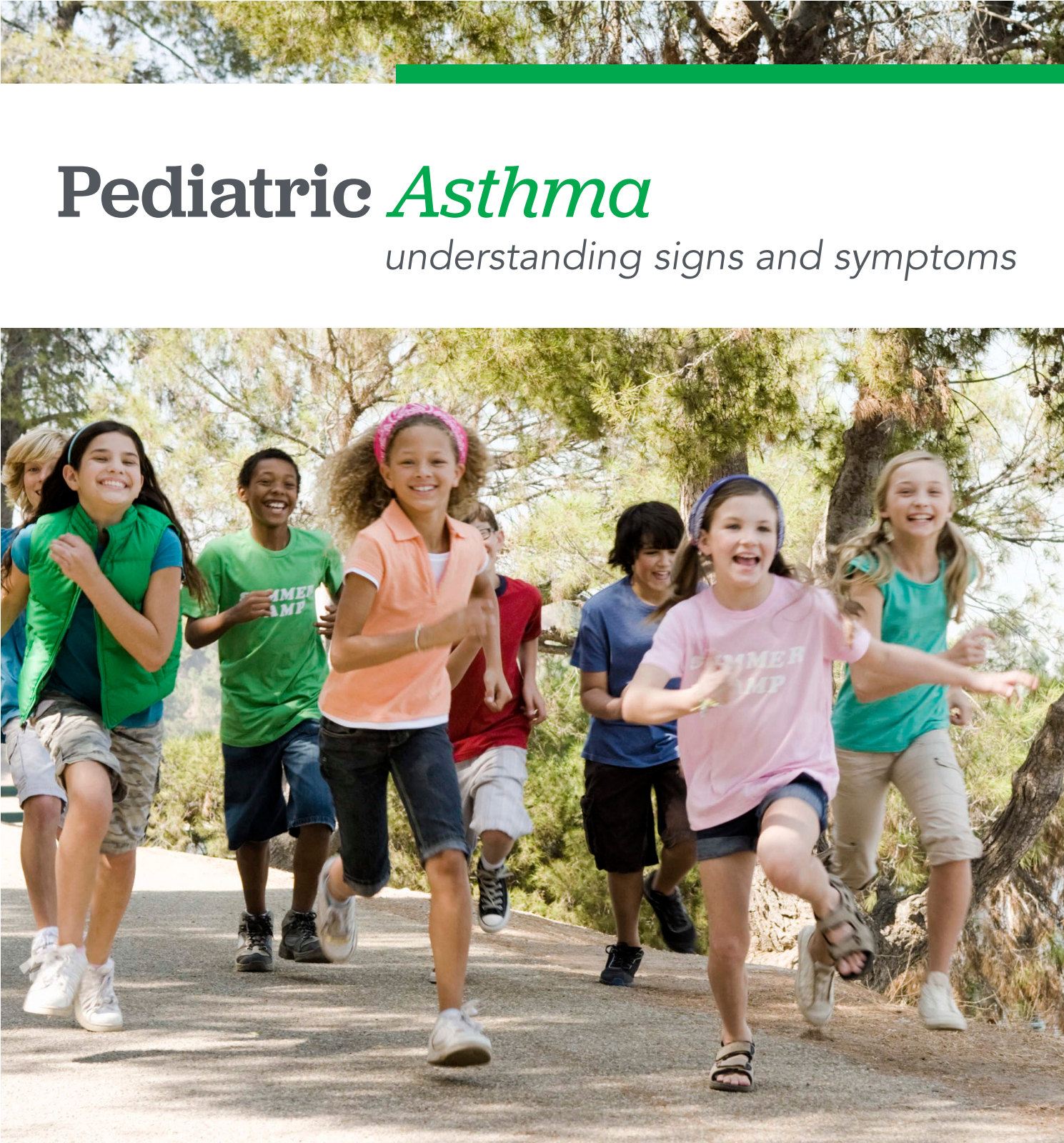




Pediatric *Asthma*

understanding signs and symptoms

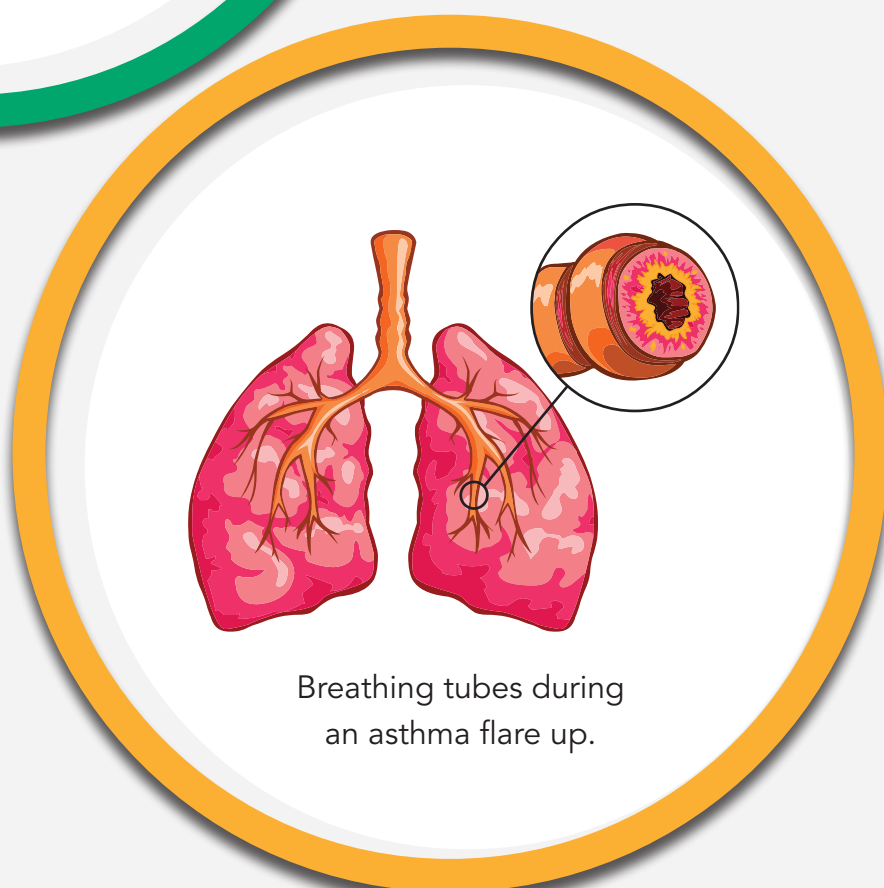
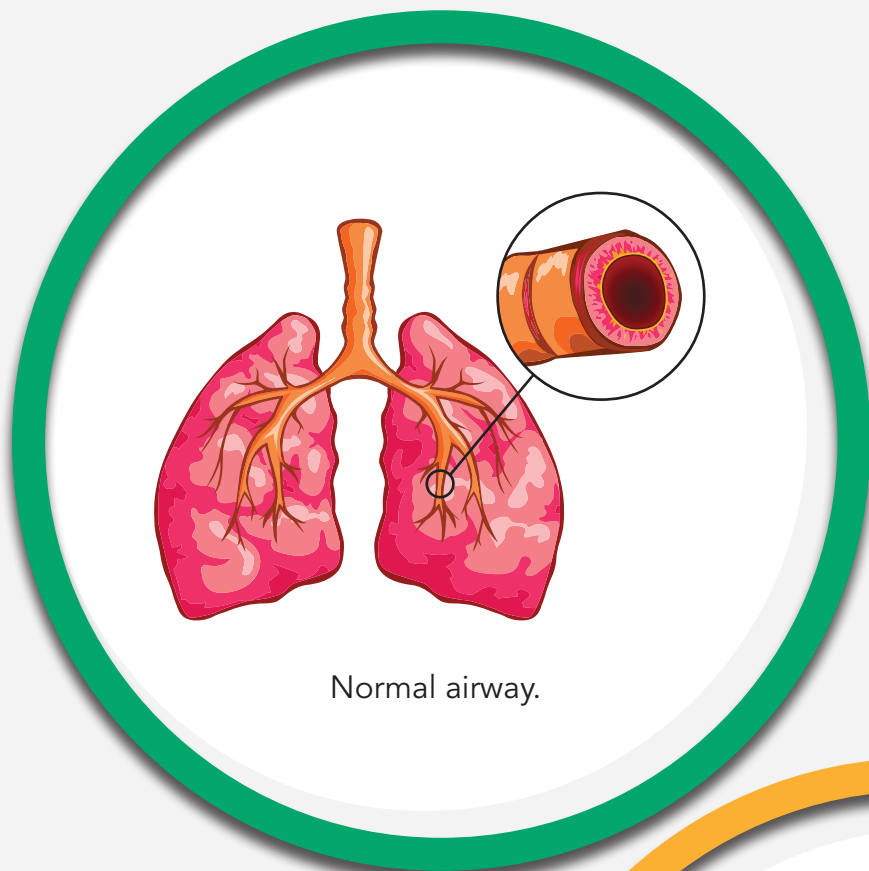
What is Asthma?

Asthma is a serious long-term condition of the airways that makes it hard to breathe. Airways are the breathing tubes that carry the air in and out of the lungs. The breathing tubes in someone with asthma are extra sensitive and slightly swollen.

An asthma flare-up or attack happens when someone with asthma is around things that make breathing worse. Triggers like second-hand smoke or getting a cold may bother the breathing tubes. When this happens, the muscles around the breathing tubes tighten and the inside becomes more swollen and makes more mucus. It becomes harder to get air in and out of the lungs, causing wheezing, shortness of breath, coughing and chest tightness.



What Happens During an Asthma Flare Up



What are Triggers?

Triggers are things that may cause an asthma flare up or symptoms when you are near them. Being around a trigger may lead to coughing, chest tightness, wheezing and feeling short of breath. It's important to know your triggers and learn how to avoid and control them. Triggers are not the same for everyone and can change over time.



COLDS AND INFECTIONS:

A common cold, bronchiolitis, pneumonia, sinus infection and the flu can all cause an asthma flare up.

- Avoid people who are sick.
- Wash hands frequently.
- Ask your doctor about getting an annual flu shot.



EXERCISE can make some people's asthma worse. It's important to stay active! The following should help your child exercise or play sports without asthma symptoms:

- Talk with the doctor about taking quick-relief medicine 15 – 30 minutes before the start of exercise. Warm up before exercising and cool down afterwards.
- Avoid triggers that may cause or worsen exercise-induced asthma like a high pollen count, cut grass or cold air.



WEATHER CHANGES:

Hot humid weather and very cold air, as well as a change in weather can cause issues.

- Stay inside, keep windows closed and run an air conditioner if possible on ozone action days and when humidity is high.
- Wear a scarf or mask over the nose and mouth on cold windy days.



EMOTIONS:

For some people stress, laughing, crying, yelling and anxiety can trigger an asthma flare up.

- Find ways to teach your child to stay calm and breathe slowly.



POLLEN - tiny particles carried in the wind from trees, grasses, weeds and flowers.

- For people who have an allergy to a specific allergens by allergy testing or with symptoms when exposed to the allergen it is recommended that several different steps be used to control the allergen, not just one.
- Limit outdoor activities when pollen counts are high like the middle of the day.
- If outside when the pollen count is high, it might help if you wash your child's hair, have them change clothes or shower before going to bed.
- Use air conditioning if possible, and keep windows closed during high pollen season.
- Pay attention to the pollen count and avoid going outside when it is the highest.



DUST MITES:

House dust mites are microscopic creatures that live on skin flakes shed by humans and pets. They like warm, humid environments like mattresses, upholstery, pillows and carpets.

- Cover mattress, pillows, and box springs with asthma and allergy approved covers.
- Wash sheets/blankets weekly in hot water (130 degrees F).
- Keep stuffed animals and dust collectors out of the bedroom.
- Dust with a damp cloth.
- Vacuum with a cleaner that uses a HEPA filter if possible.
- May need to remove carpeting.
- Keep indoor humidity less than 60%.



INDOOR/OUTDOOR POLLUTANTS:

- Avoid wood burning stoves or fireplaces.
- Avoid fumes from painting, home remodeling, etc.



ANIMALS WITH FUR AND FEATHERS:

The flakes or scales from the skin, hair, or feathers of these animals and dried saliva or urine can make people start coughing, wheezing, or get itchy, watery eyes. This is called an allergy. The length of a pet's hair does not matter. There is no such thing as an allergy-free dog or cat.

- Choose a pet without fur or feathers like a fish or lizard.
- If unable to remove the pet from the home, keep the pet out of the bedroom.
- Avoid pillows or blankets with feathers.
- Avoid visiting the home of friends or relatives who have pets with fur or feathers. You may need to take your quick-relief inhaler 15 – 30 minutes before visiting those homes.
- Bathe the pet weekly.



COCKROACHES AND PESTS:

- Keep food in sealed containers.
- Use poison bait traps. Be sure to use ones that are pet and child proof.



MOLD:

Molds produce spores that are carried through the air.

- Clean bathrooms, kitchens, and basements regularly and run the exhaust fan when possible. Fix any leaky faucets or pipes.
- Use a dehumidifier for a damp basement. Be sure to empty and clean the tray regularly.



STRONG ODORS AND SPRAYS:

- Avoid aerosol sprays and strong smelling cleaning products. Also avoid strong smelling candle, air fresheners and incense.



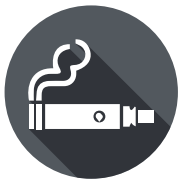
ASTHMA TRIGGER:

Secondhand and thirdhand smoke can make asthma worse.

Secondhand smoke:

This is what you breathe in when you are around someone who is smoking. It is the smoke the smoker breathes out and the smoke that comes from the burning end of a cigarette, cigar or pipe.

- Don't smoke around your child. Don't let others smoke around your child.
- Don't allow smoking in the house or car, even when no one else is present. The harmful chemicals from tobacco products linger and can still cause problems for anyone with asthma.



Thirdhand Smoke:

This is the nicotine residue. It stays on furniture, walls, and carpeting after a cigarette has been smoked in a room or car. Third-hand smoke clings to hair, skin, and clothes too. It is difficult to remove and builds up over time.

- **E-Cigarettes and Vaping:** The vapor that comes from these devices can cause irritation and serious lung injury for someone with asthma. They may contain strong smells and chemicals that can trigger an asthma flare up.



WHAT CAN YOU DO?

- Make every effort to stop smoking, even if you could not stop before. Keep trying! Talk with your doctor about making a quit plan.
- Do not let anyone smoke in your home. Ask them to go outside if they must smoke.
- Never smoke in the car with your child or in the car your child normally rides in.
- Wash your hands and face after smoking, since smoke stays on your skin.
- Wear a covering over your clothing ("smoking jacket") when you go outside. Remove the covering and leave it on the porch or in the garage before going indoors.



Warning Signs of an Asthma Flare-up

Warning signs may appear hours before a flare-up begins. Each person's warning signs may be different.

SOME EARLY WARNING SIGNS MAY INCLUDE:

- A slouching position
- Restlessness, especially in bed
- Waking at night due to coughing or difficulty breathing
- Frequent throat clearing
- Sweaty or pale skin
- A scared or anxious look
- Use of quick-relief medication more than two times a week
- A drop in the peak flow reading
- An increase in mucus
- Eczema flare up

YOU MIGHT HEAR ONE OR MORE OF THE FOLLOWING FROM YOUR CHILD:

- Coughing
- Wheezing or noisy breathing
- Frequent throat clearing
- Out of breath easily
- Chest feels tight or hurts
- Breathing faster than normal

Asthma Medicines

There are two main types of medicines for treating asthma, quick-relief and controller.

QUICK-RELIEF MEDICINES

Anyone with asthma should have a quick-relief medicine.

A quick-relief medicine:

- Should be kept with you at all times.
- Works quickly to ease breathing.
- Helps relax tight muscles around breathing tubes.
- Should be used as directed by the doctor.

THE NAME OF MY QUICK RELIEF
MEDICINE IS:

CONTROLLER MEDICINES

Most people with asthma may also need one or more controller medicines.

A controller medicine:

- Should be taken each day or as directed by your doctor even when you feel fine.
- Helps reduce the swelling inside the airway tubes.
- May reduce the number of flare-ups and help control symptoms.

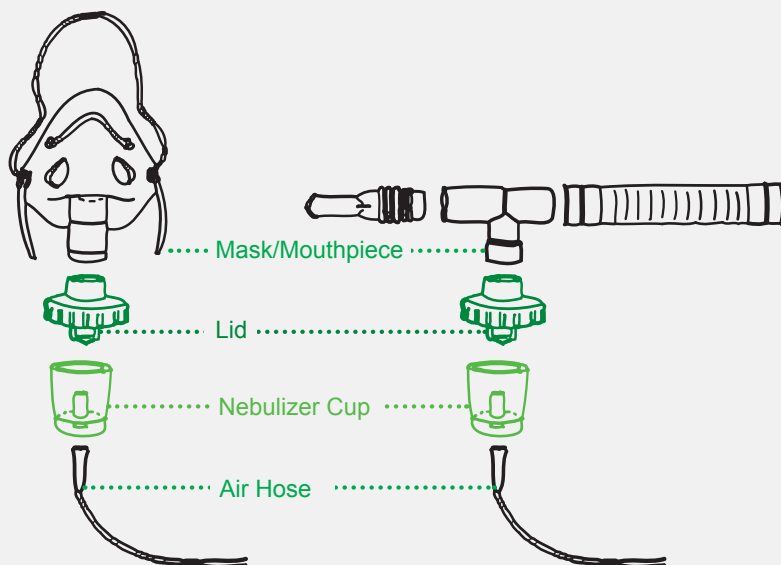
THE NAME OF MY CONTROLLER
MEDICINE IS:



How to Use a Nebulizer

A nebulizer, sometimes called a breathing machine, changes medication from a liquid to a mist so that it can be more easily inhaled into the lungs. Nebulizers are very good for giving asthma medicine to infants and small children and to anyone who has difficulty using an asthma inhaler. Always use a mask for children under the age of six, unless they have been trained to use a mouthpiece.

1. Open the lid of the nebulizer cup.
2. Pour the medication into the cup.
3. Replace the lid, and connect the mask or mouthpiece to the top of the lid.
4. Connect the air hose to the bottom of the cup and to the nebulizer machine.
5. Turn the machine on, and watch for a mist coming through the mouthpiece or mask.
6. Breathe in and out, taking several deep breaths during the mist treatment.
7. When the nebulizer cup sputters, turn the machine off and follow the cleaning instructions.



Cleaning Your Nebulizer Equipment

Why is it important to clean your nebulizer? A clean nebulizer can mist better and doesn't spread germs.

AFTER EACH USE:

1. Remove the mask or mouthpiece, and the T-shaped part from the nebulizer cup. Remove the tubing and set it aside. Rinse the mask, mouthpiece, T-shaped piece and the nebulizer cup in warm, running water for 30 seconds.
2. Shake off excess water and air dry on a clean towel or paper towel.

ONCE EVERY DAY:

1. Wash the mask or the mouthpiece, the nebulizer cup and the T-shaped part with mild dishwashing soap and warm water.
2. Rinse in warm, running water for 30 seconds.
3. Shake off excess water and leave to air dry on a clean towel or paper towel.

ONCE OR TWICE A WEEK*:

1. After washing the mask or mouthpiece, T-shaped part, and nebulizer cup in mild dishwashing soap, rinse thoroughly in warm running water for 30 seconds.
2. Soak for 30 minutes in a solution of one part white vinegar and three parts water.
3. Rinse all the pieces again in warm running water for at least one minute.
4. Shake off excess water and leave to air dry on a clean towel or paper towel.
5. Throw out the vinegar solution after use. **Do not reuse it.**
6. Be sure to check the machine filter every few months and replace if dirty. Replace your nebulizer cups and mask as needed.

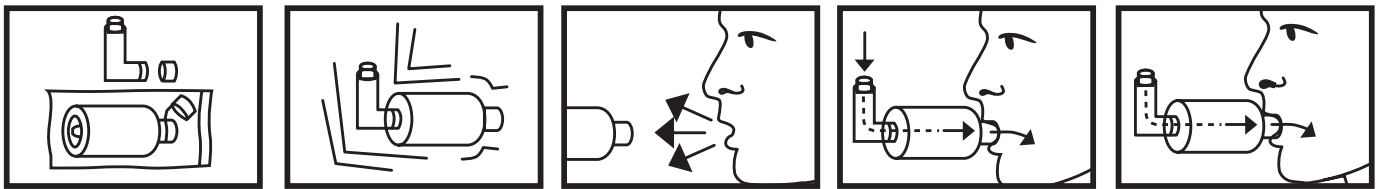
* These are generic cleaning instructions and may not be specific to your equipment. If available follow any recommended cleaning instructions that come with your specific equipment.

CONTACT YOUR DURABLE MEDICAL EQUIPMENT COMPANY WITH ANY QUESTIONS:



How to Use a Spacer

A spacer is used with an inhaler (puffer) to make sure the medicine goes to the lungs and not in the mouth. This helps the medicine work well and decreases most side effects. An inhaler, puffer or metered dose inhaler (MDI) is a small pressurized cannister that sprays out medicine.



1. Wash your hands.
2. Remove the cap from the inhaler and the spacer.
3. Put the inhaler mouthpiece into the end of the spacer and shake for 2 – 3 seconds.
4. Breathe out to empty the lungs, place the spacer mouthpiece in your mouth, and close your lips tightly around the mouthpiece. Do not put your tongue inside the mouth piece.
5. Spray one puff of medicine into the spacer.
6. Breathe in slowly and completely for 3 – 5 seconds to fill the lungs. If there is a whistling sound while breathing in, slow down for the next breath.
7. Hold your breath for 10 seconds to allow the medicine to settle into the breathing tubes.
8. Take the spacer out of your mouth and breathe out.
9. Wait at least one minute before repeating with the second puff.

SPACER WITH MASK:

A spacer with mask should be used for anyone who has trouble taking a slow, deep breath while pushing the canister down.

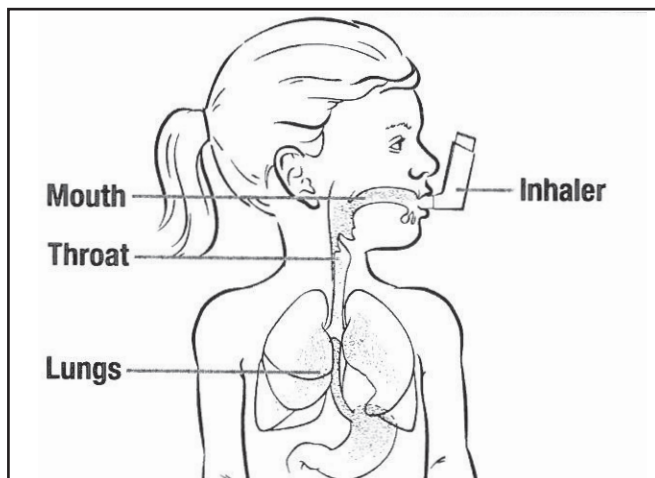
1. Wash your hands.
2. Remove the cap from the inhaler and the spacer.
3. Put the inhaler mouthpiece into the end of the spacer and shake for 2 – 3 seconds.
4. Position the mask gently over the nose and mouth.
5. Look for movement of the one-way valve to let you know you have a good seal. A good seal is needed to inhale all the medicine.
6. Spray one puff of medication into the spacer.
7. Holding the mask gently but firmly in place, take six breaths before removing the mask.
8. Wait at least one minute before repeating with the second dose.



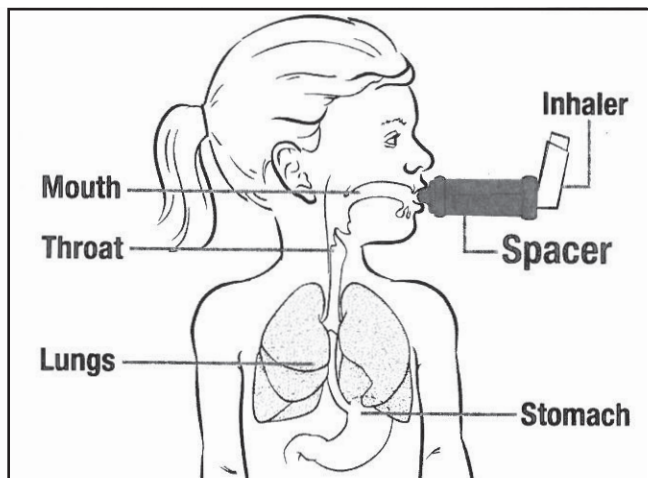
CLEANING THE SPACER:

Follow the manufacturer's directions for cleaning the spacer.

Why you should use a Spacer with your inhaler:



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



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

Using Your Asthma Action Plan

YOUR ASTHMA ACTION PLAN CAN HELP YOU DECIDE:

- What medicines to take.
- When to take them.
- How much to take.
- When to get help.

YOUR ASTHMA ACTION PLAN SHOULD CONTAIN THE FOLLOWING:

- Known triggers to avoid.
- Emergency phone numbers and your doctor's office number.
- Symptoms to look for.
- Instructions on how to use your peak flow reading to show you when you may be heading for a flare-up, even before you have symptoms.
- Medicine list and schedule.
- When to call the doctor or go to the emergency room.

YOUR ASTHMA ACTION PLAN USES THREE COLOR ZONES TO HELP YOU DECIDE WHAT TO DO:

GREEN ZONE:

Your breathing is good.
Follow your daily routine
as directed by your
doctor, even though you
may feel fine.

YELLOW ZONE:

You're having a flare-up.
This means CAUTION.
Take the medicines listed
in your yellow zone to
keep the flare-up from
getting worse.

RED ZONE:

You're having a
serious flare-up.
This is a medical alert.
Take the medicines listed in
your red zone and get
help immediately.

Share your plan

Give a copy to relatives, teachers, coaches, caretakers, and babysitters so they can help if you have a flare-up.

Peak Flow Meter

WHAT DO PEAK FLOW NUMBERS MEAN?

A peak flow meter measures how fast you can blow air out of your lungs. By using a peak flow meter on a regular basis, you may catch a problem before it gets worse, saving yourself a trip to the emergency room.

A peak flow meter has a number scale on the side showing the liters per minute with a pointer/indicator. Your personal best is the highest number you can reach on the peak flow meter over a two-week period when you are not having symptoms.

Blow your peak flow at the same time every day. Always blow three times and write down the highest number. Take the numbers with you to your next doctor's appointment.

PEAK FLOW ZONES

The numbers on the peak flow are divided into three zones:

Green Zone: Your asthma is under control. Stay on your daily asthma medicine routine.

Yellow Zone: Caution, you are having a flare-up. Take your quick relief medicine as directed. Try to remove any triggers and contact your doctor for further instructions if there is no improvement.

Red Zone: You are having a serious flare up. Take your quick relief medicine as directed and call your doctor immediately. If you do not feel better, go to the emergency room right away.

HOW TO USE A PEAK FLOW METER

- If possible, stand up.
- Take any gum or food out of your mouth.
- Find the scale with numbers on the meter.
- Move the pointer/indicator to zero on the numbered scale.
- Keep your fingers away from the pointer/indicator.
- Breathe in as slowly and as deeply as you can, filling up your lungs.
- Place the mouthpiece in your mouth, however, do not put your tongue inside the mouthpiece.
- Close your lips tightly around the mouthpiece.
- Blow out as hard and as fast as you can in one breath. Do not cough or spit into the meter.
- Note your number.
- Reset the pointer/indicator to zero.
- Repeat two more times.
- Mark your best score.

Resources For Parents

Pediatric Pulmonary and Cystic Fibrosis Center

2121 Hughes Drive, Suite 640
Toledo, Ohio 43606
419-291-2207

Allergy and Asthma Network

800-878-4403
breatherville.org

American Academy of Allergy, Asthma, and Immunology

414-272-6071
aaaai.org

American Association for Respiratory Care

972-243-2272
aarc.org

American Lung Association

800-LUNG-USA (586-4872)
lungusa.org

Asthma and Allergy Foundation

800-727-8462
aafa.org

EPA

U.S. Environmental Protection Agency
Indoor air quality clearinghouse info
epa.gov/iag

Food Allergy & Anaphylaxis Network

800-929-4040
foodallergy.org

National Asthma Education and Prevention Program (NAEPP)

National Heart, Lung and Blood Institute

301-251-1222
Health Information Center
nhlbi.nih.gov

Asthma is the most common chronic childhood illness and often the reason a child goes to the emergency department or is admitted to the hospital. When your child's asthma is controlled, your child should be able to run, play and participate in activities without having difficulty breathing. Asthma should not keep your child from leading an active lifestyle!

At ProMedica Russell J. Ebeid Children's Hospital, we understand how important education is in the overall care of a child with asthma. We offer a free asthma education class to help you learn what you need to know to become an effective partner in your child's asthma care.

To learn more or schedule a free class please call 419-291-5474.

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References

National Asthma Education and Prevention Program, U.S. Department of Health and Human Services, 2007, hhlbi.gov/about/naepp

2020 Focused Updates to the Asthma Management Guidelines: A report from the NAEPP Program Coordinating Committee Expert Panel Working Group

American Lung Association, 1301 Pennsylvania Ave. NW, Ste. 800, Washington, DC 20004, lungusa.org

Asthma Education

419-291-5474

or asthmaeducation@promedica.org



ProMedica Russell J. Ebeid Children's Hospital has
earned Asthma Certification status from
The Joint Commission.

