Lancashire & South Cumbria Medicines Management Group

Asthma Treatment Guideline (aged 12 years and over)

Version 2.2 – May 2025

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Introduction

Version	Date	Amendments made
1.0	Document to supercede LSCMMG Asthma summary guideline for adults and over 12s (2014_	January 2109
2.0	Update in line with new evidence / national guidelines	February 2022
2.1	Updated to include budesonide / formoterol reliever licence	July 2024
2.2	Updated to include NICE NG245	May 2025

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Glossary

AIR - Anti-Inflammatory Reliever Therapy. An anti-inflammatory reliever (AIR) is a combination of an ICS (Budesonide) and a LABA (Formoterol). On an AIR treatment plan the AIR inhaler is only used when the patient has symptoms. A separate SABA should not be prescribed.

MART - Maintenance And Reliever Therapy. 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 SABA should not be prescribed.

ICS – inhaled corticosteroid

LABA – long acting beta agonists

LAMA – long acting muscarinic antagonists

LTRA – leukotriene receptor antagonists

SABA – short acting beta agonists

DPI – dry powder inhaler

MDI – metered dose inhaler

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, NG245[1]. This is 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:

- 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). On an AIR treatment plan the AIR inhaler is only used when the patient has symptoms. A separate SABA should not be prescribed.
- M**ART** = 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.**
- **Fixed Dose Pathway – should only be initiated in NEWLY DIAGNOSED patients if advised to do so by secondary care, or the patient is intolerant of Formoterol. This is the second line treatment pathway for new patients. EXISTING patients on this pathway whose asthma IS CONTROLLED, do not need to change existing treatment / inhalers.**
- **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 and an inhaled corticosteroid, who experienced one or more asthma exacerbations in the previous year.
    - Trimbow 172/5/9 **OR** Enerzair could be considered for those patients not adequately controlled with a maintenance combination of a long-acting beta2-agonist and a high dose ICS.
    - Trimbow 87/5/9 could be considered for those patients not adequately controlled with a maintenance combination of a long-acting beta2-agonist and a medium dose ICS

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 >12 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.

The desktop guidance for preferred product choices aligns with ICB priorities of cost and carbon impact. Please refer to Lancashire and South Cumbria Formulary for further options. https://www.lancashireandsouthcumbriaformulary.nhs.uk/

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

The choice of inhaler device should be individually tailored to the patient (ones the patient can and will use effectively) with preference being given to those with a low carbon footprint i.e. dry powder inhalers and which are cost effective.

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.

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

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 combinations.[5]

Where an MDI device is clinically appropriate, provide one with a lower carbon footprint.

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.

The **Fixed Dose** pathway is the second line treatment pathway for newly diagnosed patients and **should only be initiated** in those patients' intolerant of formoterol or following secondary care advice.

This guidance features the preferred choice inhalers of the ICB.

These preferred inhalers are those which should be considered first when prescribing for newly diagnosed asthma patients, or existing patients whose asthma is uncontrolled.

Existing patients whose asthma is well controlled should stay on their existing treatment. Other available inhalers are listed on the LSCMMG formulary.

https://www.lancashireandsouthcumbriaformulary.nhs.uk/chaptersSub.asp?FormularySectionID=3

Environmental Impact 'Green' Agenda

4. 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 one with the lowest carbon emissions/recycling potential should be used.
    4. A MART regimen will also minimise carbon emissions due to a separate reliever inhaler not being required.
    5. If 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 at[3] https://www.prescqipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f6213%2finhaler-carbon-footprint-comparison-tool-21.pdf
- NICE have produced a patient decision aid[4] 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. Asthma inhalers and the environment: BTS, NICE and SIGN patient decision aid

MART REGIMEN -PREFERRED PHARMACOLOGICAL TREATMENT PATHWAY FOR Ages 12 years and over
NO SABA REQUIRED
All newly diagnosed patients should be on MART regimen unless intolerant of formoterol

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 FEV_1 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**

Budesonide/formoterol 200/6 as needed (**AIR therapy**)
Fobumix Easyhaler 160/4.5, Wock AIR 160/4.5,

ICS (**Low** Dose) + **LABA in MART regimen** ,
Fobumix Easyhaler 160/4.5, WockAIR 160/4.5,
Beclometasone/ formoterol branded generic MDIs
(see p9)

If asthma uncontrolled as defined by NG245 i.e. Any exacerbation requiring oral corticosteroids or frequent regular symptoms (such as using reliever inhaler 3 or more days a week or nighttime waking 1 or more times a week)

Increase ICS to **moderate** maintenance dose in **MART regimen**
Fobumix Easyhaler 160/4.5, WockAIR 160/4.5,
Beclometasone / formoterol branded generic MDIs
(see p9)

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. Allow at least 8 to 12 weeks before considering a further treatment reduction.
However, if control deteriorates then increase back to higher, previous maintenance dose

Check concordance.

Check the FeNO level if available, and the blood eosinophil count.

If neither raised

In addition to moderate-dose MART consider a trial of at least 8 weeks (unless there are side effects) of either
▪ a LTRA (if patient demonstrates allergic features) **OR**
▪ a LAMA (if no allergic features) (Tiotropium – Spiriva Respimat).

If raised

If asthma is controlled, continue the treatment

If control is still insufficient

▪ for patients taking an LTRA - continue moderate-dose MART, stop LTRA treatment and start a trial of a LAMA **OR**
▪ for patients taking a LAMA - refer to specialist service as per local pathway

Refer patient to specialist service as per local pathway

Green text indicates low CO2 emissions, *Red text indicates high CO2 emissions.*

SECOND LINE TREATMENT PATHWAY FOR Ages 12 years and over
FIXED DOSE REGIMEN (ICS/LABA + SABA when required)
for patients unable to use MART or needing separate maintenance and reliever therapy.

ONLY to be initiated on the advice of secondary care **OR** if patient intolerant to formoterol.
For those patients whose asthma is currently **controlled** on a Fixed Dose Regimen **NO** change is 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'

Budesonide/formoterol 200/6
as needed (**AIR therapy**)
Fobumix Easyhaler 160/4.5, Wock AIR 160 /4.5,
NO SABA required

NG245 defines uncontrolled asthma as: Any exacerbation requiring oral corticosteroids or frequent regular symptoms (such as using reliever inhaler 3 or more days a week or nighttime waking 1 or more times a week)

If patient is intolerant of formoterol, then SABA can be used in place of AIR

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

ICS (**Low** Dose) + Long-Acting Beta 2 agonist (LABA) in fixed dose regimen. (see below for inhaler options)

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)

If asthma uncontrolled as defined by NG245

After diagnosis - If asthma uncontrolled, as per NICE definition (NG245) on fixed dose regimen, or compliance issues are suspected consider changing to MART

Maintain LABA and Increase ICS to **moderate** maintenance dose in fixed dose regimen (see below for inhaler options)

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 Allow at least 8 to 12 weeks before considering a further treatment reduction.
. **However, if control deteriorates then increase back to higher, previous maintenance dose**

Maintain LABA and Increase ICS to a **high** maintenance dose in a fixed dose regimen (see below for inhaler options)

LABA and ICS (**high** maintenance dose) in a fixed dose regimen +Leukotriene Receptor Antagonist (LTRA), (**review in 2 weeks,** if no improvement **STOP** LTRA)
OR
Trial an alternative drug eg. Long-Acting Muscarinic Receptor Antagonist (LAMA) (Tiotropium – Spiriva Respimat) **AND** refer to secondary care

Check the FeNO level if available, and the blood eosinophil count.

Refer patient to specialist service as per local pathway

AIR Therapy: Wock AIR 160/45, Fobumix Easyhaler 160/4.5,
ICS (Low Dose) +LABA include: :Relvar Ellipta 92/22, Combisal 50/25, Avenor 50/25
ICS (Moderate Dose) +LABA include:, Atectura Breezhaler 127.5/125, Relvar Ellipta 92/22, Combisal 125/25, Avenor 125/25
ICS (High Dose) +LABA include: Relvar Ellipta 184/22, Combisal 250/25, Avenor 250/25

Green text indicates low CO2 emissions, Red text indicates high CO2 emissions
The above list are examples of preferred choice inhalers, others are available. Please see L&SC Formulary and SPCs.

Existing Patients whose asthma is UNCONTROLLED and are currently on treatment pathways other than MART, should be considered for transfer to a MART REGIMEN as follows.
All newly diagnosed patients should be placed on MART regimen unless intolerant of formoterol

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

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 FEV_1 and/or PEF >80% predicted or best)
• minimal side effects from medication.

CURRENT THERAPY	THERAPY TO BE CONSIDERED
SABA only	Budesonide/formoterol 200/6 as needed (**AIR therapy**) Fobumix Easyhaler 160/4.5, WockAIR 160/4.5
If asthma is uncontrolled on any of Low dose ICS, Low dose ICS/LABA, Low dose ICS / LTRA, Low dose ICS / LABA/LTRA **PLUS** SABA	ICS (**Low** Dose) + **LABA in MART regimen** , Fobumix Easyhaler 160/4.5, WockAIR 160/4.5, Beclometasone / formoterol branded generic MDIs
If asthma is uncontrolled on any of Moderate dose ICS, Moderate dose ICS/LABA, Moderate dose ICS / LTRA and / or LAMA, Moderate dose ICS / LABA / LTRA and/or LAMA **PLUS** SABA	Increase ICS to **moderate** maintenance dose in **MART regimen** Fobumix Easyhaler 160/4.5, WockAIR 160/4.5, Beclometasone / formoterol branded generic MDIs
If asthma is uncontrolled on High dose ICS	Refer patient to specialist service as per local pathway

When changing from low- or moderate-dose ICS (or ICS/LABA combination inhaler) plus supplementary therapy to MART, consider whether to stop or continue the supplementary therapy based on the degree of benefit achieved when first introduced.

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

1. Asthma: diagnosis, monitoring and chronic asthma management, NG245 https://www.nice.org.uk/guidance/ng245
2. Inhaled drugs and global warming: time to shift to dry powder inhalers, BMJ 2013;346:f3359 and Climate friendly asthma inhaler swap encouraged, Nursing Times, 23 March 2017
3. Inhaler carbon footprint comparison tool https://www.prescqipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f6213%2finhaler-carbon-footprint-comparison-tool-21.pdf
4. NICE patient decision aid Asthma inhalersand climate change Asthma inhalers and the environment: BTS, NICE and SIGN patient decision aid
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)

The following inhalers represent the preferred choices of LSCMMG for NEW patients
Other inhalers are available to prescribe – see LSCMMG Net Formulary.
https://www.lancashireandsouthcumbriaformulary.nhs.uk/chaptersSubDetails.asp?FormularySectionID=3&SubSectionRef=03.02&SubSectionID=A100
EXISTING patients whose asthma is controlled should continue on their current therapy

Preferred Choice Inhalers licensed for AIR Therapy

DPI	Budesonide / Formoterol
Dose: 1 puff as needed. A total daily dose of more than 8 puffs is not normally needed; however, a total daily dose of up to 12 puffs could be used for a limited period. How to Use Easyhaler - Silver Animation_EASYH-13171 on Vimeo	Fobumix Easyhaler 160/4.5  low CO_2
Dose: 1 puff as needed. A total daily dose of more than 8 puffs is not normally needed; however, a total daily dose of up to 12 puffs could be used for a limited period. https://patients.wockair.co.uk/	Wock AIR 160/4.5  low CO_2

Preferred Choice Inhalers licensed for MART

DPI	Budesonide / Formoterol
Dose: 2 puffs per day, given either as one puff in the morning and evening or as 2 puffs in either the morning or evening. Patients should take 1 additional puff as needed in response to symptoms. A total daily dose of more than 8 puffs is not normally needed; however, a total daily dose of up to 12 puffs could be used for a limited period	Fobumix Easyhaler 160/4.5  low CO_2
Dose: 2 puffs per day, given either as one puff in the morning and evening or as 2 puffs in either the morning or evening. Patients should take 1 additional puff as needed in response to symptoms. A total daily dose of more than 8 puffs is not normally needed; however, a total daily dose of up to 12 puffs could be used for a limited period	Wock AIR 160/4.5,  low CO_2
MDI **DPIs should be used where clinically appropriate**	**ICS + LABA**
Dose: 1 puff twice a day Patients should take 1 additional puff as needed in response to symptoms. Maximum daily dose is 8 puffs.	Branded generic beclometasone / formoterol combinations eg Proxor 100/6, Bibecfo 100/6, Luforbec 100/6, with a price lower than the threshold cost of £14 / inhaler and licensed for MART maybe prescribed. NB Beclometasone / formoterol 100/6 inhalers do not currently have a licence for use in patients <18 years. high CO_2

Preferred choice Inhalers (DPI) licensed for the treatment of Asthma in a Fixed Dose Regimen - ONLY to be prescribed for NEW patients who are intolerant to formoterol or EXISTING patients whose asthma is controlled on these inhalers

DPI	ICS (Low Dose) +LABA	ICS (Moderate Dose) + LABA	ICS (High Dose) + LABA
Breezhaler Dose: 1 puff daily (separate low dose / high dose ICS + LABA DPI inhalers can be used if required)		Atectura Breezhaler 127.5/125   	
Ellipta Dose: 1 puff daily	Relvar Ellipta 92/22   	Relvar Ellipta 92/22   	Relvar Ellipta 184/22  

DPI	SABA (for use as reliever in fixed dose regimen if required)
Easyhaler Dose: 1-2 puffs, as needed in response to symptoms	Salbutamol Easyhaler 100 and 200    

SMI	LAMA
Respimat Dose: 2 puffs once daily	Spiriva Respimat 2.5  

Preferred choice Inhalers (MDI) licensed for the treatment of Asthma in a Fixed Dose Regimen - ONLY to be prescribed for NEW patients who are intolerant to formoterol or EXISTING patients whose asthma is controlled on these inhalers

DPIs should be used where clinically appropriate

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MDI	ICS (Low Dose) +LABA	ICS (Moderate Dose) + LABA	ICS (High Dose) + LABA
Standard MDI device Dose: 2 puffs twice daily	Branded generic fluticasone /salmeterol combinations eg, Combisal 50/25, Avenor 50/25 maybe prescribed. high CO_2	Branded generic fluticasone /salmeterol combinations eg Combisal 125/25, Avenor 125/25 maybe prescribed high CO_2	Branded generic fluticasone /salmeterol combinations eg Combisal 250/25, Avenor 250/25 maybe prescribed high CO_2

MDI	SABA (for use as reliever in fixed dose regimen if required)
Standard MDI device Dose: 1-2 puffs, as needed in response to symptoms	Salamol 100 inhaler  medium CO_2
Dose: 1-2 puffs, as needed in response to symptoms	Airomir 100 inhaler  medium CO_2