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This guideline was developed in conjunction with the South Yorkshire Children and Young People's Alliance Asthma Core Group and has had input from both primary and secondary care clinicians across South Yorkshire. It is based on national guidance [Asthma: diagnosis, monitoring and chronic asthma management \(BTS, NICE, SIGN\)](#) published in November 2024 and advice provided in [Consensus recommendations for practical application of the NICE/BTS/SIGN 2024 asthma guidance on MART therapy in children and young people](#)

SABA Monotherapy

National guidance states **“Do NOT prescribe short acting beta 2 agonists to people of any age with asthma without a concomitant prescription of an ICS.”**

The guidance offers some advice on what to do for people aged 12+ on existing treatment pathways [here](#)

Inhaler choice

- Inhalers listed in this guideline at each step are all approximately equivalent in strength
- Inhalers devices are not listed to suggest 1st, 2nd, 3rd line choices
- Inhaler device choice should be based on an individual patient assessment
- Prices of inhalers do vary and a table of inhaler constituents and prices is available [here](#)
- It is advised to use this guideline in conjunction with local formularies

Essentials of Good Asthma Care for All – Aim for excellent asthma care for all

- Confirm diagnosis
- No SABA monotherapy
- Annual review for all
- Check inhaler technique
- Check adherence
- Identify and document triggers
- Review if > 2 SABA in 12m
- Maintain lowest controlling therapy
- Provide [personalised asthma action plans \(PAAPs\)](#)
- Use an appropriate [spacer with a pMDI](#)
- [Consider DPI](#) where appropriate from around age 8-9 – ensure inspiratory effort and technique checked
- Review any treatment change at 8-12 weeks

Always provide education to children, young people and parents including [what asthma is, how the medicines work](#), good inhaler technique, using a [PAAP](#) and knowing when to seek help.

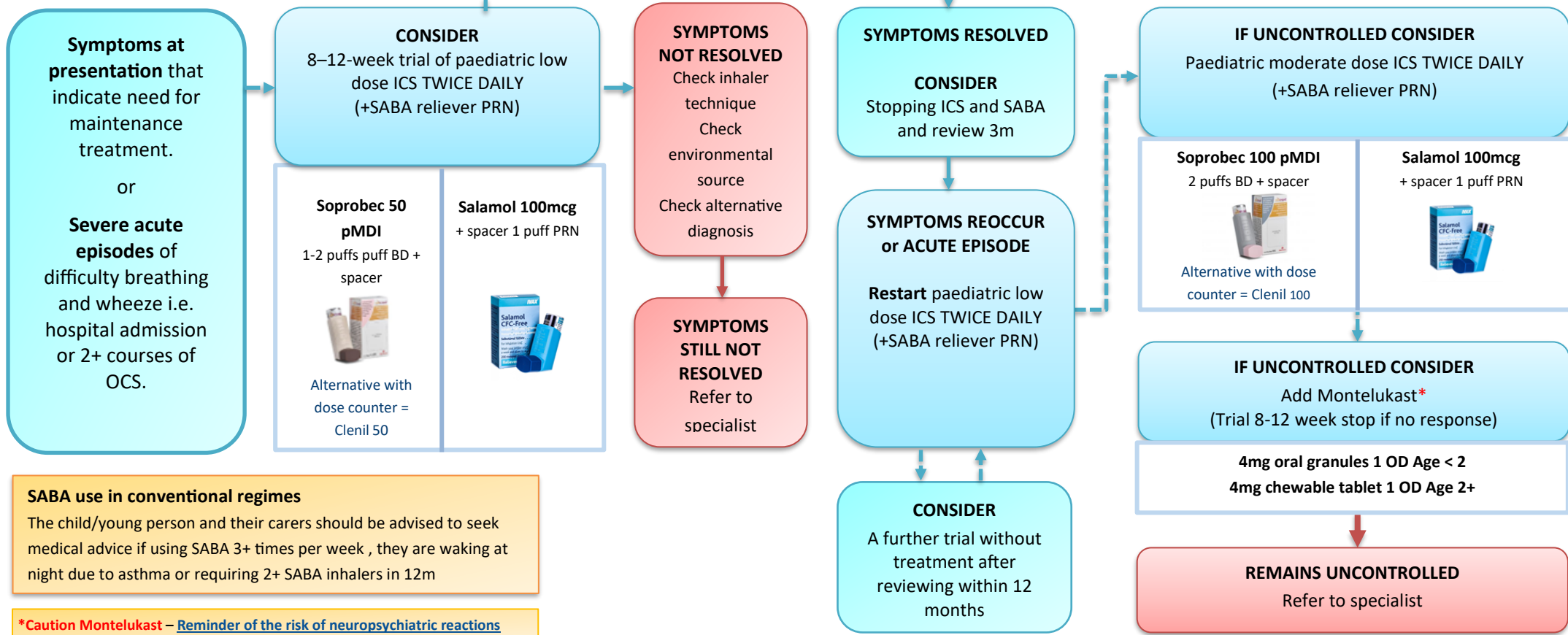
Refer to secondary care if:

- Poor asthma control despite optimised care inc. > 3 SABA in 12m
- 2+ course of oral steroids in 12 months
- 1 or more A&E visits in 12 months (with asthma or suspected asthma)
- Inpatient or acute admission to hospital
- Diagnostic uncertainty
- Also see specific referral criteria in each algorithm

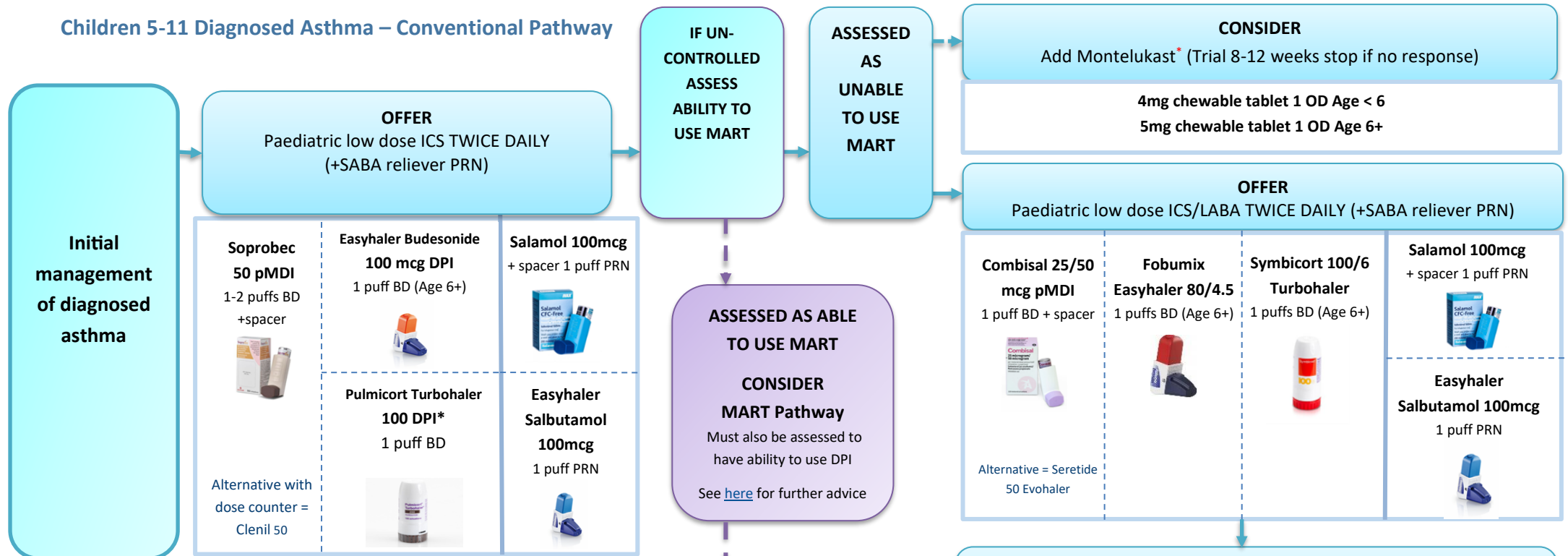
Diagnosis

For diagnosis of asthma in all age groups see NICE/BTS/SIGN Guidance [here](#)

Children < 5 Suspected (or confirmed) Asthma



Children 5-11 Diagnosed Asthma – Conventional Pathway



Children 5-11 Diagnosed Asthma – MART Pathway

SABA in MART Regimes

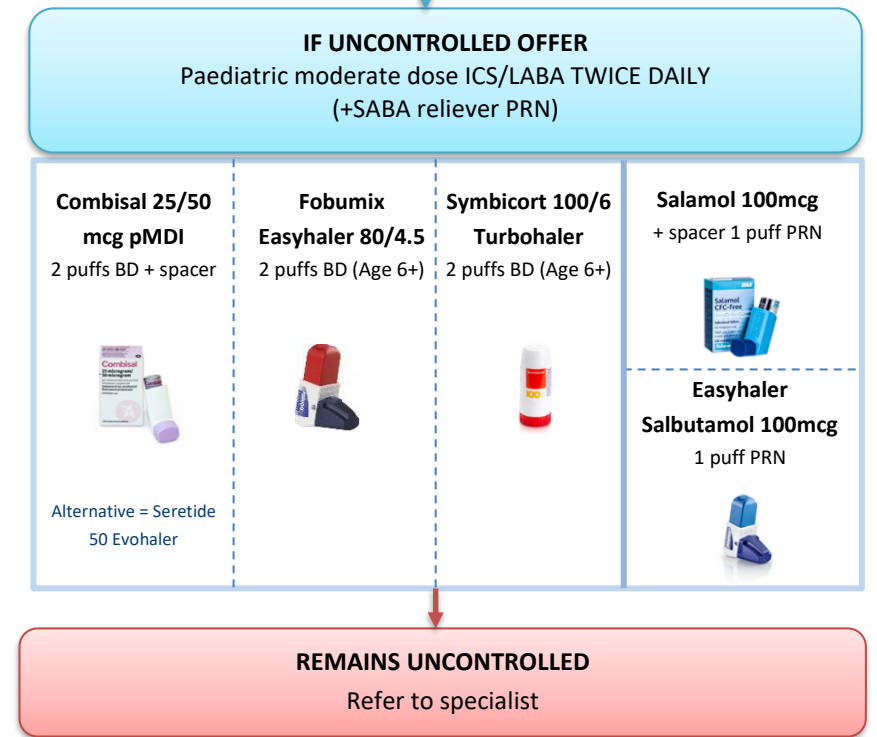
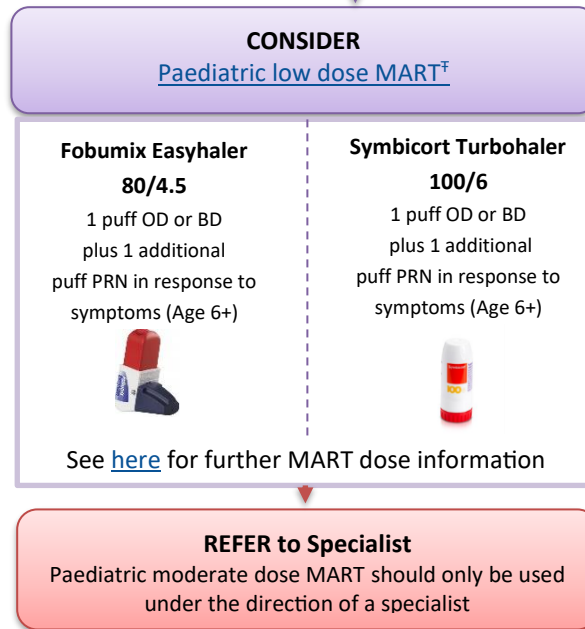
There is no role for the use of SABA in an AIR or MART regime. The one exception to this is if the child/young person is in a situation where their MART inhaler is not available (e.g. in school). Treatment should be with their SABA in a conventional way.

†Only Symbicort Turbohaler 100/6 has a MART licence in this age group (6+). Use of other devices is currently off label in this age group. The decision to use the device off label must be made in collaboration with the family/young person based on an informed discussion. Where licensed options become available, these should be used in preference.

See [here](#) for further information on the prescribing of MART regimes for children aged 5-11.

*Caution Montelukast – [Reminder of the risk of neuropsychiatric reactions](#)

MART = Maintenance and Reliever Therapy



Adolescents 12-17 AIR and MART Pathway

If highly symptomatic at presentation start here
in addition to treating acute symptoms as indicated i.e. with OCS

Initial management of diagnosed asthma

Infrequent symptoms

OFFER

Low dose ICS/formoterol AIR

Fobumix Easyhaler
160/4.5
1 puff PRN in response to symptoms



Symbicort Turbohaler
200/6
1 puff PRN in response to symptoms



See [here](#) for further AIR dose information

OFFER

Low dose ICS/formoterol MART

Fobumix Easyhaler
160/4.5
1 puff BD plus 1 additional puff PRN in response to symptoms



Symbicort Turbohaler
200/6
1 puff BD plus 1 additional puff PRN in response to symptoms



See [here](#) for further MART dose information

OFFER

Moderate dose ICS/formoterol MART

Fobumix Easyhaler
160/4.5
2 puffs BD plus 1 additional puff PRN in response to symptoms



Symbicort Turbohaler
200/6
2 puffs BD plus 1 additional puff PRN in response to symptoms



See [here](#) for further MART dose information

***Caution Montelukast –**
[Reminder of the risk of neuropsychiatric reactions](#)

REMAINS UNCONTROLLED
Refer to specialist

NEITHER FeNO or Blood eosinophil count RAISED
CONSIDER

Add Montelukast* (trial 8-12 weeks)
Stop if no improvement
Continue if asthma improved
Consider referral to specialist now

5mg chewable tablet 1 OD Age 12-14
10mg tablet 1 OD Age 15+

REMAINS UNCONTROLLED DESPITE GOOD ADHERANCE
Check FeNO
Check blood eosinophil count

EITHER FeNO or Blood eosinophil count (BEC) RAISED
Refer to specialist
(Age < 16 FeNO > 35ppb, Age 16+ FeNO > 50ppb, BEC > normal laboratory range)

SABA in MART Regimes

There is no role for the use of SABA in an AIR or MART regime. The one exception to this is if the child/young person is in a situation where their MART inhaler is not available (e.g. in school). Treatment should be with their SABA in a conventional way.

Treatment Pathways for Adolescents 12-17

[NICE/BTS/SIGN 2024 Asthma guidelines](#) do not recommend an alternative treatment pathway for adolescents 12-17. In South Yorkshire we agree that AIR/MART should be the pathway of choice for patients in this age group however we understand that for a small minority of patients this pathway may not be suitable. See right for further advice

Guidance on managing CYP age 12-17 if AIR/MART is not suitable

Always try AIR/MART pathway first line. Discuss benefits of AIR/MART (safer, reduced exacerbations, reduced mortality), discuss concerns (some people worry if they can't feel the inhaler that it is not working). Some situations where AIR/MART may not be appropriate may include cannot tolerate formoterol, cannot use a DPI, cannot manage flexible dosing. If after trying AIR/MART it is deemed unsuitable, document reason in patient notes and consider a fixed dose regime. **Reconsider AIR/MART at every review and at least annually. SABA alone must not be used.**

Low dose ICS

Soprobe 100 or 200 1 puff BD
Easyhaler Budesonide 100 or 200 mcg 1 puff BD
Pulmicort Turbohaler 100 or 200 1 puff BD

Plus SABA PRN – Salamol 100mcg or Easyhaler Salbutamol 100mcg

Low dose ICS/LABA

Combisal 25/50 mcg 2 puffs BD
Fobumix Easyhaler 200/6 1 puff BD
Symbicort Turbohaler 200/6 1 puff BD
Relvar Ellipta 92/22mcg 1 puff OD

Plus SABA PRN – Salamol 100mcg or Easyhaler Salbutamol 100 mcg

Moderate dose ICS/LABA

Combisal 25/125 2 puffs BD
Fobumix Easyhaler 320/9 1 puff BD
Symbicort Turbohaler 400/12 1 puff BD
Relvar Ellipta 92/22 mcg 1 puff OD

Plus SABA PRN – Salamol 100 mcg or Easyhaler Salbutamol 100mcg

Add on therapy/Referral

Check FeNO/BEC
If either raised – Refer to specialist
If neither raised - consider adding montelukast
5mg chewable tablet OD Age 12-14
10mg tablet OD Age 15+
(Trial 8-12 weeks stop if no response)
Remains uncontrolled – Refer

MART 5-11 Important Information

	Inhaler	Daily Maintenance Dose	Additional doses and	Total daily maximum doses (including maintenance doses)	When to seek medical advice	Additional prescribing information
Paediatric low dose MART	Budesonide/formoterol DPI	1 inhalation ONCE or TWICE a day	1 inhalation as needed in response to symptoms.	A total daily dose of more than 4 inhalations is not normally needed.	Children requiring 4 inhalations in a day should be strongly recommended to seek medical advice.	You may wish to set an issue duration of approximately 45 days per inhaler to prompt if inhalers are being ordered more frequently than expected. Stop regular SABA on repeat. See SABA in MART regimes
	Fobumix Easyhaler 80/4.5	The recommended maintenance dose is 1 inhalation per day	If symptoms persist after a few minutes an additional inhalation should be taken.	However, a total daily dose of up to 8 inhalations could be used for 2 days.	Children should be advised to seek a non-urgent review if needing additional doses 3 + times a week	
	Symbicort Turbohaler 100/6	For some patients a maintenance dose of 1 inhalation TWICE daily may be appropriate	Not more than 4 inhalations should be taken on any one occasion.	See also Emergency Management		
	<i>Only Symbicort Turbohaler 100/6 has a MART licence in this age group (6+). Use of other devices is currently off label in this age group</i>					
Paediatric moderate dose MART	The National Children and Young People’s Asthma Oversight Group recommend paediatric moderate dose MART for ages 5-11 should only be used in children under secondary care. This strength of MART should not be initiated in primary care. Please see Consensus recommendations for practical application of the NICE/BTS/SIGN 2024 asthma guidance on MART therapy in children and young people for further information.					
Secondary Care only						

MART should only be used in the 5-11 years age group if the following criteria are met:

- 1) The HCP 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](#). Tiered training can be accessed [here](#).
- 2) A formal assessment of the child's ability to generate adequate inspiratory flow for the device to be used has been undertaken (e.g. using the Incheck™ DIAL G 16 or inhaler device whistle).
- 3) Extra time has been allocated for the consultation to allow for adequate explanation and education of the MART regime and to complete an associated MART personalised asthma action plan (PAAP).
- 4) There is infrastructure to allow for closer monitoring and more regular surveillance than 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 of potential side effects of steroid toxicity or from higher formoterol use.

AIR and MART 12-17 Important Information

	Inhaler	Daily Maintenance Dose	Additional doses	Total daily maximum doses (including maintenance doses)	When to seek medical advice	Additional information
AIR	Budesonide/formoterol DPI	None	1 inhalation as needed in response to symptoms.	A total daily dose of more than 8 inhalations is not normally needed.	CYP requiring 8 inhalations in a day should be strongly recommended to seek medical advice.	You may wish to set an issue duration of approximately 60-90 days per inhaler to prompt if inhalers are being ordered more frequently than expected.
	Fobumix Easyhaler 160/4.5		If symptoms persist after a few minutes an additional inhalation should be taken.	However, a total daily dose of up to 12 inhalations could be used for 2 days.	Children should be advised to seek a non-urgent review if needing their AIR inhaler 3 + times a week	Stop regular SABA on repeat.
	Symbicort Turbohaler 200/6		Not more than 6 inhalations should be taken on any one occasion	See also Emergency Management		See SABA in MART regimes
Low dose MART	Budesonide/formoterol DPI	1 inhalation TWICE a day	1 puff as needed in response to symptoms.	A total daily dose of more than 8 inhalations is not normally needed.	Children requiring 8 inhalations in a day should be strongly recommended to seek medical advice.	You may wish to set an issue duration of approximately 45 days per inhaler to prompt if inhalers are being ordered more frequently than expected.
	Fobumix Easyhaler 160/4.5	(or 2 inhalations ONCE a day)	If symptoms persist after a few minutes an additional inhalation should be taken.	However, a total daily dose of up to 12 inhalations could be used for a limited period	Children should be advised to seek a non-urgent review if needing their AIR inhaler 3 + times a week	Stop regular SABA on repeat.
	Symbicort Turbohaler 200/6 <small>Budesonide/formoterol 100/6 (80/4.5) DPI is also licensed for MART with the same doses where a lower overall steroid dose is preferable.</small>		Not more than 6 inhalations should be taken on any one occasion	See also Emergency Management		See SABA in MART regimes
Moderate dose MART	Budesonide/formoterol DPI	2 inhalations TWICE a day	1 puff as needed in response to symptoms.	A total daily dose of more than 8 inhalations is not normally needed.	Children requiring 8 inhalations in a day should be strongly recommended to seek medical advice.	You may wish to set an issue duration of approximately 18 days per inhaler to prompt if inhalers are being ordered more frequently than expected.
	Fobumix Easyhaler 160/4.5	(or 2 inhalations ONCE a day)	If symptoms persist after a few minutes an additional inhalation should be taken.	However, a total daily dose of up to 12 inhalations could be used for a limited period	Children should be advised to seek a non-urgent review if needing their AIR inhaler 3 + times a week	Stop regular SABA on repeat.
	Symbicort Turbohaler 200/6		Not more than 6 inhalations should be taken on any one occasion	See also Emergency Management		See SABA in MART regimes

Personalised Asthma Action Plans (PAAPs) and Self-Management

- All CYP should have a PAAP
- All CYP on an AIR or MART regime should have a PAAP corresponding to the regime they are using.
- AIR and MART plans should outline:
 - 1) The number of doses a CYP can have in the different zones
 - 2) The maximum dose they can have at any one time
 - 3) The maximum total daily dose in 24 hours
- The child or young person and their carers should be advised to seek an urgent medical review if they are regularly using close to their maximum doses.
- See [MART 5-11 Important Information](#) and [AIR and MART 12-17 Important Information](#) to support completion of PAAPs
- Locally developed PAAPs are available on [South Yorkshire Healthier Together](#) . These plans have been designed specifically for CYP.

Other useful resources to support self-management

[Moving on Asthma](#) A resource for young people living with asthma including videos to support self-management

[Asthma and Lung UK inhaler technique videos](#)

[What asthma is, how the medicines work](#) An animated video showing patients what happens in their airways and how the inhalers work

[Asthma resources for young people \(SY Healthier Together\)](#)

[Asthma resources for parents and carers \(SY Healthier Together\)](#)

[Asthma resources for professionals \(SY Healthier Together\)](#)

Emergency Management

AIR/MART Regimes

ICS/formoterol (AIR/MART) containing inhalers can be used in the red zone of a Personalised Asthma Action Plan in an emergency.

Age 5-11

1. Take 1 puff, wait 1-3 minutes, if there is no improvement in symptoms take another puff. Repeat this up to a maximum of 4 puffs.
2. If the child remains symptomatic call 999
3. If needed, repeat step 1 whilst waiting for the ambulance to arrive

Age 12-17

1. Take 1 puff, wait 1-3 minutes, if there is no improvement in symptoms take another puff. Repeat this up to a maximum of 6 puffs.
2. If the child/young person remains symptomatic call 999
3. If needed, repeat step 1 whilst waiting for the ambulance to arrive

There is no role for the use of SABA in an AIR or MART regime. The one exception to this is if the child/young person is in a situation where their MART inhaler is not available (e.g. in school). Treatment should be with their SABA in a conventional way.

Conventional Regime

1. Take 1 puff, wait 1-3 minutes, if there is no improvement in symptoms take another puff. Repeat this up to a maximum of 10 puffs.
2. If the child/young person remains symptomatic call 999
3. If needed, repeat step 1 whilst waiting for the ambulance to arrive

Even if symptoms improve all CYP should be advised to see their doctor or asthma nurse immediately after an asthma attack

Annual Reviews

- Annual reviews for CYP should be face to face
- Complete the Asthma Control Test as part of the review
- Check and demonstrate inhaler technique
- Check adherence to preventer therapy through questioning and collection frequency
- Check SABA use through questioning and collection frequency
- Discuss stepping down treatment to the lowest effective preventative dose/regimen if well controlled for 3+ months. Never step down to SABA monotherapy
- Identify triggers and offer advice for trigger management
- Provide a personalised asthma action plan relevant to the treatment regime
- Offer education and self-management advice
- Check if annual flu vaccine has been given
- Check height and weight

Glossary of terms and Abbreviations

AIR	Anti-inflammatory reliver
BD	Twice daily
BEC	Blood eosinophil count
BTS	British Thoracic Society
CYP	Children and Young People
DPI	Dry powder inhaler
ED	Emergency Department
FeNO	Fractional Exhaled Nitric Oxide
ICS	Inhaled corticosteroid
MART	Maintenance and Reliever Therapy
NICE	National Institute for Heath and Care Excellence
OCS	Oral corticosteroid
OD	Daily
PAAP	Personalised asthma action plan
pMDI	Pressurised metered dose inhaler
PRN	When required
SABA	Short acting beta 2 agonist
SIGN	Scottish Intercollegiate Guidelines Network

Table of Inhaler Drug Constituents and Prices

Inhaler Name	Drug Constituents	Price
Clenil Modulite 50	Beclometasone 50mcg	£3.70
Clenil Modulite 100	Beclometasone 100mcg	£7.42
Combisal 25/50	Salmeterol 25mcg/Fluticasone propionate 50mcg	£13.50
Combisal 25/125	Salmeterol 25mg/Fluticasone propionate 125mcg	£10.48
Easyhaler Budesonide 100	Budesonide 100mcg	£8.86
Easyhaler Salbutamol 100	Salbutamol 100mcg	£6.63
Fobumix Easyhaler 80/4.5	Budesonide 80mcg/Formoterol 4.5mcg (delivered dose)	£21.50
Fobumix Easyhaler 160/4.5	Budesonide 160mcg/Formoterol 4.5mcg (delivered dose)	£21.50
Pulmicort Turbohaler 100	Budesonide 100mcg	£14.25
Relvar Ellipta 92/22	Fluticasone furoate 92mcg/vilanterol 22mcg	£22.00
Seretide Evohaler 50	Salmeterol 25mcg/Fluticasone propionate 50mcg	£17.46
Seretide Evohaler 125	Salmeterol 25mg/Fluticasone propionate 125mcg	£23.45
Soprobec 50	Beclometasone 50mcg	£2.78
Soprobec 100	Beclometasone 100mcg	£5.57
Symbicort Turbohaler 100/6	Budesonide 100mcg/Formoterol 6mcg (metered dose)	£28
Symbicort Turbohaler 200/6	Budesonide 200mcg/Formoterol 6mcg (metered dose)	£28

DPI use in Children

- Many dry powder inhalers are licensed in children however some young children may not have the inspiratory effort to use dry powder inhalers
- Local advice is to consider a DPI where appropriate from around age 8-9 – ensuring that inspiratory effort and technique is checked. Always choose a device that the individual can and will use
- Some evidence and papers to support the use of DPIs in children are listed below:

Kuek SL, Wong NX, Dalziel S, Hatter L, Fleming L, Bush A, Beasley R, Shanthikumar S. Dry-powder inhaler use in primary school-aged children with asthma: a systematic review. ERJ Open Res. 2024 Dec 9;10(6):00455-2024. doi: 10.1183/23120541.00455-2024. PMID: 39655170; PMCID: PMC11626612. <https://publications.ersnet.org/content/erjor/10/6/00455-2024>

Adachi YS, Adachi Y, Itazawa T, Yamamoto J, Murakami G, Miyawaki T. Ability of preschool children to use dry powder inhalers as evaluated by In-Check Meter. Pediatr Int. 2006 Feb;48(1):62-5. doi: 10.1111/j.1442-200X.2006.02173.x. PMID: 16490073. <https://pubmed.ncbi.nlm.nih.gov/16490073/>
<https://www.asthmaandlung.org.uk/healthcare-professionals/hcp-child-asthma/managing-child-5-16>