Lancashire & South Cumbria Medicines Management Group

# Asthma Treatment Guideline for Adults (aged 17 and over)

Version 2.1 – September 2024

# Introduction

| VERSION CONTROL | | |
|---|---|---|
| Version | Date | Amendments made |
| 1.0 | Document to supersede LMMG Asthma summary guideline for adults and over 12s<br><br>(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. 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
**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:

- 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.
- **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 a high dose (Trimbow 172/5/9 and Enerzair) or medium dose (Trimbow 87/5/9) of an inhaled corticosteroid, who experienced one or more asthma exacerbations in the previous year.

**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.

<u>Key Points To Consider When Prescribing</u>

- 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 ie 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 ie 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. However, this will not suit every patient and it is OK to use regular preventer and separate reliever if this works better for the patient.

# 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. 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 $FEV_1$ 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**)
Wock AIR 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.

ICS (**Low** Dose) + **LABA in MART regimen** ,
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

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

Increase ICS to **moderate** maintenance dose in **MART regimen**
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)**

Increase ICS to a **high** maintenance dose + LABA as a **fixed dose regimen** (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**

ICS (**high** maintenance dose) + LABA as a fixed dose regimen +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



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

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

Budesonide/formoterol 200/6
as needed (**AIR therapy**)
Wock AIR 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 in order to inform decision regarding fixed dose or MART 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'

## Fixed Dose Regimen

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

ICS (**Low** Dose) + Long Acting Beta 2 agonist (LABA) in fixed dose regimen.

**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 poorly controlled asthma (ACT score of <22 or >1 exacerbation in 12 months)

Note: If asthma uncontrolled, as per ACT definition (≤19), 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

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:**

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**

Increase ICS to a **high** maintenance dose + LABA as a fixed dose regimen

ICS (**high** maintenance dose) + LABA as 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

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

Refer patient to specialist service as per local pathway

AIR Therapy: Wock AIR 160/45, DuoResp Spiromax 160/4.5 and Symbicort Turbohaler 200/6

ICS (Low Dose ) +LABA include: : Wock AIR 160/4.5, DuoResp Spiromax 160/4.5 and Symbicort Turbohaler 100/6, Atectura 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, Atectura 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, Atectura Breezhaler 260/125, Relvar Ellipta 184/22, Luforbec MDI 200/6, Fostair MDI 200/6, Sirdupla MDI 250/25

Green text indicates low CO2 emissions, Red text indicates high CO2 emissions
The above list are examples of available inhalers, others are available. Please see SPCs.

# 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
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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)

# Inhalers licensed for AIR Therapy

| DPI | Budesonide / Formoterol |
|---|---|
| low $CO_2$ | Wock AIR 160/4.5  |
| low $CO_2$ | DuoResp Spiromax 160/4.5  |
| low $CO_2$ | Symbicort Turbohaler 200/6  |

# Inhalers licensed for MART

| DPI | ICS + LABA |
|---|---|
| low $CO_2$ | WockAIR 160/4.5  |
| low $CO_2$ | DuoResp Spiromax 160/4.5  |
| low $CO_2$ | Symbicort Turbohaler 100/6 and 200/6  |
| low $CO_2$ | Fobumix Easyhaler 160/4.5  |
| low $CO_2$ | Fostair NEXThaler 100/6  |
| **MDI** | **ICS +LABA** |
| high $CO_2$ | Luforbec 100/6  |
| high $CO_2$ | Fostair 100/6  |

# 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 |
|---|---|---|---|
| WockAIR | WockAIR 160/4.5  | WockAIR 160/4.5 and 320/9   | WockAir 320/9  |
| DuoResp Spiromax | DuoResp Spiromax 160/4.5  | DuoResp Spiromax 160/4.5 and 320/9   | DuoResp Spiromax 320/9  |
| Turbohaler | Symbicort 100/6  | Symbicort 200/6  | Symbicort 400/12  |
| Breezhaler | Atectura Breezhaler 62/125  | Atectura Breezhaler 127.5/125  | Atectura Breezhaler 260/125  |

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

| DPI | ICS (Low Dose) +LABA | ICS (Moderate Dose) + LABA | ICS (High Dose) + LABA |
|---|---|---|---|
| Easyhaler | Fobumix 80/4.5 and 160/4.5 Easyhaler     | Fobumix 160/4.5 Eayhaler   | Fobumix 320/9 Easyhaler   |
| Ellipta | Relvar Ellipta 92/22   | Relvar Ellipta 92/22   | Relvar Ellipta 184/22   |
| NEXThaler | Fostair 100/6 NEXThaler  | Fostair 100/6 NEXThaler  | Fostair 200/6 NEXThaler  |

| DPI | SABA (for use as reliever in fixed dose regimen if required) |
|---|---|
| Easyhaler | Salbutamol Easyhaler 100 and 200    |
| Turbohaler | Bricanyl Turbohaler 500  |

# 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 |
|---|---|---|---|
| Standard MDI device<br>  | Luforbec 100/6<br>  <br>Fostair 100/6<br>  <br>Symbicort 100/3<br>  | Luforbec 100/6<br>  <br>Fostair 100/6<br>  <br>Sirdupla 125/25<br>  | Luforbec 200/6<br>  <br>Fostair 200/6<br>  <br>Sirdupla 250/25<br>  |

| MDI | SABA (for use as reliever in fixed dose regimen if required) |
|---|---|
| Standard MDI device<br>  | Salamol 100 inhaler / Salamol 100 Easibreathe inhaler<br>  <br>  |
|  | Airomir 100 inhaler / Airomir 100 Autohaler<br>  <br>  |