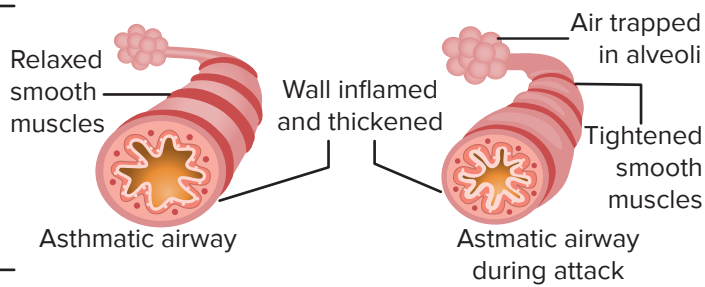
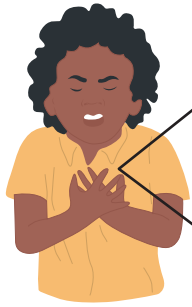


# COMPARISON OF SHORT-ACTING AND LONG-ACTING ASTHMA MEDICATIONS



## Inflammation & Bronchoconstriction



Asthma is characterized by two airway alterations: inflammation and bronchoconstriction.

Asthma medications reverse or inhibit these alterations in order to open the airway and reduce asthma symptoms.

	Rescue: for acute exacerbations	Maintenance: long-term therapy to reduce inflammation and prevent exacerbations				
Class	Short-acting beta-agonists (SABAs)	Long-acting beta-agonists (LABAs)	Inhaled glucocorticoids	Anti-leukotriene modifiers	Mast cell stabilizers	IgE antagonists
Mechanism of action	Activate beta-2 receptors in lungs; rapid bronchodilation	Activate beta-2 receptors in lungs; sustained smooth muscle relaxation	Suppress inflammatory response pathways	Block inflammatory effects of leukotrienes	Prevent mast cell breaking down	Inhibit IgE activation of mast cells
Onset/duration of action	Quick onset of action, duration of action ~ 4 hours	Slower onset of action, longer duration ~ 12 hours	May take several days to weeks to note improvement	May take several weeks to note benefit	May take 2 days–2 weeks to note benefit	7–8 days from start of injections to clinical benefit
Medication names	Albuterol Levalbuterol	Arformoterol Formoterol Indacaterol Salmeterol	Beclomethasone Budesonide Flunisolide Fluticasone	Montelukast Zafirlukast Zileuton	Cromolyn	Omalizumab
Route	Inhaled	Inhaled	Inhaled	Oral	Inhaled	Subcutaneous

## Client Education

### Rescue vs maintenance

Explain the action of each medication in the treatment plan, the difference between short- and long-acting medications, and when to use each.

### Proper administration

Demonstrate use of the client's inhaled medication device, including spacer use if indicated. Verify understanding through teach-back method.

### Signs of uncontrolled asthma

Adjustments to the treatment plan may be needed if symptoms are not controlled. Educate clients to report:

- More than two exacerbations per week
- Increased use of rescue inhaler
- Frequent nighttime awakening

## NOTES

