

Medicines Used to Treat Asthma

During an asthma episode (“attack”)

- The lining of the airways becomes swollen (inflamed).
- The airways produce a thick mucus.
- The muscles around the airways tighten and make the airways narrower.

These changes in the airways block the flow of air, making it hard to breathe and causing coughing.

It often takes more than one medicine to treat the disease: some medicines relax the airways (bronchodilators) and others reduce (and even prevent) the swelling and excess mucus production (anti-inflammatories).

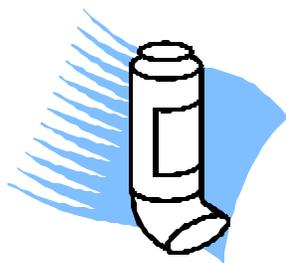
There are three main categories of medications:

For Quick Relief of Tightness

When small muscles tighten around the small airways in your lungs it is called bronchospasm.

Quick acting beta²-agonists, also called **bronchodilators**, are used for relieving this bronchospasm (or preventing it before exercise). Usually given as inhalers, they include albuterol (Proventyl, Ventolin), Tornate, Alupent, Maxair, and Brethaire. They work fast (in less than five minutes), with a peak effect within 30-60 minutes, and they last 4-6 hours. Usual dose is 1 or 2 puffs every 4-6 hours as needed for wheezing, cough, tightness. Wait 5 minutes before the second puff, to give the first puff a chance to work.

Exceeding 8 puffs per 24 hours may be dangerous to your heart. The frequent use of quick-relief medication (i.e. more than 8 puffs per 24 hours or more than one canister per month) indicates poor asthma control and the need for reevaluation by your health care provider. You may need to start or increase your dosage of long-term control medications.



For Longer Relief of Tightness

- **Salmeterol (Serevent)** is a long-acting beta₂ agonist. It is NOT intended as a quick relief agent. Serevent is useful in the management of nighttime symptoms and exercised-induced asthma. The drug may be given in an inhaler: 2 puffs with a spacer every 12 hours. The inhaled powder form (Serevent Discus) is given 1 puff every 12 hours. It is also useful in combination with an inhaled corticosteroid (Advair Discus) or with another anti-inflammatory agent.
- A group of drugs known as the methylxanthines, which includes theophylline (Slo-Bid, Theo-Dur), once the mainstream of asthma treatment, is now considered second or third choice. These may have adverse side effects and interact with many drugs.

For Long-term Control of Inflammation

For all categories of asthma beyond mild intermittent, medications which reduce and prevent inflammation of the airways are needed. These are the anti-inflammatory agents: corticosteroids, mast cell stabilizers, and leukotriene modifiers. These medications are taken regularly and should NOT be used to treat sudden symptoms. **You need to take this medicine EVERY DAY.**

- **Corticosteroids** are potent medicines that reduce or reverse the swelling in the airways that cause asthma symptoms. Inhaled steroids are effective for long-term use and have fewer side effects than oral (tablet) steroids. Inhaled corticosteroids should be used with a spacer and are usually dosed twice a day. To prevent oral candidiasis (yeast), patients are instructed to rinse their mouth out after each use. Steroid tablets are usually reserved for severe, persistent asthma. If you have asthma symptoms more than once or twice a week, you need an anti-inflammatory medicine and you need to take it EVERY DAY!



- Mast cell stabilizers are good choices for preventing mild to moderate asthma. These drugs, cromolyn sodium (Intal), nedocromil (Tilade), are very safe and also help with allergy- and exercise-induced asthma. They can be started as a preventative measure prior to your allergy season or used before you are in contact with a known trigger (i.e. prior to visiting a friend or relative who has a dog). Both agents can be taken 15 - 30 minutes before exercise to prevent exercise-induced bronchospasm for 1 - 2 hours. They are not intended and are not useful for an acute attack.



- Leukotriene modifiers. Leukotrienes are potent pro-inflammatory mediators in an asthmatic person's lungs which contribute to increased mucous production, bronchospasm and allergy response. A class of drugs known as leukotriene inhibitors (Accolate, Singulair, and Zflo) block that leukotriene action, improving asthma symptoms by decreasing mucous production and bronchospasm.

Are Asthma Medicines Safe?

Asthma medicines are safe, if taken as directed. Some people are afraid that they will become addicted to their medicines. This is not true. Others are concerned that if medicine is taken all the time, it will no longer work. This problem occurs rarely and can be managed. Talk to your health care provider if this happens.

Tips For Correct Use of Medicine

Take your bronchodilator medicine at the earliest sign that your asthma is getting worse. Watch out for early signs (a drop in your peak flow number or feeling symptoms such as cough, chest tightness, wheezing, or being short of breath) so that asthma medicine can be started right away to relieve symptoms. An asthma episode is easier to stop if you take your medicine as soon as symptoms start.

You won't have to take as much medicine that way either.

REMEMBER: Bronchodilators relieve symptoms, but they cannot reduce or prevent the swelling that causes the symptoms. When you have to use a bronchodilator a lot, it may be a sign that the swelling in your airways is getting worse. If you use a Beta2-agonist to relieve symptoms every day or if you use it more than three or four times in a single day, your asthma may be getting much worse. You probably need another kind of medicine. Discuss this with your health care provider right away.

Take your anti-inflammatory medicines exactly the way your health care provider recommends, even if you are not feeling symptoms. This will reduce airway swelling and will keep asthma episodes from starting. This medicine must be taken regularly for it to work well.



Safety Reminder:

REMEMBER: Your asthma medicine plan is not working if you still have symptoms with exercise, at rest, at night, or early in the morning. You need to talk with your health care provider about your medicine plan. Your health care provider may need to change the dose or the type of your medicine. If you have any side effects contact your health care provider immediately and do not stop taking your medicine completely until you talk with him/her.

If you have any questions you can reach the UWSP staff at 715-346-4646. After hours or in an emergency call your local emergency department or dial 9-1-1.