"/> Air pollution <input type="radio"/> Animals <input type="radio"/> Food <input type="radio"/> Other _____	1. Pre-medication (how much and when) _____ 2. Exercise modifications _____

Green Zone: Doing Well

Peak Flow Meter Personal Best = _____

Symptoms

Breathing is good
 No cough or wheeze
 Can work and play
 Sleeps all night

Control Medications

Medicine	How Much to Take	When to Take it
_____	_____	_____
_____	_____	_____
_____	_____	_____

Peak Flow Meter
More than 80% of personal best or _____

Yellow Zone: Getting Worse

Contact Health Care Provider if using quick relief more than 2 times per week.

Symptoms

Some problems breathing
 Cough, wheeze or chest tight
 Problems working or playing
 Wake at night

Continue control medicines and add:

Medicine	How Much to Take	When to Take it
_____	_____	_____
_____	_____	_____
_____	_____	_____

Peak Flow Meter
Between 50 to 80% of personal best or _____ to _____

IF your symptoms (and peak flow, if used) return to Green Zone after one hour of the quick relief treatment, THEN

- Take quick relief medication every 4 hours for 1 to 2 days
- Change your long-term control medicines by _____
- Contact your health care provider for follow-up care

IF your symptoms (and peak flow, if used) DO NOT return to the GREEN ZONE after 1 hour of the quick relief treatment, THEN

- Take quick relief treatment again
- Change your long-term control medicines by _____
- Call your health care provider within _____ hours of modifying your medication routine

Red Zone: Medical Alert

Ambulance/Emergency Phone Number: _____

Symptoms

Lots of problems breathing
 Cannot work or play
 Getting worse instead of better
 Medicine is not helping

Continue control medicines and add:

Medicine	How Much to Take	When to Take it
_____	_____	_____
_____	_____	_____
_____	_____	_____

Peak Flow Meter
Between 0 to 50% of personal best or _____ to _____

Go to the hospital or call for an ambulance if

- Still in the red zone after 15 minutes
- If you have not been able to reach your health care provider for help
- _____

Call an ambulance immediately if the following danger signs are present

- Trouble walking/talking due to shortness of breath
- Lips or fingernails are blue

Ask your doctor for an asthma action plan. They should be reviewed at least every year.

RESOURCES

General

- Wisconsin Asthma Program: <https://dhs.wisconsin.gov/asthma>
- Children’s Health Alliance of Wisconsin: <https://www.chawisconsin.org/initiatives/environmental-health/>
- American Lung Association: <https://lung.org/asthma>
- National Institutes of Health: <https://www.nlm.nih.gov/health/asthma>

Asthma and pregnancy

- Asthma During Pregnancy, Allergy and Asthma Foundation: <https://aafa.org/asthma/living-with-asthma/asthma-during-pregnancy>

Asthma trigger reduction

- Wisconsin Tobacco QuitLine: <https://quitline.wisc.edu>
- AirNow (air quality data), Environmental Protection Agency: <https://airnow.gov>
- You Can Control Mold, Centers for Disease Control and Prevention: https://www.cdc.gov/mold/control_mold.htm

Asthma medications

- How to Use Asthma Medication Devices, American Lung Association: <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/treatment/devices>
- Medication Assistance Programs, Children’s Health Alliance of Wisconsin: <https://www.chawisconsin.org/initiatives/environmental-health/medication-assistance-programs>

ACKNOWLEDGEMENTS

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ASTHMA-SAFE HOMES PROGRAM

Bureau of Environmental and Occupational Health

<https://www.dhs.wisconsin.gov/asthma/ashp.htm>

Department of Health Services | Division of Public Health | P-02168 (06/2023)

