Ashford and St. Peter's Hospitals
NHS Foundation Trust

Guidance to support the management of asthma in children and young people

Authors: Dr Ruth Mew Paediatric Consultant

Dr Naren Siva Paediatric Consultant

Contact details: ruth.mew@nhs.net naren.siva@nhs.net

Guideline History		
Date	**Comments**	**Approved By**
22.01.25	Ratified at Guidelines Meeting	Departmental meeting

Scope: Applicable to CYP 5- 16 years at ASPH. Younger children are unlikely to have a diagnosis of asthma. Refer to BTS guidance for <5 years and > 16 years.

Introduction: This is a quick reference guide based on BTS and clinical experience for use by a non-specialist to support the management of CYP with suspected asthma in outpatients clinic.

References:
Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN)
NICE guideline [NG245] Published: 27 November 2024. https://www.nice.org.uk/guidance/NG245

Abbreviations:

Peak expiratory flow rate PEFR	Fractional Exhaled Nitric Oxide FeNO
Lower limit of normal LLN	Inhaled corticosteroid ICS
Short acting beta agonist (e.g. Salbutamol) SABA	Skin prick test SPT
Bronchodilator reversibility BDR	Metered dose inhaler MDI
Inhaled corticosteroid ICS	Asthma control test ACT

Anti-inflammatory reliever AIR (e.g. using Budesonide/Formoterol)
Forced expiratory volume at 1 sec/forced vital capacity FEV1/FVC
Maintenance and reliever treatment (e.g. Budesonide/Formoterol) MART

ASTHMA DIAGNOSIS – diagnose 'Suspected Asthma' until diagnostic tests

Features to support a diagnosis of asthma

- Recurrent wheeze, nosiy breathing, cough, chest tightness, breathlessness
- Variation in symptoms (worse during night/early morning or seasonal) or severity
- Recorded clinical observation of wheeze

Diagnostic tests demonstrate

- Airway hyper-responsiveness (bronchospasm) causing obstruction
- Airway inflammation

Asthma responds to ICS, if no response consider diagnosis & adherence

Obstruction
PEFR variability > 20% over 2 weeks (usually lower in morning)
Spirometry FEV1/FVC <70% or <LLN
BDR (increase of FEV1 >12%)

Inflammation
FeNo > 35ppb (also raised in allergic rhinitis)
Blood eosinophilia > 0.5 x10^9 /l
SPT to house dust mite, raised total IgE

SYMPTOM CONTROL

Quantify number of SABA inhalers used over 12m

- 2 + indicates poor control, > 6 is high risk

Asthma control test (https://www.asthmacontroltest.com)

- ACT < 20 indicates poor control

Courses of oral steroids over 12m
Number of ED attendances > 4hrs or admissions over 12m

Increased risk of severe or fatal asthma
Poor adherence
2 admissions or ED attendances
Overuse of SABA
2 oral steroids per year
Previous near fatal asthma attack

Good control
No SABA
No attacks
No day symptoms
No night waking
No limitation
Normal lung function

TRIGGERS & MODIFIABLE FACTORS

Document triggers (viruses, weather, exercise, allergens)

Medication, inhaler technique & adherence are most modifiable

Ask about exposure to tobacco smoke / vaping (Refer for smoking cessation https://www.healthysurrey.org.uk/smoking)
Consider air quality: allergen exposure (pollen, house dust mite), indoor air quality (mould, poor heating), air pollution
Patient Information leaflets are available on Asthma UK and Allergy UK
Co-morbidities: allergic rhinitis, obesity, food allergy (increases risk of fatal asthma), psychological & social factors

MEDICATION REVIEW

Optimise treatment as per BTS
No SABA without ICS, Use AIR > 12yrs
Check ICS adherence & doses typically missed

- Aherence <75% is a risk factor

Step up/down by 50%, review after 8-12 weeks
Avoid high dose ICS
Observe inhaler technique at every review (https://www.asthmaandlung.org.uk/living-with/inhaler-videos)

Dry powder inhalers: usually > 12y
Avoid in CYP with milk allergy

50mcg Fluticasone equivalent to 100mcg Budesonide / Beclometasone

Try MART for >12y

Aerochambers
Orange: infants
Yellow: 1-5 y
Blue with mouthpiece: >5y
Spacer needed for all MDI

ACTIONS & FOLLOW UP

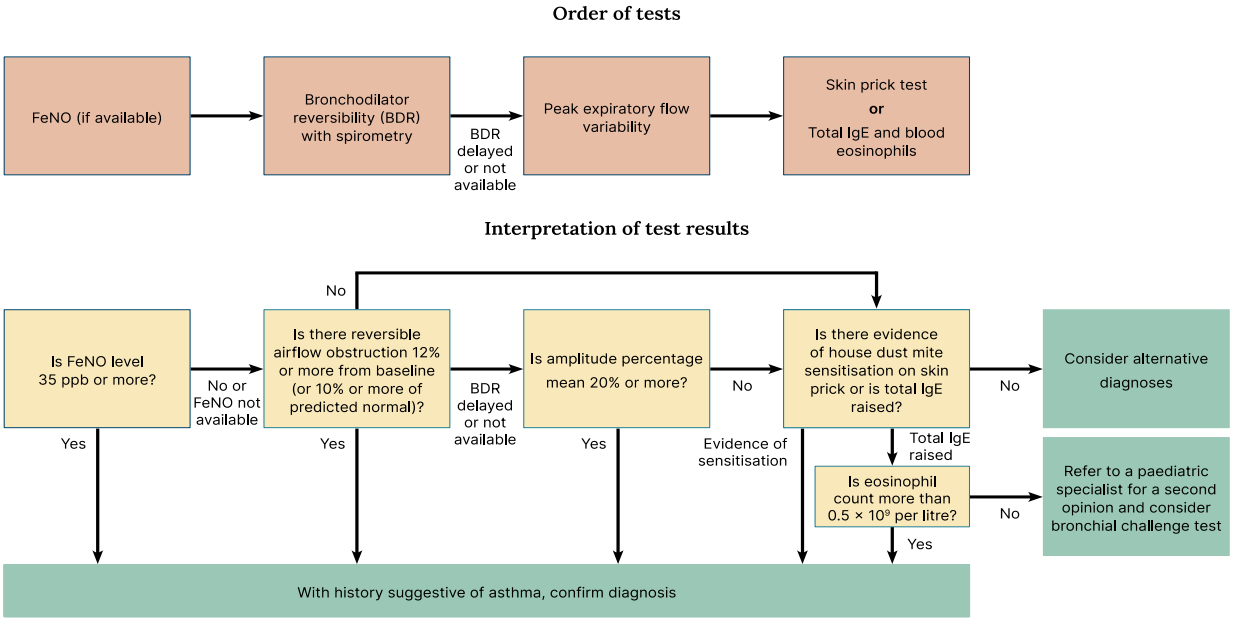
Provide personalised asthma action plan (https://shop.asthmaandlung.org.uk/collections/new-shop-hcp)
Provide asthma education (trigger avoidance, stepping up & down treatment using asthma plan)
Follow up in clinic until good control
Primary care annual asthma review available for > 8y with a diagnosis of asthma.

Spirometry & FeNO difficult < 8 y

ASPH respiratory nurses if needed for inhaler technique, FeNO, Spirometry, SPT (must remain under referring consultant)
Asthma clinic if poor control despite moderate dose ICS & review of adherence, inhaler technique & modifiable factors.

Algorithm B: Objective tests for diagnosing asthma in children aged 5 to 16 with a history suggesting asthma

BTS, NICE and SIGN guideline on asthma



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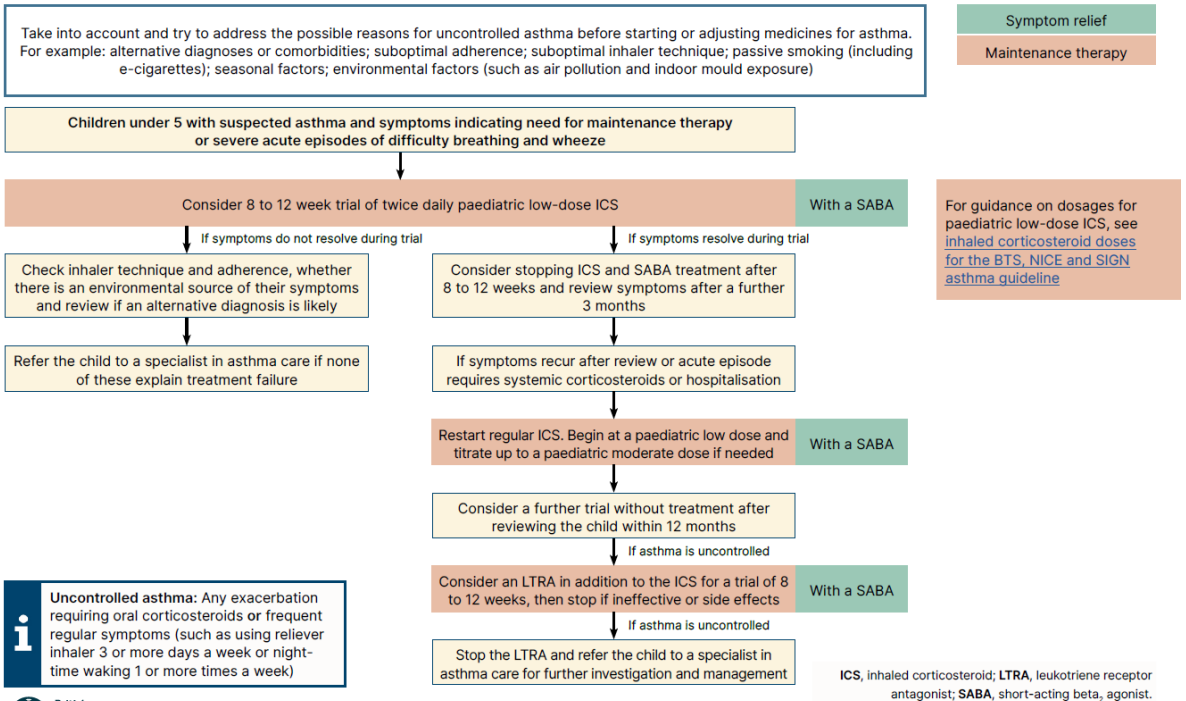
Algorithm E: Pharmacological management of asthma in children under 5

BTS, NICE and SIGN guideline on asthma



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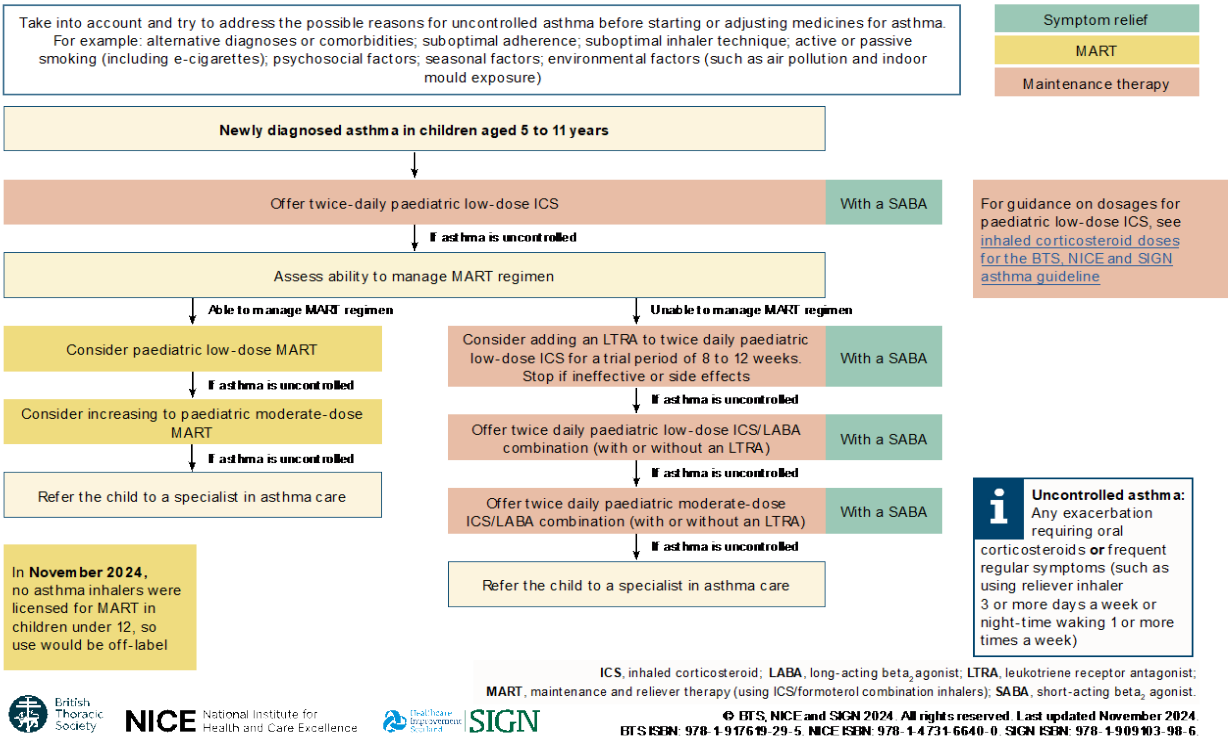
Algorithm D: Pharmacological management of asthma in children aged 5 to 11 years

BTS, NICE and SIGN guideline on asthma



ICS, inhaled corticosteroid; LABA, long-acting beta$_2$ agonist; LTRA, leukotriene receptor antagonist; MART, maintenance and reliever therapy (using ICS/formoterol combination inhalers); SABA, short-acting beta$_2$ agonist.

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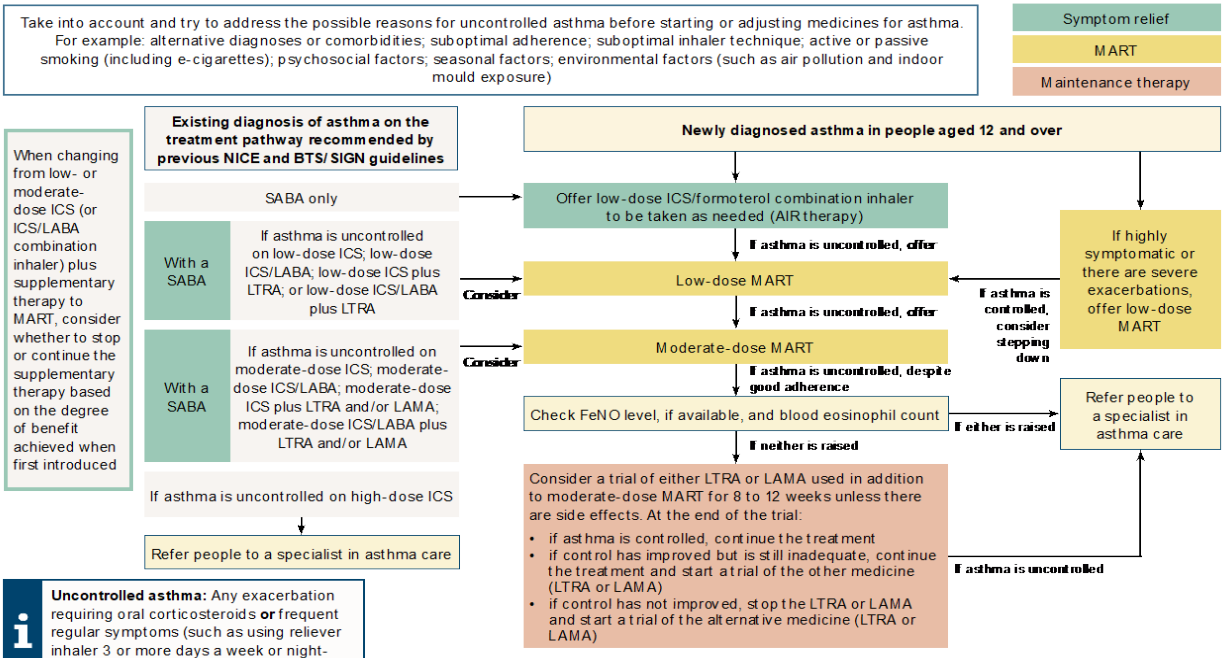
Algorithm C: Pharmacological management of asthma in people aged 12 years and over

BTS, NICE and SIGN guideline on asthma



ICS, inhaled corticosteroid; LABA, long-acting beta$_2$ agonist; LAMA, long-acting muscarinic receptor antagonist; LTRA, leukotriene receptor antagonist; MART, maintenance and reliever therapy (using ICS/formoterol combination inhalers); SABA, short-acting beta$_2$ agonist.

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BTS ICS Dosages for children **5 -11 years** (total mcg per day, usually in 2 divided doses)

	Paediatric LOW dose	**Paediatric MODERATE dose**	**Paediatric HIGH dose REFER TO ASTHMA CLINIC**
Beclometasone Standard particle (Clenil)	100-200	300-400	500-800
Beclometasone Fine particle (Qvar)	100	150-200	300-400
Budesonide (Symbicort)	100-200	300-400	500-800
Fluticasone propionate (Flixotide, Seretide)	100	150-200	250-400

BTS ICS Dosages for children **12 years and above** (mcg per day)

	Paediatric LOW dose	**Paediatric MODERATE dose**	**Paediatric HIGH dose REFER TO ASTHMA CLINIC**
Beclometasone Standard particle (Clenil)	200-500	600-800	1000-2000
Beclometasone Fine particle (Qvar)	100-200	300-400	500-800
Budesonide (Symbicort)	200-400	600-800	1000-1600
Ciclesonide	80-160	240-320	400-640
Fluticasone propionate (Flixotide, Seretide)	100 -250	300-500	600-1000
Fluticasone furoate (Relvar)	-	100	200
Mometasone furoate (Asmanex)	200	400	600-800