

ASTHMA

Asthma is a chronic inflammatory condition in which the airways are hyper responsive to environmental factors called triggers. When the airway is exposed to triggers, inflammation, swelling and mucus production may increase and the muscles around the airway tighten. The end result is airway narrowing and is characterized by symptoms such as difficulty breathing, chest tightness, wheezing and cough.

Asthma severity can vary from mild to severe. It can also vary over time. Often, asthma in children will improve with age.

Signs of Asthma

- Coughing
- Wheezing
- Chest tightness
- Shortness of breath
- Increase in the rate of breathing while at rest

Triggers of Asthma

Asthma can be worsened by a number of environmental factors that are described as inflammatory and symptom triggers.

Avoidance of triggers is the most effective strategy in preventing asthma symptoms and may reduce the need for medication. Triggers of asthma symptoms will vary from person to person. It is important to identify and control any known triggers for a child with asthma. Triggers may be present at any time. However, children with asthma may experience more problems during certain seasons or activities.

Inflammatory triggers cause the inside of the airways to become swollen and produce extra mucus.

Common inflammatory triggers

- respiratory infections (e.g., common cold, flu)
- allergens
- environmental tobacco smoke (ETS)

Symptom triggers cause the muscles around swollen airways to tighten. The muscles in swollen airways are more likely to tighten when in contact with symptom triggers than muscles in airways that are not swollen.

Common symptom triggers

- cold, dry air
- smoke
- strong odors
- air pollution
- exercise
- emotions
- stress

Treatment of Asthma

There is presently no cure for asthma. However, asthma can be effectively controlled in most people. A child with well-controlled asthma does not present any differently than other children and should participate in all activities.

Medication is used to prevent or decrease asthma symptoms. Medication for asthma is usually given by inhalation as an aerosol or dry powder. There are two main groups of medications used in the treatment of asthma – controllers and relievers.

Controllers, also called preventers, control asthma by reducing airway swelling and mucus production. They help to prevent or decrease asthma symptoms. They are used on a regular basis and most often taken at home. They do NOT provide quick relief of asthma symptoms.

Relievers, also called bronchodilators, provide fast temporary relief from asthma symptoms by relaxing muscles around the airways. The child with asthma should carry reliever medication for easy access.

A commonly used reliever medication is salbutamol (Ventolin). Relievers can usually be identified by the blue coloring on the cap or bottom.

Medication Devices

The most common devices used for asthma medication are the Metered Dose Inhaler, with or without a spacer device (i.e., AeroChamber®) and the Turbuhaler®.

Most children manage their own medication. If a child requires assistance, the nurse will provide training to community program staff on how to use the medication device.

When Asthma is Not Well Controlled

If any of the following situations occur, the child's asthma may not be controlled and the parent/guardian should be informed.

- Asthma symptoms prevent the child from performing normal activities.
- The child is frequently coughing, short of breath or wheezing.
- The child is using reliever medication more than 3 times per week for symptoms or with exercise.

When a Child has an Asthma Episode

1. Remove the child from any triggers of asthma.
2. Have the child sit down.
3. Ensure the child takes reliever medication
4. Encourage slow deep breathing.
5. Monitor the child for improvement of asthma symptoms.

Do **not** leave the child alone.

Emergency Response Plan

It is a rare occurrence for an asthma episode to become a medical emergency. However, if any of the emergency conditions occur, the emergency response plan should be implemented.

- Reliever medication has been given and there is no improvement of asthma symptoms in five minutes
- Greyish/bluish color in lips and nail beds
- Inability to speak in full sentences
- Chest retractions or tracheal tug
- Shoulders held high, tight neck muscles
- Cannot stop coughing
- Difficulty walking

1. Activate 911/EMS.
2. Give reliever medication every five minutes.
3. Notify parent/guardian.
4. Stay with the child until EMS personnel arrive.