

NICE/BTS/SIGN 2024 asthma guidance on MART therapy in children and young people

Introduction

The publication of the 2024 NICE/BTS/SIGN asthma guidance has brought about a stepwise change in the pharmacological approach to asthma management in children and young people (CYP), with the shift in emphasis away from conventional treatment and more towards anti-inflammatory reliever therapy (AIR) and maintenance and reliever therapy (MART).

Although welcomed as an approach due to its association with better outcomes and reduced exacerbation rates, the lack of evidence on dosing and safety in the CYP age group, lack of familiarity of some Health Care Professionals (HCPs) and patients with the regimen and lack of availability, particularly for 5-11 year olds, of licensed devices has led to challenges in the application of these changes to the real world.

Clinical trials are underway which hope to address some of these challenges in the future. Until the results of these trials are available, however, guidance is needed to ensure consistent and safe care can be delivered to CYP with asthma from primary to tertiary care.

This document outlines a consensus recommendation based on the best available evidence and expert opinion. Its purpose is to provide guidance on a safe approach within the limitations of the evidence and devices currently available. It will be important that these recommendations are regularly reviewed and there is careful and close monitoring of patients whose care is based on this guidance, especially in the younger age groups.

In addition, as with any guidance, these recommendations must be applied within the scope of the expertise and confidence of the clinician delivering the care, consideration of the informed opinions of the child, young person and care giver, and the ability of the patient to use a particular device.



When to Use MART for Children Aged 5–11 Years?

It is recommended that MART should only be used in children aged 5–11 if all of the following criteria are met:



- 1. The healthcare professional (HCP) has the right training.** The person explaining, prescribing, and managing the MART regime must be trained to at least Tier 3 level under the [National Capabilities Framework for Professionals who Care for Children and Young People with Asthma](#).

- 2. The child can use the inhaler correctly.**

If using a dry powder inhaler, the child must be assessed to make sure they can breathe in hard enough to use it properly. This can be done using tools like the In-Check™ DIAL or an device inhaler whistle. The results of this assessment must be documented in the child's notes.



- 3. Extra time is allowed for the consultation.**

You need enough time to:

- Explain how MART works
- Teach the child and family how to use the inhaler. You can use [BeatAsthma's](#) or [A+LUKs](#) videos to demonstrate
- Complete and explain a personalised asthma action plan (PAAP): Find examples at: [BeatAsthma](#), [BeatAsthma \(Easy read\)](#), [LALIG](#) and [ALUK](#) and provide a copy for the child's school.

- 4. The child is reviewed frequently.**

Children on MART need more frequent reviews than those on conventional treatment. Review them frequently to make sure:

- The child is using the inhaler correctly
- Their symptoms are controlled
- There are no side effects from the steroid or the formoterol

You should make sure prescribing alerts are set up to identify higher-than-expected use.





Suggested dosing and devices: Children (5 -11 Years)

Primary Care

Conventional Pathway

review the diagnosis and modifiable factors before increasing treatment

	pMDI and spacer	DPI
Newly diagnosed: Paediatric Low dose ICS + SABA	Clenil 50 or Soprobec 50 1 or 2 inhalations twice daily	Pulmicort Turbohaler 100 or Budesonide easyhaler 100 1 inhalation once or twice per day or Flixotide Accuhaler 50 1 inhalation twice daily
If uncontrolled: Paediatric Low dose ICS + LABA	Consider a trial of leukotriene receptor antagonist eg montelukast Counsel on the potential for neuropsychiatric side effects	
	Flutiform 50/5 or Combisal 25/50 or Avenor 50/25 or Seretide 50/25 1 inhalation twice daily	Symbicort 100/6 or Fobumix 80/4.5 1 inhalation twice daily
If uncontrolled: Paediatric Moderate dose ICS + LABA	Flutiform 50/5 or Combisal 25/50 or Avenor 50/25 or Seretide 50/25 2 inhalations twice daily	Symbicort 100/6 or Fobumix 80/4.5 2 inhalations twice daily
Use SABA as reliever for all stages Never use SABA as monotherapy		



Suggested dosing and devices: Children (5 -11 Years) Primary Care

MART Pathway

review the diagnosis and modifiable factors before increasing treatment

	pMDI and spacer	DPI
Newly diagnosed Low dose ICS + SABA	Clenil 50 or Soprobec 50 1 or 2 inhalations twice daily + SABA for relief	Pulmicort Turbohaler 100: Budesonide easyhaler 100 1 inhalation once or twice per day or Flixotide Accuhaler 50 1 inhalation twice daily + SABA for relief
If uncontrolled Low dose MART	Not Recommended* If not able to use a DPI device either remain on the conventional pathway or refer to secondary care	<p>⚠ Symbicort 100/6</p> <p>⚠ Fobumix 80/4.5**</p> <p>1 inhalation once or twice daily (maintenance) + 1 inhalation for relief (maximum 8 inhalations in total/24hrs, max 4 at any one time)***</p>
If uncontrolled Moderate dose MART	Not Recommended: REFER	Not Recommended: REFER

⚠ This device is licensed for MART in children aged 6 and above. The decision to use the device off label must be made in collaboration with the family based on an informed discussion.

⚠ This device is not licensed, either for the purpose listed or for that age group or both. The decision to use the device off label must be made in collaboration with the family/young person based on an informed discussion. If licensed options become available, these should be used in preference.

* Due to a lack of evidence on the safety of using Symbicort 100/3 for MART therapy in this age group, a child using this device in this way requires careful monitoring to ensure high doses of steroids are not being used regularly and to ensure efficacy. Its use should be limited to asthma clinics run by health care professionals (HCPs) practicing at tier 4 or above according to the national CYP asthma capabilities framework and with the capacity to review 3 monthly at least initially. If this can be achieved in a primary care setting this may be an appropriate treatment regime for primary care. Personalised asthma action plans (PAAPs) should highlight the need to contact a HCP if close to maximum doses are being used regularly. Regular use of >800mcg per day needs consideration for tertiary referral.

** 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.



Suggested dosing and devices: Children (5 -11 Years) Secondary Care

MART Pathway

review the diagnosis and modifiable factors before increasing treatment

	pMDI and spacer	DPI
Newly diagnosed: Paediatric Low dose ICS + SABA	Clenil 50 or Soprobec 50 1 or 2 inhalations twice daily + SABA for relief	Pulmicort Turbohaler 100: Budesonide easyhaler 100 1 inhalation once or twice per day or Flixotide Accuhaler 50 1 inhalation twice daily + SABA for relief
If uncontrolled: Paediatric Low dose MART	⚠ Symbicort 100/3* 1 inhalation twice daily or 2 inhalations once daily Plus 2 inhalations for relief	⚠ Symbicort 100/6 ⚠ Fobumix 80/4.5** 1 inhalation once or twice daily (maintenance) + 1 inhalation for relief (maximum 8 inhalations in total/24hrs, max 4 at any one time)***
If uncontrolled: Paediatric Moderate dose MART	⚠ Symbicort 100/3* 2 inhalations twice daily (maintenance)	⚠ Symbicort 100/6* or or ⚠ Fobumix 80/4.5* 2 inhalations twice daily (maintenance)
	+ 2 inhalations for relief (maximum 16 inhalations in total/24hrs, max 8 at any one time) !	+ 1 inhalation for relief (maximum 8 inhalations in total/24hrs, max 4 at any one time) ***

⚠ This device is licensed for MART in children aged 6 and above. The decision to use the device off label must be made in collaboration with the family based on an informed discussion.

⚠ These are not licensed, either for the purpose listed or for that age group or both. The decision to use the device must be made in collaboration with the family/young person based on an informed discussion

*A child using this formulation for MART requires careful monitoring to ensure high doses of steroids are not being used regularly. Its use should be limited to asthma clinics run by HCPs practicing at tier 4 or above according to the national CYP asthma capabilities framework and with the capacity to review 3 monthly at least initially. PAAPs should highlight the need to contact a HCP if close to maximum doses are being used regularly. Regular use of >800mcg per day needs consideration for tertiary referral.

** 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.


! A total daily dose of more than 12 inhalations is not normally needed; however, a total daily dose of up to 16 inhalations could be used for 2 days. Patients regularly using more than 12 inhalations daily should seek medical advice.



Adults & young people (12 years+) Primary Care

review the diagnosis and modifiable factors before increasing treatment








	pMDI and spacer	DPI
AIR	 Symbicort 100/3	Symbicort 200/6 or DuoResp Spiromax 160/4.5 or Wockair 160/4.5 Fobumix 160/4.5
Low dose MART	Symbicort 100/3 2 inhalations once or twice daily (maintenance)	Symbicort 100/6 Fobumix 80/4.5 1 inhalation twice daily (maintenance) Symbicort 200/6 or Fobumix 160/4.5 or Duoresp Spiromax 160/4.5 or Wockair 160/4.5 1 inhalation once or twice daily (maintenance)
Mod dose MART	Symbicort 100/3 4 inhalations twice daily (maintenance)	Symbicort 200/6 or Fobumix 160/4.5 or Duoresp Spiromax 160/4.5 or Wockair 160/4.5 2 inhalations twice daily (maintenance)
	+2 inhalations for relief, Max 24 in one day, max 12 at any one time*	+ 1inhalation for relief, max 12 in one day, max 6 at any one time**

 These are not licensed, either for the purpose listed or for that age group or both. The decision to use the device must be made in collaboration with the family/young person based on an informed discussion

* A total daily dose of more than 16 inhalations is not normally needed; however, a total daily dose of up to 24 inhalations could be used for 2 days. Patients regularly using more than 16 inhalations daily should seek medical advice.

** A total daily dose of more than 8 inhalations is not normally needed; however, a total daily dose of up to 12 inhalations could be used for 2 days. Patients regularly using more than 8 inhalations daily should seek medical advice.

Air and MART budesonide with formoterol combination inhaler choices for children age 6 to 17 years

Medication	Picture	Type	Age 6-11 years			Age 12-17 years		
			AIR	Paediatric Low dose MART	Paediatric Mod dose MART	AIR	Low dose MART	Mod dose MART
Symbicort 100/3		MDI	Not licensed Not recommended	Not licensed Recommended according to HCP competencies	Not licensed Recommended according to HCP competencies	Not licensed Recommended according to HCP competencies	Licensed	Licensed
Symbicort turbohaler 100/6		Dry powder inhaler	Not licensed Not recommended	Licensed	Licensed	Not licensed Not recommended	Licensed	Licensed
Fobumix Easyhaler 80/4.5*		Dry powder inhaler	Not licensed Not recommended	Not licensed Recommended according to HCP competencies	Not licensed Recommended according to HCP competencies	Not licensed Not recommended	Licensed	Licensed
Fobumix Easyhaler 160/4.5		Dry powder inhaler	Not licensed Not recommended	Not licensed Not recommended	Not licensed Recommended according to HCP competencies	Licensed	Licensed	Licensed
Symbicort turbohaler 200/6		Dry powder inhaler	Not licensed Not recommended	Not licensed Not recommended	Not licensed Not recommended	Licensed	Licensed	Licensed
Duoresp spiromax 160/4.5		Dry powder inhaler	Not licensed Not recommended	Not licensed Not recommended	Not licensed Not recommended	Licensed	Licensed	Licensed
WokAir 200/6		Dry powder inhaler	Not licensed Not recommended	Not licensed Not recommended	Not licensed Not recommended	Licensed	Licensed	Licensed

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

MART Emergency Management:

Any CYP on an AIR or MART regime should have a personalised asthma action plan (PAAP) that matches the regime they are on

This plan should outline the number of 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.

If a child or young person is still having symptoms after using the maximum MART dose they can take at any one time, call 999.

If their symptoms continue while waiting for the ambulance, they can take the same maximum dose again.

SABAs should not be included in an AIR or MART personalised asthma action plan.

The only exception is if the MART inhaler isn't available—for example, if the child is at school. In that case, they can use the school's emergency SABA inhaler in the conventional way.

If a child or young person on MART has been given SABA in hospital during an asthma attack, they should go back to their MART treatment before going home if possible. They can then reduce their treatment gradually at home according to their PAAP until they are recovered,

References:

1. Asthma: diagnosis, monitoring and chronic asthma management (BTS/NICE/SIGN) NICE Guideline NG245. <https://www.nice.org.uk/guidance/NG245> (2024).
2. Global Strategy for Asthma Management and Prevention: GINA Main Report. <https://ginasthma.org/2024-report/> (2024).
3. Bisgaard H, Le Roux P, Bjåmer D, Dymek A, Vermeulen JH, Hultquist C. Budesonide/formoterol maintenance plus reliever therapy: a new strategy in pediatric asthma. *Chest*. 2006 Dec 1;130(6):1733-43.
4. Symbicort 100/6 inhalation powder - Summary of product characteristics (SmPC) - (emc) (medicines.org.uk) Available at: <https://www.medicines.org.uk/emc/product/1326/smpc> [Accessed 24 April 2025]

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