

of leukotrienes at the CysLT₁ receptor (montelukast and zafirlukast) are moderately effective in asthma.

They can improve airway function and reduce exacerbations but not to the same degree as bronchodilators or ICS, respectively. They are also effective in reducing symptoms of allergic rhinitis and, thus, can be used in patients with concomitant allergic rhinitis. Montelukast, in particular, is frequently used in children with mild asthma due to concerns of ICS-related growth suppression. Montelukast use may decrease due to safety warnings regarding depression with this compound. Leukotriene modifiers are effective in preventing exercise-induced bronchoconstriction without the tachyphylactic effects that occur with regular use of LABAs. Leukotriene modifiers are particularly effective in aspirin-exacerbated respiratory disease, which is characterized by significant leukotriene overproduction. They have also shown modest effect as add-on therapy in patients poorly controlled on high-dose ICS/LABA.

CysLT₁ Antagonists Montelukast and zafirlukast are administered orally once or twice daily, respectively. The onset of effect is rapid (hours), with the majority of chronic effectiveness seen within 1 month.

5-Lipoxygenase Inhibition Zileuton in its extended form is administered orally twice a day.

Safety Montelukast is well tolerated, but an association with suicidal ideation has now resulted in a warning label from the U.S. Food and Drug Administration. Zileuton increases liver function tests (transaminases) in 3% of patients. Intermittent monitoring is suggested. It inhibits CYP1A2, and appropriate dose adjustments of concomitant medications may be necessary.

Cromolyn Sodium Cromolyn sodium is an inhaled agent believed to stabilize mast cells. It is only available by nebulization and must be administered two to four times a day. It is mildly to modestly effective and appears to be helpful for exercise-induced bronchospasm. It is used primarily in pediatrics in those concerned about ICS side effects.