

Asthma Guidance for Children & Young People (CYP) in Bath & Northeast Somerset, Swindon & Wiltshire (BSW)

Dr Seb Gray, Paediatric Consultant (Salisbury NHS FT) & CYP Asthma Lead for BSW ICB
Miss Anne Whiting, CYP Physiotherapist, ACP & non-medical prescriber (Salisbury NHS FT)

January 2025

Introduction

This guide is for healthcare professionals looking after children and young people (CYP) with suspected asthma or recurrent viral-induced wheeze. In keeping with national and international guidance, we have differentiated age groups into 3 categories:

- Under 5 years
- 5–12 years old
- 12 years or older

For each category we have suggested a diagnostic pathway, medications available and criteria for referral to secondary care centred around the [BTS/NICE/SIGN asthma guidelines](#) published in November 2024.

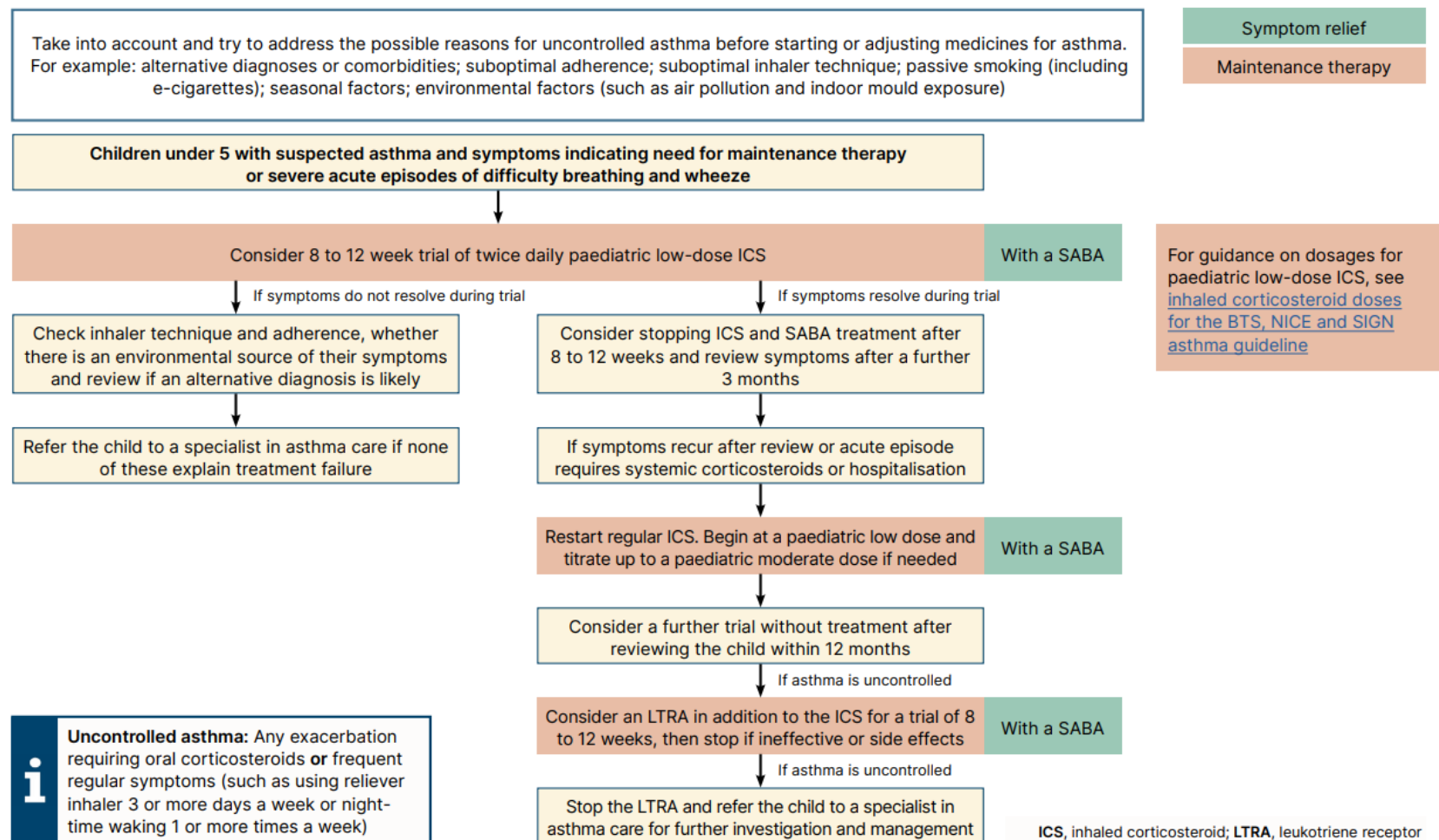
Everyone who encounters CYP with asthma should understand asthma and how to manage it. A [national tiered training package](#) has been developed and a minimum of level 3 training would be expected for those using this guidance.

Every child should have a [Personalised Asthma Action Plan](#) – this should be given to the parents and any childcare settings as well as being documented in the child's medical records. Any subsequent changes to this plan will require a new one to be issued with the most up to date accurate information.

Inhaler technique must be checked in person and supplemented with videos available on the [Asthma UK website](#) for the various devices.

Under 5 Years - Management

Algorithm E: Pharmacological management of asthma in children under 5 BTS, NICE and SIGN guideline on asthma



Under 5 Years – Prescribing Options; **Low Dose** Inhaled Corticosteroids (ICS):

Brand Name	Clenil Modulite® 100mcg/dose Metered Dose Inhaler	Flixotide 50mcg/dose Evohaler®
Drug Name	Beclometasone dipropionate (BDP) 100 micrograms per 1 dose	Fluticasone propionate 50 micrograms per 1 dose (equivalent to 100mcg of BDP)
Dose	One puff twice daily via appropriate spacer	One puff twice daily via appropriate spacer
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 100 days if 1 puff twice daily; 4 per year)	120 actuations (Lasts 2 months if 1 puff twice daily; 6 per year)
Cost	£7.42 (7.42p/day)	£6.53 (10.88p/day)
License	2-11 years old	From 4 years old

Under 5 Years – Prescribing Options; **Moderate Dose** ICS:

Brand Name	Clenil Modulite® 100mcg/dose Metered Dose Inhaler	Flixotide 50mcg/dose Evohaler®
Drug Name	Beclometasone dipropionate (BDP) 100 micrograms per 1 dose	Fluticasone propionate 50 micrograms per 1 dose (equivalent to 100mcg of BDP)
Dose	Two puffs twice daily via appropriate spacer	Two puffs twice daily via appropriate spacer
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 50 days if 2 puffs twice daily; 7 per year)	120 actuations (Lasts 1 month if 2 puffs twice daily; 12 per year)
Cost	£7.42 (14.84p/day)	£6.53 (21.76p/day)
License	2-11 years old	From 4 years old

Under 5 Years – Prescribing Options; Leukotriene Receptor Antagonist:

Brand Name	Granules 4mg sachets sugar-free	Chewable tablets 4mg sugar free
Drug Name	Montelukast	Montelukast
Dose	4mg once daily in the evening	4mg once daily in the evening
Image	N/A	N/A
Number of doses (How long it will last)	28 sachets (28 days)	28 tablets (28 days)
Cost	£6.91 (24.79p/day)	£1.02 (3.64p/day)
License	6 months to 5 years	From 4 years old

If prescribing Montelukast, please provide verbal and written safety net information about the possible side effects and document this in the medical records. The [information leaflet from Medicines for Children](#) is recommended and is important to be aware of the update in relation to the risk of neuropsychiatric reactions from the [Medicines and Healthcare products Regulatory Agency](#) (2019).

Under 5 Years – Threshold for Secondary Care Referral

- Clinical/diagnostic uncertainty or if symptoms do not resolve during 8-12 week trial of twice daily low-dose ICS with good inhaler technique and adherence to prescribed medication
- Features suspicious of alternate diagnoses:
 - Red Flags: Failure to thrive, unexplained clinical findings (e.g. focal signs, abnormal voice or cry, dysphagia, inspiratory stridor), symptoms since birth, perinatal respiratory problems, excessive vomiting, severe upper respiratory tract infections, persistent wet or productive cough, nasal polyps, family history of unusual respiratory disease
 - Alternative Diagnoses: Cystic fibrosis/bronchiectasis, Primary Ciliary Dyskinesia, Chronic Lung Disease of Prematurity, Developmental/congenital lung anomaly, Neuromuscular disorders, Protracted Bacterial Bronchitis, Recurrent aspiration/reflux, Immune/Host Defence disorders, Pertussis, Tracheal/laryngeal disorders, Tuberculosis, Missed foreign body
- Acute asthma/wheeze exacerbation requiring admission
- Severe or life-threatening exacerbation (for example, if admitted to another hospital whilst away) – all CYP admitted to acute hospitals within BSW should have local follow-up arranged and all CYP admitted to Paediatric Intensive Care should have local follow-up alongside tertiary care paediatric respiratory follow-up from either the Bristol or Southampton teams
- 2 or more courses of oral steroids in the last 12 months
- Consider lower thresholds if any safeguarding concerns or family living in poverty (particularly in the lowest 2 deciles for Index of Multiple Deprivation (IMD) – free IMD postcode checker [here](#))

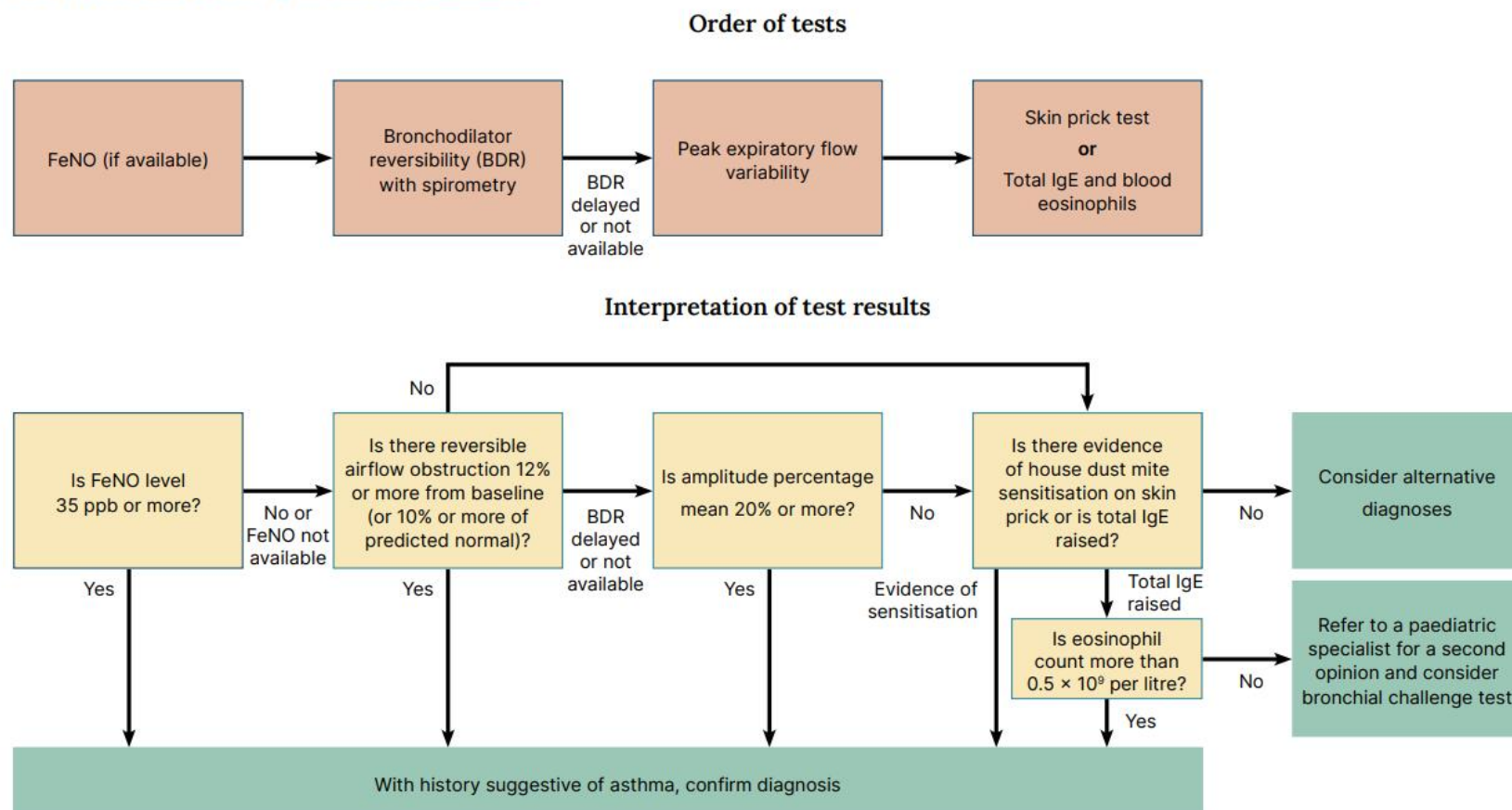
If there are grey areas or you are unsure, please use the Cinapsis advice and guidance service to discuss with your local paediatric team.

For referrals, please use the Electronic Referral System (ERS) pathway.

5-16 Years - Diagnosis

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



5-16 Years – Diagnosis – Fractional Excretion of Nitric Oxide (FeNO)

Fractional Excretion of Nitric Oxide (FeNO), an indicator of airway inflammation, where available is the first investigation recommended by the updated national asthma guidelines.

A FeNO of 35 parts per billion (ppb) is considered a positive test and with a history suggestive of asthma, confirms the diagnosis.

5-16 Years – Diagnosis – Spirometry

[NHSE/I](#) recommend spirometry should be attempted and is usually possible in most CYP aged 5 or over. Specialist training is required for healthcare professionals to perform spirometry in children and young people under the age of 12 years, and it should only be performed if competent to do so. For CYP 12 years or older, healthcare professionals deemed competent in testing adults would be deemed capable to perform the tests. Further information on quality assured diagnostic spirometry as well as available training courses from the Association for Respiratory Technology & Physiology are available [here](#).

Bronchodilator Reversibility (BDR)

It is recommended to perform BDR if the Forced Expiratory Volume in 1 second (FEV₁) is less than 70% predicted (or less than the estimated lower limit of normal) and/or if the FEV₁/Forced Vital Capacity (FVC) ratio is less than 70% predicted (or less than the estimated lower limit of normal).

400 micrograms of Salbutamol (equivalent of 4 puffs of 100 micrograms Salbutamol) should be administered and then spirometry repeated 20 minutes later. An improvement in FEV₁ of 12% or more is considered a positive BDR test and supportive of an asthma diagnosis.

5-16 Years – Diagnosis – Peak Flow Monitoring

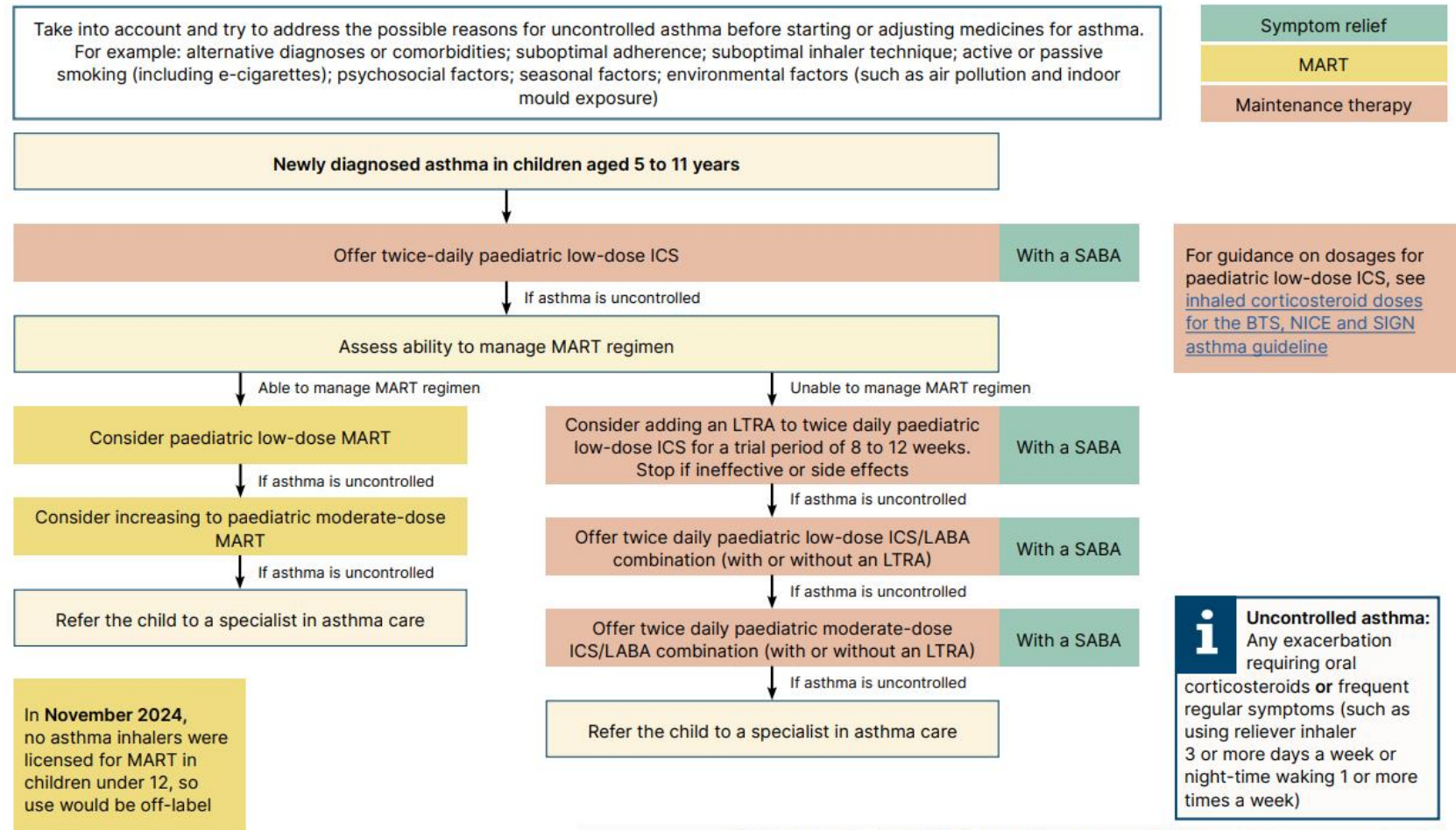
If diagnostic FeNO and spirometry with BDR is unavailable/unsuccessful/delayed, monitor peak flow variability for 2 to 4 weeks. A diary or digital app should be used to record values and measure variability. Variability over 20% is suggestive of asthma and would confirm the diagnosis.

5-16 Years – Diagnosis – Skin Prick Testing +/- Total IgE and blood eosinophils


If diagnostic tests remain unclear or not suggestive of asthma, skin prick testing for house dust mite and blood tests for total IgE and eosinophils (part of a full blood count) should be arranged. Current provision across BSW ICB would require a referral to the local allergy services based at RUH, GWH and SFT. Paediatric phlebotomy local service pathways should be followed for organising the blood tests.

5-12 Years - Management


Algorithm D: Pharmacological management of asthma in children aged 5 to 11 years BTS, NICE and SIGN guideline on asthma



5-12 Years – Prescribing Options; Low Dose ICS (MDI & Spacer):

Brand Name	Clenil Modulite® 100mcg/dose Metered Dose Inhaler	Flixotide 50mcg/dose Evohaler®
Drug Name	Beclometasone dipropionate (BDP) 100 micrograms per 1 dose	Fluticasone propionate 50 micrograms per 1 dose (equivalent to 100mcg of BDP)
Dose	One puff twice daily via appropriate spacer	One puff twice daily via appropriate spacer
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 100 days if 1 puff twice daily; 4 per year)	120 actuations (Lasts 2 months if 1 puff twice daily; 6 per year)
Cost	£7.42 (7.42p/day)	£6.53 (10.88p/day)
License	2-11 years old	From 4 years old

5-12 Years – Prescribing Options; Low Dose ICS (MDI Breath-Activated):

Brand Name	Qvar 50 Autohaler®
Drug Name	Beclometasone dipropionate (BDP) 50 micrograms per 1 dose
Dose	One puff twice daily
Image	
Number of actuations (How long it will last)	200 actuations (Lasts 100 days if 1 puff twice daily; 4 per year)
Cost	£7.87 (7.87p/day)
License	From 5 years

5-12 Years – Prescribing Options; Low Dose ICS (Dry Powder Inhalers; DPIs):

Brand Name	Pulmicort 100 Turbohaler®	Flixotide 50mcg/dose Accuhaler®
Drug Name	Budesonide 100 micrograms per 1 dose	Fluticasone propionate 50 micrograms per 1 dose (equivalent to 100mcg of BDP)
Dose	One puff twice daily	One puff twice daily
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 100 days if 1 puff twice daily; 4 per year)	60 actuations (Lasts 1 month if 1 puff twice daily; 12 per year)
Cost	£14.25 (14.25p/day)	£4.00 (13.33p/day)
License	From 5 years old	From 4 years old


6*-12 Years – Prescribing Options; Leukotriene Receptor Antagonist:

Brand Name	Chewable tablets 5mg sugar free
Drug Name	Montelukast
Dose	5mg once daily in the evening
Image	N/A
Number of doses (How long it will last)	28 tablets (28 days)
Cost	£1.10 (3.92p/day)
License	From 6 years old

*Note: the recommended dose for children aged 5 and below is 4mg; 5mg is recommended for children aged 6-14 years.

If prescribing Montelukast, please provide verbal and written safety net information about the possible side effects and document this in the medical records. The [information leaflet from Medicines for Children](#) is recommended and is important to be aware of the update in relation to the risk of neuropsychiatric reactions from the [Medicines and Healthcare products Regulatory Agency](#) (2019).


5-12 Years – Prescribing Options; Low Dose ICS & Long-Acting Beta-Agonist (LABA) Combination Inhaler (DPI):

Brand Name	Symbicort 100/6 Turbohaler®
Drug Name	Budesonide 100 micrograms/dose & Formoterol 6 micrograms/dose
Dose	One puff twice daily
Image	
Number of actuations (How long it will last)	120 actuations (Lasts 60 days if 1 puff twice daily; 6 per year)
Cost	£28.00 (46.67p/day)
License	From 6 years



5-12 Years – Prescribing Options; **Moderate Dose** ICS (MDI & spacer):

Brand Name	Clenil Modulite® 100mcg/dose Metered Dose Inhaler	Flixotide 50mcg/dose Evohaler®
Drug Name	Beclometasone dipropionate (BDP) 100 micrograms per 1 dose	Fluticasone propionate 50 micrograms per 1 dose (equivalent to 100mcg of BDP)
Dose	Two puffs twice daily via appropriate spacer	Two puffs twice daily via appropriate spacer
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 50 days if 2 puffs twice daily; 8 per year)	120 actuations (Lasts 1 month if 2 puffs twice daily; 12 per year)
Cost	£7.42 (14.84p/day)	£6.53 (21.76p/day)
License	2-11 years old	From 4 years old

5-12 Years – Prescribing Options; **Moderate Dose** ICS (MDI Breath-Activated):

Brand Name	Qvar 50 Autohaler®
Drug Name	Beclometasone dipropionate (BDP) 50 micrograms per 1 dose
Dose	Two puffs twice daily
Image	 The image shows the packaging and the inhaler device for Qvar 50 Autohaler. The box is blue and white with red accents, featuring the Teva logo and text: 'Qvar 50 Autohaler', 'Beclometasone Dipropionate CFC FREE', 'Breath-actuated aerosol', 'Inhalation use', 'Preventer', and '200 actuations'. The inhaler device is white with a brown cap and a small white label.
Number of actuations (How long it will last)	200 actuations (Lasts 50 days if 2 puffs twice daily; 8 per year)
Cost	£7.87 (15.74p/day)
License	From 5 years

5-12 Years – Prescribing Options; **Moderate Dose** ICS (Dry Powder Inhalers; DPIs):

Brand Name	Pulmicort 100 Turbohaler®	Flixotide 100mcg/dose Accuhaler®
Drug Name	Budesonide 100 micrograms per 1 dose	Fluticasone propionate 100 micrograms per 1 dose (equivalent to 200mcg of BDP)
Dose	Two puffs twice daily	One puff twice daily
Image		
Number of actuations (How long it will last)	200 actuations (Lasts 50 days if 2 puffs twice daily; 8 per year)	60 actuations (Lasts 1 month if 1 puff twice daily; 12 per year)
Cost	£14.25 (28.50p/day)	£4.02 (13.40p/day)
License	From 5 years old	From 4 years old

5-12 Years – Prescribing Options; **Moderate Dose** ICS & Long-Acting Beta-Agonist (LABA) Combination Inhaler (MDI & Spacer):

Brand Name	Seretide 50 Evohaler®
Drug Name	Fluticasone 50 micrograms/dose & Salmeterol 25 micrograms/dose
Dose	Two puffs twice daily via appropriate spacer
Image	
Number of actuations (How long it will last)	120 actuations (Lasts 30 days if 2 puffs twice daily; 12 per year)
Cost	£17.46 (58.20p/day)
License	From 4 years

5-12 Years – Prescribing Options; **Moderate Dose** ICS & Long-Acting Beta-Agonist (LABA) Combination Inhaler (DPI):

Brand Name	Symbicort 200/6 Turbohaler®	Seretide 100 Accuhaler®
Drug Name	Budesonide 200 micrograms/dose & Formoterol 6 micrograms/dose	Fluticasone propionate 100 micrograms/dose & Salmeterol 50 micrograms/dose
Dose	One puff twice daily	One puff twice daily
Image		
Number of actuations (How long it will last)	120 actuations (Lasts 60 days if 1 puff twice daily; 6 per year)	60 actuations (Lasts 30 days if one puff twice daily; 12 per year)
Cost	£28.00 (46.67p/day)	£17.46 (58.2p/day)
License	From 12 years (used off-label in younger children)	From 4 years

5-12 Years – Maintenance And Reliever Therapy (MART) or Anti-Inflammatory Reliever (AIR) regimes – see over 12 years guidance on pages 25-27 (same dosing but prescribed off-label in CYP under 12 years if assessed and suitable to use appropriate inhaler)

5-12 Years – Threshold for Secondary Care Referral

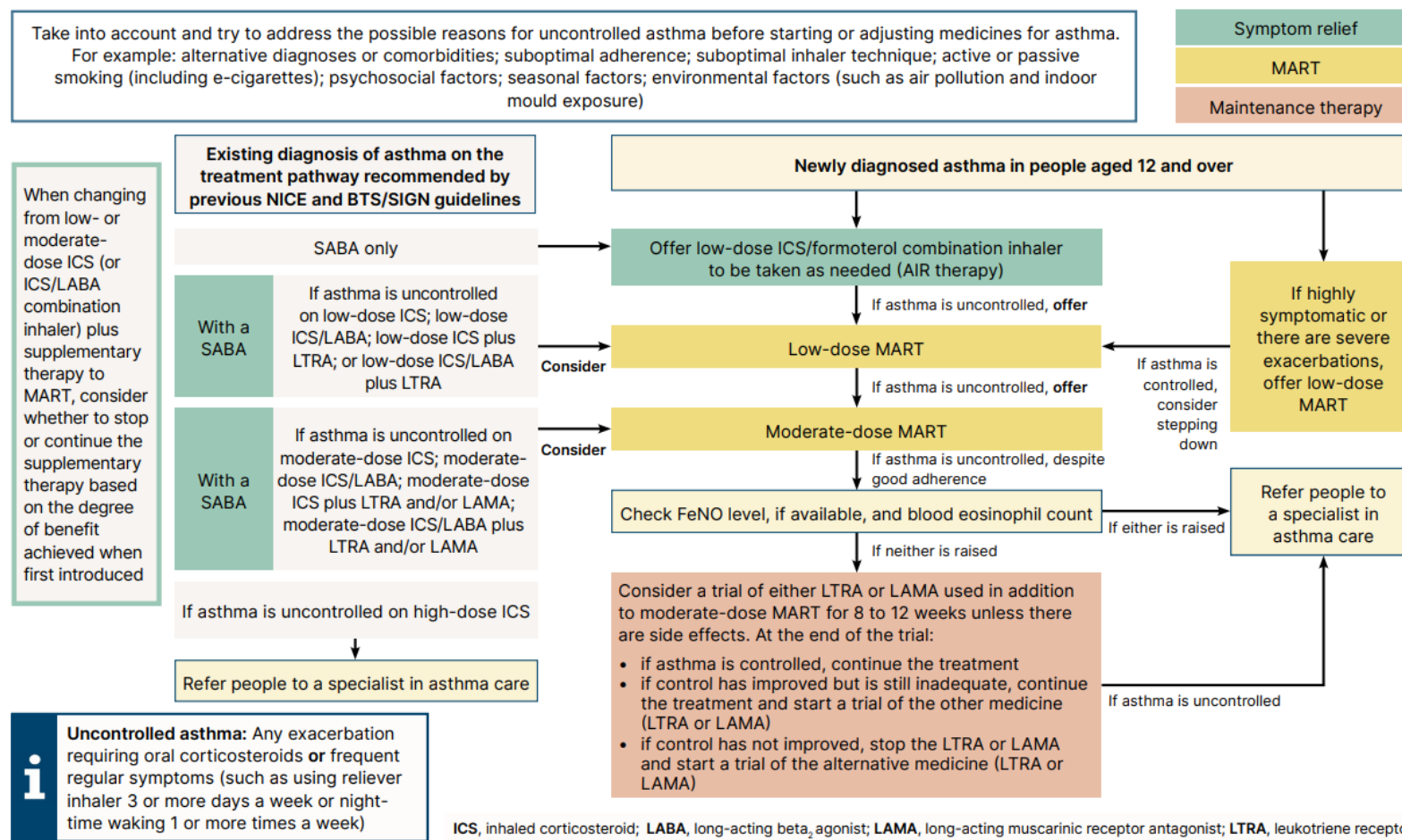
- Any “High Risk” patients as per Box B or “Red flag indicators for alternative diagnoses” as per Box C in the [“Managing Asthma in Children aged 5-12 years \(primary care\)” pathway](#)
 - “High Risk” patients:
 - History of severe attacks
 - Poor health seeking behaviours amongst carers
 - Failure to recognise symptom severity
 - Poor adherence to treatment
 - Overuse of SABA (>1 inhaler/month)
 - Peanut allergy
 - “Red flag indicators for alternative diagnoses”:
 - Failure to thrive
 - Abnormal voice/cry
 - Stridor
 - Dysphagia
 - Persistent wet/productive cough
 - Nasal polyps
- Escalation to “Specialist therapies” in the treatment ladder (more than low dose ICS and LTRA or LABA)
- Clinical/diagnostic uncertainty
- Consider lower thresholds if any safeguarding concerns or family living in poverty (particularly in the lowest 2 deciles for Index of Multiple Deprivation (IMD) – free IMD postcode checker [here](#)).

If there are grey areas or you are unsure, please use the Cinapsis advice and guidance service to discuss with your local paediatric team.

For referrals, please use the Electronic Referral System (ERS) pathway.



Over 12 Years - Management

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 beta₂ agonist; LAMA, long-acting muscarinic receptor antagonist; LTRA, leukotriene receptor antagonist; MART, maintenance and reliever therapy (using ICS/formoterol combination inhalers); SABA, short-acting beta₂ agonist.

Over 12 Years – Use of Dry Powder Inhalers – assessment and training resources

Brand Name	Patient Trainer Whistle for Symbicort 100/6 Turbohaler®	Clement Clarke Dial G15 Inhaler Training Device
Image		
Use	Single patient use	Multiple patient use Requires single patient use filters
Cost	Free	£55 per unit + filters
Additional details	Request via: medical.informationuk@astrazeneca.com	Will require single use filters

Over 12 Years – Prescribing Options; Low Dose ICS & Long-Acting Beta-Agonist (LABA) Combination Inhaler (DPI):

Brand Name	Symbicort 100/6 Turbohaler®	Fobumix Easyhaler 80/4.5
Drug Name	Budesonide 100 micrograms/dose & Formoterol 6 micrograms/dose	Budesonide 80 micrograms & Formoterol fumarate dihydrate 4.5 micrograms/dose
Dose	One puff twice daily (up to a maximum of 8 inhalations daily as part of MART) OR as needed (AIR)	One puff twice daily (up to a maximum of 8 inhalations daily as part of MART) OR as needed (AIR)
Image		
Number of actuations (How long it will last)	120 actuations (Lasts 60 days if 1 puff twice daily; 6 per year) (Lasts 15 days if 8 puffs daily; 24 per year)	120 actuations (Lasts 60 days if 1 puff twice daily; 6 per year) (Lasts 15 days if 8 puffs daily; 24 per year)
Cost	£28.00 (46.67p/day)	£21.50 (35.83p/day)
License	From 6 years; MART regimens from adolescents	From 6 years

Over 12 Years – Prescribing Options; **Moderate Dose** ICS & Long-Acting Beta-Agonist (LABA) Combination Inhaler (DPI):

Brand Name	Symbicort 200/6 Turbohaler®	Fobumix Easyhaler 160/4.5	Wockair 160/4.5
Drug Name	Budesonide 200 micrograms/dose & Formoterol 6 micrograms/dose	Budesonide 160 micrograms & Formoterol fumarate dihydrate 4.5 micrograms/dose	Budesonide 160 micrograms & Formoterol fumarate dihydrate 4.5 micrograms/dose
Dose	One puffs twice daily (up to a maximum of 8 inhalations daily as part of MART)	One puff twice daily (up to a maximum of 8 inhalations daily as part of MART)	One puff twice daily (up to a maximum of 8 inhalations daily as part of MART)
Image			
Number of actuations (How long it will last)	120 actuations (Lasts 30 days if 1 puff twice daily; 12 per year) (Lasts 15 days if 8 puffs daily; 24 per year)	120 actuations (Lasts 30 days if 1 puff twice daily; 12 per year) (Lasts 15 days if 8 puffs daily; 24 per year)	120 actuations (Lasts 30 days if 1 puff twice daily; 12 per year) (Lasts 15 days if 8 puffs daily; 24 per year)
Cost	£28.00 (46.67p/day)	£21.50 (35.83p/day)	£19.00 (31.67p/day)
License	From 12 years	From 12 years	From 12 years

Over 12 Years – Prescribing Options; Either add Long-acting muscarinic antagonist (LAMA) OR add Leukotriene receptor antagonist (LTRA)

Brand Name	Spiriva Respimat 2.5mcg SMI	Montelukast
Drug Name	Tiotropium (LAMA)	Montelukast (LTRA)
Dose	Two doses, once daily	6-14 years 5mg once daily (at night) 15-17 years 10g once daily (at night)
Image		
Number of doses (How long it will last)	60 doses (Lasts 30 days)	28 tablets (Lasts 28 days)
Cost	£23.00 (76.67p/day)	5mg: £1.10 (0.4p/day) 10 mg: £1.64 (0.6p/day)
License	From 6 years	5mg from age 6 10mg from age 15

If prescribing Montelukast, please provide verbal and written safety net information about the possible side effects and document this in the medical records. The [information leaflet from Medicines for Children](#) is recommended and is important to be aware of the update in relation to the risk of neuropsychiatric reactions from the [Medicines and Healthcare products Regulatory Agency](#) (2019).

Over 12 Years – Threshold for Secondary Care Referral

- Any “High Risk” patients or “Red flag indicators for alternative diagnoses”
 - “High Risk” patients:
 - History of severe attacks
 - Poor health seeking behaviours amongst patient or carers
 - Failure to recognise symptom severity
 - Poor adherence to treatment
 - Overuse of Symbicort (>1 inhaler/month)
 - Peanut allergy
 - “Red flag indicators for alternative diagnoses”:
 - Failure to thrive
 - Abnormal voice/cry
 - Stridor
 - Dysphagia
 - Persistent wet/productive cough
 - Nasal polyps
- Requiring more than maintenance treatment 3 or more times per week
- Clinical/diagnostic uncertainty
- Consider lower thresholds if any safeguarding concerns or family living in poverty (particularly in the lowest 2 deciles for Index of Multiple Deprivation (IMD) – free IMD postcode checker [here](#)).

If there are grey areas or you are unsure, please use the Cinapsis advice and guidance service to discuss with your local paediatric team.

For referrals, please use the Electronic Referral System (ERS) pathway (new patients aged 16 or over should be referred to the adult respiratory team).