Asthma

What you need to know

Children's Healthcare of Atlanta
Asthma Care and Education (ACE) program
What happens during an asthma attack

Airway before an attack

- Relaxed muscle
- Smooth lining
- Lots of room for air to pass through

Airway during an attack

- Tightened muscle
- Thick, swollen lining
- Thick, sticky mucus
- Less room for air to pass through

Asthma causes these symptoms:
- Wheezing
- Coughing
- Tight feeling in chest
- Chest congestion

Asthma attacks are also called:
- Asthma episodes
- Asthma flares
Triggers

Exercise

Emotions

Infections

Weather changes

Odors
Triggers: allergies

- Dust mites
- Pollen
- Furry animals
- Roaches
- Mold
Triggers: cigarette smoke
Early warning signs

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

- 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

- 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.

Examples of quick-relief medicines:

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proventil HFA</td>
<td>Albuterol</td>
</tr>
<tr>
<td>ProAir HFA</td>
<td></td>
</tr>
<tr>
<td>Ventolin HFA</td>
<td></td>
</tr>
<tr>
<td>Xopenex</td>
<td>Levalbuterol</td>
</tr>
<tr>
<td>Atrovent</td>
<td>Ipratropium Bromide</td>
</tr>
<tr>
<td>Combivent DuoNeb</td>
<td>Ipratropium Bromide and Albuterol Sulfate</td>
</tr>
</tbody>
</table>
Next step: Oral steroids

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

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic name</th>
<th>Short-term side effects</th>
<th>Long-term side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prelone</td>
<td>Prednisolone</td>
<td>Mood swings, sleep disturbances, increased blood pressure</td>
<td>Bone weakness/loss, slowed growth, risk of cataracts, getting sick easily</td>
</tr>
<tr>
<td>Orapred</td>
<td></td>
<td>Upset stomach, increased appetite</td>
<td></td>
</tr>
<tr>
<td>Prednisone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solumedrol</td>
<td>Methylprednisolone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decadron</td>
<td>Dexamethasone</td>
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</table>
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:

<table>
<thead>
<tr>
<th>Brand name</th>
<th>Generic name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flovent</td>
<td>Fluticasone</td>
</tr>
<tr>
<td>Pulmicort</td>
<td>Budesonide</td>
</tr>
<tr>
<td>Alvesco</td>
<td>Ciclesonide</td>
</tr>
<tr>
<td>Azmacort</td>
<td>Triamcinolone</td>
</tr>
<tr>
<td>QVAR</td>
<td>Beclomethasone</td>
</tr>
<tr>
<td>Asmanex</td>
<td>Mometasone</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Example</th>
<th>Brand name</th>
<th>Generic name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leukotriene modifier</td>
<td>Singulair</td>
<td>Montelukast</td>
</tr>
</tbody>
</table>
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.
Proper use of an inhaler (MDI)

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

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.

B. Spacer/holding chamber with mask

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
What to do if:

- 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

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