Your Definitive Guide to Long-Term Control and Rescue Medications for Asthma

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Asthma Meds

There are many asthma meds available to treat and prevent the symptoms of asthma; the best treatment for you may not be the best treatment for someone else. Your healthcare provider will help you find the best plan to manage your asthma.

Long-Term Control Medications

Long-term control medications do exactly what they say — they are taken on a long-term basis, generally daily or twice daily to control and prevent the symptoms of asthma.

Long-term asthma meds are the most important type of medication for most people with asthma, though some people only require rescue medications.

There are a variety of long-term control medications available. Though most are inhalers, there are a couple that are oral medications.

Inhaled corticosteroids are undoubtedly the most commonly prescribed long-term medications. They have anti-inflammatory properties in order to reduce swelling and are, for most people, the most effective treatment. Examples include:

- Fluticasone (Flovent HFA)
- Budenoside (Pulmicort Flexhaler)
- Mometasone (Asmanex Twisthaler)
- Beclomethasone (Qvar RediHaler)
- Ciclesonide (Alvesco)

Leukotriene modifiers block leukotrienes, which are immune system chemicals. These chemicals are known to cause asthma symptoms. In rare cases, these medications may cause psychiatric symptoms, such as depression, suicidal thinking and aggression. Examples include:

- Montelukast (Singulair)
- Zafirlukast (Accolate)
- Zileuton (Zyflo)

Long-acting beta agonists (LABAs) help to keep airways open for about 12 hours. However, they must be used on a regular schedule. They treat severe asthma, but consequently can cause severe asthma attacks if used incorrectly. The most prescribed LABA is salmeterol (Serevent).

Theophylline is an oral medication that relaxes airways and reduces the lungs response to irritants. It does have the potential for toxicity, so you may require regular blood work to ensure that the dosing is appropriate.

Combination inhalers contain a corticosteroid and a bronchodilator. Examples include:

- Fluticasone and salmeterol (Advair Diskus)
- Budesonide and formoterol (Symbicort)
- Mometasone and formoterol (Dulera)
- Fluticasone and vilanterol (Breo)

Rescue Medications

Rescue medications are used for acute (sudden) symptoms; they work quickly, hence the term "rescue". For example, they can be used as a wheezing treatment. These medications also prevent asthma attacks from occurring because they prevent symptoms from progressing into an asthma attack.

Rescue medications can also be used in a preventative way. For example, those who note an uptick in symptoms from exercise benefit from using a rescue medication prior to exercising.

Rescue medications work by relaxing the muscles of the airways and work within minutes.

Examples of rescue asthma meds include:

- Albuterol (ProAir HFA, Ventolin HFA)
- Levalbuterol (Xopenex HFA)

Biologics

Biologics are used to manage severe asthma. They are taken in conjunction with long-term control medications.

Omalizumab (Xolair) is the most prescribed biologic. It is also typically prescribed to those who also have severe allergies that are complicating their asthma. It is an injection that is given every two to four weeks.

There are now several biologics available. These biologics target eosinophils, which tend to build up within the body when you have asthma. These eosinophils secrete a substance called cytokines, which causes inflammation. The medications target eosinophils and cytokines, reducing their levels, and subsequently reducing inflammation. These biologics include:

- Benralizumab (Fasenra)
- Mepolizumab (Nucala)
- Reslizumab (Cinqair)

Biologics are prescribed with long-term control medications.

Allergy-Induced Asthma

Allergy-induced asthma is caused by inflammation in the body. When you have allergies and are exposed to something that you are allergic to, antibodies are released to attack the allergen. A variety of symptoms can occur, one of which is asthma symptoms.

One of the treatments available, of course, is Xolair, as discussed above. However, other treatments are typically trialed first.

Preventing allergies from occurring in the first place is key. This is often done by:

- Taking allergy medications. A variety of allergy medications exist in different formulations. Examples include oral antihistamines and decongestants, nasal decongestants, nasal cromolyn sprays and nasal corticosteroids. These medications are also available over the counter and by prescription.
- Allergy injections (immunotherapy) can also be highly effective. An allergy test is performed to detect allergens, and tiny doses of these allergens are administered. Over time, you'll lose the sensitivity to these allergens.

On the Horizon

Drugs termed siRNA medications, Onpattro and Givlaari hit the market over the past couple years. These medications are not treatments for asthma, nor can they be used off-label to treat asthma. However, their mechanism of action gives researchers hope that this drug class may be able to eventually treat asthma.

These medications treat amyloidosis and reach the liver. For siRNA medications to be effective in the treatment of asthma, researchers believe that these medications affect the inflammatory cascade. According to Advanced Science News, "the aim of T-cell delivery is downregulation of GATA-3, the transcription factor of T helper 2 (TH2) cells overexpressed in asthmatic patients, which is recognized as a key factor in the asthmatic inflammatory cascade…"

Researchers sought a "tool" that targeted activated TH2 cells. Though research is ongoing, the medication works two ways:

- It uses an electrostatically charged cationic polymer to interact with the siRNA, which is negatively charged.
- Transferrin targets moiety, which mediates targeted delivery of siRNA to activated T cells.