NHS
South West London

Guideline for the Management of Asthma in adults and children

This guideline covers the pharmacological management of asthma in adult and paediatric patients and is intended for use by healthcare professionals in both primary and secondary care. It details the treatment pathways and recommended inhaler choices in South West London for adults and children aged 12 and over, children aged 5 to 11 years and children aged under 5.

The guideline is also available as two visual summaries:

- Asthma Management in Adults and Children Aged 12 and over
- Asthma Management in Children Aged 11 and under

Uncontrolled Asthma can have an impact on a patient's lifestyle and restrict their normal activities. Symptoms such as coughing, wheezing, shortness of breath and chest tightness can significantly decrease a patient's quality of life and may lead to a medical emergency.

The following signs indicate that a patient's asthma is not controlled:

- Reliever inhaler use three or more times a week.
- Waking up one or more nights a week.
- Any exacerbation needing treatment with oral corticosteroids.

Before stepping up treatment assess possible reasons for poor control:

- Is there an alternative diagnosis?
- Is the patient's adherence sub-optimal?
- Do they have satisfactory inhaler technique?
- Are they smoking or are they being exposed to passive smoking?
- Are there occupational & environmental triggers that can be avoided?

Asthma Management in Adults and Children Aged 12 and over

Treatment pathway in newly diagnosed asthma

The inhaler treatment pathway below is also available as a visual summary.

Confirm asthma diagnosis with structured clinical history and objective tests (blood eosinophil count or fractional exhaled nitric oxide (FeNO), spirometry, peak expiratory flow).

In adults and children aged 12 and over with newly diagnosed asthma offer a low dose inhaled corticosteroid (ICS)/formoterol combination inhaler to be taken as needed for symptom relief, known as AIR (anti-inflammatory reliever therapy).

If the patient needing asthma treatment presents highly symptomatic (for example, regular nocturnal waking) or with a severe exacerbation, start treatment with low dose MART (maintenance and reliever therapy) in addition to treating the acute symptoms as indicated.

If asthma symptoms are not controlled on a low dose ICS/formoterol combination inhaler used only as needed, offer low dose MART. Patients prescribed a MART regime should not routinely be prescribed a separate short acting beta2 agonist (SABA) inhaler.

If asthma symptoms are not controlled on low dose MART, offer moderate dose MART.

If asthma symptoms are not controlled on moderate dose MART despite good adherence:

- Check the FeNO level if available, and the blood eosinophil count. If either of these is raised, refer to a specialist in asthma care.
- If neither FeNO or eosinophil count is raised, consider a trial of either a leukotriene receptor antagonist (LTRA) or a long-acting muscarinic receptor antagonist (LAMA) used in addition to moderate dose MART. Give the medicine for a trial period of 8 to 12 weeks unless there are side effects.
- For LAMA consider prescribing Spiriva Respimat® 2.5 micrograms. Trimbow® 87/5/9 micrograms MDI should only be prescribed on the advice of a specialist (AMBER 1).
- In line with MHRA advice, be alert for neuropsychiatric reactions, including speech impairment and obsessive-compulsive symptoms, in patients taking montelukast.
- At the end of the trial:
    - if asthma is controlled, continue the treatment.
    - if control has improved but is still inadequate, continue the treatment and start a trial of the other medicine (LTRA or LAMA).
    - if control has not improved, stop the LTRA or LAMA and start a trial of the alternative medicine.

Refer patients to a specialist in asthma care when asthma is not controlled despite treatment with moderate dose MART, and trials of an LTRA and a LAMA.

Recommendations for existing patients with confirmed asthma diagnosis

Any patient prescribed SABA alone (without ICS), regardless of their asthma control should be changed to a low dose ICS/formoterol combination inhaler used as needed (as-needed AIR therapy). This is in-line with the recent MHRA alert highlighting the risks from overuse of SABA in asthma.

For patients, whose asthma is not currently controlled on any low dose ICS containing regimen consider changing treatment to low dose MART.

For patients, whose asthma is not currently controlled on any moderate dose ICS containing regimen consider changing treatment to moderate dose MART.

For patients prescribed a supplementary therapy alongside low dose ICS, moderate dose ICS or an ICS/long action beta2 agonist (LABA) combination inhaler consider, when changing to MART, whether to stop or continue the supplementary therapy based on the degree of benefit achieved when first introduced.

Refer patients with asthma that is not controlled on treatment containing a high dose of ICS to a specialist in asthma care for review.

Patients whose asthma is stable and well controlled on their current ICS containing treatment should not have their regimen changed solely to comply with this guidance.

Preferred Inhaler options

The inhalers below are the preferred options in South West London (SWL), refer to the SWL NetFormulary for alternatives if these options are not clinically appropriate. Inhalers not on this list may be initiated by respiratory specialists and should not be changed without prior consultation.

Refer to the visual summary for a pictorial representation of the preferred inhaler options.

- Always prescribe inhalers by brand
- The choice of inhaler should be based on assessment of correct technique, the patient's preference, lowest environmental impact, and the presence of a dose counter.
- A spacer should always be prescribed with a metered dose inhaler (pMDI).
- Before starting any new treatment, always assess adherence and inhaler technique. This should be checked at every review or consultation.
- When clinically appropriate, prescribe a dry powder inhaler (DPI) to reduce the environmental impact and carbon footprint.

Preferred inhaler devices for AIR and MART

- Fobumix Easyhaler® (budesonide/formoterol) 160/4.5 microgram DPI, licensed in children aged 12 years and over (low carbon footprint). Recommended for:
    - AIR therapy, 1 puff as needed.
    - Low dose MART, 1 puff twice daily
    - Moderate dose MART, 2 puffs twice daily
    - Reliever puffs, 1 puff as needed. Maximum dose, 8 puffs in 24 hours (up to 12 puffs for short periods)
    - Shelf-life, 4 months after opening foil wrapping.
- Symbicort Turbohaler® (budesonide/formoterol) 200/6 microgram DPI, licensed in children aged 12 years and over (low carbon footprint). Recommended for:
    - AIR therapy, 1 puff as needed.
    - Low dose MART, 1 puff twice daily
    - Moderate dose MART, 2 puffs twice daily
    - Reliever puffs, 1 puff as needed. Maximum dose, 8 puffs in 24 hours (up to 12 puffs for short periods)
    - Shelf-life, 3 years
- Duoresp Spiromax® (budesonide/formoterol) 160/4.5 microgram DPI, licensed in children aged 12 years and over (low carbon footprint). Recommended for:
    - AIR therapy, 1 puff as needed.
    - Low dose MART, 1 puff twice daily

    - Moderate dose MART, 2 puffs twice daily
    - Reliever puffs, 1 puff as needed. Maximum dose, 8 puffs in 24 hours (up to 12 puffs for short periods)
    - Shelf-life, 12 months after opening foil wrapping.
- Fostair Nexthaler® (beclometasone/formoterol) 100/6 microgram DPI, licensed in adults aged 18 years and over (low carbon footprint). Recommended for:
    - Low dose MART, 1 puff twice daily
    - Reliever puffs, 1 puff as needed. Maximum dose, 8 puffs in 24 hours
    - Shelf-life, 6 months after opening foil wrapping.
- Proxor® or Bibecfo® (beclometasone/formoterol) 100/6 microgram pMDI, licensed in adults aged 18 years and over (high carbon footprint). Recommended for:
    - Low dose MART, 1 puff twice daily
    - Reliever puffs, 1 puff as needed. Maximum dose, 8 puffs in 24 hours
    - Shelf-life, 3 months from collecting from pharmacy.
- Fostair Nexthaler®, Proxor® and Bibecfo® are not currently licensed for AIR or moderate dose MART. Any decision to prescribe these regimes would be off label. Following an individual patient review, it may however be deemed appropriate. This should be discussed with the patient (and their carers) and the rational for use clearly documented.

Asthma Management in Children Aged 11 and under

Treatment pathway for Children aged 5 to 11

Confirm asthma diagnosis with structured clinical history and objective tests (blood eosinophil count or FeNO, spirometry, peak expiratory flow).

The inhaler treatment pathway below is also available as a visual summary.

In children aged 5 to 11 with newly diagnosed asthma offer a twice-daily paediatric low dose ICS, with a SABA as needed.

After starting or adjusting treatment, review response in 8 to 12 weeks.

If the patient's asthma remains uncontrolled assess their ability to manage a MART regime. Ensure that the patient can generate adequate inspiratory flow for a dry powder inhaler device. Allow extra consultation time to ensure a full explanation and education of the MART regime can be given and ensure there is the infrastructure in place to allow for closer monitoring and more regular surveillance than for those on conventional therapy.

For patients in whom following a MART regime is appropriate:

- Consider paediatric low dose MART. Not all inhalers are licensed for MART in children under 12, except Symbicort 100/6 Turbohaler®.
- If unlicensed inhaler is prescribed, ensure that the child's parent/carer is aware of this and that the reason for use is clearly documented.
- Patients prescribed a MART regime should not routinely be prescribed a separate SABA inhaler. For those who may struggle to use a DPI during an

asthma attack, or if the MART inhaler is unavailable (e.g. whilst at school) consider providing an extra SABA inhaler with a spacer for emergency use.
- Consider increasing to paediatric moderate dose MART if asthma is not controlled on paediatric low dose MART. This requires secondary care specialist recommendation or initiation as paediatric moderate dose MART is AMBER 1 in the SWL NetFormulary .

For patients unable to follow a MART regime:

- Consider adding a LTRA to twice daily paediatric low dose ICS plus SABA as needed. Give the LTRA for a trial period of 8 to 12 weeks (unless there are side effects), then stop it if it is ineffective. In line with MHRA advice, be alert for neuropsychiatric reactions, including speech impairment and obsessive-compulsive symptoms, in patients taking montelukast.
- If their asthma is not controlled, offer a twice daily paediatric low dose ICS/LABA combination inhaler plus SABA as needed (with or without LTRA).
- If their asthma remains uncontrolled offer a twice daily paediatric moderate dose ICS/LABA inhaler plus SABA as needed (with or without LTRA).

Refer children to a specialist in asthma care if their asthma is not controlled on paediatric moderate dose MART or paediatric moderate dose ICS/LABA maintenance treatment (with or without an LTRA).

Treatment Pathway for Children Under 5

It can be difficult to confirm asthma diagnosis in young children. For children under 5 with suspected asthma, treat symptoms based on observation and clinical judgement, and review the child on a regular basis. If they still have symptoms when they reach 5 years of age, attempt objective tests, repeating them every 6-12 months until satisfactory results are obtained.

The inhaler treatment pathway below is also available as a visual summary.

In children under 5 with suspected asthma and:

- symptoms indicating a need for maintenance therapy, or
- severe acute episodes of difficulty breathing and wheeze.

Consider an 8 to 12-week trial of twice-daily paediatric low dose ICS as maintenance therapy together with a short-acting beta2 agonist SABA for reliever therapy.

If symptoms do not resolve during the trial period:

- check inhaler technique and adherence.
- check whether there is an environmental source of their symptoms.
- review whether an alternative diagnosis is likely.

If none of these explain the failure to respond to treatment, refer the child to a specialist in asthma care.

If the patient's symptoms resolve during the trial, consider stopping ICS and SABA treatment after 8 to 12 weeks and review symptoms after a further 3 months.

If symptoms recur by the three-month review, or the child has an acute episode requiring systemic corticosteroids or hospitalisation, restart regular ICS. Begin at a

paediatric low dose and titrate up to a paediatric moderate dose if needed. Prescribe an as required SABA alongside for symptom relief. Consider a further trial without treatment after reviewing the child within 12 months.

If suspected asthma is uncontrolled on a paediatric moderate dose of ICS as maintenance therapy (with SABA as needed), consider a LTRA in addition to the ICS for a trial of 8 to 12 weeks. Stop if treatment is ineffective or if there are side effects. In line with MHRA advice, be alert for neuropsychiatric reactions, including speech impairment and obsessive-compulsive symptoms, in patients taking montelukast.

If suspected asthma remains uncontrolled on a paediatric moderate dose of ICS as maintenance therapy and a trial of an LTRA has been unsuccessful or not tolerated, stop the LTRA and refer the child to a specialist in asthma care for further investigation and management.

Preferred Inhaler options

The inhalers below are the preferred options in SWL, refer to the SWL NetFormulary if these options are not clinically appropriate. Inhalers not on this list may be initiated by respiratory specialists and should not be changed without prior consultation.

Refer to the visual summary for a pictorial representation of the preferred inhaler options.

- Always prescribe inhalers by brand
- The choice of inhaler should be based on assessment of correct technique, the patient's preference, lowest environmental impact, and the presence of a dose counter.
- A spacer should always be prescribed with a pMDI.
- Before starting any new treatment, always assess adherence and inhaler technique. This should be checked at every review or consultation.
- When clinically appropriate, prescribe a DPI to reduce the environmental impact and carbon footprint.

Preferred inhaler devices

Paediatric ICS Inhalers

- Budesonide Easyhaler® 100 micrograms DPI, licensed in children aged 6 years and over (low carbon footprint). Recommended paediatric low dose ICS, 1 puff once or twice daily.
- Pulmicort Turbohaler® (budesonide) 100 microgram DPI, licensed in children aged 5 years and over (low carbon footprint). Recommended paediatric low dose ICS, 1 puff once or twice daily.
- Clenil Modulite® (beclomethasone) 50 microgram pMDI, licensed in children 2 years and over (high carbon footprint). Recommended paediatric low dose ICS, 1 or two puffs twice daily.

Paediatric ICS/LABA Inhalers

- Fobumix Easyhaler® (budesonide/formoterol) 80/4.5 microgram DPI, licensed in children aged 6 years and over (low carbon footprint). Recommended

paediatric low dose ICS, 1 puff twice daily. Recommended paediatric moderate dose ICS, 2 puffs twice daily.

- Symbicort Turbohaler® (budesonide/formoterol) 100/6 microgram DPI, licensed in children aged 6 years and over (low carbon footprint). Recommended paediatric low dose ICS, 1 puff twice daily. Recommended paediatric moderate dose ICS, 2 puffs twice daily.
- Seretide® (fluticasone/salmeterol) 50/25 microgram pMDI, licensed in children aged 4 years and over (low carbon footprint). Recommended paediatric low dose ICS, 1 puff twice daily. Recommended paediatric moderate dose ICS, 2 puffs twice daily.

Paediatric MART Inhalers

- Fobumix Easyhaler® (budesonide/formoterol) 80/4.5 microgram DPI, licensed in children aged 12 years and over (low carbon footprint). Recommended paediatric low dose MART, 1 puff once or twice daily. Paediatric moderate dose MART (AMBER 1 in the SWL NetFormulary only on specialist initiation or recommendation as clinically appropriate), 2 puffs twice daily. Reliever puffs, 1 puff as needed. Maximum dose, 4 puffs at any one time, 8 puffs in 24 hours.
- Symbicort Turbohaler® (budesonide/formoterol) 100/6 microgram DPI, licensed in children aged 6 years and over (low carbon footprint). Recommended paediatric low dose MART, 1 puff once or twice daily. Paediatric moderate dose MART (AMBER 1 in the SWL NetFormulary only on specialist initiation or recommendation as clinically appropriate), 2 puffs twice daily. Reliever puffs, 1 puff as needed. Maximum dose, 4 puffs at any one time, 8 puffs in 24 hours.
- Symbicort® 100/3 MDI is AMBER 2 in the SWL NetFormulary for children under 12 years of age. Paediatric low and moderate dose MART Initiation should only be by a respiratory specialist. Prescribing can continue in primary care under an individual management plan. The management plan should include the AIR/MART PAAP i.e. number of MART inhaler doses a CYP can have in the different zones, the maximum dose they can have at any one time and the maximum total dose they can have in a 24-hour period. Patients should be advised to seek an urgent medical review if they are regularly using close to their maximum doses. The management plan should also include advice on when to escalate back to secondary care. Recommended paediatric low dose MART, 1 puff twice daily or 2 puffs once daily. Paediatric moderate dose MART, 2 puffs twice daily. Reliever puffs, 2 puffs as needed. Maximum dose, 8 puffs at any one time, 16 puffs in 24 hours.
- Symbicort Turbohaler® (budesonide/formoterol) 100/6 microgram is the only inhaler licensed for MART use in children 6 years and over. All other inhalers are unlicensed for MART in children under 12, so use would be considered off label. Ensure that the child's parent/carer is aware of this and that the reason for use is clearly documented. If patients are unable to use a DPI they should remain on conventional ICS/LABA treatment pathway.

SABA Inhalers

- Salamol® (salbutamol) 100 micrograms pMDI, licensed in children aged 1 month and over (high carbon footprint). Recommended dose one or two puffs as needed, maximum 8 puffs in 24 hours.
- Salbutamol Easyhaler® 100 micrograms DPI, licensed in children aged 4 years and over (low carbon footprint). Recommended dose one or two puffs as needed, maximum 8 puffs in 24 hours.
- Ventolin Accuhaler® 200 micrograms DPI, licensed in children aged 4 years and over (low carbon footprint). Recommended dose one puff as needed, maximum 4 puffs in 24 hours.

Spacer devices

Spacer devices are recommended for use with pMDIs in all age groups for routine and emergency treatment.

A face mask is required until a child can breathe reproducibly using the spacer mouthpiece, however from approximately 4 years of age children should be able to competently use a spacer without a mask. If a mask is required in older children, ensure the appropriate size is supplied. (A blue Easychamber® with adult mask is available for patients aged 6 years and over who are unable to use a mouthpiece).

Provide patients and carers with clear instructions on correct inhaler and spacer use. Spacers should be washed before first use and at least once a month in warm soapy water and allowed to air dry. Wash more frequently if they appear cloudy or inhaler medication deposits are seen. It is recommended to replace spacer devices every 12 months.

Preferred spacer devices

- EasyChamber® Spacer with infant mask, recommended for age 0 to 24 months.
- EasyChamber® Spacer with child mask, recommended for age 2 to 6 years.
- EasyChamber® Spacer with mouthpiece, recommended for age 4 years and over (Product specification recommends use in 6 years and over however consensus with local clinicians is that use is appropriate in patients aged 4 years and over).
- Volumatic®, recommended for age 3 years and over.
- Volumatic® with mask, recommended from birth.

Annual Asthma Reviews

Patients with asthma should be followed up at least annually, to determine whether their treatment needs to be changed. More frequent review may be necessary for non-stable patients.

During annual review consider stepping down therapy if asthma has been well controlled. Stop or reduce medicines based on clinical effectiveness, side effects, and patient preference.

1. Check asthma control using the Asthma Control Test

2. Confirm and document number of asthma attacks, oral corticosteroid use, hospital admissions, and time off work/school since last assessment.
3. Check patient's understanding of their condition, the aims of treatment, potential side effects, and different inhaler types i.e. preventer and reliever or MART.
4. Explain that there are things that can trigger asthma symptoms and exacerbations, including indoor and outdoor pollution. Discuss approaches for minimising exposure to air pollution and any other person triggers.
5. Offer all patients self-management education that focuses on individual needs and reinforce with a written personalised asthma action plan (PAAP), based on their symptoms and/or peak flows. Asthma UK action plans are available with guidance on how to complete.
6. Review inhaler technique with patient (and their families or carers) and ensure spacers are used with pMDIs. Use training videos to reinforce this as needed. If technique remains unsatisfactory consider trialling an alternative device.
7. Review adherence to prescribed treatment and audit patient's use of inhalers to identify patients who are at risk of poor outcomes. For example, over-use of SABA (more than 2 inhalers per year).
8. Consider using FeNO monitoring for adults with asthma at their regular review, and before and after changing their asthma therapy.
9. If patient is a smoker and has not been offered or not accepted smoking cessation in the last 12 months, refer patients who smoke to local stop smoking services and reinforce benefits of smoking cessation. Advise parents of children with asthma of the dangers of second-hand tobacco smoke exposure and offer support to stop smoking.
10. Offer annual influenza vaccine administration. Offer pneumococcal vaccine administration according to national guidance.
11. Patients prescribed a high dose ICS should have a steroid card (refer to the NICE ICS dose comparison in adults and children).
12. Refer patients on long term steroid tablets (more than 3 months) or requiring frequent courses of steroid tablets (2 per year) to a respiratory specialist.
13. Weight loss interventions (including dietary and exercise-based programmes) should be considered for overweight and obese adults and children with asthma to improve asthma control.
14. Consider screening for anxiety and depression. Particularly in young people with asthma, the presence of an anxiety or depressive disorder is highly associated with increased asthma symptom burden.

References/resources

- NICE guideline: NG245 Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN) November 2024
- Consensus recommendations for the practical application of the Introduction NICE/BTS/SIGN 2024 asthma guidance on MART therapy in children and young people May 2025
- PCRS: New BTS/NICE/SIGN asthma guideline 2024 First steps to implement the guidance 2024

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