Monoclonal antibody therapy for severe asthma

Information paper for primary care health professionals

National Asthma Council AUSTRALIA

Executive summary

Key points

- Monoclonal antibody therapy is an **add-on treatment** option for reducing severe flare-ups and improving symptom control in patients with severe allergic or eosinophilic asthma whose asthma is uncontrolled despite treatment with high-dose inhaled corticosteroids and long-acting beta$_2$ agonists.
- These therapies target inflammatory pathways that activate type 2 immune responses leading to airway inflammation.
- Patients using these treatments must keep taking their inhaled corticosteroid-containing preventers.
- Four agents are available in Australia: benralizumab, mepolizumab, dupilumab and omalizumab.
- These monoclonal antibody therapies are subsidised by the Pharmaceutical Benefits Scheme (PBS) for patients in specialist care who meet strict criteria.
- After treatment has been initiated by a specialist, ongoing maintenance doses can be administered in primary care, or by the patient or carer, under specialist supervision.
- Monoclonal antibody therapies currently available in Australia for severe asthma are generally well tolerated. Injection site reactions are among the most common adverse events. Systemic reactions, including anaphylaxis, are rare but can occur.
- Like all patients with asthma, those using monoclonal antibody therapies need an up-to-date written asthma action plan.

Recommendations

When asthma is poorly controlled, first check for common causes (e.g. incorrect inhaler technique and suboptimal adherence, comorbidities, self-management difficulties) and correct these.

For patients with uncontrolled asthma who might benefit from monoclonal antibody therapy, refer for specialist assessment as soon as possible to expedite access through PBS. Unless the diagnosis of severe asthma was made by a multidisciplinary severe asthma clinic team, the patient must be under the care of the same specialist for at least 6 months before becoming eligible for PBS subsidy.

Arrange specialist referral if any of the following apply, despite treatment with a moderate or high dose of inhaled corticosteroid and long-acting beta$_2$ agonist combination therapy: poor symptom control persists, the patient has been prescribed two or more short courses of oral corticosteroids for flare-ups in the past year, or you are considering long-term maintenance oral corticosteroids for asthma.

Advise patients who have been prescribed a monoclonal antibody therapy that they should keep taking their inhaled corticosteroid-containing preventer. Continue to check adherence and inhaler technique regularly and at every opportunity.

Ensure that patients understand that they must attend all scheduled specialist visits to remain eligible for access to monoclonal antibody therapy through the PBS.

When administering monoclonal antibody therapies, carefully follow instructions for storing, preparing and administering doses.

Ensure that each patient has an up-to-date written asthma action plan: review it at least yearly or whenever the medication regimen is changed. Remind patients taking monoclonal antibody therapy to follow their written asthma action plan when symptoms worsen.

Four monoclonal antibody therapies (benralizumab, mepolizumab, dupilumab and omalizumab) are available in Australia for the treatment of severe asthma in patients whose asthma is uncontrolled despite optimised standard treatment that includes high-dose inhaled corticosteroids and long-acting beta$_2$ agonists (Table 1).

Table 1. Monoclonal antibody therapies available in Australia for severe asthma

	Description	TGA indication*	Dosage & route of administration
Benralizumab *(Fasenra)*	**Anti-IL-5 receptor** Humanised monoclonal antibody directed against IL-5 receptor Rα on surface of eosinophils and basophils	Add-on treatment for severe eosinophilic† asthma in adults and adolescents aged ≥ 12 years	Pre-filled syringe for SC injection Pre-filled pen (auto-injector) for SC injection 30 mg SC every 4 weeks for three injections then every 8 weeks
Mepolizumab (*Nucala*)	**Anti-IL-5** Humanised monoclonal antibody directed against IL-5	Add-on treatment for severe eosinophilic asthma in adults and adolescents ≥12 years Also approved for treatment of relapsing or refractory eosinophilic granulomatosis with polyangiitis in adults ≥18 years	Pre-filled pen (auto-injector) for SC injection Powder for SC injection in a single-use vial 100 mg SC every 4 weeks
Dupilumab *(Dupixent)*	**Anti-IL-4 receptor α** Human monoclonal antibody directed against **α** subunit of IL-4 receptor – inhibits IL-4 and IL-13 signalling	Add-on treatment for moderate to severe asthma with type 2 inflammation (elevated eosinophils‡ or elevated FeNO) in adults and adolescents aged ≥12 years Maintenance therapy for oral corticosteroid-dependent asthma Also approved for treatment of moderate to severe atopic dermatitis	Pre-filled syringe for SC injection 400 mg SC then 200 mg every 2 weeks (higher dose for oral corticosteroid-dependent asthma or with comorbid moderate-to-severe atopic dermatitis: 600 mg then 300 mg every 2 weeks)
Omalizumab *(Xolair)*	**Anti-IgE** Humanised monoclonal antibody directed against IgE	Management of moderate to severe allergic asthma§ in adults and adolescents aged ≥12 years already using ICS Add-on treatment in children aged ≥6 years with severe allergic asthma§ and exacerbations despite daily high-dose ICS Also approved for treatment of chronic spontaneous urticaria and for chronic rhinosinusitis with nasal polyps	Pre-filled syringe for SC injection Dose calculated according to baseline IgE and body weight. Usual dose every 2–4 weeks (larger doses divided in 2 and administered every 2 weeks)

FeNO: fractional exhaled nitric oxide; **Ig:** immunoglobulin; **ICS:** inhaled corticosteroids; **IL:** interleukin; **SC:** subcutaneous
*Indications approved by the Therapeutic Goods Administration; PBS restrictions also apply
†Blood eosinophil count ≥300 cells/μL or ≥150 cells/μL if on oral corticosteroid treatment
‡See PBS criteria (elevated FeNO not included)
§With IgE corresponding to the recommended dose range. Confirmation of allergy to an aeroallergen is recommended for patients with lower IgE. (Demonstration of atopy by skin prick testing or specific IgE is required for all patients for PBS eligibility.)

How is 'severe asthma' defined?

Severe asthma is asthma that remains uncontrolled despite maximal standard treatment such as high-dose inhaled corticosteroid plus long-acting beta$_2$ agonist (Australian Asthma Handbook[1] level 4 or higher), or that requires such treatment to prevent it becoming uncontrolled.[2]

Asthma severity is classified according to the level of treatment needed to achieve or maintain good asthma control – not by the intensity or frequency of symptoms, or by clinical findings before starting preventer treatment.[1, 3]

In most adults and adolescents, asthma can be effectively treated with a preventer containing a low dose of inhaled corticosteroids (e.g. daily maintenance low-dose inhaled corticosteroids or as-needed low-dose budesonide–formoterol). Among people who have persisting symptoms, low lung function, or asthma flare-ups despite regular preventer treatment, only a small proportion have severe asthma.

In practice, the most common reasons for failure to achieve good asthma control are suboptimal adherence, poor inhaler technique, continued exposure to environmental triggers (e.g. smoking), and untreated comorbid medical conditions such as chronic rhinosinusitis. When these problems are identified and corrected, asthma control improves for many people.

The Australian Asthma Handbook defines good asthma control in adults and adolescents as daytime symptoms on no more than 2 days per week, the need for short-acting beta$_2$ agonist reliever on no more than 2 days per week (not including doses taken prophylactically before exercise), no asthma symptoms during night or on waking (averaged over the previous 4 weeks), and no limitation of activities due to asthma.[1]

According to international consensus, 'uncontrolled asthma' is defined as the presence of one or more of the following:[2]

- poor symptom control (e.g. Asthma Control Questionnaire [ACQ] score consistently >1.5, Asthma Control Test score <20)
- frequent severe flare-ups (e.g. two or more flare-ups requiring treatment with oral corticosteroids in the previous year)
- serious flare-up (e.g. hospital admission, intensive care unit admission, or mechanical ventilation in the previous year)
- persistent airflow limitation.

PBS criteria for subsidy of monoclonal antibody therapy include specific definitions of failure to achieve adequate control.

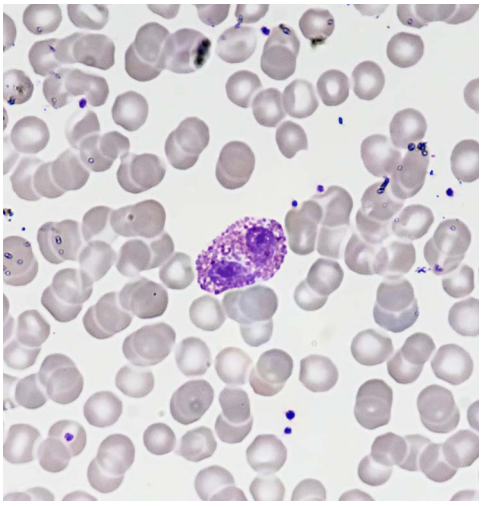
For more information on asthma management and how good, partial and poor asthma symptom control is defined in adults and children, refer to the Australian Asthma Handbook.

Which asthma patients might benefit from monoclonal antibody therapy?

Monoclonal antibody therapies target specific inflammatory pathways (see Mechanisms of action on page 5), so they will not benefit all patients or modify all aspects of asthma.

Adults and adolescents 12 years and over with severe eosinophilic asthma may benefit from add-on treatment with benralizumab, dupilumab or mepolizumab. Dupilumab is also registered by the Therapeutic Goods Administration (TGA) for maintenance treatment for oral corticosteroid-dependent asthma (regardless of blood eosinophil level).

Add-on treatment with omalizumab may benefit adults and adolescents 12 years and over with moderate-to-severe allergic asthma who are already using inhaled corticosteroids and long-acting beta$_2$ agonists, and children aged 6 years to less than 12 years with severe allergic asthma and exacerbations despite daily high-dose inhaled corticosteroid treatment.



Clinical benefits

Monoclonal antibody therapies have been evaluated in randomised controlled trials (RCTs) in patients with severe oral corticosteroid-dependent asthma[4-6] or severe uncontrolled asthma (e.g. flare-ups requiring emergency department visits, hospitalisation or oral corticosteroids despite treatment with high-dose inhaled corticosteroids and long-acting beta$_2$ agonists).[7-14] Evidence is also accumulating from 'real-world' observational effectiveness studies and patient registries.

Reduced flare-ups

Placebo-controlled RCTs have shown that all of the monoclonal antibody therapies available in Australia reduce the rate of severe flare-ups requiring systemic corticosteroids, emergency department visits or hospitalisation.[14-18]

Reduced maintenance oral corticosteroid requirement

RCTs in patients with severe oral corticosteroid-dependent asthma have shown a reduction in maintenance doses of oral corticosteroids with benralizumab,[4] dupilumab[5] and mepolizumab,[6] with some patients able to cease oral corticosteroids.

Improved symptom control

Systematic reviews[14-16, 19, 20] and subsequent RCTs[11, 21] have reported statistically significant improvements in asthma symptoms with all four monoclonal antibody therapies, compared with placebo or baseline. These improvements were generally not large enough to be considered clinically meaningful.[15, 20]

Compared with placebo, clinically important improvements in symptom control (demonstrated by an ACQ score reduction of at least 0.5)[22] have been reported in RCTs with benralizumab[4] and with mepolizumab.[6] Both these studies were conducted among patients who required maintenance oral corticosteroids. Clinically important improvements in symptom control have also been reported by observational registry studies (see 'Real-world' studies, below).

Improved lung function

Systematic reviews have reported statistically significant improvements in lung function, compared with placebo or baseline, with all four monoclonal antibody therapies.[15, 16, 18-20] However, improvements in forced expiratory volume in 1 second (FEV_1) reported by some studies were less than the minimal clinically important difference (200 mL).[15, 20]

Clinically important improvements in lung function, compared with placebo, have been reported in RCTs with benralizumab[4] and with dupilumab.[12]

'Real-world' studies

Real-world observational studies have confirmed the effectiveness of all four monoclonal antibody therapies in patients with severe asthma treated in clinical practice.[23] The body of real-world evidence is largest for omalizumab, the first monoclonal antibody therapy for asthma available in Australia. Observational studies of omalizumab confirm benefits seen in RCTs, including reductions in rates of asthma flare-ups, emergency department visits and hospitalisations[24-28] and reductions in oral corticosteroid requirements.[26, 27] In an Australian omalizumab registry study[29] of patients with a high burden of symptoms (mean baseline ACQ-5 score 3.56), 6 months' treatment achieved a large clinically meaningful improvement (mean reduction of 2.0), with higher baseline ACQ-5 predicting a greater response. The study reported that 83% of patients could be classified as responders based on PBS criteria (i.e. experienced a clinically important improvement in asthma symptom control), that ACQ-5 score was reduced to 0.75 (well controlled asthma) in almost one in five patients, and that oral corticosteroid use was reduced.[29]

In an Australian mepolizumab registry cohort, in which almost half (48%) of patients were taking maintenance oral corticosteroids at baseline, 3–5 months' treatment achieved a large improvement in symptom control (mean ACQ-5 reduction of 3.5).[30] At 6-8 months' follow-up, 88% of patients were classified as ACQ-5 responders and 12% had ceased mepolizumab.[30]

Comparisons between monoclonal antibody therapies

There have been no head-to-head studies comparing any of the currently available monoclonal antibody therapies for severe asthma. Indirect comparisons suggest that, overall, efficacy and tolerability are similar for benralizumab and mepolizumab at comparable doses.[31] In an indirect comparison among patients with severe asthma eligible for both mepolizumab and omalizumab, efficacy and tolerability were largely similar for both options.[32]

Mechanisms of action

Monoclonal antibody therapies for asthma are monoclonal antibodies directed against important components of inflammatory pathways that activate immune responses leading to airway inflammation:

- interleukin-5 (IL-5) – mepolizumab
- the IL-5 receptor – benralizumab
- the IL-4 receptor – dupilumab
- immunoglobulin E (IgE) – omalizumab.

Anti-IL-5 (mepolizumab) and anti-IL-5 receptor (benralizumab)

IL-5 is the main cytokine involved in the growth and differentiation, recruitment, activation and survival of eosinophils,[16, 33] which contribute to airway inflammation in many (but not all) patients with asthma. In early-onset asthma, but not in late-onset asthma, eosinophilic airway inflammation is usually associated with allergy.[34]

Mepolizumab targets human IL-5, blocking its ability to bind to receptors on the surface of eosinophils.[33] Inhibition of IL-5 signalling reduces the production and survival of eosinophils.[33] Benralizumab targets the IL-5 receptor Rα, leading directly to cell-mediated destruction of eosinophils and basophils.[35]

Blood levels of eosinophils are markedly reduced by mepolizumab and almost totally depleted by benralizumab.[16]

Anti-IL-4 receptor (dupilumab)

IL-4 and IL-13 are important cytokines responsible for inflammation in allergic asthma.[36] Dupilumab targets the IL-4Rα subunit shared by the IL-4 and IL-13 receptor complexes, inhibiting IL-4 and IL-13 signalling. Dupilumab treatment reduces inflammatory markers including fractional exhaled nitric oxide (FeNO) and IgE levels in patients with asthma.[36]

Anti-IgE therapy (omalizumab)

The allergic cascade is initiated when IgE bound to the surface of mast cells and basophils is crosslinked by allergen, resulting in cell degranulation and release of inflammatory mediators including histamine, leukotrienes and cytokines. These mediators contribute to airway oedema, smooth muscle contraction and altered cellular activity, which produce asthma symptoms of bronchoconstriction, mucus production, wheezing, dyspnoea and chest tightness.

Omalizumab selectively binds to human IgE and prevents it being available to bind to the IgE receptor on the surface of mast cells and basophils.[37] Omalizumab treatment also reduces the number of these receptors on basophils in allergic people, so less histamine is released when exposed to allergens.[37]

What are the main safety issues?

All of the monoclonal antibody therapies currently available in Australia for severe asthma are generally well tolerated.[14-16, 18, 33, 35-37] The most common adverse events reported in RCTs include:

- injection site reactions[33, 35-37]
- headaches[33, 35, 37]
- pharyngitis/oropharyngeal pain.[35, 36]

In children (for whom only omalizumab is currently TGA-registered), the most commonly reported adverse events with omalizumab were headache, pyrexia and upper abdominal pain.[37]

Systemic reactions, including anaphylaxis, have been reported with all the available monoclonal antibody therapies for severe asthma, but are rare.[33, 35-38]

Safety considerations

Benralizumab: Hypersensitivity reactions, including urticaria and papular rash, have been observed with benralizumab. When these occur, it is usually within hours, but sometimes within days.[35] Patients with pre-existing helminth (e.g. *Strongyloides*) infections should be treated before starting benralizumab.[35] During benralizumab treatment, if a new helminth infection occurs that does not respond to anti-helminth treatment, temporary discontinuation of benralizumab should be considered.[35]

Mepolizumab: Systemic reactions, including anaphylaxis, urticaria, angioedema, rash, bronchospasm and hypotension, have been observed.[33] When these occur, it is usually within hours, but sometimes within days. Systemic reactions can also occur after long-term use.[33] Opportunistic infections such as herpes zoster are possible in patients treated with mepolizumab.[33] Patients with pre-existing helminth (e.g. *Strongyloides*) infections should be treated before starting mepolizumab.[33] During mepolizumab treatment, if a new helminth infection occurs that does not respond to anti-helminth treatment, temporary discontinuation of mepolizumab should be considered.[33] The safety of mepolizumab has not been established in adolescents weighing less than 45 kg.[33]

Dupilumab: Hypersensitivity reactions, including anaphylaxis and serum sickness or serum sickness-like reactions, have been reported.[36] Treatment-emergent eosinophilia, hypereosinophilia, and eosinophilic granulomatosis with polyangiitis have also been reported.[9, 36] There is limited evidence about dupilumab in patients with baseline eosinophil count >1.5 x 10^9/L, as such patients were excluded from all of the Phase III studies.[36]

Omalizumab: Local or systemic allergic reactions, including anaphylaxis (estimated at 0.2% in post-marketing reports), have been observed after treatment with omalizumab.[37] In clinical use, anaphylaxis has been reported after the first dose or after a later dose.[37] Most have occurred within 2 hours of administration, but some have occurred more than 24 hours later.[37] Rare adverse effects of omalizumab include serum sickness and serum sickness-like reactions (e.g. arthritis, arthralgia, urticaria or other rash, fever, lymphadenopathy), allergic eosinophilic granulomatous vasculitis (previously called Churg-Strauss syndrome).[37, 38]

A meta-analysis of phase I–IV placebo-controlled RCTs[39] found no association between omalizumab treatment and risk of malignancy. Omalizumab treatment was not associated with an increased risk of malignancy in an observational study with median 5 years follow-up.[40]

Pregnancy: There is very limited information about effects of monoclonal antibody therapy in pregnancy. A study based on data from the omalizumab pregnancy registry reported that the rates of prematurity, low birth weight, and small size for gestational age were similar to those found in other studies of patients with severe asthma, with no increase in congenital abnormalities.[41] If clinically needed, the use of omalizumab may be considered during pregnancy.[37] Benralizumab, dupilumab or mepolizumab should only be considered for pregnant women if the expected benefit justifies potential risk to the foetus.[33, 35, 36] Refer to the Australian Asthma Handbook for information on managing asthma in pregnant women.

Who can prescribe monoclonal antibody therapy?

Four monoclonal antibody therapies are subsidised by the PBS for severe asthma. The patient must be under the care of a specialist (respiratory physician, clinical immunologist, allergist or general physician or paediatrician experienced in severe asthma management), attending a public or private hospital, and meet certain general and product-specific criteria (see Overview of PBS criteria for monoclonal antibody therapy for severe asthma).

Before making the PBS application, the prescribing specialist documents clinical information demonstrating the asthma diagnosis and severity, and arranges the required tests (Table 2). The specialist is also responsible for further follow-up assessments as required to fulfil PBS criteria for ongoing subsidy.

Ensure that patients understand that they must attend all scheduled specialist visits to remain eligible for access to monoclonal antibody therapy through the PBS.

TGA-approved product information specifies that:

- benralizumab should be prescribed by a healthcare professional in consultation with a specialist physician experienced in the diagnosis and treatment of severe asthma[35]
- dupilumab treatment for severe asthma should be prescribed by a specialist experienced in the diagnosis and treatment of asthma[36]
- mepolizumab should be prescribed by a specialist physician, or a healthcare professional in consultation with a specialist physician, experienced in the diagnosis and treatment of severe asthma[33]
- omalizumab prescribing for children with asthma should be done in conjunction with a paediatrician, respiratory physician or immunologist.[37]

Table 2. Investigations before starting monoclonal antibody therapy

	Blood eosinophil count	FeNO	Specific allergen tests*	Total serum IgE assay	*Strongyloides* serology
Benralizumab	✓ (PBS, TGA)				✓
Mepolizumab	✓ (PBS, TGA)				✓
Dupilumab#	✓ (PBS, TGA)	✓ (TGA)	✓ (PBS)	✓ (PBS)	✓
Omalizumab			✓ (PBS)	✓ (Dose)	

Investigations clinically indicated or required for PBS eligibility

Ig: immunoglobulin; **FeNO:** fractional exhaled nitric oxide; **PBS:** Test required for PBS eligibility; **TGA:** Included in registered indication for asthma (Table 1); **Dose:** Test required to determine dose
*Skin prick testing or serum specific IgE
#TGA indication includes elevated eosinophils, high FeNO, or maintenance oral corticosteroid treatment. PBS eligibility requires blood eosinophils above specified level **or** raised IgE plus skin prick testing or serum specific IgE.

Overview of PBS criteria‡ for monoclonal antibody therapy for severe asthma

PBS indications

Benralizumab and mepolizumab: uncontrolled severe eosinophilic asthma

Dupilumab: uncontrolled severe eosinophilic or allergic asthma

Omalizumab: uncontrolled severe allergic asthma

Adults and adolescents ≥12 years

General criteria

Patient attending a public hospital or an approved private hospital or participating public hospital

Treated by a respiratory physician, clinical immunologist, allergist or general physician experienced in the management of patients with severe asthma

Under care of same physician for ≥6 months or diagnosed by a multidisciplinary severe asthma clinic team

Diagnosis of asthma confirmed and documented by a respiratory physician, clinical immunologist, allergist or general physician experienced in the management of patients with severe asthma (standard diagnostic test criteria specified) or diagnosis of asthma from at least two physicians experienced in the management of patients with severe asthma

Asthma duration ≥ 1 year

Failure to achieve adequate control with optimised§ asthma therapy, despite formal assessment of and adherence to correct inhaler technique, which has been documented

Specific criteria

Benralizumab and mepolizumab: blood eosinophil count ≥300 cells per µL (≥150 cells per µL while receiving treatment with oral corticosteroids) in the last 12 months

Dupilumab: raised blood eosinophil count (for 200 mg strength, ≥300 cells per µL in the last 12 months or ≥150 cells per µL while on oral corticosteroid treatment in the last 12 months; for 300 mg strength, ≥150 cells per µL while on oral corticosteroid treatment in the last 12 months) **or** total serum IgE ≥30 IU/mL, with past or current evidence of atopy documented by skin prick testing or specific IgE, in the last 12 months

Omalizumab: past or current evidence of atopy, documented by skin prick testing or an in vitro measure of specific IgE, that is no more than 1 year old AND total serum human immunoglobulin E ≥30 IU/mL

Children 6 years to <12 years (omalizumab)

Child attending a public hospital or an approved private hospital or participating public hospital

Treated by a paediatric respiratory physician, clinical immunologist, allergist, or treated by a paediatrician or general physician experienced in the management of patients with severe asthma, in consultation with a respiratory physician

Diagnosis of asthma confirmed and documented by a paediatric respiratory physician, clinical immunologist, or allergist; or paediatrician or general physician experienced in the management of patients with severe asthma in consultation with a respiratory physician (diagnostic standards apply)

Under care of same physician ≥6 months

Asthma duration ≥1 year

Past or current evidence of atopy documented by skin prick testing, or by specific IgE test within past year AND serum IgE ≥ 30 IU/mL

Failure to achieve adequate control with optimised asthma therapy,# despite formal assessment of and adherence to correct inhaler technique, which has been documented

‡ Criteria for initiating therapy with a monoclonal antibody therapy for the first time or ≥4 weeks after discontinuing another monoclonal antibody therapy. To continue treatment, separate criteria apply, including criteria for demonstrating adequate treatment response. § Optimised therapy is defined for each monoclonal antibody therapy. Criteria for failure of optimised therapy are also specified for all monoclonal antibody therapies. # High-dose inhaled corticosteroids plus long-acting $beta_2$ agonist (unless contraindicated) ≥6 months. Criteria for treatment failure are also specified.

Who administers the treatment?

Generally, the first 2–3 doses are administered in the specialist's rooms, a day hospital or day procedure unit with access to emergency procedures and adequate medical support.[42-44] After the injection, the patient should be directly observed by a health professional for any adverse effects:

- for 1 hour after the first dose of benralizumab or mepolizumab,[42, 43] and for 30 minutes after subsequent doses
- for 2 hours after the first three doses of omalizumab and for 30 minutes after subsequent doses.[44]

After treatment has been initiated by a specialist, ongoing maintenance doses can be administered in primary care or, where appropriate, self-administered by the patient or administered by a caregiver after training in injection techniques.[33, 35-37] Detailed instructions for injection are provided in consumer medicines information leaflets.

Instructions for storing, preparing and administering the dose should be followed carefully. When mepolizumab powder for injection is used, it must be prepared and administered by a healthcare professional. The dose should be given as soon as practical after reconstituting.[33]

Checklist for administering monoclonal antibody therapy injections

☑ Check for any recent health changes that might require delaying the injection (e.g. check heart rate, respiratory rate, blood pressure, oxygen saturation, temperature, spirometry, current flare-up).

☑ Assess asthma control and history of flare-ups since the last review – manage appropriately.

☑ Ensure adrenaline, salbutamol, antihistamines and systemic corticosteroids are accessible.

☑ Confirm that the patient has taken their usual asthma medicines.

☑ After injection, observe patient for the specified period. If the patient refuses to wait, have them sign a waiver and notify the prescribing specialist.

Adapted from: Centre of Excellence in Severe Asthma[42-44] (https://toolkit.severeasthma.org.au/resources/clinic-recommendations)

Practice points

Patients on monoclonal antibody therapy still require usual asthma care from their GP. Remind them to keep taking their inhaled corticosteroid-based preventer regularly. Healthcare professionals should continue to check adherence and inhaler technique at every opportunity.

For some patients relying on oral corticosteroids to control their asthma, it may be possible to reduce the dose or stop after gradually reducing the dose. Patients should be warned against abruptly stopping corticosteroids at any time, including after starting monoclonal antibody therapy. Any reduction in the dose of oral corticosteroid should be carefully considered and the patients should be monitored carefully because of the risk of adrenal suppression.

Flare-ups can still occur while taking a monoclonal antibody therapy, so patients should be advised to follow their written asthma action plan if asthma worsens. Written asthma action plans should be updated every 12 months, or whenever there is any change in the treatment regimen.

Most patients who require monoclonal antibody therapy would be eligible for a GP Management Plan and Team Care Arrangements. Refer to Medical Benefits Schedule (MBS) Chronic Disease Management items.

Patients with severe asthma may also benefit from referral to an asthma educator, MedsCheck by a community pharmacist, or Home Medicines Review (MBS item 900) by an accredited pharmacist.

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More information

Australian Asthma Handbook www.asthmahandbook.org.au

Severe asthma toolkit https://toolkit.severeasthma.org.au/

Clinical recommendations for the use of benralizumab in severe asthma. www.severeasthma.org.au/benralizumab

Clinical recommendations for the use of mepolizumab in severe asthma. www.severeasthma.org.au/mepolizumab

Clinical recommendations for the use of omalizumab in severe asthma in adults. https://www.severeasthma.org.au/omalizumab

GINA Difficult-to-treat & severe asthma in adolescent and adult patients. Diagnosis and management. https://ginasthma.org

Patient support programs

NUYOU Nurse Support Program – mepolizumab (Nucala) patient support program info@nucalasupport.com.au

Connect 360 – benralizumab (Fasenra) patient support program https://www.connect360asthma.com.au

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