

## What if I miss a dose?

Use the missed dose as soon as you remember. Skip the missed dose if it is almost time for your next scheduled dose.

Do not double the dose.

## How to store?

- Store in a cool, dry place and away from direct heat and light.
- Precaution of storage of metered-dose inhaler
  - The metal canister should not be stored separately from the plastic holder.
  - The metal canister contains compressed gas. Do not puncture and keep away from heat to avoid hazard.
- Keep out of reach of children.
- Discard all medications that have expired or are no longer required.
- Do not share the medications with other people.

## Pharmacist's advice

1. To control asthma effectively, you should:
  - Use the medications as directed. Do not stop using the medications or change the dose or frequency unless directed by your doctor.
  - Learn how to use the inhalation medications correctly (please refer to the relevant leaflets).
  - Avoid contact with common asthma triggers which make asthma worse, such as pollen, cold air, etc.
2. If you have been prescribed with both bronchodilator and corticosteroid inhaler, you should use the bronchodilator first as it helps dilate the airway and allows the corticosteroid to reach the lungs more effectively.
3. Without medical advice, patients with severe asthma should avoid using aspirin or non-steroidal anti-inflammatory drugs because these medications may trigger an asthma attack. Please consult your doctor or pharmacist before using any other medications.
4. Please clean the inhaler according to product information.
5. If you have history of drug allergy, consult your doctor or pharmacist before using the medications.
6. Tell your doctor and pharmacist if you are pregnant, planning to become pregnant, or breastfeeding.
7. Consult your doctor or pharmacist before using any other medications, including health supplements, Traditional Chinese Medicines, Proprietary Chinese Medicines and over-the-counter medications.
8. Please consult your doctor or pharmacist if you encounter any difficulties in using the medications.
9. Please consult your doctor if symptoms persist or worsen after using the medications.

**? For any queries,  
please seek advice from your doctor,  
pharmacist or other healthcare  
professionals.**

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# Medications for Asthma



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# What is Asthma



Asthma is a chronic respiratory disease which is caused by hypersensitivity of the airway. Inflammation of the airway causes swelling of the airway muscle and excessive mucus secretion which lead to narrowing of airway and shortness of breath. Although asthma cannot be cured, there are many medications that can prevent and control the symptoms, and reduce complication risks. Patients should therefore use their medications as directed regardless of their disease severity.

# How is Asthma treated?

There are two main types of medications for the treatment of asthma

- (i) Long-term control medications “Preventer” – long-term use is required for these medications to be effective. They maintain control of persistent asthma by attenuating the chronic inflammation. A common example is inhaled corticosteroid.
- (ii) Quick relief medications “Reliever” – offer rapid relief by dilating the constricted airway during acute attacks. They are not suitable for long-term asthma control.

Most medications for asthma are delivered via inhalation, allowing the medications to reach the lungs directly, rendering rapid therapeutic effect while reducing side effects. On the other hand, oral medications take longer to demonstrate therapeutic effect and side effects are more common. Oral medications are generally used in patients with intermittent attacks or inability to use inhalation devices effectively. In patients with severe disease, oral medications can also be used along with inhalation medications to optimise therapeutic effect.

# Medications for Asthma

Classes of medications	Action	Common side effects	Precautions
Long-term control medications "Preventer"			
<b>Corticosteroids</b>  <u>Inhalation</u> Beclomethasone, Budesonide, Ciclesonide, Fluticasone  <u>Oral</u> Prednisolone	Relieve airway inflammation and prevent asthma attack.	<u>Inhalation</u> Dry mouth, hoarseness, sores or white patches in your mouth or throat  <u>Oral (Long-term use)</u> Weight gain, adverse effect on bone density, blood sugar and blood pressure. Side effects will subside after stopping the medication.	<u>Inhalation</u> ※ Rinse mouth with water after use.  <u>Oral</u> ※ To be taken in the morning with food. When used as a preventer, it needs to be taken for long-term. Do not stop treatment abruptly as it may lead to adverse reactions especially for patients on long-term use or high dose steroid therapy.
<b>Beta<sub>2</sub>-agonists</b>  <u>Long-acting inhaler</u> Formoterol, Salmeterol, Vilanterol <u>Controlled release oral tablet</u> Terbutaline	Dilate the airway and prevent asthma attack.	Palpitations, nervousness, headache, muscle cramps, tremors	<u>Inhalation</u> ※ Overdose can increase the risks of side effects. ※ For some patients, doctor may prescribe a combination inhaler that contains a long acting beta <sub>2</sub> -agonist and a corticosteroid).  <u>Oral</u> ※ Controlled release tablets must be swallowed whole and not to be chewed.
<b>Xanthine (Oral)</b> Theophylline	Dilate the airway and prevent asthma attack.	Trouble sleeping, nausea, repeated vomiting, headache, restlessness	※ The controlled release formulations of theophylline must not be chewed. ※ Symptoms of overdose may include nausea, severe vomiting, fast heartbeat, seizure, headache, etc.
<b>Leukotriene receptor antagonists (Oral)</b> Montelukast	Suppress factors which cause airway inflammation and constriction.	Headache, cough	※ May cause mood or behavior changes, including suicidal thoughts or actions. If this happens, please consult your doctor right away.
<b>Anti-IgE monoclonal antibody (Injection)</b> Omalizumab	Suppress IgE-mediated allergic reactions, which reduces asthma attacks.	Injection site reaction (redness, pain, bruising), inflammation of the nose and throat, upper respiratory tract infection, muscle or joint pain, headache, fever	※ Refrigerate; protect from light. ※ For subcutaneous use only. ※ Discard unused portion. ※ Do not shake.
<b>Anti-IL-5 / IL-5 Receptor <math>\alpha</math> monoclonal antibody (Injection)</b> Benralizumab, Mepolizumab	Suppress IL-5 / IL-5 Receptor $\alpha$ -mediated allergic reactions, which reduces attacks from severe eosinophil type asthma.	Injection site reaction (redness, pain, bruising), inflammation of the nose and throat, muscle pain, headache	※ Refrigerate; protect from light. ※ For subcutaneous use only. ※ Discard unused portion. ※ Do not shake.
Quick relief medications "Reliever"			
<b>Beta<sub>2</sub>-agonists (Short-acting inhaler)</b> Salbutamol, Terbutaline	Rapidly dilate the airway and soothe breathing. Relieve the symptoms of asthma attack.	Palpitations, nervousness, headache, muscle cramps, tremors	※ Carry with you at all times. ※ Overdose can increase the risks of side effects. ※ If your symptoms do not subside or worsen after using this inhaler, please seek medical attention immediately. ※ If you need to use this inhaler more frequently than instructed, please check with your healthcare professionals to see if you are using it or other medications properly. Please inform your doctor if needed, as it may indicate your condition has not been controlled effectively.
<b>Corticosteroids (Oral)</b> Prednisolone	Relieve airway inflammation.	Increased appetite, weight gain, high blood pressure, oedema, insomnia, affected mood. Side effects will subside after stopping the medication.	※ To be taken in the morning with food. ※ For short-term use only, complete the treatment course as instructed.
If you notice any allergic reactions like skin itchiness, face or hand swelling, breathing difficulty, etc., consult your doctor immediately.			