Maintenance-and-reliever therapy for asthma

National Asthma Council | Australian Asthma Handbook

Recommendations have changed for the treatment of asthma in adults and adolescents:

- The National Asthma Council's Australian Asthma Handbook now recommends that day-to-day asthma symptoms in patients aged 12 years and over should be managed with anti-inflammatory relievers, in preference to salbutamol or terbutaline (Figure 1).
- **Anti-inflammatory relievers** are inhalers that contain an inhaled corticosteroid (ICS) in combination with formoterol, a rapid-onset bronchodilator.
- **Maintenance-and-reliever therapy** (MART) is recommended for patients who need maintenance treatment. MART means the patient uses their ICS-formoterol inhaler for daily/twice-daily preventive treatment, and takes extra doses when needed for symptom relief.

What is MART?

The patient takes daily doses of either beclometasone-formoterol or budesonide-formoterol, once or twice daily according to dose requirement (Table 1). Using the same inhaler, the patient takes extra doses to manage asthma symptoms.

Who should be prescribed MART?

MART is recommended for:

- (stepping up) patients using budesonide-formoterol as needed (the minimal recommended treatment level) if they are using it on 3 or more days per week
- (switching) patients with exacerbations or persistent asthma symptoms despite maintenance treatment with low-dose ICS plus as-needed short-acting beta$_2$ agonist (SABA).

What are the advantages of MART?

This regimen is effective for preventing severe exacerbations and convenient for patients. It reduces the risk of severe exacerbations, compared with maintenance treatment with a combination of ICS and long-acting beta$_2$ agonist (LABA) plus a short-acting beta$_2$ agonist (SABA), such as salbutamol or terbutaline. MART reduces severe exacerbations by approximately 32% compared with the same maintenance dose of ICS-LABA plus SABA, and by 23% compared with a higher maintenance ICS-LABA dose plus SABA.[1] Both the ICS and bronchodilator components contribute to prevention of exacerbations,[2] which can be mainly due to either inflammation or bronchoconstriction.[3] Occasional high doses of budesonide-formoterol in one day are well tolerated.

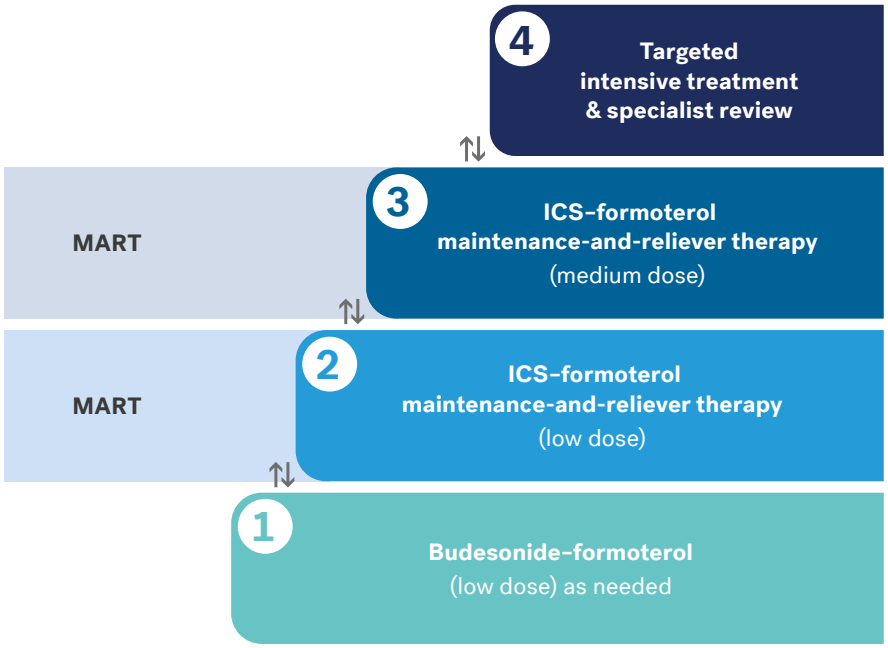
Can other ICS-bronchodilator combinations be used as MART?

No, only the inhalers that are shown in Table 1. Other strengths of ICS-formoterol are not currently recommended. Other LABAs either have a longer onset of action, or are not approved for multiple doses in one day.

Do patients still need to carry a 'blue puffer'?

No, patients prescribed MART should not also use SABA. Each patient's personalised written asthma action plan should include instructions on when to take more reliever doses and when to go to the emergency department or call an ambulance during a severe exacerbation.

Figure 1. Recommended approach to asthma treatment for adults and adolescents



Before stepping up, check that:
- symptoms are due to asthma
- inhaler technique is correct
- adherence is adequate

Consider stepping up if good symptom control is not achieved despite good adherence and correct inhaler technique

When asthma is stable and well controlled for 2–3 months, consider stepping down

ICS: inhaled corticosteroids; MART: maintenance-and-reliever therapy

Figure shows recommended regimens only. For more information on these and other treatment options, visit asthmahandbook.org.au

Figure 2. ICS-formoterol inhalers for MART

Beclometasone-formoterol 100/6 microg		Budesonide-formoterol 100/3 microg	Budesonide-formoterol 100/6 microg
			
Fostair 100/6*	*Cipla Beclometasone/ Formoterol* 100/6*	*Rilast Turbuhaler* 100/3 *Symbicort Turbuhaler* 100/3	*Symbicort Turbuhaler* 100/6

Budesonide-formoterol 200/6 microg		
		
Rilast Turbuhaler 200/6 *Symbicort Turbuhaler* 200/6	*Bufomix Easyhaler* 200/6	*DuoResp Spiromax* 200/6*

** Only indicated in adults (18 years and over)*

Table 1. ICS-formoterol inhalers for MART

Active ingredients	Brand name (Inhaler type)	Age restriction (years)	Strength (microg)*	Dose (inhalations)			PBS code	Streamlined authority code	Maximum quantity (5 repeats)	Inhalations per device
				Maintenance	Reliever	Maximum†				
Beclometasone -formoterol	***Fostair*** (pMDI)	18	100/6	1 twice daily	1	6 per occasion 8 per day	12183F 14376P‡	15469 15599	1 2	120
	Cipla Beclometasone/ Formoterol (pMDI)	18	100/6	1 twice daily	1	6 per occasion 8 per day	12183F 14376P‡	15469 15599	1 2	120
Budesonide -formoterol	***Rilast Rapihaler*** ***Symbicort Rapihaler*** (pMDI)	12	100/3	2 twice daily (may increase to 4 twice daily)	2	12 per occasion 16 per day 24 in one day temporarily	10015D 14467K‡	4397 15702	2 4	120
	Symbicort Turbuhaler (DPI)	12	100/6	2 per day in 1 dose or 2 divided doses	1	6 per occasion 8 per day 12 in one day temporarily	8796Y 14440B‡	4380 15755	1 2	120
	Rilast Turbuhaler ***Symbicort Turbuhaler*** (DPI)	12	200/6	2 per day in 1 dose or 2 divided doses (may increase to 2 twice daily)	1	6 per occasion 8 per day 12 in one day temporarily	8625Y 14439Y‡	7970 15680	1 2	120
	Bufomix Easyhaler (DPI)	12	200/6				14151T 15240D‡ 8625Y 14439Y‡	7970 18055 7970 15680	2 4 1 2	60 60 120 120
	DuoResp Spiromax (DPI)	18	200/6				11273H 14434Q‡	7970 15680	1 2	120

AIR: anti-inflammatory reliever; DPI: dry powder inhaler; MART: maintenance-and-reliever therapy; pMDI: pressurised metered-dose inhaler

** Inhaled corticosteroid/formoterol per inhalation.*

† Maximum doses as stated in Therapeutic Goods Administration (TGA)-approved product information (daily maximum rarely needed in practice). Check TGA-approved indications and Pharmaceutical Benefits Scheme (PBS) restrictions before prescribing.

‡ Condition must be stable for the prescriber to consider the listed maximum quantity of this medicine suitable for this patient (60-day prescribing).

Key messages for patients

Old message

Your preventer inhaler is for every day and your reliever inhaler (e.g. 'blue puffer') is for when you have asthma symptoms.

Current message

There is a recommended treatment option for people age 12* and over that uses the same inhaler for everyday planned doses and for rapid relief of symptoms when needed. This treatment option has been available for many years and its effectiveness and safety are well established.

What hasn't changed

Frequent or heavy use of a 'blue puffer' is risky in itself and also shows that your asthma is poorly controlled. This puts you at risk of severe asthma attacks and excessive use of emergency treatments that can have serious side-effects.

** Beclometasone-formoterol and budesonide-formoterol (Spiromax) are only indicated for adults (18 years and over).*

REFERENCES: 1. Sobieraj DM, et al. JAMA 2018; 319: 1485-1496. **2**. Rabe KF, et al. Lancet 2006; 368: 744-753. **3.** Wark P, et al. Thorax 2006; 61: 909-915.

For more information, refer to the National Asthma Council's Australian Asthma Handbook: asthmahandbook.org.au

Asthma and COPD medications chart: nationalasthma.org.au/living-with-asthma/resources/health-professionals/charts/asthma-copd-medications-chart

Asthma treatment levels for adults and adolescents chart: nationalasthma.org.au/living-with-asthma/resources/health-professionals/charts/asthma-treatment-levels-adults-adolescents

Asthma in adults quick reference guide: nationalasthma.org.au/living-with-asthma/resources/health-professionals/qrg/asthma-in-adults-quick-reference-guide

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