Management of Asthma in Primary Care – Pathway for children aged 5 to 11 years old

See NG244 for full NICE/BTS/SIGN pathway for diagnosing, monitoring and managing asthma

NHS Surrey Heartlands

Newly diagnosed asthma in children aged 5 to 11 years

Any child with asthma on SABA alone

Paediatric LOW-dose ICS Twice daily | With **SABA** for symptom relief

Allow 8 to 12 weeks for response after adjusting treatment at any step in the pathway

Asthma considered poorly controlled if:

- Exacerbation requiring oral steroids
- Frequent regular symptoms i.e. using a reliever ≥3 times a week
- Nighttime wakening ≥1 a week

Aim for:

- No symptoms, no limitation on exercise, no asthma attacks
- Not needing rescue medication

Ensure all patients have a PAAP (personalised asthma action plan)

Asthma uncontrolled?

Assess ability to managed MART regimen

Able to manage MART regimen

Paediatric LOW-dose MART ICS/formoterol * Taken as maintenance and reliever therapy

Asthma uncontrolled

Paediatric MODERATE- dose MART ICS/formoterol * Taken as maintenance and reliever therapy

Asthma uncontrolled

Refer to specialist in asthma care (see next page)

Unable to manage MART regimen

Paediatric LOW-dose ICS Twice daily | Consider 3-month trial of **Oral LTRA** montelukast | With **SABA** for symptom relief

STOP LTRA if ineffective or side-effects

Asthma uncontrolled

Paediatric LOW-dose ICS/LABA Twice daily (with or without LTRA) | With **SABA** for symptom relief

Asthma uncontrolled

Paediatric MODERATE-dose ICS/LABA Twice daily (with or without LTRA) | With **SABA** for symptom relief

Asthma uncontrolled

CONSIDER STEP DOWN: when symptoms are well-controlled and stable for ≥ 3 months

BEFORE STEPPING UP, CHECK: Diagnosis, Adherence, Triggers eliminated, Inhaler technique

Identify and address trigger factors:

- ❑ Active or passive smoking and vaping
- ❑ Indoor and outdoor pollution
- ❑ Seasonal factors
- ❑ Psychosocial factors
- ❑ Co-morbidities

Patient review and monitoring:

Monitor asthma control at every review. Ask about symptoms and check:

- ❑ Time off school due to asthma
- ❑ Reliever inhaler use
- ❑ Asthma attacks, oral corticosteroid use
- ❑ Inhaler technique and adherence
- ❑ Consider using a validated tool e.g. ACT score as part of the review
- ❑ Do not routinely monitor lung function e.g. PEF

* Off-label use of ICS/formoterol containing inhalers licensed for MART

ICS = inhaled corticosteroid; AIR = anti-inflammatory reliever therapy; MART = maintenance and reliever therapy; LTRA = leukotriene receptor antagonist; LAMA = long-acting muscarinic receptor antagonist; SABA –short-acting beta-agonist

Notes on inhaled medication for children aged 5 to 11 years old

Information about MART
Maintenance and Reliever Therapy (Low and moderate dose ICS/formoterol inhaler)

Used for daily maintenance therapy, and additional doses for the relief of symptoms as needed

Paediatric Low dose (metered dose):
budesonide 100-200 mcg/day

Paediatric Moderate dose (metered dose):
budesonide 300-400 mcg/day

Use is off-label in children under 12 years old. See information sheet for parents on off-label use of MART inhalers.
Recommended by NICE as evidence of benefit in children < 12 years old

Which children to consider for MART?

- Poor adherence to treatment
- Can recognise symptoms and act on them
- Confused over reliever and preventer inhalers
- Uncontrolled asthma
- Seasonal symptoms – step up and down treatment as needed
- Overuse of SABA inhalers
- Able to use DPI

Which children may not be suitable for MART?

- Child unable to recognise symptoms
- Lacks capacity and needs support to decide to use reliever
- Unable to understand the asthma plan
- Struggles to use DPI

MART Asthma Action Plan

Prescribing considerations for patients on MART

- At initiation prescribe 2 inhalers – one to use BD and one PRN
- Ensure prescribing templates allow patients to order PRN ICS/formoterol
- SABA is NOT required as a reliever, consider providing SABA plus spacer for **emergency use** if unable to activate a DPI during an acute asthma attack

Asthma attack advice for patients on MART
Take one puff every 1 to 3 minutes up to 4 puffs (8 puffs for Symbicort pMDI)
If you feel worse at any point OR do not feel better after 4 puffs, call 999 for an ambulance

Referral to specialist in asthma care*

- ❑ Refer if diagnosis unclear, asthma uncontrolled, ≥2 courses of oral corticosteroids or had any hospital admissions due to asthma in the last 12 months
- ❑ Address trigger avoidance, inhaler technique and adherence before referral

Inhaler choice

- ❑ Use NICE patient decision aid to help the patient decide which inhaler is easiest to use (includes information on carbon footprint).
- ❑ Prescribe inhalers only after the patient has received training in the use of the device and can demonstrate satisfactory technique. If the patient is unable to use a device an alternative should be found.
- ❑ Provide video link to remind the patient on how to use their inhaler device.
- ❑ Prescribe the same type of device to deliver preventer and reliever treatments, if possible
- ❑ If using an MDI, prescribe a spacer device

Inhaled corticosteroids

- ❑ Risk of adrenal suppression in children increases with dose and duration of ICS use.
- ❑ Children receiving paediatric high dose ICS should be given a blue steroid treatment card. See NICE ICS dose chart for paediatric low, moderate and high dose ICS.
- ❑ Assess the child's overall corticosteroid exposure – consider reliever doses of ICS/formoterol, nasal corticosteroids, topical corticosteroids, and courses of OCS for exacerbations.
- ❑ Further advice is available here.

Patient education

- ❑ Give information on inhaler treatment, how they work, when to take them and correct technique
- ❑ Provide a personalised asthma action plan
- ❑ Provide advice on how to manage symptoms, triggers for asthma, how to minimise exposure to triggers and what to do in the event of an asthma attack

*Specialist in asthma care - A healthcare professional with higher training in respiratory medicine and proficiency in the management of asthma. This requires both the relevant expertise and access to the resources that enable delivery of the diagnostic and management pathways described in the NICE guideline recommendations .

Preferred inhalers for children aged 5 to 11 years old (see formulary for full list of options)

ICS containing inhalers

Inhaler	Notes (Green denotes low carbon inhaler)	Paediatric Low dose ICS
Easyhaler Budesonide 100 mcg 	DPI Cost-effective option	1 puff twice daily
Pulmicort Turbohaler 100mcg 	DPI	1 puff twice daily
Clenil Modulate pMDI plus spacer 100 mcg 	pMDI	1 puff twice daily

SABA containing inhalers (salbutamol)

Inhaler	Notes (Green denotes low carbon inhaler)	Reliever dose
Easyhaler Salbutamol 100 mcg 	DPI Cost-effective option	1 -2 puffs as needed Max 8 puffs in 24 hours
Ventolin Accuhaler 200mcg 	DPI	1 puff as needed Max 4 puffs in 24 hours
Salamol pMDI plus spacer 100mcg 	pMDI No dose counter	1- 2 puffs as needed Max 8 puffs in 24 hours

ICS/LABA containing inhalers

Inhaler	Notes (Green denotes low carbon inhaler)	Paediatric Low dose ICS/LABA	Paediatric Moderate ICS/LABA
Fobumix Easyhaler 80/4.5 mcg 	DPI Cost-effective option Contains budesonide /formoterol	1 puff twice daily	2 puffs twice daily
Symbicort Turbohaler 100/6mcg 	DPI Contains budesonide /formoterol	1 puff twice daily	2 puffs twice daily
Flutiform pMDI plus spacer 50/5 mcg 	pMDI Contains fluticasone /formoterol	1 puff twice daily	2 puffs twice daily
Seretide Evohaler plus spacer 50/25 mcg 	pMDI Contains fluticasone /salmeterol	1 puff twice daily	2 puffs twice daily

Tips for Prescribing Inhalers

- ✓ Assess child's ability to use inhaler, let them see, touch and feel the inhaler, then describe and show them
- ✓ Prescribe inhalers by brand, so patient receives correct inhaler device
- ✓ Dry powder inhalers are preferred if child can use the device
- ✓ Always prescribe pMDI with a spacer
- ✓ Prescribe inhalers with an integral dose counter
- ✓ Prescribe the same type of device to deliver preventer and reliever treatments where more than one inhaler is needed

DPI = dry powder inhaler, pMDI = pressurised metered dose inhaler, ICS = inhaled corticosteroid; SABA = short-acting beta-agonist, LABA = long-acting beta-agonist

Preferred inhalers for children aged 5 to 11 years old (see formulary for full list of options)

ICS/formoterol inhalers for MART in children aged 5 to 11 years (all off-label)

Inhaler (all contain budesonide with formoterol)	**Notes** (Green denotes low carbon inhaler)	**Paediatric Low dose MART**	**Paediatric Moderate dose MART**	**Reliever puffs**	**Maximum reliever puffs***	**Maximum puffs in 24 hours**
Fobumix Easyhaler 80/4.5 	DPI Cost-effective choice	1 puff twice daily Or 2 puffs daily	2 puffs twice daily	1 puff as needed	4	8
Symbicort Turbohaler 100/6 	DPI	1 puff twice daily Or 2 puffs daily	2 puffs twice daily	1 puff as needed	4	8
Symbicort pMDI with spacer 100/3 	pMDI Only if child unable to use DPI	1 puff twice daily Or 2 puffs daily	2 puffs twice daily	2 puffs as needed	8	16

* Maximum dose of formoterol is 24 micrograms

Spacers devices suitable for children aged 5 to 11 years (see formulary for full list of options)

Spacer A spacer with mouthpiece is recommended unless the patient has difficulty using spacer with a mouthpiece	**Notes**
AeroChamber Plus Flow-Vu Anti-Static with medium mask child 1-5 years 	Child from 1 to 5 years Assess patient for suitable mask size if mask required.
AeroChamber Plus Flow-Vu Anti-Static youth 5+ years 	Child from 5 to 12 years
AeroChamber Plus Flow-Vu Anti-Static Adult (from 13 years) 	Use if need larger mouthpiece
Volumatic 	Child from 5 years Not compatible with all pMDIs, check before prescribing

Tips for Prescribing Spacer

- ✓ Spacers should not be regarded as interchangeable. Use the spacer device named in the Summary of Product Characteristics
- ✓ Patients using a spacer where their asthma is well-controlled should not switch between spacers.
- ✓ Different spacers may deliver different amounts of ICS, which may have implications for safety and efficacy
- ✓ Plastic spacers should be replaced at least every 12 months, but some may need changing at 6 months