NHS Greater Glasgow and Clyde

CLINICAL GUIDELINE

Asthma Primary Care guideline for adults: 16 years and over

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The online version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Asthma Primary Care Guideline for Adults: 16 years and older

NHS Greater Glasgow and Clyde

Initial Clinical Assessment

Obtain a structured clinical history in people with suspected asthma.

Symptoms to check for include:

•Expiratory wheeze: reported/on auscultation •Noisy breathing •Cough •Breathlessness •Chest tightness •Early morning or nocturnal symptoms

Specifically check for:

•Any variation in symptoms (for example, diurnal, daily or seasonal) or any triggers •A personal or family history of asthma or allergic rhinitis •Symptoms to suggest alternative diagnoses •Exposure history: smoking, occupational, pollutants etc.

Diagnosis

Made by clinical assessment **AND** supported objective tests – code as 'suspected asthma' until confirmed. **Normal results do not exclude asthma, and tests may need to be repeated.**

Supportive investigations include:

- ✓ Full Blood Count (FBC) - eosinophil count above reference range along with typical symptoms is enough to **diagnose and code asthma**
- ✓ Exhaled nitric oxide (FeNO) - if available: a level ≥ 50 ppb is supportive of asthma diagnosis (can be falsely low in smokers and increased in allergic rhinitis, nasal polyps, old age and male population)
- ✓ Peak flow (PEFR): twice daily for 2 weeks with 20% variation: ideally conducted prior to pharmacological treatment: Peak flow variability calculator (asthma and lung UK)
- ✓ Spirometry - if available: with bronchodilator reversibility (BDR). Spirometry should show airflow obstruction, also ≥ 12% and ≥ 200ml change in FEV_1 from baseline post bronchodilator

Patients newly diagnosed with asthma should not be prescribed salbutamol alone, and a trial of salbutamol should not be used to diagnose asthma.

What to include in a review, especially annual review

(see also 'Good Asthma Control')

- ✓ Review of inhaler technique , check inhaler adherence and consider AIR/MART
- ✓ Amount of reliever doses used – check patient ordering from record and with patient direct
- ✓ Review and document personalised asthma action plan (links on this page)
- ✓ Symptom assessment (ACT/ACQ) (links on this page)
- ✓ Address co-morbidities e.g. anxiety, gastroesophageal reflux disease (GORD), obesity, dysfunctional breathing , rhinitis
- ✓ Address triggers and trigger avoidance e.g. occupational, allergens
- ✓ Any time off work or school due to asthma
- ✓ Check number of attacks/exacerbations and out-of-hours/ED attendances and admission
- ✓ Smoking cessation advice if applicable - Quit Your Way Scotland | NHS inform
- ✓ Consideration of steroid side effects
- ✓ Issue steroid cards when prescribing high dose Inhaled Corticosteroid (ICS) or > 3-week courses of oral steroid (email: stockorders.dppas@apsgroup.co.uk for supply)
- ✓ Consider DEXA referral in patients maintained on ICS > 800mcg/day beclometasone equivalent (ICS dose comparison table: NICE.org.uk) for 10 years or patients on oral prednisolone ≥ 7.5mg/day for > 3 months and a 10-year risk of any osteoporotic fracture > 10%: QFracture

Choosing an Inhaler

Take into consideration patient preference - NICE Patient Decision Aid

- Dry Powder Inhalers (DPIs) have the lowest Global Warming Potential and should be **FIRST CHOICE**
- If a patient is unable to activate the DPI or has any adverse effects, then consider a Metered-Dose Inhaler (MDI) **preferably with a spacer device**
- DPI requires fast deep inhalation
- MDI requires slow steady inhalation
- Ensure technique is consistently correct: How to use your inhaler - Asthma and Lung UK website, which includes using MDI inhaler with a spacer device
- **Prescribe inhalers by brand (except salbutamol MDI)**

Good Asthma Control

- Use ACT/ACQ questionnaires:
  Asthma Control Test (ACT) (asthmacontroltest.com)
  Asthma Control Questionnaire (ACQ) (rightdecisions.scot.nhs.uk/calculator-suite-1)
- No daytime symptoms
- No sleep disturbance due to asthma
- Unimpaired physical activity
- No exacerbations
- Triggers managed (e.g. hay fever)

Personal Asthma Action Plan

Traditional AIR only MART

Available in multiple languages from:
www.asthmaandlung.org.uk/conditions/asthma/manage/your-asthma-action-plan/download

Responding to an asthma attack

See Asthma Pathway on Right Decisions for managing acute asthma attack.

Multi dosing advice:

AIR/MART preferred pathway: take one dose of AIR/MART inhaler every 1 to 3 minutes, up to 6 doses. If no improvement after 6 doses, call 999 for an ambulance. If the ambulance has not arrived after 10 minutes and symptoms are not improving, repeat.

Previous ICS and SABA treatment pathway: take one dose of salbutamol rescue inhaler every 30-60 seconds up to 10 doses. If no improvement at any point OR not feeling any better after 10 doses, call 999 for an ambulance. If the ambulance has not arrived after 10 minutes and symptoms are not improving, repeat.

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Preferred Pathway AIR/MART (16 years and older):
Anti-Inflammatory Reliever (AIR) and Maintenance And Reliever Therapy (MART)

- Asthma is an inflammatory condition, and all patients should be treated with an **inhaled corticosteroid (ICS)** at the lowest effective dose.
- **The preferred pathway uses one inhaler combining ICS with formoterol, a quick acting reliever. There is therefore no need for a salbutamol inhaler.**
- AIR **OR** MART should be considered for all new diagnosis of asthma and opportunistically at review, especially if poorly controlled. See also: BTS/NICE/SIGN 245

Benefits:

- One device can be used for maintenance and relief of symptoms, meaning one inhaler technique and reduced inhaler burden for the patient.
- As well as providing relief from symptoms due to the quick onset of action of formoterol, the combined inhaled corticosteroid reduces airways inflammation.
- Overall reduction in asthma attacks, hospital admissions due to asthma, reduced costs long term and promotes greener prescribing.
- Reduces the risks associated with SABA overuse.

Newly diagnosed asthma (16 years and older)

AIR: low dose ICS/formoterol (one dose when needed)

Symbicort® Turbohaler® (DPI)
Budesonide 200mcg/
Formoterol 6mcg

low

DuoResp® Spiromax® (DPI)
Budesonide 160mcg/
Formoterol 4.5mcg

low

If asthma is uncontrolled, offer:

Low-dose MART (ONE dose twice a day and one extra dose when needed)

If highly symptomatic or there are severe exacerbations, offer low-dose MART

Fobumix® Easyhaler®(DPI)
Budesonide160mcg/
Formoterol 4.5mcg
Max 8 doses a day*

low

DuoResp® Spiromax® (DPI)
Budesonide 160mcg/
Formoterol 4.5mcg
Max 8 doses a day*

low

Symbicort® Turbohaler® (DPI)
Budesonide 200mcg/
Formoterol 6mcg
Max 8 doses a day*

low

Fostair® NEXThaler® (DPI)
Beclometasone 100mcg/
Formoterol 6mcg
Max 8 doses a day
(Only licensed for ≥ 18 years)

low

Luforbec® (MDI)
Beclometasone 100mcg/
Formoterol 6mcg
Max 8 doses a day
(Only licensed for ≥ 18 years)

high

If asthma is uncontrolled, offer:

Moderate-dose MART (TWO doses twice a day of same inhalers and one extra dose when needed)

***max 12 doses can be used if needed but medical advice should be sought if ongoing**

low medium high

Carbon footprint data for Global Warming Potential taken from: prescqipp.info

Return USED inhalers to Community Pharmacy for safe disposal

If asthma is uncontrolled, despite good adherence:

Check FeNO level (if available) and FBC for eosinophil count

If either raised

If neither is raised:

8 to 12-week trial of LTRA or LAMA then the other if needed:
- LTRA: montelukast 10mg at night (see MHRA risk of reactions) and/or
- LAMA: **Spiriva® Respimat® (SMI)** (tiotropium 2.5mcg 2 doses once a day)

low

If asthma is uncontrolled

Refer to asthma specialist

If asthma is well controlled (≥ 3 months) consider stepping down

Uncontrolled asthma: any exacerbation requiring oral corticosteroids or frequent regular symptoms (such as using reliever inhaler 3 or more days a week or night-time wakening 1 or more times a week)

Before increasing treatment consider alternative diagnoses or comorbidities; adherence; inhaler technique; smoking; psychosocial, seasonal or environmental factors

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Managing patients with asthma on previous treatment pathways

- Previous treatment pathways for asthma recommended using ICS inhaler and SABA for rescue treatment, this is no longer recommended for new diagnosis of asthma.
- Patients who are stable, with good adherence, have infrequent need for relief from their SABA device (< 3 devices per year) and with no exacerbations in the last year on their current therapy, can continue on previous treatment pathways. However, assess switching poorly controlled patients **to the preferred pathway** using the guide below.
- When changing from low or moderate-dose ICS plus supplementary therapy (e.g. LTRA or LAMA) to MART, consider whether to stop or continue the supplementary therapy depending on the degree of benefit achieved when first started. For dose equivalence of other non-formulary inhalers, check ICS dose comparison table (BTS/NICE/SIGN)
- Anyone newly diagnosed plus those receiving a SABA only should be moved to the preferred pathway.
- At annual review, consider switching everyone from ICS device plus SABA to preferred pathway.

Current Therapy	Equivalent step on Preferred Pathway
SABA only **Easyhaler® Salbutamol (DPI)** Salbutamol 100mcg 1-2 doses prn  low **Salbutamol CFC-Free (MDI)** 100mcg 1-2 doses prn medium **or** high **depending on device** **MDI to be prescribed generically**	Low-dose ICS/formoterol prn (AIR)
Low-dose ICS **Easyhaler® Beclometasone (DPI)** Beclometasone 200mcg 1 dose twice a day  low **Clenil® Modulite® (MDI)** Beclometasone 200mcg 1 dose twice a day  high	Low-dose MART
Low-dose ICS and LABA **Fostair® NEXThaler® (DPI)** Beclometasone 100mcg/ Formoterol 6mcg 1 dose twice a day  low **Luforbec® (MDI)/(Fostair® MDI)** Beclometasone 100mcg/ Formoterol 6mcg 1 dose twice a day  high	
Moderate-dose ICS and LABA **Fostair® NEXThaler® (DPI)** Beclometasone 100mcg/ Formoterol 6mcg 2 doses twice daily  low **Luforbec® (MDI)/(Fostair® MDI)** Beclometasone 100mcg/ Formoterol 6mcg 2 doses twice a day  high **Relvar® Ellipta® (DPI)** Fluticasone 92mcg/ Vilanterol 22mcg 1 dose daily  low	Maintain, but if uncontrolled refer to secondary care. Remember to check adherence and technique first.
High-dose ICS and LABA **Fostair® NEXThaler® (DPI)** Beclometasone 200mcg/ Formoterol 6mcg 2 doses twice a day  low **Luforbec® (MDI)/(Fostair® MDI)** Beclometasone 200mcg/ Formoterol 6mcg 2 doses twice a day  high **Relvar® Ellipta® (DPI)** Fluticasone 184mcg/ Vilanterol 22mcg 1 dose daily  low	

low medium high

Carbon footprint data for Global Warming Potential taken from: prescqipp.info

Return used inhalers to **Community Pharmacy** for safe disposal

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Identifying patients at risk of Severe Asthma

NHS Greater Glasgow and Clyde

Criteria to identify patients at risk of severe asthma:

- ✓ ≥ 6 SABA prescriptions in previous 12 months **OR** for MART regime: ordering suggests regular use of maximum daily dose OR:
- ✓ ≥ 2 asthma exacerbations/OCS in previous 12 months OR:
- ✓ ACT < 20/ACQ > 1.5 despite maximum inhaled therapy (ICS + LABA + LAMA)

Optimise current therapy

- ✓ Check and address medication adherence, prescription numbers, digital monitoring
- ✓ Check and correct suboptimal inhaler technique
- ✓ Check and address modifiable risk factors for severe asthma*
- ✓ Review Personal Action Plan (link on page 1)
- ✓ Signpost to third sector resources e.g., Asthma + Lung UK

Review in 8 to 12 weeks

If control achieved: continue maintenance therapy and schedule annual review
If no improvement: ensure patient adheres to preventer therapy and has consistent inhaler technique, then consider the following **primary care referral criteria:**

- ❑ Previous emergency admissions for asthma within 12 months
- ❑ Has abnormal obstructive spirometry or significant PEFR variability
- ❑ Total IgE elevated > 500 +/- abnormal aspergillus serology
- ❑ Blood Eosinophils > 0.3x10^9/L*
- ❑ > 12 SABA per year (or MART ordering suggests overuse)

Routine referral: <3 criteria

Urgent referral: ≥3 criteria

Direct URGENT REFERRAL to severe asthma clinic:

- ✓ Any patient receiving maintenance OCS for asthma (> 3 weeks course)

OR

- ✓ ≥ 3 exacerbations in previous 12 months

AND

- ✓ Check Modifiable Risk Factors*

Consider direct referral for patients with

- ✓ Asthma with Eosinophils > 0.8x10^9/L **OR** FeNO > 50 parts per billion (if available in primary care)

Before making a referral to secondary care, it is essential to address modifiable risk factors*. If referral becomes necessary, it should include the findings listed under primary care referral criteria.

*Modifiable risk factors for severe asthma:

- ✓ Cigarette smoking
- ✓ Sub-optimal medication
- ✓ Poor adherence, confirmed ≤ 80% dispensing or prescribing data
- ✓ Poor inhaler technique
- ✓ Occupational triggers
- ✓ Exposure to allergens or irritants
- ✓ Inactivity or sedentary lifestyle
- ✓ Obesity
- ✓ Psychosocial concerns, anxiety, depression

Key

ACQ: Asthma Control Questionnaire, **ACT:** Asthma Control Test, **AIR:** Anti-inflammatory reliever, **BMI:** Body mass index, **ED:** Emergency Department, **FEV_1:** Forced expiratory volume in 1 second, **FVC:** Forced vital capacity, **ICS:** Inhaled corticosteroid, **IgE:** Immunoglobulin E, **LABA:** Long-acting $beta_2$ agonist, **LAMA:** Long-acting muscarinic antagonist. **LTRA:** Leukotriene receptor antagonist, **MART:** Maintenance and Reliever Therapy, **MDI:** Metered-dose inhaler, **OCS:** Oral corticosteroid. **PEFR:** Peak expiratory flow rate, **ppb:** Parts per billion, **SABA:** Short-acting $beta_2$ agonist, **SMI:** Soft mist inhaler

*please note, this differs to the diagnostic value of 0.5x10^9/L and serves to assess risk of exacerbations in severe asthma