

# Asthma

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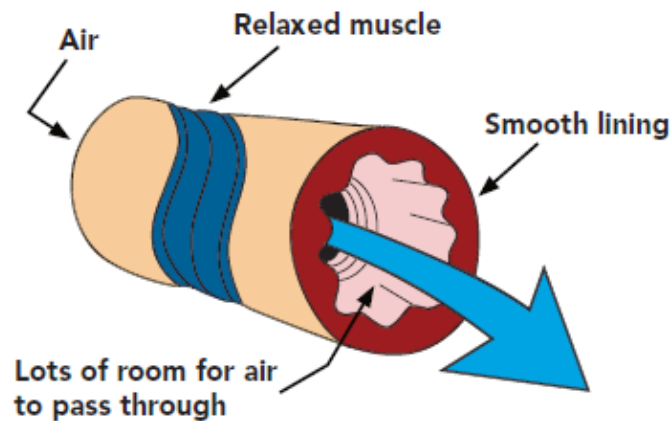
What you  
need to know

Children's Healthcare of Atlanta  
Asthma Care and Education (ACE) program

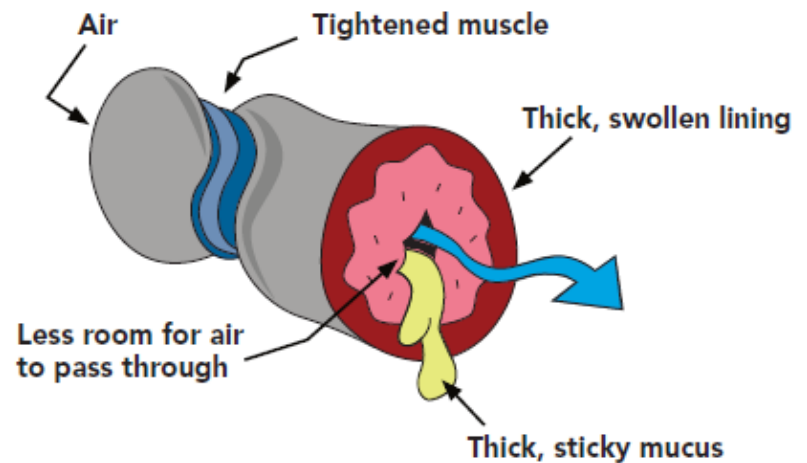
# What happens during an asthma attack

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## Airway before an attack



## Airway during an attack



## Asthma causes these symptoms:

- Wheezing
- Coughing
- Tight feeling in chest
- Chest congestion

## Asthma attacks are also called:

- Asthma episodes
- Asthma flares



# Triggers

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Exercise



Emotions



Infections



Weather changes



Odors

# Triggers: allergies

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Dust mites



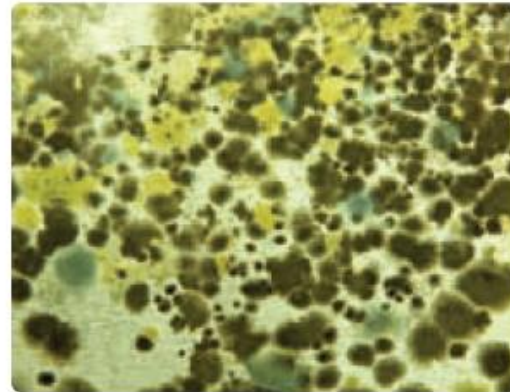
Pollen



Furry animals



Roaches



Mold

# Triggers: cigarette smoke

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# Early warning signs

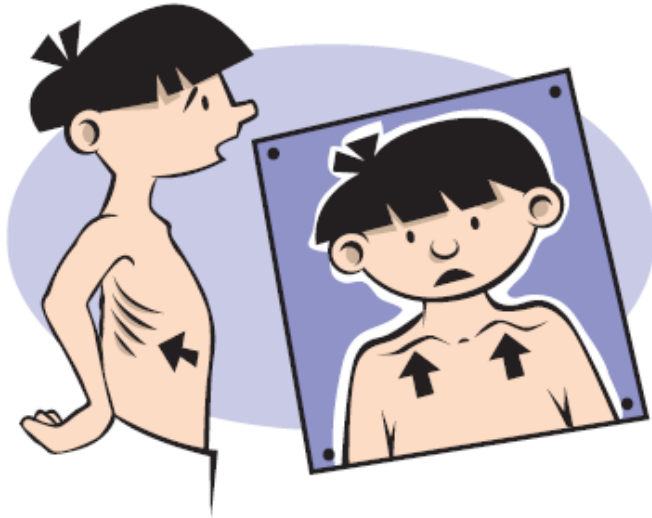
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**Most asthma attacks start slowly.  
Watch for these early warning signs:**

- Coughing
- Mild wheezing
- Faster breathing rate
- Tight feeling or pressure in chest
- Runny or stuffy nose
- Sneezing
- Itchy skin
- Itchy or sore throat
- Low energy
- Dark circles under eyes
- Itchy or watery eyes
- Headache
- Irritable behavior
- Grunting

# Signs of difficult breathing

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- Your child has a blue or pale gray color in lips, gums or fingernails.
- Your child's breathing rate is faster than normal.
- The skin between your child's ribs and around his collarbone pulls in with each breath.
- Your child is having a hard time catching his breath or has a weak voice.
- Your child has trouble walking and may have severe coughing, wheezing or chest tightness.
- Your baby may have difficulty feeding or poor sucking.



# Taking medicine for asthma

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Liquid or pill by mouth



Metered dose inhaler  
with a spacer



Metered dose inhaler  
with a spacer and mask



Nebulizer

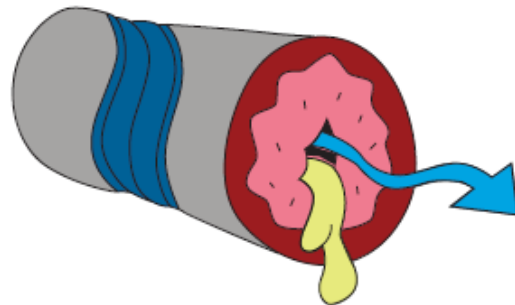


Dry powder inhaler

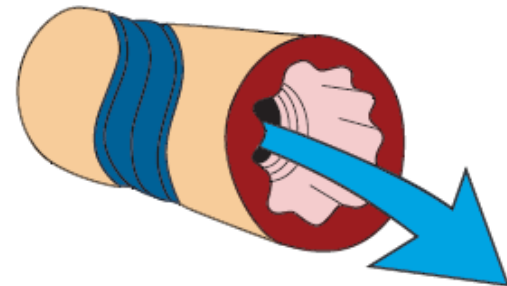


# Quick-relief medicines

They cause the muscles around the airways to relax, which helps to open passageways.



**Before**



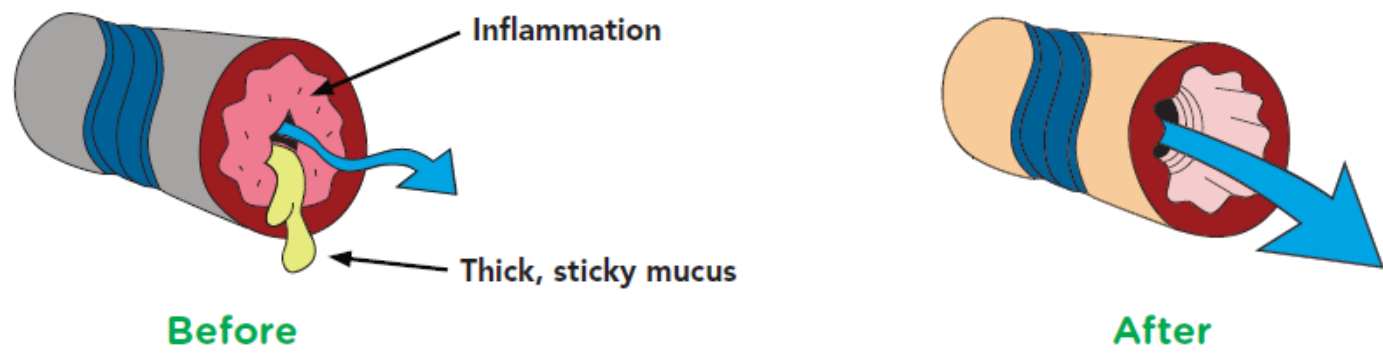
**After**

Examples of quick-relief medicines:

Brand name	Generic name
Proventil HFA	Albuterol
ProAir HFA	
Ventolin HFA	
Xopenex	Levalbuterol
Atrovent	Ipratropium Bromide
Combivent DuoNeb	Ipratropium Bromide and Albuterol Sulfate

# Next step: Oral steroids

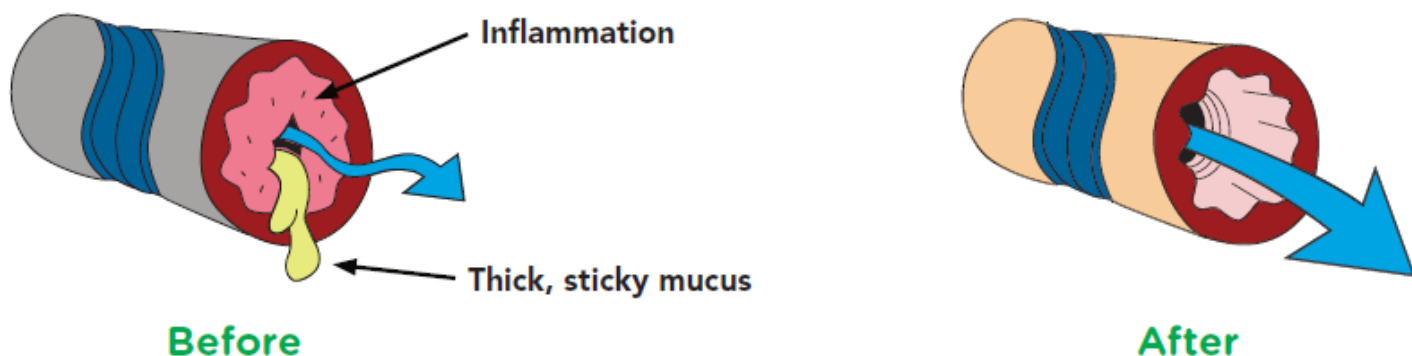
They decrease swelling in the airways, which helps open them up.



Brand name	Generic name	Short-term side effects	Long-term side effects
Prelone	Prednisolone	Mood swings Sleep disturbances Increased blood pressure	Bone weakness/loss Slowed growth Risk of cataracts
Orapred		Upset stomach	Getting sick easily
Prednisone		Increased appetite	
Solumedrol	Methylprednisolone		
Decadron	Dexamethasone		

# Long-term control medicines

Inhaled steroids are long-term control medicines that help prevent asthma symptoms by reducing swelling of the airways. Long-term control medicines must be taken **every day**, even when your child is feeling fine and breathing well.

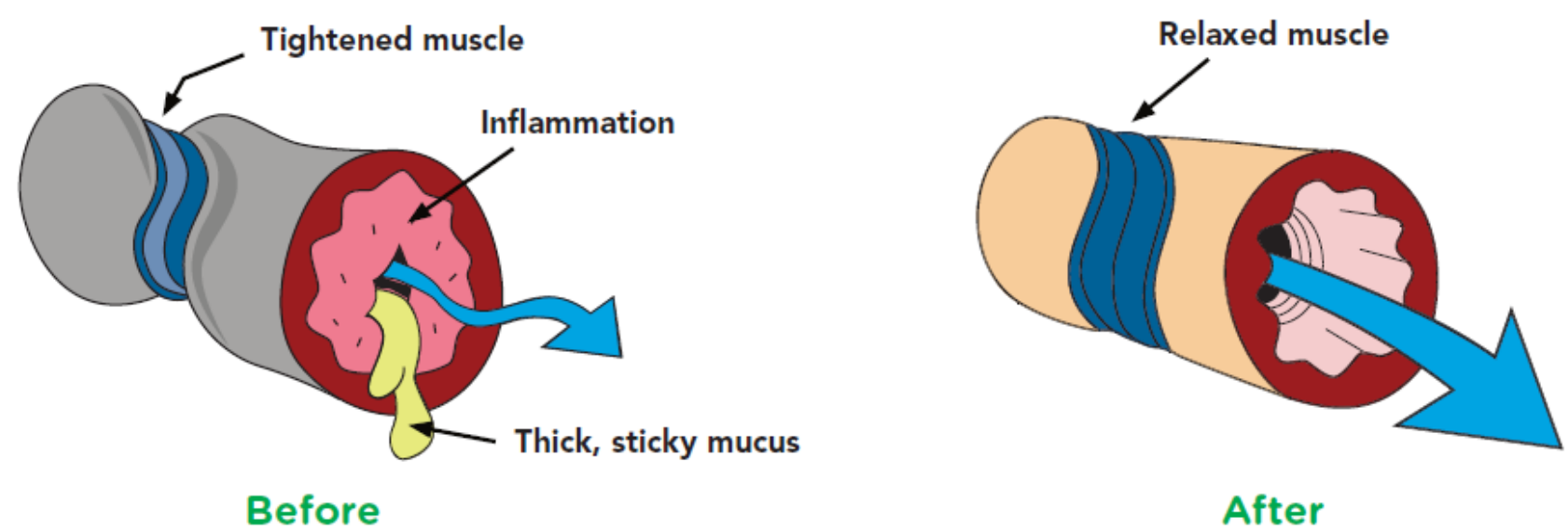


Examples of inhaled steroids:

Brand name	Generic name
Flovent	Fluticasone
Pulmicort	Budesonide
Alvesco	Ciclesonide
Azmacort	Triamcinolone
QVAR	Beclomethasone
Asmanex	Mometasone

# Long-term control medicines

Long-term control medicine: Singulair is an anti-allergy medicine. It must be taken **every day**, even when your child is feeling fine and breathing well.

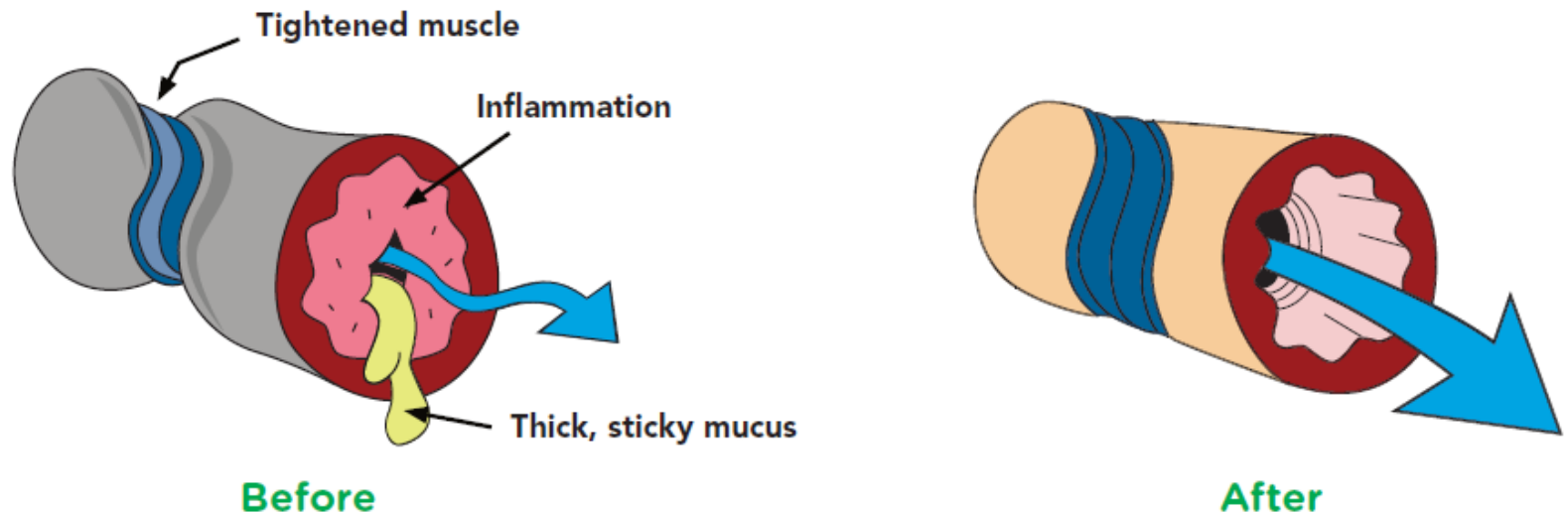


Example	Brand name	Generic name
Leukotriene modifier	Singulair	Montelukast



# Long-term control medicines

Long-term control medicines help prevent asthma symptoms by reducing swelling of the airways and relaxing the muscle around the airways. Long-term control medicines must be taken **every day**, even when your child is feeling fine and breathing well.

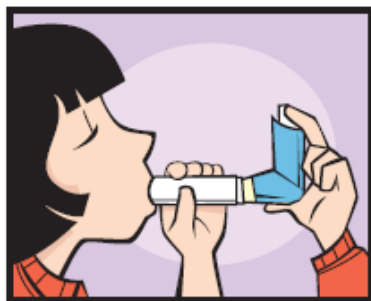


Example	Brand name	Generic name
Combination drugs	Advair	Fluticasone/Salmeterol
	Symbicort	Budesonide/Formoterol
	Dulera	Mometasone/Formeterol

# Proper use of an inhaler (MDI)

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Proper use of an inhaler helps to ensure that the asthma medicine gets to the lungs where it is needed. A spacer or holding chamber will help your child get the proper amount of medicine.



**A. Spacer/holding chamber**



**B. Spacer/holding chamber with mask**

1. Prime the inhaler according to the manufacturer's instructions.
2. Stand up or sit up straight.
3. Take off the cap and shake the inhaler.
4. Hold the inhaler as instructed by your doctor using one of these methods (above).
5. Breathe out all the way.

## **If using a spacer/holding chamber:**

6. Breathe in slowly and deeply to fill the lungs. Press down on the inhaler at the same time.

7. Hold breath for 5 to 10 seconds.

## **If using a spacer/holding chamber with mask:**

6. Place mask firmly on face, covering nose and mouth.
7. Press down on the inhaler and breathe in and out slowly 6 times.
8. Shake the inhaler before taking each puff. If more than one puff is ordered, allow one minute between each puff.

# Asthma action plan

An asthma action plan can help you better manage your child's asthma at home. Ask your doctor for a written asthma plan and share the plan with those who care for your child (e.g., school, day care). Be sure to know your child's limits and when to get help right away.

## Call 911 if:

- There is a blue or pale gray color to your child's lips, gums or fingernails
- Your child has severe difficulty breathing and cannot eat, drink or speak in complete sentences
- You and your child do not feel comfortable managing the asthma attack alone

My Asthma Action Plan		Child's #1 Given
Name: Rachel Alexander	Date of Birth: 5/11/2011	Age: 6/5/2015
		Doctor: Egbert, Ann E.

Follow up in 2 - 3 days      Doctor: Egbert, Ann E.      Phone: 770-487-2030  
 If no Physician is indicated above, follow up with The Asthma Center at Children's at Hughes Scaffolds  
 The phone number for The Asthma Center is 404-785-2060.  
**Bring Asthma Action Plan and all medicines to all Doctor's appointments.**  
**Begin Asthma Action Plan: 05/17/15**  
 Asthma triggers: Cold/flu, Smoke (cigar, pipe, incense), Smoke (cigarettes, cigars, fire) and Weather changes

**Every Day Medicines**

Green Zone		
Medicine	How much to take/How to take it	How often to take it
Controller Medicine		
How often to take it		

Before exercising, take: N/A  
 Call your doctor if rescue medicine is needed more than two times a week (other than before exercise)

**Step 1**

Asthma Action Plan		
Yellow Zone		
How often to take it	How much to take/How to take it	How often to take it
ALBUTEROL 90MG/PUL	4 puffs inhaled by Mouth with Spacer	Every 4 hours

**Step 2**

Symptoms Better	Symptoms Worse
Continue rescue medicine for 24 hours	Call your doctor now
Continue with Green Zone medicines	Begin oral steroids if prescribed

**Red Zone - Poor Response**

Medicine	How much to take/How to take it	How often to take it
Rescue Medicine		
ALBUTEROL 90MG/PUL	4 puffs inhaled by Mouth with Spacer	Every 20 minutes for 40 minutes

If skin, fingernail or lip color appear blue at any time:

**Call 911 for help or go to the nearest Emergency Department**  
 Always consult your child's doctor or other healthcare provider if you have any questions or concerns about the care or health of your child.

RN/Therapist Signature: Jane Doe RN      Date: 05/06/2015 Time: 8:00 AM

# What to do if:

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- You're at a barbeque and your child starts coughing a lot and can't seem to stop. What do you do?
- You notice your child's nose is running and he has a low fever, but his asthma seems OK. What do you do?



# Goals of asthma treatment: Controlled asthma

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Asthma cannot be **cured**, but it can be **controlled**.

Asthma is **not controlled** if:

- Symptoms are present more than two times a week
- Symptoms are present more than two nights a month
- Child needs to use quick-relief medication more than two times a week (not as pretreatment before exercise)
- Child needs to limit normal activities
- Child needs oral steroids more than two times per year

Steps to asthma control include:

- Control of triggers
- Proper use of medication
- Medical follow-up

Asthma control is a **team effort**.

Consider specialist care if:

- Child needs more than three visits to the Emergency Department
- Child has more than two hospital admissions
- Child has any admission to the intensive care unit (ICU)
- Child has severe allergies
- Child's asthma is still not in control even with medicines