Beta-2 Agonists

This class of drug acts on beta-2 adrenergic receptors to induce smooth muscle relaxation, bronchial dilation, vasodilation, uterine relaxation, and insulin release. These medications are typically used for asthma and pulmonary disorders, as well as tocolysis. Short-acting beta-2 agonists (SABA) include terbutaline and albuterol. Terbutaline is used as a tocolytic agent and to treat asthma attacks, while albuterol is typically used for asthma attacks (and COPD exacerbations). Salmeterol is a long-acting beta-2 agonist (LABA), which is used daily to prevent the number of monthly asthma and COPD exacerbations in patients and is usually co-administered with an inhaled corticosteroid.



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Short-Term Treatment
Short-acute-angle waterfall
There are specific short-acting beta-2 agonist (SABA) medications used to control particular conditions. These are terbutaline, which is used for tocolysis and asthma, and albuterol, which is another short-acting drug used for asthma exacerbations.

Terbutaline
Tear-butt-alien
Terbutaline is a fast-acting, short-term treatment used for acute asthma exacerbations and to delay premature uterine contractions. This medication has replaced the use of ritodrine, another tocolytic, which was commonly used.

Asthma
Asthma-inhaler
Terbutaline is indicated for asthma treatment because it is a fast-acting bronchodilator that works within 15 minutes, with effects lasting up to 6 hours.

Tocolysis
Taco-lights
Though terbutaline is a tocolytic agent, it is not approved by the FDA for this use and is thus categorized as a class 'B' medication for premature contractions. Additionally, terbutaline can be used to relax the uterus prior to the obstetric maneuvers used to correct uterine inversion. An important note about terbutaline is that in its injectable form (the form used for tocolysis), it should not be used for prolonged treatment (beyond 48-72 hours) for tocolysis in preterm labor. This restriction is because prolonged use can lead to serious maternal heart problems and possibly death.

Albuterol
Ab-butter-troll
This drug is a short-acting beta-2 agonist (SABA) used to relieve bronchospasm in conditions such as asthma and COPD exacerbations.

Asthma
Asthma-inhaler
Albuterol is most commonly used for acute asthma attacks because of its quick-acting mechanism, but can also be administered for COPD. This drug can be administered as a handheld actuated inhaler or as a nebulized solution.

Long-Term Treatment
Long river
There are specific beta-2 agonists, which are long-acting and are used for chronic conditions, termed long-acting beta-2 agonists (LABA).

Salmeterol
Salmon-troll
Salmeterol is a long-acting beta-2 agonist and has therapeutic effects lasting roughly 12 hours. It is typically used in severe persistent asthma (combined with a corticosteroid) and is used every day to prevent the number of monthly attacks in patients.

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Asthma

Asthma-inhaler

Salmeterol is a long-acting beta agonist (LABA) and is typically used for severe persistent asthma, which is otherwise uncontrolled solely with a short-acting beta agonist (SABA).

Chronic Obstructive Pulmonary Disease (COPD)

C.O.P.D. Cop

Salmeterol is also used in patients with COPD and works by inducing bronchial dilation. This drug is used daily to prevent acute COPD exacerbations in patients with this condition.

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