# Stages of Asthma Treatments

In the majority of asthma patients, pharmacologic therapy is the primary treatment option. In order to reduce therapy-related complications, the evaluation of asthma is divided into four levels: intermittent, mild persistent, moderate persistent, and severe persistent. A 1-6 step approach is used to determine the appropriate treatment for each level of asthma in children older than 12 years. Patients who are asymptomatic or whose symptoms are well-controlled should be reassessed every three months.




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## Mild Intermittent

**Short-acting Inhaled Beta-Agonist**
Short-path Beta-fish Dragonist
Inhaled short-acting beta-agonists (SABA), such as albuterol, are the mainstay treatment for intermittent asthma, and symptoms are entirely resolved with their use. The onset of action of SABAs is between 1 and 5 minutes, and the duration is between 4 and 6 hours. They cause bronchodilation by stimulating beta-2 adrenergic receptors.

## Mild Persistent

**Low-Dose Inhaled Corticosteroid**
Low Inhaler Quarter-on-steroids
Mild persistent asthma requires advancement to step 2 on the asthma management protocol. In addition to a rescue inhaler (short-acting beta agonist), daily low-dose inhaled glucocorticoids, such as budesonide or beclomethasone, are commonly used to control inflammation in patients with persistent asthma.

**Montelukast (Leukotriene Receptor Antagonist)**
Mountie-locust
Leukotrienes are chemical mediators of the allergic response and are overactive in asthma. The leukotriene receptor antagonists (LTRA), montelukast and zafirlukast, block leukotriene receptors, which decreases bronchoconstriction, hypersecretion, and eosinophil recruitment. Daily LTRA therapy combined with SABA rescue therapy can be used.

## Moderate Persistent

**Low to Medium-dose Inhaled Corticosteroid**
Low to Medium Inhaler Quarter-on-steroids
Moderate persistent asthma requires advancement to step 3 in the asthma management protocol. Step 3 involves increasing to medium-dose inhaled corticosteroids (Budesonide) daily for airway inflammation management, in addition to the use of a short-acting beta agonist as needed.

**Zileuton**
Zeppelin
Zileuton acts on the front end of the leukotriene pathway through inhibition of the 5-lipoxygenase enzyme, which is involved in the production of leukotrienes.

## Severe Persistent

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**High-Dose Inhaled Corticosteroid**

High Inhaler Quarter-on-steroids

Step 4 of the protocol calls for escalation to medium- to high-dose inhaled corticosteroids in combination with a long-acting beta-agonist (LABA) and a long-acting muscarinic agonist (LAMA). Leukotriene receptor antagonists can also be used. <br>

**Systemic Corticosteroids**

Systemic Quarter-on-steroids

Some patients with severe asthma may require systemic corticosteroids to control their airway inflammation. Although corticosteroids are the most potent and effective for asthma control, they have serious side effects when used for an extended period of time. To avoid cushingoid side effects, the lowest effective dose should be used. They can be administered in short bursts to control exacerbations, or in low daily doses to patients who experience frequent, severe exacerbations.

**Omalizumab (Allergies)**

Om-monk-lizard-mob and Allergy-alligator

Omalizumab is an anti-IgE monoclonal antibody that can be used in severe cases of "allergic asthma" or asthma that is driven by an IgE response. This can be determined with high blood IgE levels or positive allergen skin testing. Omalizumab is administered subcutaneously every 2 to 4 weeks.

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