Figure 1: Systematic assessment of a patient with difficult-to-treat asthma

Identify patients with uncontrolled asthma despite high-dose ICS/LABA or OCS, or those who require the same for asthma to remain well controlled

- \checkmark Assess asthma control. including:4
- ▶ asthma symptom control
- ▶ future risk of adverse outcomes.

See **Box 1** for definition of uncontrolled asthma.

Confirm diagnosis of asthma with spirometry if not already documented in the patient's notes4 a

- ✓ Consider alternative diagnoses, eg:^{3,4}
- ▶ bronchiectasis
- ▶ chronic heart failure chronic upper airway cough syndrome
- ► COPD ▶ hyperventilation,
- dysfunctional breathing ▶ recurrent respiratory
- infections
- ▶ vocal cord dysfunction.

Optimise management

- ✓ Assess and address:
- ▶ inhaler technique
- ▶ adherence
- ▶ self-management strategies
- Assess and support improvement where required:
- ▶ comorbidities
- modifiable risk factors and triggers (see Table 1).

Symptoms well controlled

Symptoms not well controlled, or patient still requires high-dose ICS/LABA to maintain good asthma control

Not severe asthma

If patient has experienced good asthma control for 2-3 months and is at low risk of flare-ups, consider stepping down treatment see the Australian Asthma Handbook.

Possibly severe asthma

Box 1. What is uncontrolled asthma?

Uncontrolled asthma is defined as at least one of the following:²

- 1. Poor symptom control: in the last 4 weeks has the patient had at least one of the following:
- daytime asthma symptoms more than twice per week?
- ▶ any night waking due to asthma?
- ▶ reliever needed for symptoms more than twice per week?
- ▶ any activity limitation due to asthma?
- 2. Frequent severe exacerbations: two or more courses of OCS (> 3 days each) in the previous year
- 3. Serious exacerbations: at least one hospitalisation, ICU stay or episode of mechanical ventilation in the previous year
- **4.** Airflow limitation: $FEV_1 < 80\%$ predicted (after appropriate bronchodilator withheld and with reduced FEV₁/FVC).

Uncontrolled asthma is also defined as controlled asthma that worsens on tapering high doses of ICS, OCS (or biologics).²

TABLE 1

Modifiable factors that may contribute to poor symptom control

Modifying the comorbidities in **bold** can particularly improve asthma control.

 ▶ High SABA use ▶ Allergen exposure in sensitised patients (house dust mite, cat, mould, cockroach) ▶ Medicines that may exacerbate asthma ▶ Poor adherence with preventer therapy ▶ Occupational exposure to allergens or ▶ Allergic bronchopulmonary aspergillosis ▶ Allergic bronchopulmonary aspergillosis ▶ Anxiety, depression ▶ COPD ▶ Bronchiectasis ▶ GORD ▶ Occupational exposure to allergens or 	Medicines and related	Exposures	Comorbidities
irritants	 High SABA use Incorrect inhaler technique Medicines that may exacerbate asthma Poor adherence with preventer therapy 	 Allergen exposure in sensitised patients (house dust mite, cat, mould, cockroach) Confirmed food allergy Indoor or outdoor air pollution, extreme weather Occupational exposure to allergens or irritants Respiratory viruses Smoking or environmental tobacco smoke, biomass fuel exposure 	 Allergic bronchopulmonary aspergillosis Anxiety, depression COPD Bronchiectasis GORD Obesity Rhinosinusitis ± nasal polyposis Vocal cord dysfunction Pregnancy

a. Diagnosis is confirmed by compatible history, objective demonstration of variable expiratory airway obstruction using change in FEV₁, either spontaneously over time, before and after bronchodilator, or in response to a bronchial provocation agent (when baseline FEV, is normal).⁵

COPD = chronic obstructive pulmonary disease; FEV₁= forced expiratory volume in 1 second; FVC = forced vital capacity; SABA = short-acting beta₂ agonist; LAMA = long-acting muscarinic antagonist



Available on the PBS general schedule as an add-on for adults with moderate to severe asthma⁵ who:

▶ are on ICS ≥ 800 micrograms budesonide or equivalent per day plus a LABA, and

who have had one or more severe asthma exacerbations in the previous year.⁶

Tiotropium is a LAMA that inhibits M3 receptors in the airways, resulting in relaxation of the airway smooth muscle.⁷

Compared to patients with severe asthma using ICS/LABA alone, a recent Cochrane review has found that adding tiotropium resulted in fewer exacerbations requiring OCS and is likely to have benefits on lung function and asthma control.6

Tiotropium should be stopped if no clinical benefit is seen.

VENTUREWISE MANAGEMENT OF PEOPLE WITH DIFFICULT-TO-TREAT ASTHMA: A SYSTEMATIC APPROACH