

Asthma Treatment Guideline for Adults

(aged 17 and over)

Version 2.1 – September 2024

VERSION CONTROL		
Version	Date	Amendments made
1.0	Document to supersede LMMG Asthma summary guideline for adults and over 12s (March 2014)	January 2019
2.0	Update in line with new evidence / national guidelines	February 2022
2.1	Updated to include Budesonide / formoterol reliever licence	July 2024

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Glossary

AIR - Anti-Inflammatory Reliever Therapy.

MART - Maintenance And Reliever Therapy.

ICS – inhaled corticosteroid

LABA – long-acting beta agonists

SABA – short-acting beta agonists

DPI - dry powder inhaler

MDI - metered dose inhaler

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Introduction

Background Information and the Rationale for Guideline Development

This guideline has been updated in line with the NICE Guideline: Asthma: diagnosis, monitoring and chronic asthma management; In development [GID-NG10186]¹. This will be a new collaborative guideline produced by BTS, NICE and SIGN. It updates NICE guideline 80 (published November 2017) and parts of BTS/SIGN guideline (SIGN 158, published July 2019) and incorporates the new AIR licensed therapies.

These updated guidelines also acknowledge the following information:

- Do not confirm a diagnosis of asthma without a suggestive clinical history and a supporting objective test.
- Treat people immediately if they are acutely unwell at presentation, and perform objective tests for asthma (for example, eosinophil count, fractional exhaled nitric oxide [FeNO], spirometry or peak flow with bronchodilator reversibility) if the equipment is available.
- Do **NOT** prescribe short-acting beta2 agonists to people of any age with asthma without a concomitant prescription of an inhaled corticosteroid.
- Monitor asthma control at every review. In addition to asking about symptoms, check:
 - time off work or school due to asthma
 - amount of reliever inhaler used
 - number of courses of oral corticosteroids
 - active or passive exposure to smoking.
- Consider using a validated symptom questionnaire (for example, the Asthma Control Questionnaire or the Asthma Control Test) to assess asthma control in adults at annual review.
- Do not use regular peak expiratory flow (PEF) monitoring to assess asthma control unless there are person-specific reasons for doing so.
- Consider FeNO monitoring for people with asthma:
 - at their regular review, and
 - before and after changing their asthma therapy.
- **Minimise the number of inhalers and the number of different types of inhalers used by each person as far as possible. Use of a combined single inhaler therapy is more convenient and effective than multiple inhalers & reduces the environmental impact.**
- Ensure people receive inhalers they have been trained to use (for example, by specifying the brand in prescriptions).
- **AIR** = Anti-Inflammatory Reliever Therapy. An anti-inflammatory reliever (AIR) is a combination of an ICS (Budesonide) and a LABA (Formoterol). For patients on an AIR treatment plan, the AIR inhaler is only used when the patient experiences symptoms. ***A separate reliever inhaler i.e. SABA should NOT be prescribed.***
- **MART** = Maintenance And Reliever Therapy. This is when a combination inhaler (ICS+LABA) is to be used by a patient as both the maintenance and reliever therapy, as part of a specific treatment regime. ***A separate reliever inhaler i.e. SABA, is NOT needed when a patient is on a MART regimen.***

MART is the preferred treatment pathway if clinically appropriate for the patient.
- **TRIPLE INHALERS** i.e. ICS +LABA+LAMA – several are now licensed for use in the treatment of asthma e.g. Trimbow (87/5/9 and 172/5/9) (MDI), Enerzair (114/46/136) (DPI). However, these guidelines only recommend them to be initiated by a clinical expert in primary / secondary care, in those patients who are not adequately controlled with a maintenance combination of a long-acting beta2-agonist plus a high dose or medium dose, of an inhaled corticosteroid, who have experienced one or more asthma exacerbations in the previous year. *(High dose triple inhalers available are Trimbow 172/5/9 and Enerzair. Medium dose triple inhaler available is Trimbow 87/5/9).*

These are treatment guidelines only

This guideline covers the chronic management of asthma only. These guidelines should **NOT** be referred to for the management of acute asthma in adults >17 years of age.

This guidance does not override the individual responsibility of health professionals to make decisions in exercising their clinical judgement in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Please note that:

Not all ICS / LABAs have a UK marketing authorisation for use in young people aged under 18 for this indication.

Not all Budesonide/formoterol 200/6 inhalers are licensed for AIR

Not all ICS / LABAs are licensed for MART

For full prescribing information please refer to the BNF and SPC ensuring correct SPC according to dose is consulted.

Key Points To Consider When Prescribing

- **Inhaler Device / Technique**

Education and training in inhaler device technique is of utmost importance.

The choice of inhaler device should be individually tailored to the patient i.e. a device that the patient can and will use effectively, with preference being given to those with a low carbon footprint i.e. dry powder inhalers.

Try to use the same delivery device for each inhaled drug and minimise the number of inhalers used by each patient as far as possible i.e. combination inhalers.

Inhaler technique should be assessed at each visit.

Inhaler technique and adherence to all therapy, including non-pharmacological interventions, should be assessed before concluding that the current therapy is insufficient.

Be aware of potential duplication of inhaler ingredients especially LAMA/LABA combinations⁵.

Where an MDI device is deemed clinically appropriate, provide one with a lower carbon footprint. (use the link to compare the carbon footprint of inhalers: [index \(prescqipp.info\)](https://www.prescqipp.info)).

Use of a Spacer device is recommended for all pMDIs: e.g. A2A, Aerochamber Plus or Volumatic. Check SPCs for device and spacer compatibility.

- **MART first**

This guidance promotes the use of MART as the initial regimen of choice in patients with Asthma. However, this will not suit every patient, and it is acceptable to use regular preventer and separate reliever therapy, if this works better for the patient.

Environmental Impact 'Green' Agenda

Environmental Impact 'Green' Agenda

- The UK Government has committed to cutting the UK's greenhouse gas emissions by 78% of 1990 levels by 2035 and achieving net zero by 2050.
- Inhalers make up 3% of all NHS carbon emissions.
- According to NICE, MDIs have estimated carbon footprints of 500g, dry powder inhalers (DPIs) have estimated carbon footprints of 20g CO₂eq per dose.
- For comparison, estimated carbon footprints indicate an average trip (9 miles) in a typical car produces 2,610g CO₂eq (or 290g CO₂eq per mile).
- More than 26 million prescriptions for MDIs were written in primary care in England in 2016/17. They made up 70% of UK inhaler sales in 2011, compared with fewer than half in other European countries and just 10% in Sweden ².
- Where several inhalers could be viable options, clinicians and patients should:
 1. Opt for the more environmentally friendly option, to help to cut the health service's carbon footprint.
 2. A DPI should be the first choice for inhaled therapy, if clinically appropriate.
 3. If an MDI is required, then choose one with the lowest carbon emissions/recycling potential.
 4. A MART regimen will also minimise carbon emissions since a separate reliever inhaler is not required.
 5. If a patient is on a fixed dose regimen, then a regular check should be done on the number of SABA inhalers the patient is receiving. This would give an indication of overuse / possible poor inhaler technique / poor asthma control.
- Data on the carbon footprint of individual inhalers is very limited and provide indicative rather than actual values. Estimated figures based on usual daily doses and median CO₂eq values per inhaler can be found at³
<https://www.prescgipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f6213%2finhaler-carbon-footprint-comparison-tool-21.pdf>
- NICE have produced a patient decision aid⁴ which highlights that some inhalers have a much higher carbon footprint than others. This aid will help people with asthma, alongside health professionals, to identify which inhalers could meet their needs and control their symptoms.
<https://www.nice.org.uk/guidance/ng80/resources/inhalers-for-asthma-patient-decision-aid-pdf-6727144573>

MART REGIMEN -PREFERRED PHARMACOLOGICAL TREATMENT PATHWAY FOR ADULTS (AGED ≥17) – NO SABA REQUIRED

Note: Patient Compliance and Inhaler Technique should be checked at; each visit, every step change in treatment and at least once a year.

Prescribe by brand to ensure device continuity.

Whenever a change in medication / dose is made, consider 'diagnosis'.

The aim of asthma management is control of the disease. Complete control is defined as:

- no daytime symptoms
- no night-time awakening due to asthma
- no need for rescue medication
- no asthma attacks
- no limitations on activity including exercise
- normal lung function (in practical terms FEV₁ and/or PEF >80% predicted or best)
- minimal side effects from medication.

Approach to management

1. Start treatment at the level most appropriate to initial severity.
2. Achieve early control.
3. Maintain control by:
 - increasing treatment as necessary
 - decreasing treatment when control is good.

Note: Not all inhalers are licensed for AIR / MART. Consider patient preference and ability to adhere to regime – **inform patient of maximum dose.**

AIR therapy: Budesonide/formoterol 200/6 as needed.

WockAIR 160/4.5, DuoResp Spiromax 160/4.5, Symbicort Turbohaler 200/6

After diagnosis & if uncontrolled, as per Asthma Control Test (ACT) definition, consider patient preference and compliance in order to inform decision regarding MART or fixed dose regimen. An ACT score of ≤19 indicates uncontrolled asthma.

If still poorly controlled asthma (low ACT score of <22 or >1 exacerbation in 12 months).

MART regimen: ICS (Low Dose) + LABA (regular use)

WockAIR 160/4.5, DuoResp Spiromax 160/4.5, Symbicort Turbohaler 100/6, Fobumix Easyhaler 160/4.5, Fostair NEXThaler 100/6, Luforbec 100/6 MDI, Fostair MDI 100/6

MART regimen: Increase ICS to moderate maintenance dose (regular use)

WockAIR 160/4.5, DuoResp Spiromax 160/4.5, Symbicort Turbohaler 200/6, Fobumix Easyhaler 160/4.5, Fostair NEXThaler 100/6, Luforbec 100/6 MDI, Fostair MDI 100/6

If patient remains symptomatic or diagnosis uncertain consider referral of patient to specialist service as per local pathway. If the patient is intolerant of formoterol, consider vilanterol or salmeterol combinations.

Note: Consider addition of LTRA if still uncontrolled and patient has atopic symptoms and there is evidence of good compliance and inhaler technique

Review in 2 weeks (if no improvement stop LTRA).

Fixed dose regimen: Increase ICS to a high maintenance dose + LABA (a SABA will be required if patient placed on fixed dose regimen).

Wock AIR 160/4.5, Symbicort Turbohaler 200/6, Fobumix Easyhaler 160/4.5, Fostair NEXThaler 100/6, Luforbec MDI 100/6, Fostair MDI 100/6

Note:

If a patient's asthma has been controlled for 3-6 months, then consider decreasing current maintenance therapy.

When reducing maintenance therapy, reduce dose of medicines in an order that takes into account the clinical effectiveness when introduced, side effects and the patient's preference e.g. consider stepping down by halving ICS dose i.e. reverse pathway. **However, if control deteriorates then increase back to higher, previous maintenance dose.**

Fixed dose regimen: ICS (high maintenance dose) + LABA (as before) +Leukotriene Receptor Antagonist (LTRA) Review in 2 weeks, if no improvement STOP LTRA.

OR

Trial an alternative drug e.g. Long-Acting Muscarinic Receptor Antagonist (LAMA) (Tiotropium – Spiriva Respimat) **AND refer to secondary care.**

If still uncontrolled after 2 weeks on LTRA as per ACT definition.

Refer patient to specialist service as per local pathway.

**FIXED DOSE REGIMEN (ICS/LABA + SABA when required)
ALTERNATIVE PHARMACOLOGICAL TREATMENT PATHWAY FOR ADULTS (AGED ≥17)**

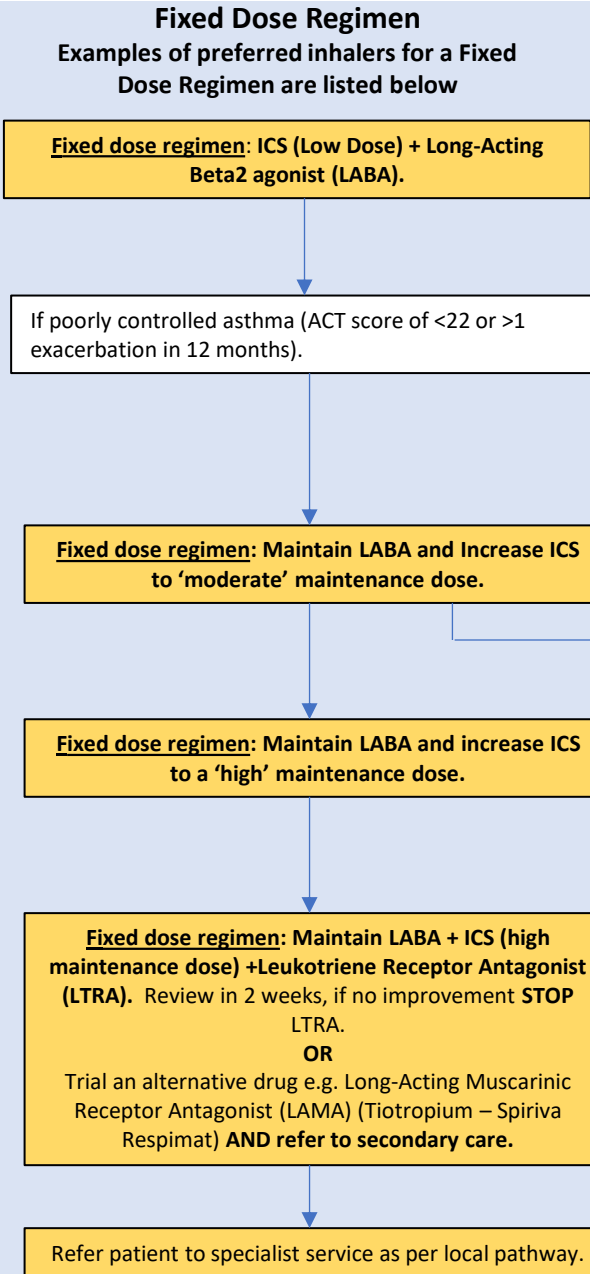
AIR therapy: Budesonide/formoterol 200/6 as needed
 WockAIR 160/4.5, DuoResp Spiromax 160/4.5, Symbicort Turbohaler 200/6
NO SABA required.

After diagnosis & if uncontrolled, as per Asthma Control Test (ACT) definition, consider patient preference and compliance to inform decision regarding implementing MART or Fixed Dose regimen. An ACT score of ≤19 indicates uncontrolled asthma.

Note: Patient Compliance and Inhaler Technique should be checked at; each visit, every step change in treatment and at least once a year.
Prescribe by brand to ensure device continuity.
 Whenever a change in medication / dose is made, consider 'diagnosis'.

Note: Consider addition of LTRA if still uncontrolled and patient has atopic symptoms and there is evidence of good compliance and inhaler technique
Review in 2 weeks (if no improvement stop LTRA).

Note:
 If a patient's asthma has been controlled for 3-6 months, then consider decreasing current maintenance therapy.
 When reducing maintenance therapy, reduce dose of medicines in an order that takes account of the clinical effectiveness when introduced, side effects and the patient's preference e.g. consider stepping down by halving ICS dose i.e. reverse pathway. **However, if control deteriorates then increase back to higher, previous maintenance dose.**



N.B: SABA reliever therapy to be available throughout fixed dose pathway.

Note: If asthma uncontrolled, as per ACT definition (≤19), on fixed dose regimen, or compliance issues are suspected, consider changing to MART.

If patient remains symptomatic or diagnosis uncertain consider referral of patient to specialist service as per local pathway. If the patient is intolerant of formoterol, consider vilanterol or salmeterol combinations.

If still uncontrolled after 2 weeks on LTRA as per ACT definition.

- Examples of available inhalers for Fixed Dose Regimen. (Other inhalers are available). Please see SPCs.**
 Green text indicates low CO2 emissions, Red text indicates high CO2 emissions
- ICS (Low Dose) +LABA include** Wock AIR 160/4.5, DuoResp Spiromax 160/4.5 and Symbicort Turbohaler 100/6, Atecura Breezhaler 62.5/125, Fobumix Easyhaler 80/4.5, Fobumix Easyhaler 160/4.5, Relvar Ellipta 92/22, Fostair NEXThaler 100/6, **Luforbec MDI 100/6, Symbicort MDI 100/3, Fostair MDI 100/6,**
- ICS (Moderate Dose) +LABA include** Wock AIR 160/4.5, DuoResp Spiromax 160/4.5 and Symbicort Turbohaler 200/6, Atecura Breezhaler 127.5/125, Fobumix Easyhaler 160/4.5, Relvar Ellipta 92/22, Fostair NEXThaler 100/6, **Luforbec MDI 100/6, Fostair MDI 100/6, Sirdupla MDI 125/25**
- ICS (High Dose) +LABA include** WockAIR 320/9, DuoResp Spiromax 320/9, Symbicort Turbohaler 400/12, Fobumix Easyhaler 320/9, Fostair NEXThaler 200/6, Fusacomb Easyhaler 500/50, Atecura Breezhaler 260/125, Relvar Ellipta 184/22, **Luforbec MDI 200/6, Fostair MDI 200/6, Sirdupla MDI 250/25**

References







The Medicines Management Team at MLCSU would like to thank all clinicians and commissioners in the Lancashire and South Cumbria Health Economy who provided valuable insight which was essential in the development of this guideline.

This guidance does not override the individual responsibility of health professionals to make decisions in exercising their clinical judgement in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer. For full prescribing information please refer to the BNF and SPC.















References

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In development [GID-NG10186] Expected publication date: 27 November 2024
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<https://www.prescqipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f6213%2finhaler-carbon-footprint-comparison-tool-21.pdf>
4. NICE patient decision aid – inhalers for asthma 2020
<https://www.nice.org.uk/guidance/ng80/resources/inhalers-for-asthma-patient-decision-aid-pdf-6727144573>
5. Inhaler prescribing errors– do they matter? Rachel Wilson, Helen Iddon, Julie Lawson & Victoria Birchall. Midlands and Lancashire Commissioning Support Unit (MLCSU) / Lancashire and South Cumbria Integrated Care Board (ICB) PowerPoint Presentation (midlandsandlancashirecsu.nhs.uk)
<https://medsopt.midlandsandlancashirecsu.nhs.uk/media/1166/quick-reference-prescribing-guide-to-prevent-inhaler-duplication-errors-v6.pdf>

Inhalers licensed for AIR Therapy

















DPI	Budesonide / Formoterol
	<p>Wock AIR 160/4.5</p> 
	<p>DuoResp Spiromax 160/4.5</p> 
	<p>Symbicort Turbohaler 200/6</p> 

Inhalers licensed for MART

DPI (Preferred options)	ICS + LABA
<p>Device continuation option if patient already on AIR Therapy</p> 	<p>WockAIR 160/4.5 (Budesonide / Formoterol)</p> 
	<p>Fobumix Easyhaler 160/4.5 (Budesonide / Formoterol)</p> 
	<p>Fostair NEXThaler 100/6 (Beclometasone / Formoterol)</p> 
<p>Device continuation option if patient already on AIR Therapy</p> 	<p>DuoResp Spiromax 160/4.5 (Budesonide / Formoterol)</p> 
<p>Device continuation option if patient already on AIR Therapy</p> 	<p>Symbicort Turbohaler 100/6 and 200/6 (Budesonide / Formoterol)</p> 
MDI	ICS + LABA
	<p>Luforbec 100/6 (Beclometasone / Formoterol)</p> 
	<p>Fostair 100/6 (Beclometasone / Formoterol)</p> 














Examples of Inhalers (DPI) licensed for the treatment of Asthma in a Fixed Dose Regimen


A DPI should be the first choice for inhaled therapy, if clinically appropriate

DPI	ICS (Low Dose) +LABA	ICS (Moderate Dose) + LABA	ICS (High Dose) + LABA
<p>Breezhaler</p> 	<p>Ateectura Breezhaler 62/125 (Mometasone / Indacaterol)</p> 	<p>Ateectura Breezhaler 127.5/125 (Mometasone / Indacaterol)</p> 	<p>Ateectura Breezhaler 260/125 (Mometasone / Indacaterol)</p> 
<p>WockAIR Device continuation option if patient already on AIR Therapy</p> 	<p>WockAIR 160/4.5 (Budesonide / Formoterol)</p> 	<p>WockAIR 160/4.5 and 320/9 (Budesonide / Formoterol)</p> 	<p>WockAir 320/9 (Budesonide / Formoterol)</p> 
<p>Easyhaler</p> 	<p>Fobumix 80/4.5 and 160/4.5 Easyhaler (Budesonide / Formoterol)</p> 	<p>Fobumix 160/4.5 Easyhaler (Budesonide / Formoterol)</p> 	<p>Fobumix 320/9 Easyhaler (Budesonide / Formoterol)</p> 
<p>Ellipta</p> 	<p>Relvar Ellipta 92/22 (Fluticasone / Vilanterol)</p> 	<p>Relvar Ellipta 92/22 (Fluticasone / Vilanterol)</p> 	<p>Relvar Ellipta 184/22 (Fluticasone / Vilanterol)</p> 

Examples of Inhalers (DPI) licensed for the treatment of Asthma in a Fixed Dose Regimen

A DPI should be the first choice for inhaled therapy, if clinically appropriate











DPI	ICS (Low Dose) +LABA	ICS (Moderate Dose) + LABA	ICS (High Dose) + LABA
<p>NEXThaler</p> 	<p>Fostair 100/6 NEXThaler (Beclometasone / Formoterol)</p> 	<p>Fostair 100/6 NEXThaler (Beclometasone / Formoterol)</p> 	<p>Fostair 200/6 NEXThaler (Beclometasone / Formoterol)</p> 
<p>DuoResp Spiromax</p> <p>Device continuation option if patient already on AIR Therapy</p> 	<p>DuoResp Spiromax 160/4.5 (Budesonide / Formoterol)</p> 	<p>DuoResp Spiromax 160/4.5 and 320/9 (Budesonide / Formoterol)</p>  	<p>DuoResp Spiromax 320/9 (Budesonide / Formoterol)</p> 
<p>Turbohaler</p> <p>Device continuation option if patient already on AIR Therapy</p> 	<p>Symbicort 100/6 (Budesonide / Formoterol)</p> 	<p>Symbicort 200/6 (Budesonide / Formoterol)</p> 	<p>Symbicort 400/12 (Budesonide / Formoterol)</p> 

DPI	SABA (for use as reliever in fixed dose regimen if required)
<p>Easyhaler (Preferred option)</p> 	<p>Salbutamol Easyhaler 100 and 200</p>  
<p>Turbohaler</p> 	<p>Bricanyl Turbohaler 500 (Terbutaline)</p> 

Examples of Inhalers (MDI) licensed for the treatment of Asthma in a Fixed Dose Regimen

NB Fostair and Luforbec 100/6 and 200/6 do not currently have a licence for use in young people under the age of 18.

The AeroChamber Plus® is the recommended spacer device for Fostair, Luforbec, Symbicort and Sirdupla MDI.

MDI	ICS (Low Dose) +LABA	ICS (Moderate Dose) + LABA	ICS (High Dose) + LABA
<p>Standard MDI device</p> <p>high CO₂</p> 	<p>Luforbec 100/6 (Beclometasone / Formoterol)</p> 	<p>Luforbec 100/6 (Beclometasone / Formoterol)</p> 	<p>Luforbec 200/6 (Beclometasone / Formoterol)</p> 
	<p>Fostair 100/6 (Beclometasone / Formoterol)</p> 	<p>Fostair 100/6 (Beclometasone / Formoterol)</p> 	<p>Fostair 200/6 (Beclometasone / Formoterol)</p> 
	<p>Symbicort 100/3 (Budesonide / Formoterol)</p> 	<p>Sirdupla 125/25 (Fluticasone / Salmeterol)</p> 	<p>Sirdupla 250/25 (Fluticasone / Salmeterol)</p> 

MDI	SABA (for use as reliever in fixed dose regimen if required)
<p>Standard MDI device</p> <p>medium CO₂</p> 	<p>Salamol 100 inhaler / Salamol 100 Easibreathe inhaler (Salbutamol)</p> 
<p>medium CO₂</p> 	<p>Airomir 100 inhaler / Airomir 100 Autohaler (Salbutamol)</p> 