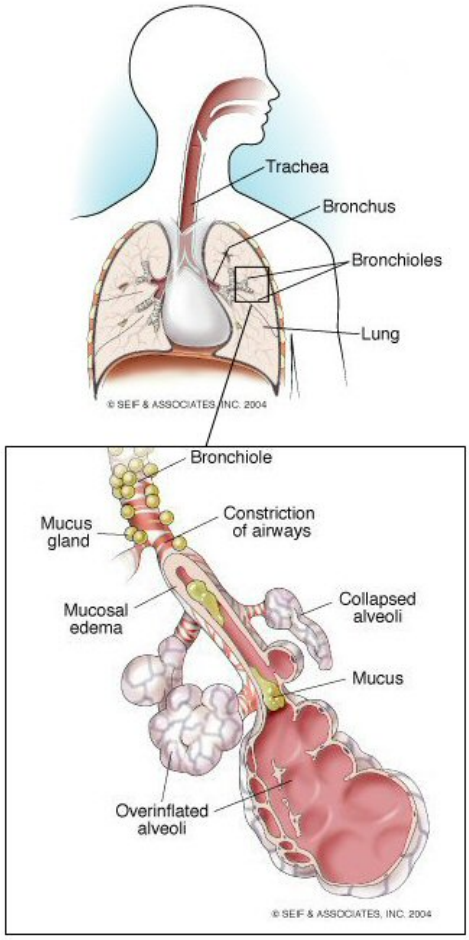
Childhood Asthma

Asthma is a disease of the respiratory system. It is due to inflammation of the lining of the small airways in the lungs. Inflammation is the body's way of reacting to injury and/or infection. In someone with asthma, the body is overly reactive to things that can bring on an asthma attack (*triggers*). Triggers can cause:

- Swelling of the air tubes.
- Narrowing of the air tubes.
- Muscle spasm inside the air tubes.



Asthma is a common illness of childhood. Knowing more about your child's illness can help you handle it better. It can not be cured, but medicine can help control it. Some children do outgrow asthma.

CAUSES

The exact cause of asthma is not known. It may be due to a combination of factors such as:

- Family history of asthma or allergies.
- Certain infections in childhood.
- Exposure to airborne allergens early in childhood.

SYMPTOMS

- Wheezing and coughing
- Frequent or severe coughing with a simple cold is often a sign of asthma.
- Chest tightness and shortness of breath.

Symptoms may be constant or intermittent. Symptoms are often worse at night and first thing in the morning.

SOME COMMON TRIGGERS FOR AN ATTACK ARE:

- **Allergies** (to things like animal dander, pollen, dust mites, cockroaches, food, and molds).
- **Infection** (usually viral).
- **Exercise** can trigger an attack in children with asthma. Proper pre-exercise medicines allow most children to participate in sports.
- **Irritants** (pollution, cigarette smoke, strong odors, aerosol sprays, paint fumes, etc.). Children should not breathe second hand smoke. Children should avoid any exposure to cigarette smoke.
- **Weather changes**. There is not one best climate for children with asthma. Winds increase molds and pollens in the air. Rain refreshes the air by washing irritants out.
- **Cold air**.
- **Stress and emotional upset.**

DIAGNOSIS

Your caregiver may suggest testing to help confirm the diagnosis and/or to make sure symptoms are not being caused by a different problem. Tests might include:

- Lung (*pulmonary*) function studies may help with diagnosis.
- Chest x-ray.
- Tests that use medicines to trigger and reproduce symptoms (called "*bronchoprovocation*" or "*challenge*" tests).
- Allergy testing.
- Sometimes a trial of asthma medicine helps make the diagnosis.

TREATMENT

The goals of asthma treatment are to:

- Prevent attacks.
- Avoid emergency visits and hospitalizations.
- Allow your child to have a normal life with no restrictions.

Treatment depends on the child's age and the severity of the asthma. Medicines that may be prescribed include:

- Rescue medicines (*bronchodilators*). These are also called relievers. They treat the spasm of the airways. They are best used early in an attack and until the symptoms are definitely gone. They may be used before exercise to prevent an attack.
- Inhaled steroids. These are used daily to calm the inflammation of the airways. They are used for children with frequent asthma flare-ups. They are for prevention. They are not used as rescue treatment for an attack.
- Oral steroids. These may be used in combination with rescue medicines to help treat an especially bad attack.
- Other long-term preventative medicines. These are used daily to prevent attacks. One may also be used before exercise.

Allergy testing and treatment are sometimes needed.

HOME CARE INSTRUCTIONS

- It is important to remain calm during an asthmatic attack. The anxiety produced during a child's asthmatic attack is best handled with reassurance. If any child with asthma seems to be getting worse and is not getting better with treatment, seek immediate medical care.
- Control your home environment in the following ways:
  - Change your heating/air conditioning filter at least once a month.
  - Place a filter or cheesecloth over your heating/air conditioning vents. It may need to be cleaned or changed every month or two.
  - Limit your use of fire places and wood stoves.
  - If you must smoke, smoke outside and away from the child. Change your clothes after smoking. Do not smoke in a car.
  - Get rid of cockroaches and their droppings.
  - If you see mold on a plant, throw it away.
  - Clean your floors and dust every week. Use unscented cleaning products. Vacuum when the child is not home. Use a vacuum cleaner with a HEPA filter if possible.
  - If you are remodeling, change your floors to wood or vinyl.
  - Use allergy-proof pillows, mattress covers, and box spring covers.
  - Wash bed sheets and blankets every week in hot water and dry in a dryer.
  - Use a blanket that is made of polyester or cotton with a tight nap.
  - Limit stuffed animals to one or two and wash them monthly with hot water and dry in a dryer.
  - Clean bathrooms and kitchens with bleach and repaint with mold-resistant paint. Keep child with asthma out of the room while cleaning.
  - Wash hands frequently.
- Talk to your caregiver about an action plan for managing your child's asthma attacks at home. This includes the use of a peak flow meter that measures the severity of the attack and medicines that can help stop the attack. An action plan can help minimize or stop the attack without having to seek medical care. Be sure your child's school or daycare has a copy of the action plan and your child's rescue medicine on hand.
- Always have a plan prepared for seeking medical attention. This should include calling your child's caregiver, access to local emergency care, and calling for ambulance service in case of a severe attack.
- Be sure your child and family get annual flu shots.
- Be sure your child has had a pneumonia vaccine.

SEEK MEDICAL CARE IF:

- There is wheezing and shortness of breath even if medicines are given to prevent attacks.
- There are muscle aches, chest pain, or thickening of sputum.
- Wheezing or tight cough lasts more than 1 day despite treatment.
- Frequent wheeze or tight cough.
- Waking at night from cough or wheeze.
- Your child is avoiding activities or sports due to asthma.
- Your child is using rescue inhalers more often.
- Peak flow (if used) is in the yellow zone (50-80% of personal best) despite rescue medicine.

SEEK IMMEDIATE MEDICAL ATTENTION IF:

- The usual medicines do not stop your child's wheezing or there is increased coughing.
- Peak flow (if used) is in the red zone (less than 50% of personal best).
- The nostrils flare.
- The spaces between or under the ribs suck in.
- Your child develops severe chest pain.
- Your child has a rapid pulse, difficulty breathing, or cannot speak more than a few words before needing to stop to catch his/her breath.
- There is a bluish color to the lips or fingernails.
- Your child acts frightened during an attack and you are not able to calm them down.
- Your child is unusually drowsy.

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