Lancashire & South Cumbria Medicines Management Group

Asthma Treatment Guideline for Children aged 11 and under

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LSCICB
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VERSION CONTROL

Please access via the Lancashire and South Cumbria ICB formulary website to ensure that the correct version is used www.lancashireandsouthcumbriaformulary.nhs.uk

Version Number	Amendments made	Author	Date
1.0	Document to supersede LMMG Asthma summary guideline for adults and over 12s (March 2014) with regards to asthma treatment for children. Separate adult asthma guideline available.	Sharon Andrew	September 2019
2.0 DRAFT	Updated guideline in line with NICE NG245 published Nov 2024	Sharon Andrew	November 2025
2.0 FINAL	Added steroid card link and link to ICB AIR and MART inhaler list. Approved at March 2026 LSCMMG	David Prayle	March 2026

Background Information and the Rationale for Guideline Development.

With the publication of the new NICE Guideline NG245[1] - Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN), the licensing of new drugs and devices and requests by clinicians to use new inhalers an update to the existing guideline was required.

Acknowledgement: members of the Lancashire and South Cumbria Paediatric Clinical Asthma Group for their contributions.

Contents

Introduction

The new NICE Guideline NG245 Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN)[1] was published in November 2024 and is the first UK wide guidance to be produced jointly by the British Thoracic Society (BTS), Scottish Intercollegiate Guideline Network (SIGN) and NICE.

NG245 updates and replaces NICE guideline 80 (published November 2017) and parts of BTS/SIGN British guideline SIGN 158 (published July 2019). It also updates and replaces NICE technology appraisal guidance 10, 38, 131 and 138, and NICE diagnostics guidance 12.

NG245 is an asthma pathway developed by BTS, SIGN and NICE, which brings together recommendations on diagnosing, monitoring and managing asthma in adults, young people and children. It aims to improve the accuracy of diagnosis, help people to control their asthma and reduce the risk of asthma attacks.

Purpose and Summary

This asthma summary guideline has been created in collaboration with the Lancashire and South Cumbria Paediatric Clinical Asthma Group, with the aim to provide a consistent approach to asthma treatment for children within Lancashire and South Cumbria in line with the recommendations contained within the new NICE guideline

Scope

This guideline covers the chronic management of asthma only. These guidelines should **not** be referred to for the management of acute asthma.

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 16 for this indication.

For full prescribing information please refer to the BNF and SPC, ensuring correct SPC according to dose is consulted.

Additional information

- **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.
  Currently no budesonide / formoterol inhalers are licensed for AIR in children under 12 years of age (March 2025)
- **MART** - Maintenance And Reliever Therapy. A combination inhaler (ICS + Formoterol (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.
  Not all inhalers are licensed for MART in children.
- **ICS** – inhaled corticosteroid (For doses of ICS recommended in children, see Appendix 1)
- **LABA** – long acting beta agonists
- **SABA**- short acting beta agonists
- **DPI**- dry powder inhaler
- **MDI** -metered dose inhaler
- **LTRA** - leukotriene receptor antagonists

Principles of pharmacological treatment

Before starting or adjusting medicines for asthma in young people and children please take into account and try to address the possible reasons for uncontrolled asthma. These may include:

1. alternative diagnoses or comorbidities
2. suboptimal adherence
3. suboptimal inhaler technique
4. smoking (active or passive), including vaping using e-cigarettes
5. psychosocial factors (for example, anxiety and depression, relationships and social networks) and seasonal factors
6. environmental factors (for example, air pollution, indoor mould exposure)

If possible, check the fractional exhaled nitric oxide (FeNO) level when asthma is uncontrolled. If it is raised this may indicate poor adherence to treatment or the need for an increased dose of inhaled corticosteroid (ICS). NG245 Asthma: Algorithm B 27/11/2024

Do NOT prescribe short-acting beta$_2$ agonists to people of any age with asthma without a concomitant prescription of an ICS.

After starting or adjusting medicines for asthma, review the response to treatment in 8 to 12 weeks.

Inhalers

The choice of inhaler(s) for asthma should consider:

- an assessment of correct technique
- the preference of the person receiving the treatment
- the lowest environmental impact among suitable devices
- the presence of an integral dose counter
- **ICB recommended cost-effective options**

- A spacer should usually be prescribed for use with a metered dose inhaler, please ensure the spacer device is compatible with the prescribed inhaler.
- If the patient is assessed as being unable to use a particular inhaler device properly, please find an alternative device. Many young children will be unable to use dry powder inhalers effectively.
- If possible, prescribe the same type of device to deliver preventer and reliever treatments where more than one inhaler is needed.
- Consider providing an additional metered dose short-acting beta$_2$ agonist (SABA) inhaler plus spacer for emergency use for children under 12 years who may be unable to activate a dry powder inhaler during an acute asthma attack (**NOT** if being treated with MART).

NB: For children and young people, it is important that the inhaler chosen can be used effectively, even it is one with a higher carbon footprint. Many young children will be unable to use dry powder inhalers effectively.

Disposal of Inhalers

Encourage patients to take their expired or used inhalers to their community pharmacy for disposal.

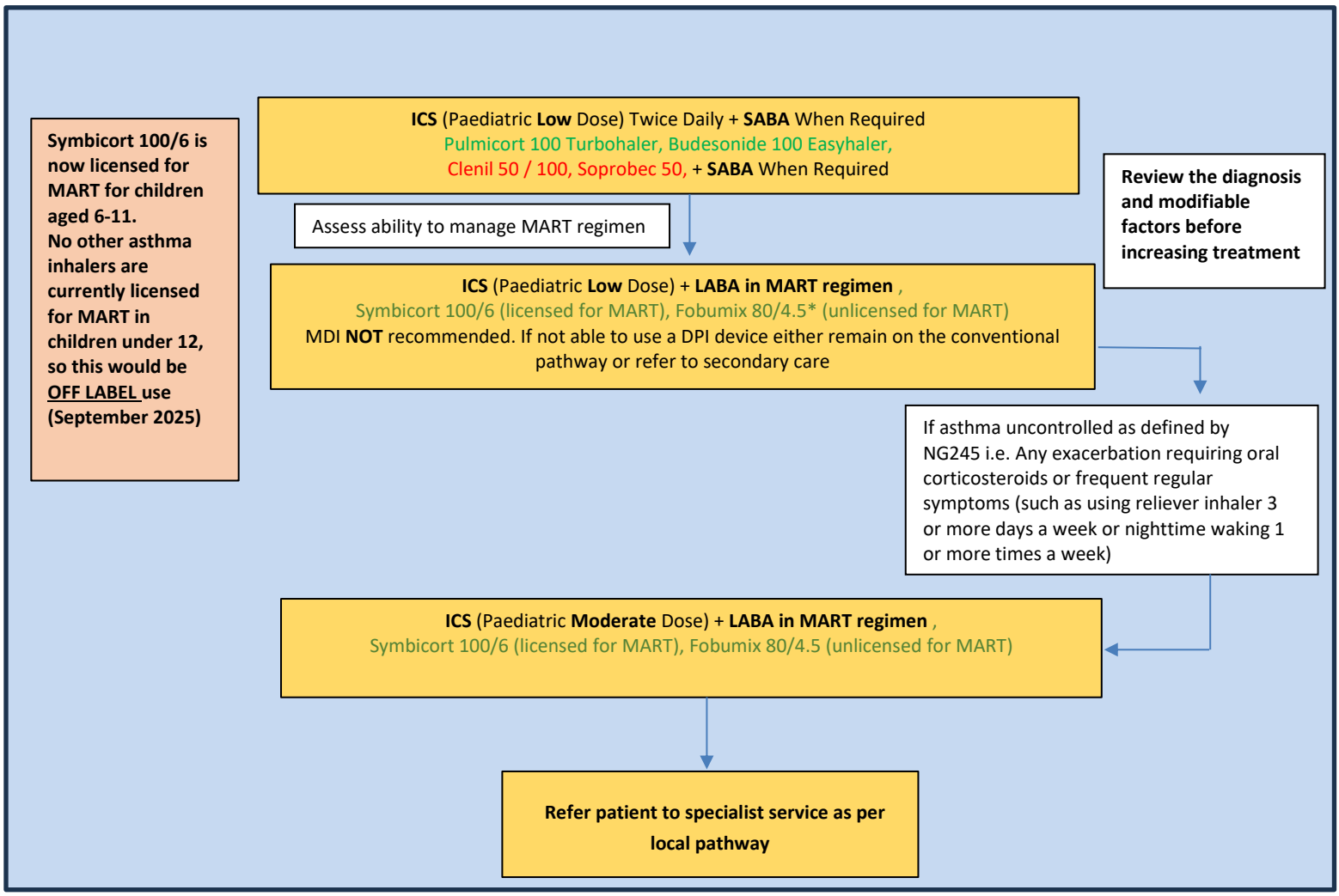
Steroid warning cards

The National and Paediatric Pharmacists Group has produced guidance “Use of Steroid Medication Warning Cards for Children and Young People”, it is available online here: https://nppg.org.uk/wp-content/uploads/2021/12/Position-Statement-Steroid-Cards-V1.pdf

Pharmacological management of asthma in children aged 5 to 11

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'
In younger children a pMDI and spacer with mouthpiece are the preferred method of delivery of β2 agonists or inhaled corticosteroids

MART Pathway



* the delivered dose of Fobumix 80/4.5 is equivalent to 100/6 of Symbicort
A total daily dose of more than 6 inhalations is not normally needed; however, a total daily dose of up to 8 inhalations could be used for 2 days. Patients regularly using more than 6 inhalations daily should seek medical advice.

N.B: Symbicort 100/6 is now licensed for MART in children aged 6-11. No other asthma inhalers are currently licensed for MART in children under 12, so this would be OFF LABEL use (September 2025)

The decision to use the device off label must be made in collaboration with the family / young person based on an informed discussion and documented in notes. If licensed options become available then they should be used in preference.

The Primary Care Respiratory Society has issued a consensus statement to address this issue[2] which **recommends** that MART should only be used in the 5-11 years age group if the following criteria are met:

- The healthcare professional explaining, prescribing and implementing the MART regime is trained to tier 3 level or above according to the 'National Capabilities Framework for Professionals who Care for Children and Young People with Asthma'

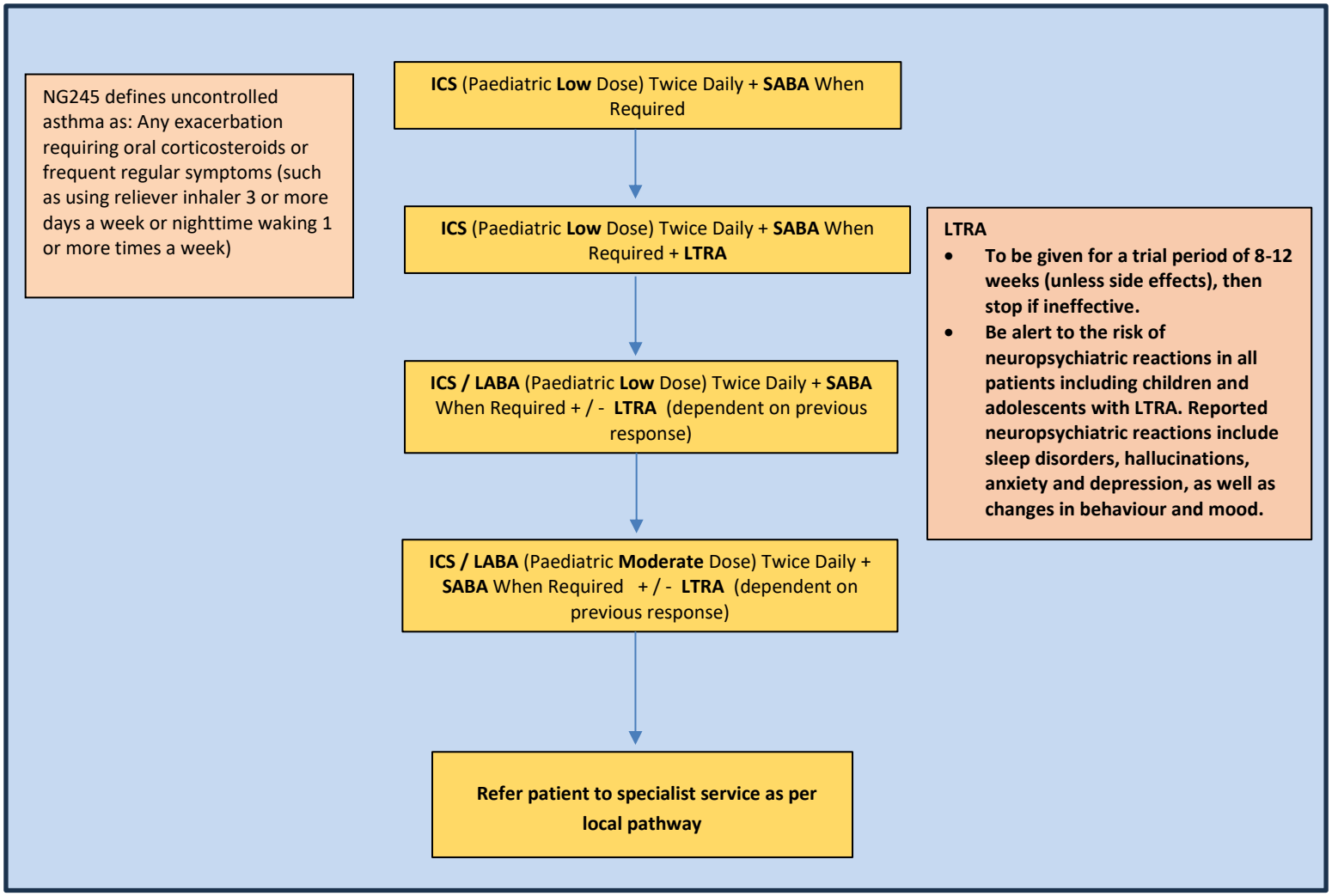
- If using a dry powder device, a formal assessment of the ability of the CYP (children and young people) to generate adequate inspiratory flow for the device to be used has been undertaken. (e.g. using the In-Check™ DIAL G16 Inhaler Technique Training and Assessment Tool or an inhaler device whistle).

- Extra time has been allocated for the consultation to allow for adequate explanation and education of the MART regime and to complete and explain an associated MART Personalised Asthma Action Plan (PAAP).

- There is infrastructure to allow for closer monitoring and more regular surveillance than for those on conventional therapy e.g. capacity for more frequent follow up and prescribing alerts for higher-than-expected use. This is to ensure patient understanding and adequate inhaler technique, effectiveness of the regime and review potential side effects of steroid toxicity or from higher dose formoterol use.

If a child/young person on a MART regime has had SABA treatment as part of an emergency hospital admission for an acute exacerbation, they should be transferred back from SABA to their MART regime according to their MART personalised asthma action plan (PAAP) where possible before discharge so as to allow treatment to be gradually reduced at home according to their MART PAAP /symptoms.[2]

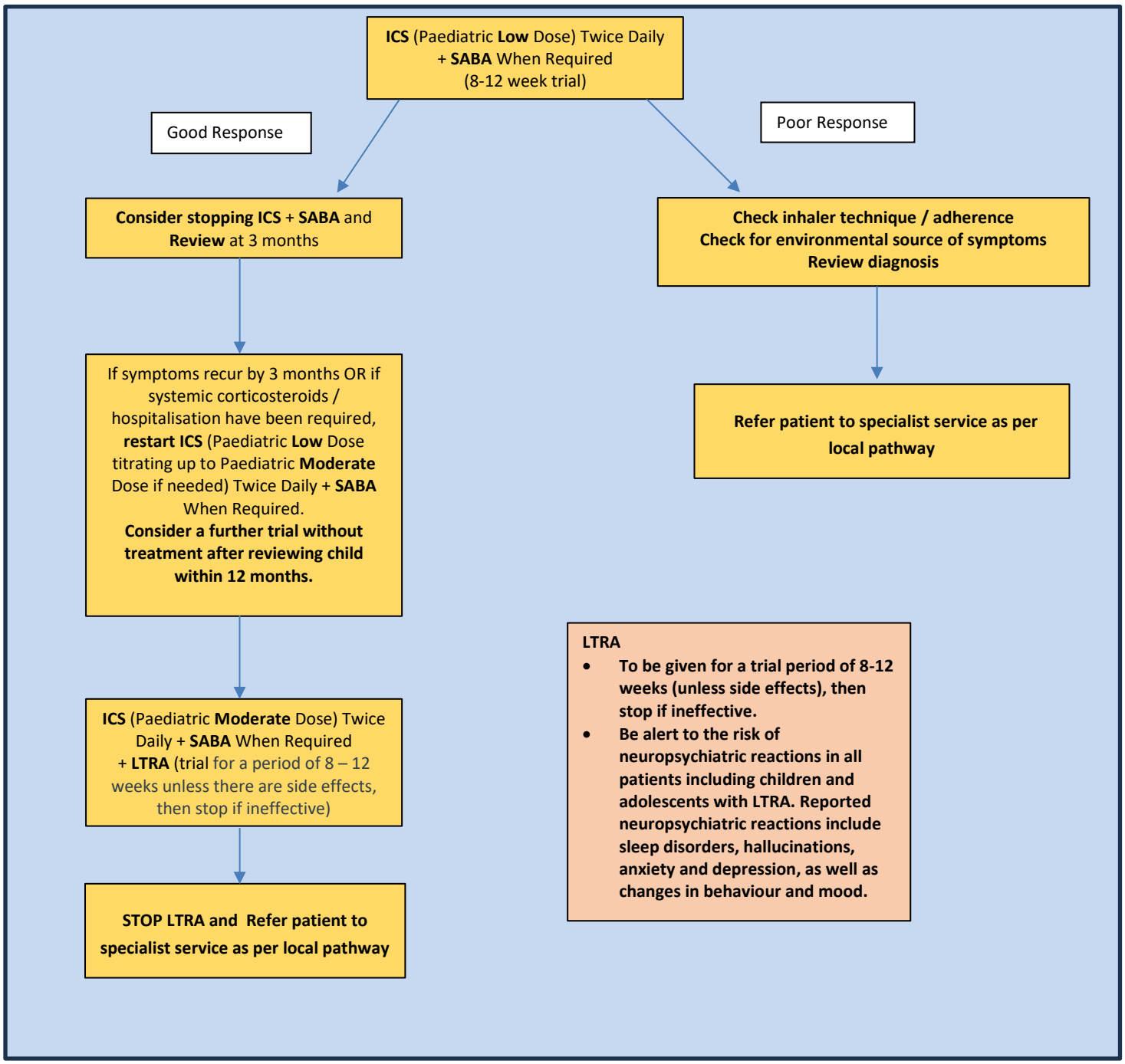
Conventional Pathway for children aged 5-11 years
(i.e. for patients unable to manage MART regimen)



Please see Appendix 1 for further information on inhaler choices/dose.

Pharmacological management of asthma in children aged under 5

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'
In younger children a pMDI and spacer with mouthpiece are the preferred method of delivery of β2 agonists or inhaled corticosteroids



Please see Appendix 1

Further information on Pharmacological Treatment

Leukotriene Receptor Antagonists (LTRAs)

Montelukast[3]

This is currently the only licensed LTRA.

- Doses of Montelukast should be reviewed at every asthma review, paying particular attention to the child's age and recommended dose.
- Chewable tablets come in two doses, for children aged 6 to 14 and children aged 2 to 5. These should be taken at least one hour before food or two hours after food.
- Granules are available for young children who cannot take chewable tablets. You can put them directly on the child's tongue or mix them with a spoonful of cold, soft food such as yoghurt. Do not dissolve them in a drink.

Dosage

- **Paediatric patients 6 months to 2 years -** 4 mg daily to be taken in the evening (sachets of granules are available). *The diagnosis of persistent asthma in very young children (6 months – 2 years) should be established by a paediatrician or pulmonologist.*
- **Paediatric patients 2 to 5 years-** 4 mg daily to be taken in the evening (chewable tablets are available- *these are the most cost-effective choice for this age group.*
- **Paediatric patients 6 to 14 years** -5 mg daily to be taken in the evening (chewable tablets are available).
- **Adolescents 15 years of age and older-** 10 mg daily to be taken in the evening

Tabulated list of Adverse reactions (this is not an exclusive list please consult individual products SPC)

Frequency	Adverse experience
Very Common	Upper respiratory infection,
Common	Headache, abdominal pain, diarrhoea, nausea, vomiting, elevated levels of serum transaminases, rash, pyrexia
Uncommon	Hypersensitivity reactions, dream abnormalities, anxiety, agitation, depression, psychomotor hyperactivity, dizziness, drowsiness, paraesthesia/hypoesthesia, seizure, epistaxis, dry mouth, dyspepsia, bruising, urticaria, pruritus, arthralgia, myalgia, enuresis, asthenia/fatigue, malaise, oedema.
Rare	Increased bleeding tendency, disturbance in attention, memory impairment, tic, palpitations, angioedema
Very Rare	Thrombocytopenia, hepatic eosinophilic infiltration, hallucinations, disorientation, suicidality, Churg-Strauss Syndrome, pulmonary eosinophilia, hepatitis, erythema nodusum, erythema multiforme.

Frequency Category: Very Common (≥1/10), Common (≥1/100 to <1/10), Uncommon (≥1/1000 to <1/100), Rare (≥1/10,000 to <1/1000), Very Rare (<1/10,000).

Suggested Clinical Practical Solutions

- If a child on Montelukast suffers from 'night terrors' then suggest that they take the medication in a morning rather than in the evening

Appendix 1

Inhaled corticosteroid doses for the BTS, NICE and SIGN asthma guideline

When using the following table, prescribers should consult manufacturers' SPCs, the BNF and BNFC for full prescribing information, and take into account the following:

Doses relate to the metered ICS dose. For some inhalers this may be different from the delivered dose (the dose that leaves the mouthpiece) and the labelled strength.

Doses relate to the ICS dose given in either an ICS inhaler or a combination ICS / long acting beta$_2$ agonist (LABA) inhaler. If an ICS/LABA inhaler is used in a maintenance and reliever therapy (MART) regimen, the dose relates to the regular maintenance dose.

Dosages in the tables are not strict dose equivalences but are a guide to similar clinical effectiveness. Prescribers should also take into account the possibility of adverse effects from ICS, which may differ between ICS and according to dosage.

Clinical judgement should be used for dosages for children and young people. The BTS, NICE and SIGN guideline gives recommendations on treatment for people aged 12 years and over, children aged 5 to 11 years, and children under 5 years.
However, UK marketing authorisations differ in using 12 years, 16 years or 18 years and older categories.

In practice, the prescriber will choose dosages for children under 5 years and young people aged 12 to 17 years taking into account factors such as the severity of the condition being treated and the person's size in relation to the average size of people of the same age. The table below reflect doses for children aged 5 and over.

The smallest dosage should be used to obtain optimal control. People with asthma should usually use the smallest dosage of ICS that provides optimal asthma control, to reduce the risk of side effects. The MHRA advises that steroid treatment cards should be routinely provided for people who need prolonged treatment with high dose ICS (MHRA, Current problems in pharmacovigilance, May 2006).

ICS dosages for children aged 5 to 11 years

Green text indicates low CO2 emissions, Red text indicates high CO2 emissions
The table below lists examples of ICB preferred choice inhalers, other inhalers are available.
Please see L&SC Formulary and SPCs.

Not all products have UK marketing authorisation for use at all dosages or for all ages. If considering prescribing a product outside the terms of its marketing authorisation, follow relevant professional guidance and take full responsibility for the decision. Obtain and document informed consent. See the General Medical Council's advice on Good practice in prescribing and managing medicines and devices for further information.

ICS Only Inhalers

ICS	Paediatric low dose	Paediatric moderate dose
Budesonide		
Dry powder inhalers Preferred Choice Inhalers- Pulmicort Turbohaler 100, 200, 400     Budesonide Easyhaler 100,200,400     	100 to 200 micrograms per day as a single dose or in 2 divided doses	300 to 400 micrograms per day as a single dose or in 2 divided doses
Beclometasone		
Standard particle metred dose inhalers Preferred Choice Inhalers – Clenil Modulite 50,100 Soprobec 50    	100 to 200 micrograms per day in 2 divided doses	300 to 400 micrograms per day in 2 to 4 divided doses

Fluticasone propionate		
Dry powder and Metered Dose inhalers Preferred Choice Inhalers – Flixotide Accuhaler 50, 100    Flixotide Evohaler 50, 125   	100 micrograms per day in 2 divided doses	150 to 200 micrograms per day in 2 divided doses

ICS/LABA Inhalers (doses relate to ICS content)

ICS / LABA	Paediatric low dose	Paediatric moderate dose
Budesonide / Formoterol (6 years and over)		
Dry powder inhalers Preferred Choice Inhalers- Fobumix Easyhaler 80/4.5   Symbicort Turbohaler 100/6  	100 to 200 micrograms per day as a single dose or in 2 divided doses	300 to 400 micrograms per day as a single dose or in 2 divided doses
Fluticasone propionate / Formoterol (5 years and over)		
Metered Dose inhaler Preferred Choice Inhalers – Flutiform Inhaler 50/5  	100 micrograms per day in 2 divided doses	150 to 200 micrograms per day in 2 divided doses

Fluticasone propionate / Salmeterol (4 years and over)		
Dry powder and Metered Dose inhalers Preferred Choice Inhalers – Seretide Accuhaler 100/50  Avenor Inhaler 50/25 	100 micrograms per day in 2 divided doses	150 to 200 micrograms per day in 2 divided doses

A comprehensive list of MART and AIR inhalers is available at the following link: MART AIR quick reference guide – adults & children V2

SABA Inhalers

Salbutamol (SABA) for use when required
Dry Powder and Metered Dose inhalers Preferred Choice Inhalers – Salbutamol Easyhaler 100, 200,    Airomir 100 autohaler,    Salamol 100 inhaler 

NB: At the time of NG245 publication (November 2024), not all dosages were included within UK marketing authorisations for use in children aged under 12 years. Dosages in this table are based on Global Initiative for Asthma (GINA) 2024[4] recommendations for children aged 6 to 11 years.

References

[1] Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN) NG245 https://www.nice.org.uk/guidance/ng245

[2] The Primary Care Respiratory Society consensus statement https://www.pcrs-uk.org/resource/current/recommendations-application-new-asthma-guidance-mart-therapy-children-and-young

[3] Montelukast EMC https://www.medicines.org.uk/emc/search?q=%22Montelukast%22 (accessed Mar 2025)

[4] 2024 GINA MAIN REPORT Global Strategy for Asthma Management and Prevention https://ginasthma.org/2024-report/