

Asthma

Brown Health Services Patient Education Series

What is asthma?

Asthma is a chronic lung condition caused by inflammation of the airways. Its severity can wax and wane over time. 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 inner lining of the airways becomes swollen, produces excessive mucus, and the muscles around the airways spasm, causing constriction. 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 14 days after other cold symptoms resolve can be a symptom of airway inflammation associated with 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 by taking a history and completing a physical exam. 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
 - Get a Flu shot annually, and stay current with recommended Covid-19

vaccinations. Careful hand washing can help to prevent frequent colds.

- Do not directly share food, drinks or eating utensils.
- Start using your fast-acting rescue inhaler (e.g., Albuterol) at the first sign of shortness of breath or wheezing, or as directed by your provider.

- Smoke or odors

Do not smoke, vape, or use hookah at all.

If you need help quitting, talk with your provider.

- 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 out of the bedroom, if you cannot avoid them 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 (as recommended by your provider).
 - 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 and you to evaluate your respiratory function, 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. A healthcare 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, with the medication having a direct impact on the airways. To maximize the amount of inhaled medicine that gets to your lungs, your medical provider will prescribe a spacer device to be attached to the inhaler.

Inhaled Medications

- **Short-acting “rescue” inhaled bronchodilator**

Such as Proair, Ventolin, Albuterol, Proventil are rescue or quick-relief medicines that act on the smooth muscle lining the airways to help reverse the spasm and narrowing of the airways. The effects are felt immediately.

- **Long-acting inhaled bronchodilators**

Such as Serevent have the 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.

- **Inhaled Steroids**

Such as Flovent, Beclovent, Vanceril, Aerobid, Pulmicort decrease inflammation in airways which is present in patients with persistent asthma symptoms and need to be used on a regular, ongoing basis to be effective.

- **Combination asthma medication**

Such as Advair and Symbicort are long acting bronchodilators and steroids together in the same device.

See “Asthma Inhalers” Brown Health Services patient education handout for detailed information on proper inhaler use.

Oral Medications

- **Steroids**

Such as prednisone act to decrease inflammation.

- **Leukotriene receptor antagonists**

Such as Singulair can be added to improve asthma control, often for people with allergic triggers and with exercise-induced symptoms.

Injected medication

- **Omalizumab (Xolair)**

Injected monoclonal antibody treatment for people with moderate to severe asthma, not controlled by inhaled corticosteroids or leukotriene modifiers. Prescribed only by a pulmonologist or allergist.

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).
- Rest and stay calm for 1 hour after taking rescue medication, to be sure breathing remains improved.

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 or between collar bones pulling in when breathing.
- It is hard to walk.