

## Persistent Severe Asthma

Asthma is a chronic airway disease involving bronchial inflammation and hyperresponsiveness that leads to airway obstruction and the symptoms of difficulty breathing, cough and wheezing. Common triggers include cigarette smoke, dust, exercise, and exposure to cold air. Patients with severe persistent asthma have symptoms requiring a rescue inhaler multiple times per day, with nocturnal awakenings every night. Pulmonary function tests show a decrease to less than 60% of predicted normal. Severe persistent asthma requires advancement to step four on the asthma management protocol. This includes escalation to medium-high dose inhaled steroids with a long-acting bronchodilator, or addition of systemic corticosteroids. The anti-IgE monoclonal antibody, omalizumab, may also be added for patients with allergic asthma.



PLAY PICMONIC

### Diagnosis

#### Symptoms (Bronchoconstriction) and Rescue Inhaler Use: Multiple/ Day

[Multiple Broccoli-constrictors and Inhalers with Girl in Daily-sundress](#)

Patients with severe persistent asthma have symptomatic attacks of cough, difficulty breathing, and wheezing multiple times every day. Severe asthma requires the use of a rescue short-acting beta-agonist inhaler several times every day for attacks.

#### With Minimal Activity

[With Mini-stair Activity](#)

Severe asthmatics experience onset of symptoms with even minimal activity, which severely limits their activities of daily living.

#### Nighttime Awakening: Nightly

[Knight Awakened with Nightly-news](#)

Symptoms awaken patients from sleep every night, and can occur multiple times per night.

#### < 60% Predicted FEV1

[&lt; \(60\) Minutes-reporter with Spirometer](#)

In severe disease, pulmonary function tests demonstrate a significant decrease with a forced expiratory volume in one second (FEV1) less than 60% of predicted normal.

#### > 5% Decrease FEV1/FVC

[&gt; \(5\) Hand with Down-arrow at FEV1/FVC lungs](#)

The FEV1:FVC (forced vital capacity) ratio is reduced by more than 5% in severe asthmatics.