Asthma is common in older people, occurring in up to one in seven older Australians. About half of these persons have not been diagnosed with asthma and therefore remain untreated. Asthma is more common in Indigenous peoples, especially adults.

Symptoms of asthma such as shortness of breath are not a normal part of ageing, and asthma may present late in life.

**Asthma deaths**
Recent data from the Australian Bureau of Statistics shows that more than 60% of asthma deaths occur in people aged 75 and older. Women over 75 years of age were almost three times more likely to die from asthma compared to men.

In total, 394 deaths were recorded in 2012 affecting 260 women and 134 men of all ages.

**Asthma overview**
Asthma is a chronic disease of the airways, associated with airway hyperresponsiveness, reversible airway obstruction, and airway inflammation. Symptoms include coughing, wheezing, chest tightness and shortness of breath.

Most people experience an asthma attack after exposure to a trigger or with a respiratory infection. Common triggers include:
- Allergy-related triggers e.g. house dust mites, pollen, pets, moulds
- Cigarette smoke
- Viral infections e.g. colds and flu
- Weather e.g. cold air, change in temperature, thunderstorms
- Environmental triggers e.g. wood dust, chemicals

Around 80% of people with asthma also have allergic rhinitis (hayfever); and better control of asthma is likely with appropriate management of allergic rhinitis (allergen avoidance, antihistamines, intranasal corticosteroids).

People with asthma report more anxiety and depression.

**Asthma in older persons**
Older people have reduced response to treatment with bronchodilators and inhaled corticosteroids (ICS) due to age-related physiological changes. These changes include stiffening of the chest wall, reduced respiratory muscle function and loss of elastic recoil in the lungs, leading to an increase in residual volume. Immune function also declines with ageing.

Older people may have reduced perception of bronchoconstriction, and tend to accept breathlessness on exertion as part of ageing. Spirometry is necessary to measure lung function objectively in older people. Poor adherence to medications and poor device technique is common, due to cognitive impairment, diminished capacity to properly administer inhalers and concerns for medication-related side effects.

**Comorbidity**
Many older people will have multiple chronic conditions that may affect asthma control, either due to the disease state itself or from the medications used to treat these conditions.

Common conditions in older people that may affect asthma control include:
- Obesity
- Allergic rhinitis (AR)
- Gastro-oesophageal reflux disease (GORD)
- Obstructive sleep apnoea (OSA)
- Osteoporosis
- Cardiovascular disease (CVD)

Symptoms of asthma may be confused with other chronic conditions such as chronic obstructive pulmonary disease (COPD) and heart failure.

In addition, common age-related problems such as cognitive impairment, poor eyesight and hearing, poor coordination and reduced dexterity, and arthritis may affect an older person’s ability to correctly use asthma devices.

**Asthma management**
The goal of asthma management is achievement and maintenance of disease control. The new Australian Asthma Handbook guidelines focus assessment on disease control rather than severity of asthma.
Smoking cessation should be supported in people of all ages, as quitting has health benefits at any age.

Peak expiratory flow monitoring offers no advantage over symptom monitoring in older adults.

**Medications**

The Australian Asthma Handbook recommends initial assessment of recent control and of risk factors for flare-ups and medication-related adverse effects.

As-needed short-acting beta$_2$-agonist (SABA) such as salbutamol (e.g. Ventolin) and terbutaline (Bricanyl) is required for all older persons with asthma, except those using low dose budesonide/eformoterol (Symbicort) as both maintenance and reliever (Symbicort SMART).

Regular treatment with a low dose inhaled corticosteroid or ‘preventer’ is recommended for all adults with symptoms more than twice per month and flare-ups within previous 12 months:

- Beclomethasone (Qvar)
- Budesonide (Pulmicort)
- Ciclesonide (Alvesco)
- Fluticasone (Flixotide)

Some older people will require stepped up regular preventer with a low-dose combined ICS and long-acting beta$_2$-agonist (LABA). Long-acting beta$_2$-agonists should only be used when an inhaled corticosteroid is taken concurrently – never as monotherapy for asthma.

- budesonide/eformoterol (Symbicort)
- fluticasone/salmeterol (Seretide)
- fluticasone/eformoterol (Flutiform)

Only a few older people will require moderate to high-dose combination therapy.

If asthma control is maintained for two to three months, and no flare-ups have been experienced in the previous 12 months, therapy should be stepped-down if possible. When stepping down, small dose adjustments should be made gradually (e.g. reduce inhaled corticosteroid by 25–50% at intervals of 2–3 months) by stepping down through the available doses of preventers.

**Adverse effects**

Adverse effects of asthma medications are more common in older people than younger adults. Oral corticosteroids (prednisone, prednisolone) increase the risk of osteoporosis and cataracts. They may also affect blood pressure, weight and diabetes and cause skin bruising, muscle weakness and psychosis.

Use of oral steroids should be minimised as much as possible through optimal inhaled therapy and good device technique. Inhaled corticosteroids in high doses may also cause adverse effects, so the lowest dose needed to maintain control should be prescribed. Beta$_2$-agonists may worsen heart disease or cause electrolyte disturbances. Use of a SABA can be minimised by maintaining good asthma control with preventers.

**Device technique**

Nebulisers should be avoided as they do not provide enhanced delivery of medications to the lungs compared with inhalers plus a spacer. Nebulisers may increase the risk of transmitting infections between residents, and require regular replacement.

Incorrect inhaler technique is very common, with around half of older people showing poor technique. Nursing staff and carers need to regularly review their skills in device technique. Videos and information sheets are available on the National Asthma Council and Asthma Australia websites.

Residents self-administering asthma inhalers may benefit from a Haleraid hand-grip device. Breath-activated inhalers (e.g. Autohaler) or breath-activated dry-powder inhalers (e.g. Turbuhaler, Accuhaler) may be easier to coordinate in some older people with cognitive impairment. Residents who are unable to form an effective seal with the lips around the mouthpiece should use a spacer plus a face mask.

**Summary**

Asthma-related morbidity and mortality are increased in older people. Regular use of asthma preventers is now recommended for most people with asthma. Oral corticosteroid use in older people is limited by the risk of significant side effects. Regular review of inhaler technique plus use of a spacer is recommended for all. Avoidance of smoking improves treatment response. Asthma action plans are an important part of management on asthma in older people.

**References**


Australian Asthma Handbook 2014

http://www.asthmahandbook.org.au