Guidelines for the Management of Adults with Confirmed Asthma (18 years and over)

Based on BTS/NICE/SIGN Guidance NG245 Asthma: diagnosis, monitoring and chronic asthma management 27th November 2024[1] (Diagnosis is not covered by this guidance)

Hertfordshire and West Essex Integrated Care System

NHS Hertfordshire and West Essex Integrated Care Board

SABA free pathway with AIR or MART is the HWE preferred treatment pathway.
Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever[1]

GO GREEN – PRESCRIBE A DRY POWDER INHALER (DPI) PREFERENTIALLY UNLESS THE PATIENT CANNOT USE ONE. **DPIs have a lower carbon footprint than metered dose inhalers (pMDI). Following assessment of correct technique and patient preference if a DPI is not suitable, a pMDI + spacer can be prescribed. Environmental impact can be minimised by safe disposal of empty inhalers via the patient's community pharmacy. NICE Patient Decision Aid – Inhalers.**

Check Points before treatment initiation/changes

1. Has diagnosis been confirmed with objective tests?
2. Does the patient have uncontrolled symptoms or still exacerbating?
3. Have co-morbidities and triggers that could be contributing to poor control been considered?
4. Is patient taking inhaler correctly and regularly? Is there AIR or SABA overuse?
5. Does patient understand how to manage their asthma?

Evidence: BTS/NICE/SIGN Guideline NG245 recommends a SABA free pathway for all patients over 12 years with newly diagnosed asthma with either AIR (anti-inflammatory reliever) therapy or MART (maintenance and reliever therapy) using ICS/formoterol. People with *uncontrolled symptoms already treated with traditional fixed dose regimen plus rescue SABA should be considered for switching to a SABA free pathway using MART. A SABA free regimen reduces risk of asthma exacerbations and SABA over-use which contributes to poorer outcomes. Where AIR/MART is not used do not prescribe SABA without ICS, patients on SABA monotherapy should be reviewed.
***Uncontrolled asthma** **is any exacerbation requiring oral corticosteroids or frequent regular symptoms (using a reliever ≥3 days a week or nighttime waking ≥1 time(s) a week)**

Prescribe by BRAND	STEP 1 AIR: As needed low anti-inflammatory reliever *Start here if mild, infrequent symptoms*	STEP 2 MART: Low dose ICS/formoterol. *Start here if frequent regular symptoms or exacerbating**	STEP 3 MART Moderate dose ICS/formoterol	STEP 4 Consider add on therapy if uncontrolled* despite good adherence	STEP 5 Symptoms remain uncontrolled - possible SEVERE asthma
Symbicort Turbohaler 200/6 mcg 	ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)	**Maintenance dose:** ONE dose twice a day or TWO doses once daily (AM or PM) **Reliever doses:** ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)	**Maintenance dose:** TWO doses twice a day **Reliever doses:** ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)	**Review check list above**. Check blood eosinophil count and FeNO (if available). If good adherence and raised, consider referral to specialist. If neither raised, consider: • **Trial of LTRA Montelukast$ (GREEN)** 10mg in the evening. Review after 8-12 weeks unless side effects. If control not improved or not tolerated, STOP treatment. **Caution neuropsychiatric side effects (Drug Safety Update)** • **Trial of Triple therapy ICS/LABA/LAMA (Amber Initiation) on specialist advice.** Note this is no longer a SABA free pathway (see page 2).	**Review check list above**. Asthma not controlled despite good adherence to moderate dose MART and trials of Montelukast and LAMA, refer to specialist for further assessment. Refer to specialist respiratory services. See page 3. See ICS formulary for approved treatment options. High dose ICS/LABA can only be used as part of a fixed dose regime with SABA as reliever (see page 2). Not to be used as MART.
DuoResp Spiromax® 160/4.5mcg 	ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)	**Maintenance dose:** ONE dose twice a day or TWO doses once daily (AM or PM) **Reliever doses:** ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)	**Maintenance dose:** TWO doses twice a day **Reliever doses:** ONE dose as needed 'PRN' (up to 8 doses daily – rarely 12 doses)		
Bibecfo MDI 100/6 mcg (extrafine) 	**NOT LICENSED** ***(there are currently no ICS/formoterol metered dose inhalers licensed for AIR)***	**Maintenance dose:** ONE dose twice a day **Reliever doses:** ONE dose as needed 'PRN' (up to 8 doses daily)	**NOT LICENSED** ***(low dose only licensed within MART, additional reliever doses can be used as needed)***		

• See local guidance f**or more information on AIR/MART regimens** • When reviewing patients on AIR/MART regimens the frequency of use of reliever doses over the previous 4 weeks should form part of the assessment of therapy, this will inform whether maintenance treatment needs to be adjusted or suitability for MART reviewed • Stop SABA and remove from repeats, the use of a separate reliever inhaler (SABA) is actively discouraged whilst on AIR/MART therapy, patients should have a AIR/MART specific asthma action plan which includes info on use in asthma attacks • Ensure the correct quantity is prescribed as using the inhaler as maintenance and reliever i.e. 4 inhalers every 3 months MAX.

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ALTERNATIVE TREATMENT PATHWAY (FIXED DOSE REGIME)

RELIEVER: As-needed SABA at every step. Do not prescribe SABA without an ICS. Check if patient will be adherent to daily preventer in a separate inhaler, if unlikely consider SABA free pathway (page 1). Controlled asthma is indicated by very low or no use of SABA.

DPI preferred option: **Easyhaler** Salbutamol 100 mcg inhaler ONE to TWO doses as needed

If DPI not suitable, preferred low carbon MDI option: Salamol 100 mcg inhaler ONE to TWO doses as needed

SABA, when used alone, increases risks of exacerbations and mortality and can lead to a cycle of overuse. The use of 3 SABA inhalers over 12 months is associated with an increased risk of exacerbation compared to use of 1-2 SABA inhalers. All asthma patients prescribed SABA alone should be reviewed.

If asthma poorly controlled* on fixed dose regime and not under secondary care specialist, consider switching to MART regime (see page 1)

STEP 1 Low dose ICS (BDP equivalent ≤400mcg)	STEP 2 Low dose ICS/LABA (BDP equivalent ≤400mcg)	STEP 3 Moderate dose ICS/LABA (BDP equivalent 400-1000mcg)	STEPS 4 and 5 consider referral to secondary care for asthma assessment and consideration for treatment escalation (High dose ICS BDP equivalent >1000mcg BDP)	
Beclomethasone Easyhaler 200mcg Maintenance: ONE dose twice a day 	**Symbicort Turbohaler 200/6 mcg** Maintenance: ONE dose twice a day  **DuoResp Spiromax® 160/4.5mcg** Maintenance: ONE dose twice a day 	**Symbicort Turbohaler 200/6 mcg** Maintenance: TWO doses twice a day  **DuoResp Spiromax® 160/4.5mcg** Maintenance: TWO doses twice a day 	**Review check list on page 1.** If not already trialled and no contraindications, consider trial of Montelukast If confirmed diagnosis of asthma and blood eosinophils raised (≥ 0.3) consider trial of high dose ICS/LABA. For approved options see formulary link below. Consider Trial of Triple therapy ICS/LABA/LAMA (Amber Initiation) on specialist advice.	**Review check list on page 1.** Refer people with asthma not controlled on treatment containing high dose ICS. Asthma not controlled despite good adherence and trials of Montelukast and LAMA if appropriate, refer to specialist for further assessment. Refer to specialist respiratory services. See page 3.
Kelhale (extrafine) 100mcg Maintenance: ONE dose twice a day 	**Bibecfo (extrafine) 100/6 mcg** Maintenance: ONE dose twice a day 	**Bibecfo (extrafine) 100/6 mcg** Maintenance: TWO doses twice a day 		

- At Steps 2 and 3, consider trial of LTRA Montelukast 10mg once a day at night (**GREEN**). Review after 8-12 weeks unless side effects. If control not improved or not tolerated, STOP treatment. **Caution neuropsychiatric side effects (Drug Safety Update)** $Most likely to benefit patients with allergic rhinitis and exercise induced bronchoconstriction.

*For more info see **Formulary Choices of Inhaled Corticosteroids for Adults**; note some inhalers are restricted to existing patients only, for new initiations follow preferred options.*

Medium dose steroid = Steroid Safety Card **Recommended**, High steroid dose = Steroid Safety Card **Required**. See ***HWE ICB guidance on Steroid cards*** *and* NSPA Alert.

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REFER FOR SPECIALIST INPUT including consideration of TRIPLE INHALER THERAPY INITIATION AND/OR BIOLOGIC THERAPY

Patients who continue to exacerbate and have high markers of T2 inflammation (raised FeNO or blood eosinophilia) will be initiated onto triple therapy with high dose ICS in secondary care with continuation in primary care (**AMBER INITIATION**). For patients with a secure diagnosis of asthma, if asthma remains poorly controlled, they can be assessed for suitability for biologic therapy by a respiratory specialist.

Asthma biologics are an innovative group of medicines used by specialists to treat people with severe asthma. They provide a treatment option for people with severe asthma who continue to experience asthma attacks despite taking usual treatments (such as inhaled steroids).

Biologics have transformed the management of the care of patients with severe asthma. They are highly effective in reducing asthma exacerbations and are most efficacious in patients with blood eosinophilia.

If your patient meets the criteria below, please refer to secondary care respiratory services.

High dose inhaled steroid (NICE Inhaled corticosteroid dose equivalencies) Eg: Fostair 200mcg, Bibecfo 200mcg, Symbicort 400mcg, Duoresp 320mcg, Relvar 184mcg, Sereflo 25/250mcg	
Good adherence (>80% of Inhaled Steroid Prescriptions picked up in last year) *Please include prescription pick up data with referral*	
Treatment optimised in primary care and correct Inhaler Technique	
Blood Eosinophil Count >0.3 in past 12 moths	
2 or more courses of steroid in past 12 months, or 3 or more in last 24m	
Non-smoker	

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WHY IS AIR/MART THE RECOMMENDED TREATMENT PATHWAY?

AIR/MART is the preferred treatment pathway because of evidence that using ICS-formoterol as the reliever reduces the risk of exacerbations compared to using a SABA reliever.
Use of ICS-formoterol addresses two major factors for poor asthma control - ICS underuse and SABA overuse as highlighted in the NRAD report in 2014.
MART therapy will also have a positive environmental impact because maintenance and reliever treatment are delivered in a single inhaler without the need for separate SABA which account for 70% of the total carbon footprint on all inhalers[7].
Further information on AIR/MART regimens approved for use across HWE ICS can be found here

WHY IS IT ESSENTIAL TO CONFIRM DIAGNOSIS WITH OBJECTIVE TESTS?

30-35% of patients with asthma may have been over diagnosed according to multiple studies[1,2,3,4,5]

Secure diagnosis of asthma guides treatment choices and allows optimal care of patients. Diagnosing asthma based only on symptoms leads to overdiagnosis. It is recommended to confirm asthma diagnosis before commencing treatment. Often it is not possible to do spirometry before starting treatment. Therefore, where there is a high suspicion of asthma without objective testing to confirm diagnosis do not delay treatment. Patients with suspected asthma should offered the same level of care as confirmed asthma. If following a trial of treatment, the patient remains symptomatic despite adherence to treatment and correct technique the next step should be to arrange investigations to confirm if there is objective evidence of airways narrowing and airways inflammation (blood eosinophils, FeNO, spirometry) before escalating treatment further.

Community diagnostic hubs providing FeNO and spirometry are being set up across HWE ICS to improve diagnosis of asthma, please refer to local arrangements for provision as rollout is ongoing. Spirometry should only be carried out by those on the national register of certified professionals and operators (ARTP Spirometry), more information can be found on the HWE ICB training hub.

WHY IS IT CRITICAL TO CHECK INHALER TECHNIQUE?

Teach inhaler device technique and check adherence before prescribing and check at every visit.

Studies have shown up to 90% of patients cannot use inhalers correctly and only 5% of medical professionals correctly use a MDI device[8]
Just teaching inhaler technique is not enough because correct inhaler technique is difficult to learn and easy to forget.
It is essential to assess inhaler technique by watching the patient use their inhaler, ideally face to face but if not then via video consultation.
Use freely available Placebo DPIs to aid you in assessing and teaching inhaler technique and device handling before prescribing.
Be consistent with device choice (DPI or pMDI); prescribing mixed inhaler can lead to confusion and increased errors. DPI is the preferred inhaler option.
Use of a Spacer device is recommended for all pMDIs because they improve lung deposition, reduce oropharyngeal deposition and local side effects.
Asthma UK OR RightBreathe.com for training videos for inhaler technique and to check spacer compatibility.
Use community pharmacy New Medicines Service (NMS) where appropriate.

WHY IS IT IMPORTANT TO PROVIDE A WRITTEN PERSONALISED ASTHMA ACTION PLAN?

A written Personalised Asthma Action Plan (PAAP) are crucial components of effective self-management education and an individualised written plan should be provided to all patients. PAAPs should be collaboratively agreed regularly updated and should contain:

- Current treatment regime
- Symptom triggers and what to avoid to maintain good control
- How to recognise when asthma deteriorates and what actions to take (how to increase treatment, when to start oral steroids and how to seek help)
- Best PEFR: PEF >80% best: good control
  - PEF 40-60% best: urgent action: commence oral steroids and seek medical advice
  - PEF <40% best: call 999

Patients should have an action plan specific to their treatment: AIR asthma action plan, MART specific action plan or Fixed dose with SABA action plan as management of an asthma attack differs depending on whether AIR/MART is used as a reliever or SABA is used as a reliever. These should be reviewed and updated as necessary at each review.

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AIM OF TREATMENT

The aim of asthma management is to achieve control of symptoms, which is defined as:

- No daytime symptoms
- No need for rescue medication
- No limitations on activity including exercise
- Minimal side effects from medication

HOW CAN USING BLOOD EOSINOPHIL COUNTS AND FeNO HELP GUIDE ASTHMA MANAGEMENT?

The inflammation in asthma can be categorised as either Type 2 inflammation or Non-Type 2 inflammation. Type 2 inflammation is important because it is found in the majority (but not all) patients with asthma and high levels of Type 2 inflammation mean that a patient is more likely to respond to inhaled corticosteroids but also that they are at greater risk of asthma exacerbations. Type 2 inflammation is measured using blood eosinophils and FeNO test. FeNO is measured using a portable device that measures Nitric Oxide in the breath of patients, which is widely used in secondary and in primary care within some areas of HWE.

High blood eosinophil levels or FeNO are a risk factor for asthma exacerbations even in patients with no symptoms.
If on review a patient has high blood eosinophils or FeNO levels this suggests that they are not receiving enough inhaled corticosteroid. Firstly check that the patient is using their steroid inhaler regularly and with correct technique. If the levels remain elevated despite adherence to treatment the next step would be to increase the inhaled corticosteroid. Conversely, if blood eosinophils and FeNO are not elevated then caution should be exercised around escalating inhaled corticosteroids, especially high dose inhaled corticosteroids because the patient is less likely to benefit from this and will be exposed to additional risks. **Nationally and locally the overprescribing of high dose inhaled corticosteroids continues to be monitored and by using these biomarkers unnecessary use may be avoided.**

**INHALED CORTICOSTEROID SAFETY

- High dose inhaled steroids are associated with adrenal insufficiency and therefore the risks and benefits of steroid therapy should be carefully assessed for each patient. Ensure patient is aware of benefits and risks of ICS. 80-90% of maximum achievable clinical benefit is achieved from low dose ICS therefore many patients on high dose ICS should be able to decrease treatment doses[9].
- Consider total daily steroid load, including intranasal, topical and oral, assess systemic risk (osteoporosis, steroid induced diabetes, glaucoma). Poorly controlled asthma can lead to increased usage of oral corticosteroids increasing overall systemic exposure and risk.
- **Steroid cards should be issued to patients on high dose ICS (≥ 1000mcg beclomethasone dipropionate (BDP) equivalent daily)**

THE STEP APPROACH

- Start treatment at level most appropriate to initial severity.
- Assess control e.g.ACT or Ardens and achieve early control by stepping up treatment as necessary.
- **Before changing / increasing treatment review check list box on page 1 of this guidance**
- Step up the treatment as a trial and discontinue if no response at end of trial. The duration of a trial of add-on therapy will depend on the desired outcome, e.g. preventing nocturnal awakening may require a relatively short trial of treatment (days or weeks) whereas preventing exacerbations may require a longer trial of therapy (weeks or months).
- Maintain on lowest controlling therapy. Follow link to HWE Step Down guidance for patients on fixed dose regimens with SABA as reliever. If patient is stable and not under specialist care, consider reducing ICS dose by 25-50% every 3 months regardless of treatment pathway. Review every 6-8 weeks. Stepping down should be explained to patient and be part of PAAP.

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HOW TO INVESTIGATE A PATIENT WITH POOR SYMPTOM CONTROL AND/OR EXACERBATIONS DESPITE TREATMENT

- Does the patient have a confirmed diagnosis of asthma? If not, confirm the diagnosis. If all tests are normal and patient remains symptomatic despite treatment, consider alternative diagnoses or referral to respiratory for specialist review.
- Suboptimal inhaler technique. Has the patient been observed as having the correct technique? If using a DPI can the patient breathe in quickly and deeply? If using a pMDI does the patient use a spacer with single breath and hold or tidal breathing, could they be switched to DPI? Watch the patient use their inhaler and share training videos with the patient if appropriate. Asthma and Lung UK provide a useful resource on common inhaler mistakes and how to overcome them.
- Discuss adherence and check using prescription records, is the patient under or over ordering medication? If they are on a MART regimen, do they understand they can use their inhaler as both maintenance and reliever therapy? Does the patient understand the role their inhaler(s) in the management of their asthma?
- Check for risk factors e.g. smoking (active and passive, including vaping), medications causing bronchoconstriction (beta blockers, NSAIDS etc), occupational exposures, environmental factors (indoor e.g. burning wood, candles, incense and outdoor air pollution, indoor mould exposure, other domestic allergen exposure), psychosocial factors (depression and anxiety), seasonal factors (pollen, cold weather).
- Assess and optimise co-morbidities that may contribute to symptoms (rhinitis, obesity, GORD, OSA, depression/anxiety, laryngeal symptoms).
- Optimise modifiable risk factors and consider step up in treatment.

REGULAR REVIEW

Patients who are reviewed regularly have a lower risk of asthma attack.

- Patients should be reviewed in general practice at least annually, after dose changes and exacerbations.
- Patients using 3-6 SABA inhalers in the previous 12m should be prioritised for review.
- Ensure administration of annual influenza vaccination.
- Offer stop smoking support and reinforce benefits.
- Consider weight loss interventions for overweight adults.
- Encourage staying active and explain why exercise is good for patients with a lung condition.
- Consider referral to Pulmonary Rehabilitation (ENH and WE) or Community Respiratory Service (SWH), to address dysfunctional breathing or if activity limited by shortness of breath.

ABBREVIATIONS

- SABA – Short-acting beta2 agonist
- ICS – Inhaled corticosteroid
- LTRA – Leukotriene receptor antagonist
- LABA – Long acting beta agonist
- LAMA – Long acting muscarinic antagonist
- MART – Maintenance and reliever therapy
- FeNO – fractional exhaled nitric oxide
- GORD – Gastro-oesophageal reflux disease
- OSA – Obstructive sleep apnoea
- PEF(R) – peak expiratory flow (rate)
- FEV1 - Forced expiratory volume in the first second

All respiratory guidance can be found on the HWE ICB PMOT website Respiratory system

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Version	1.2 Updated to reflect changes in national guidance and SABA free pathways for new and uncontrolled patients and use of AIR at Step 1, plus updates to inhaler formulary.
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Review date	This HWE APC recommendation is based upon the evidence available at the time of publication. This recommendation will be reviewed upon request in the light of new evidence becoming available.
Superseded version	1.1 Harmonisation of HMMC guidance and WEMOPB guidance update include: Rebadging with HWE ICB and removal of CCG headers. removal of link to CCGs, review date removed and replaced with standard statement