

## SABA OVERUSE

Asthma is one of the most common chronic conditions in Australia, affecting an estimated one in ten Australians. Despite excellent access to effective pharmacological treatments, asthma is sub-optimally managed in Australia. A significant proportion of asthma morbidity and its associated costs are preventable. Poor adherence to maintenance asthma therapy and overreliance on relievers is well recognised.

### Asthma

Asthma is a chronic disease characterised by shortness of breath, difficulty in breathing, wheeze, cough and increased sputum production. The goals of treatment include symptom control and risk reduction. Good symptom control and maintaining normal activities is critical to quality of life. Risk reduction to minimise the risk of flare-ups (exacerbations or asthma attacks), reduction of lung function and medication side effects are also important.

Good asthma control in adults is defined as:

- Daytime symptoms 2 or less days per week
- Need for reliever 2 or less days per week
- No limitation of activities
- No symptoms during night or on waking

Poor asthma control is associated with:

- Increased risk of exacerbation
- Debilitation
- Impaired quality of life
- Increased healthcare utilisation
- Reduced productivity

A history of exacerbations is a risk factor for future exacerbations.

### Treatment

The Australian Asthma Handbook recommends a stepped approach to the management of asthma. In adults, most patients require low dose inhaled corticosteroid (ICS) as a regular preventer plus an as-needed short-acting beta-agonist (SABA) as a reliever. If good control is not achieved, stepping up to a low dose inhaled corticosteroid/long-acting beta-agonist (ICS/LABA) is recommended after

assessment of adherence and inhaler technique. Inhaled corticosteroids as maintenance therapy (preventer) are the most effective treatment for reducing symptoms, exacerbations and airway remodelling. Australian guidelines emphasise that good asthma control can be achieved in most adult patients with an ICS alone, and only some need a combination ICS/LABA. Long-acting beta-agonists (LABAs) should not be used as monotherapy in asthma due to an increased risk of asthma-related death. As-needed SABA provides rapid short-term symptomatic relief only; however, SABAs do not affect the underlying inflammatory process.

### SABAs

SABAs (relievers) are the mainstay for symptomatic relief of acute symptoms of asthma. They are extremely effective bronchodilators and are convenient and inexpensive. Inhaled  $\beta_2$ -agonists relax bronchial smooth muscle resulting in airway dilation. Older people may have reduced response to bronchodilators due to age-related changes in the lungs.

SABAs include:

- Salbutamol (Ventolin, Asmol, Airomir)
- Terbutaline (Bricanyl)

Using a reliever more than 2 days a week is a marker for potentially poor control of asthma and a predictor of future risk of exacerbations and death. Patients are at risk of preventable asthma flare-ups across all disease severities (mild, moderate and severe). The risk of hospital admissions is associated with use of more than three SABA inhalers per year. Overuse of SABAs is a key factor in over 40% of deaths related to asthma. Both morbidity and mortality rise progressively with increasing numbers of SABA inhalers dispensed per year. Many older people have poor perception of symptoms and control of asthma. Shortness of breath and poor exercise tolerance may be attributed to older age or comorbidities. Use of more than one SABA inhaler (200 activations) per month should trigger an asthma review. Over-reliance on SABA at the expense of ICS therapy is associated with an increased risk of asthma-related death.

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Regular exposure to relatively large doses of SABA medications in the absence of adequate preventer therapy paradoxically increases airway hyper-responsiveness and worsening of symptoms. This increase in airway hyper-responsiveness can eventually result in life-threatening exacerbations. Overuse of SABAs may also mask the true asthma severity, resulting undertreatment. It is not appropriate to routinely use a SABA prior to inhalation of an inhaled corticosteroid or ICS combination product (ICS/LABA).

### Technique

Good inhaler device technique is critical for optimal effects. It is estimated that up to 90% of people do not use inhaler devices correctly. Metered-dose inhalers (MDIs) should always be used with a spacer. MDIs can be administered with a spacer using a single or multiple breath method. The steps for correct use of an MDI and spacer include:

- Assemble spacer
- Remove inhaler cap
- Hold inhaler upright and shake well
- Insert inhaler upright into spacer
- Put mouthpiece between teeth (without biting) and close lips to form good seal
- Breathe out gently, into the spacer
- Keep spacer horizontal and press down firmly on inhaler canister once
- Breathe in and out normally for 3 or 4 breaths OR breathe in slowly and deeply and hold breath for about 5 seconds
- Remove spacer from mouth
- Breathe out gently
- Remove inhaler from spacer
- If more than one dose is needed, repeat steps from shaking onwards
- Replace inhaler cap

There should be minimal delay between shaking the device and inserting into the spacer; and breathing in after pressing the canister. It is important to hold a breath for 5 to 10 seconds after inhalation using the single breath method. The multiple breath method may be preferred in residents with cognition impairment or reduced respiratory function. A facemask may be required for the spacer if the resident cannot seal their lips around the spacer properly.

Spacers should be cleaned about once a month. Spacers should be washed in warm water with detergent and allowed to air dry without rinsing.

Drying with a paper towel and cloth is not required. Turbuhalers such as Bricanyl may be preferred by some people. The steps for correct use of a

### Turbuhaler include:

1. Unscrew and remove cover
2. Check dose counter
3. Keep inhaler upright while twisting grip at the base: twist around and then back until click is heard
4. Breathe out gently (away from inhaler)
5. Place mouthpiece between teeth (without biting) and close lips to form a good seal. (Do not cover the air vents)
6. Breathe in strongly and deeply
7. Remove inhaler from mouth
8. Breathe out gently (away from inhaler)
9. If more than one dose is needed, repeat all steps starting at step 3
10. Replace cover

### Key messages

The hallmark of asthma is chronic airway inflammation. Use of an inhaled corticosteroid is crucial in treating the inflammatory component of the disease. Using a SABA at least three times a week is marker for potentially poor control and predictor of future risk of asthma attacks and death. Overuse of SABAs increases the risk of flare-ups and asthma-related deaths. SABAs should be used exclusively as needed for relief of symptoms, and their need should be infrequent.

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