

Asthma

Brown Health Services Patient Education Series

What is asthma?

Asthma is caused by spasm and inflammation of the airways in the lungs. Like branches of a tree, the airways get smaller and smaller until they reach the air sacs that make up the lungs. When asthma is under control, the airways are clear and air flows in and out of your chest easily. When asthma is not under control, the airways become constricted and inflamed, with increased mucus production that further obstructs the airways. During an asthma attack, less air can get in and out of the lungs, causing coughing, wheezing, and shortness of breath. Coughing for more than 10 days after a cold can also be a symptom of asthma. Sometimes prolonged coughing is the only symptom that people experience.

How is asthma diagnosed?

Your medical provider can often diagnose asthma in the office. Using a peak flow meter is a quick and easy method of measuring the degree of obstruction to airflow through your airways. If your asthma is moderate to severe, your provider may have you repeat this breathing measurement at home to help you adjust your medicine. Asthma can vary in severity. With intermittent asthma, symptoms occur sporadically in response to a trigger, and there are no symptoms between episodes.

- Mild persistent asthma: symptoms less than 2 times per week and night coughing 3 to 4 times per month
- Moderate persistent asthma: symptoms present daily, a peak flow 60% to 80% of the predicted norm and night coughing greater than once per week
- Severe persistent asthma: daily symptoms with limited physical activity, night wakening daily or very frequently, and a peak flow of less than 60% of the predicted norm

What triggers set off asthma attacks and exacerbations?

Triggers can be animals with fur, cigarette smoke, dust, feather or down bedding, perfumes, pollen, cold air, upper respiratory infections, exercise and acid reflux. It is important to note which triggers may be causing your asthma symptoms.

Controlling or avoiding triggers, taking your medication as directed, and avoiding triggers that can set off your asthma is the best way of preventing attacks. Your medical provider can help you determine which steps to take to help avoid triggers.

- Dust/dust mite allergy
 - Remove rugs, carpet and extra pillows.
 - Use mattress and pillow coverings to avoid dust mites.
 - Do not use down comforters or pillows.
 - Wash sheets and blankets in hot water weekly.
 - Vacuum often.
- Allergies/hay fever
 - Take antihistamines and other allergy medications as prescribed to control symptoms.
 - Your medical provider may suggest an evaluation by an allergist if the allergies are a significant trigger for your asthma attacks.
- Upper respiratory infections
 - Discuss with your medical provider whether or not a flu shot is appropriate. Careful hand washing can help to prevent frequent colds.

- Do not directly share food, drinks or eating utensils.
- Start your bronchodilator inhaler (e.g., Albuterol) asthma inhaler at the first sign of shortness of breath or wheezing, or as directed by your provider.
- Smoke or odors
 - Avoid smoke-filled places; use unscented soaps and detergents.
 - Do not use perfumes or colognes.
- Cold air
 - Wear a scarf over your mouth and nose to warm the air you breathe.
- Animal fur
 - Avoid animals with fur.
 - Keep pets outside if you cannot avoid completely.
- Exercise
 - Use any medicines prescribed by your medical provider before exercising to help prevent attacks.
 - Always carry medication with you while exercising, and be prepared to stop at the first sign of an asthma attack.
- Measure your peak flow regularly
 - This will help you assess your own level of asthma control and identify when you are in trouble.
 - Peak flow readings provide an objective measure to help your medical provider evaluate your status and give you the right treatment advice.

Which medicines are used to control asthma?

While avoiding triggers is the first approach to asthma management, medicines will help keep your symptoms under control. It is very important that you use the medicines correctly, and at the correct intervals

as prescribed. The following classes of medicines are most commonly used to treat asthma symptoms. Your medical provider will choose one or more of these medicines based on the causes and severity of your asthma symptoms. Most of the medicines are inhaled so that the maximum effects go straight to the airways. To improve the dose of the inhaled medicine that gets to your lungs, your medical provider may prescribe a spacer device to be attached to the inhaler.

Short-acting inhaled bronchodilator

Such as Proair, Ventolin, Albuterol, Proventil

- Rescue or quick-relief medicines act on the smooth muscle lining the airways to help reverse the spasm and narrowing of the airways
- Effects are felt immediately
- This medicine may be prescribed on a regular basis, or as needed for symptoms which are intermittent
- May feel a little jittery, light-headed or racy after starting this medicine. These symptoms usually diminish with subsequent doses.
- If your symptoms are not relieved with the prescribed inhalations, call your medical provider.
- Do not exceed the prescribed number of inhalations.
- If you need this rescue medicine more than 6 times in one day to control asthma attacks, you need immediate help from your medical provider.

Sometimes short-acting bronchodilators are prescribed for use 20 minutes before exercise to control exercise induced asthma symptoms.

Long-acting inhaled bronchodilators

Such as Serevent

- Same action on the airways as short-acting bronchodilators
- BUT deliver that effect over a prolonged period, often making them useful for people with nighttime symptoms
- Not to be used for quick relief of asthma symptoms and should never be used more often than prescribed.

Inhaled Steroids

Such as Flovent, Beclovent, Vanceril, Aerobid, Pulmicort

- Affect inflammation in airways which is present in patients with persistent asthma symptoms.
- Need to be used in regular, ongoing basis to be effective
- No effect on acute shortness of breath and should not be used intermittently.
- Remember to rinse out your mouth with water after each use of inhaled steroids.

Oral steroids

Such as prednisone

- In some cases, asthma symptoms may be severe enough to require a short course of oral steroids to decrease inflammation
- Best taken in the morning
- Take it exactly as prescribed.

Combination asthma medication

Such as Advair, Symbicort

- Inhaled steroids prescribed in combination with long-acting bronchodilators
- Do not use these more often than prescribed by your provider
- Excessive doses of long-acting agents can have serious side effects

Leukotriene receptor antagonists

Such as Singulair

- oral medicines sometimes additionally used to improve asthma control
- Also for exercise-induced symptoms

Cromlyn products

Such as Intal, Alocril

- Class of medications sometimes used for prevention of exercise-induced asthma symptoms
- Also for predictable allergic exposures (e.g., visiting a home with a cat)

Act fast if an asthma attack starts

- Know that coughing, wheezing, tight chest, and waking up at night are signs of an asthma attack.
- Move away from the thing that started the attack, if you can identify it.
- Take a quick-relief rescue asthma bronchodilator (e.g., Albuterol).
- Stay calm for 1 hour to be sure breathing gets better.

Call EMS at 863-4111 if you experience any of these asthma danger signs

- If your rescue medicine does not help for very long or does not help at all.
- Breathing is still fast and hard.
- It is hard to talk.
- Your lips or fingernails turn gray or blue.
- Your heartbeat or pulse is very fast.
- You can see the skin around your ribs pulling in when breathing.
- It is hard to walk.