



Trust



Respect



Integrity



Accountability



Care and Compassion

Paediatric Asthma Guidelines (for children ≤ 16 years)

Updated December 2025

Contents

Introduction	3
Asthma Diagnosis.....	5
Asthma or Pre-school Wheeze? ⁶	5
Asthma Management – Non-Pharmacological	6
Self-care	6
Access to healthcare	6
Co-morbidities	6
Environment	6
Management of Chronic Asthma.....	Error! Bookmark not defined.
Pharmacological Management Under 5 years	Error! Bookmark not defined.
Pharmacological Management 5-11 years	8
Pharmacological Management 12-16 years – SABA free regime (GINA & locally preferred regimen	9
Pharmacological Management 12-16 years – Traditional SABA regimen	Error! Bookmark not defined.
ICS equivalent doses – NICE nomenclature	12
Asthma management – inhaler devices	13
Inhaler choice:	13
Spacer.....	13
Sustainability	13
Maintenance and Reliever Therapy (MART) Regimes – further information	Error! Bookmark not defined.
Monitoring – Template for asthma review	14
Asthma in schools	15
Asthma in Adolescents	15
When to seek advice and / or refer	16
Management of Wheeze/Acute Asthma	17
1. Management of wheeze in under 2 years	17
2 MANAGEMENT OF ACUTE ASTHMA / WHEEZE IN 2-16 YEARS	19
3 Specialist Team contacts and referrals	21
Resources for HealthCare Professionals and Patients/Carers.....	22
Resources for children and young people with asthma and their carers	22
Resources for healthcare professionals	22
References.....	23

INTRODUCTION

Asthma affects 1.1 million children in the UK.¹ Many more pre-school children experience acute wheeze each year with viral infections. Asthma is commonly misdiagnosed, as it may present with a range of symptoms and physical examination may be normal.² Objective tests may also be normal when the person is not experiencing a flare of symptoms.

Asthma is dangerous. In Bedfordshire, Luton and Milton Keynes there are over 20 deaths (adults and children) due to asthma every year.³

The NRAD report noted particularly in children and young people that their lower perception of risk of adverse outcomes was an avoidable factor in asthma mortality.⁴ With a subsequent recommendation for improved education, including 'how,' 'why' and 'when' to use asthma medication, recognising when asthma is not controlled and knowing when and how to seek emergency advice.

The management of asthma should be collaborative, support self-management and include the provision of a personalised action plan.

What's new?

This update contains a revision and update of the diagnostic and treatment pathways following the publication of the NICE/BTS/SIGN guidelines in 2024.⁵

For any comments on the guidelines, please contact the Bedfordshire, Luton and Milton Keynes (BLMK) Medicines Optimisation team.

BLMK ICB Medicines Optimisation Team: blmkicb.medsopt@nhs.net

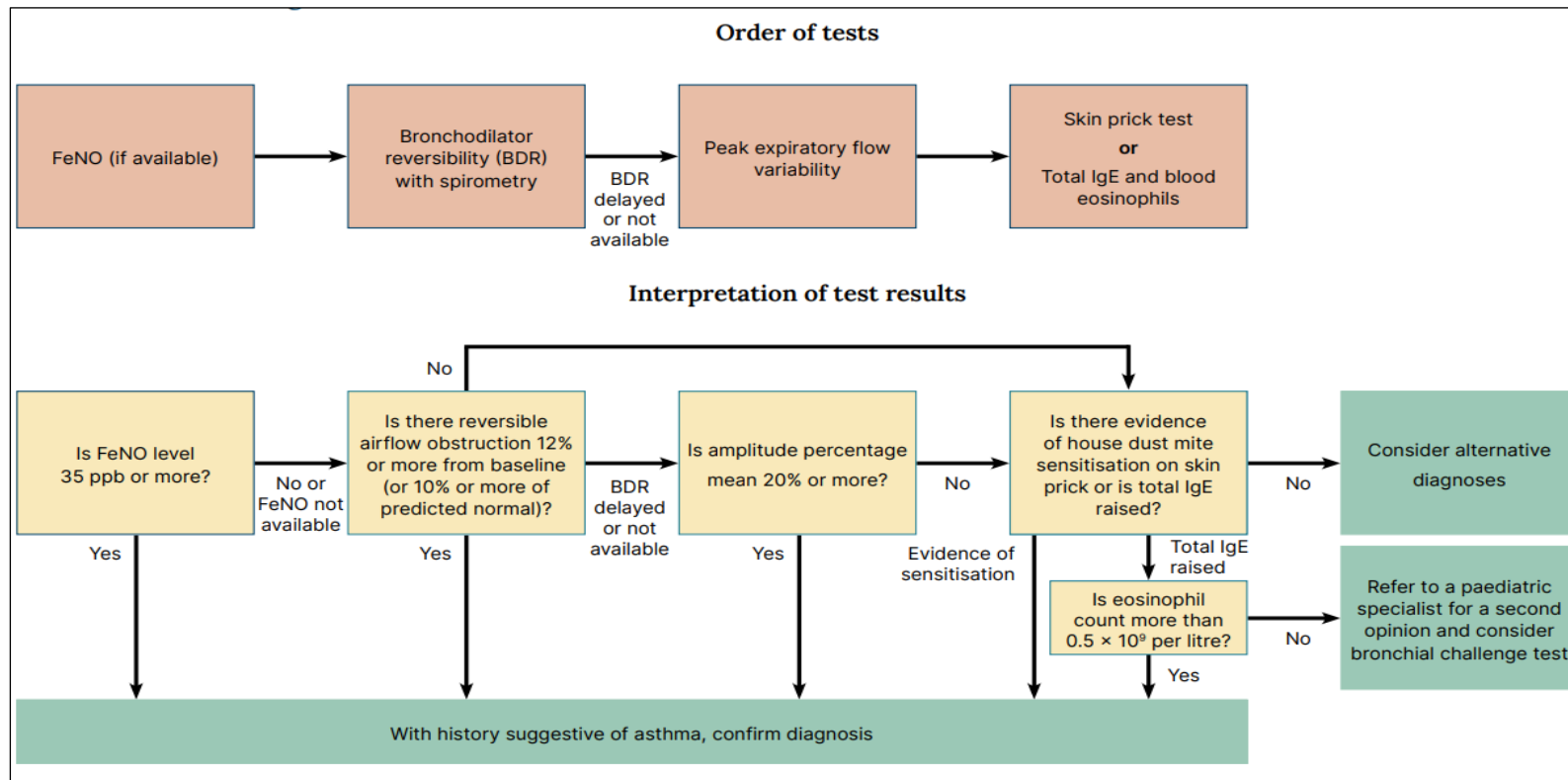
BLMK Medicines Optimisation website: <https://medicines.bedfordshirelutonandmiltonkeynes.icb.nhs.uk/>

N.B. This guidance and associated tools were arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or parent, guardian or carer.

ASTHMA DIAGNOSIS

Diagnosis should be made **primarily on clinical history** and supported by an objective test.

OBJECTIVE TESTS FOR DIAGNOSING ASTHMA IN CHILDREN AGED 5-16 WITH A HISTORY SUGGESTING ASTHMA⁵



- Objective tests have significant false positive and false negative rates. Tests are more likely to be positive when the person is symptomatic. Ideally objective tests for asthma should be performed before treatment with inhaled corticosteroid (ICS) is started, (as this may lead to normal test results,) but do not delay treatment in symptomatic people if objective tests are not available or there is a long wait.
- Resources for peak expiratory flow monitoring can be found at [Asthma and Lung UK](#) [Watch this short video for help calculating PEF variability](#)
- Consider a referral to specialist services, for assessment, when the child or young person has symptoms of asthma, but all investigations are negative.
- Refer for specialist opinion, if a child or young person has obstructive spirometry but no bronchodilator reversibility and normal FeNO.

ASTHMA DIAGNOSIS

CHILDREN <5YRS / UNABLE TO PERFORM A TEST:

- Treat on objective measures and clinical judgement with regular review until the child is able to perform objective tests.
- Code 'suspected asthma.'
- Viral induced pre-school wheeze is common – see below

ASTHMA OR PRE-SCHOOL WHEEZE?⁶

It is important in young children to differentiate between viral induced wheeze, other causes of wheeze and asthma. Most children with viral induced wheeze will stop wheezing when they get older and will not develop asthma.

The below decision aid can be used to help:

Yes	Does the child have interval symptoms when they do not have viral infections?	No
Yes	Are the exacerbations severe and / or frequent?	No
Yes	Are any of the following markers present? • Atopy (personal or first degree relative) • Eosinophilic inflammation (serum, FeNO, BAL) • Sensitisation (IgE / RAST / skin prick test)	No



More like pre-school asthma

Less like asthma, more like pre-school
episodic wheeze

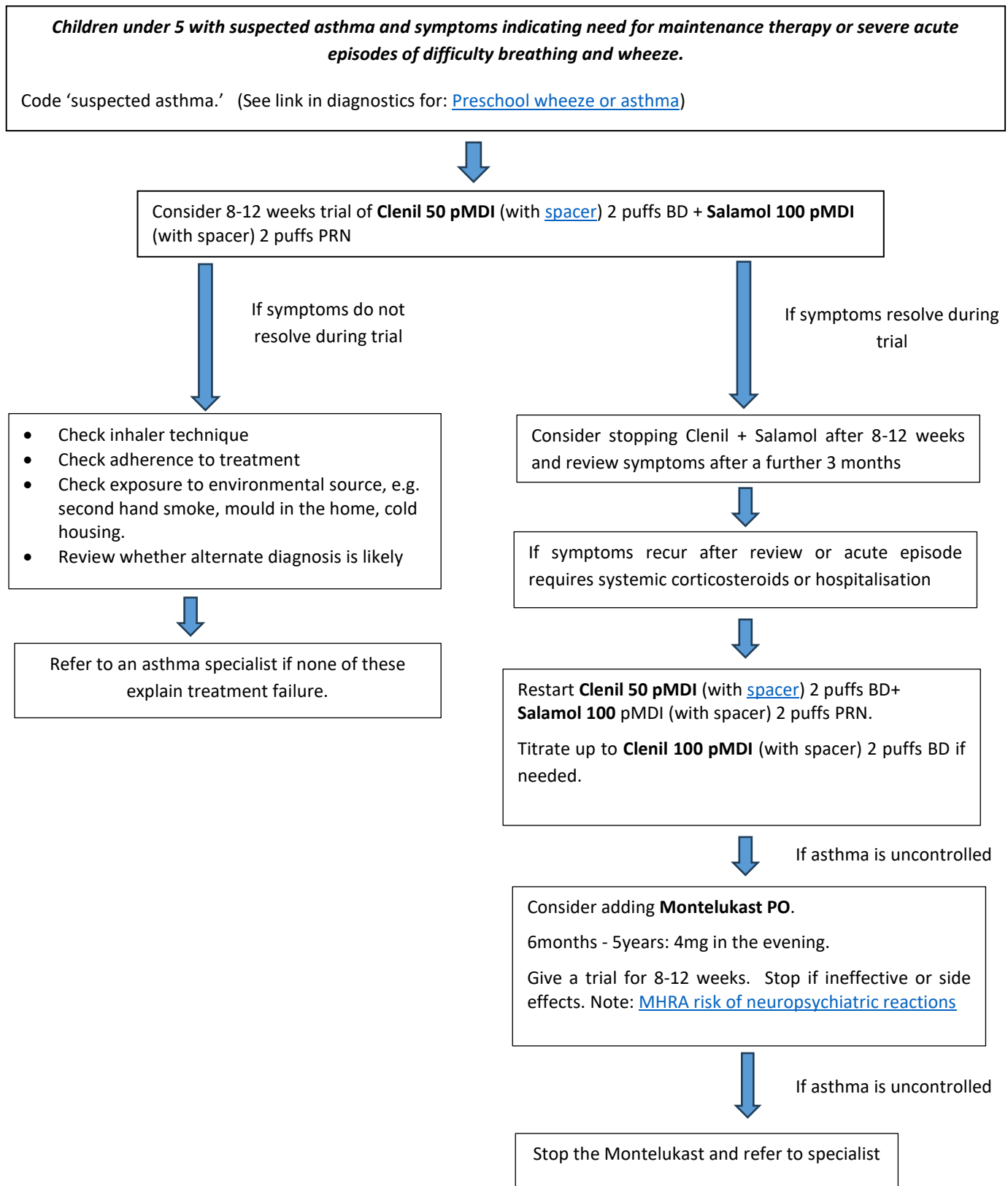
For further information on pre-school wheeze, see the following link: [Beat asthma – Pre-school Wheeze resources](#).

ASTHMA MANAGEMENT – NON-PHARMACOLOGICAL

SELF-CARE		ACCESS TO HEALTHCARE	
Education	Understanding asthma and how the treatment works is an important aspect of care. See here for resources for people with asthma.	People with asthma who are reviewed regularly have a lower risk of exacerbation. They should be reviewed at least annually, and after dose changes and exacerbations.	GP practice review
PAAPs	PAAPs should be collaboratively agreed, regularly updated and include advice on daily management and how to seek help if needed.	Continuity within a practice team helps build relationships and trust and improves asthma care.	Continuity
Smoking, passive smoking and vaping	Ask about smoking / smoke exposure, including vaping. Offer smoking cessation advice and support.	Check for flu vaccination. Offered annually through schools. Offer other vaccinations when applicable.	Vaccination
Adherence and technique	Nonadherence may underlie poor asthma control. Ask about adherence and check inhaler prescriptions. Support good technique with education and resources.	Asthma plans should include details of when and where to access urgent care. Review with GP or community asthma team within 48hrs of A&E visit / hospital discharge.	Emergency care
Exercise	Aim for asthma to be managed to support regular exercise. Children with poor asthma control may avoid exercise so that their asthma appears controlled. However regular exercise can improve overall asthma control, as well as providing multiple other health benefits.	Specialist referral is indicated if: >2 exacerbations requiring oral steroids in past 12 months - Asthma is not controlled despite maximum dose (as specified below) treatment with good adherence and inhaler technique. - Life-threatening asthma attack / admission for asthma attack.	Specialist care
CO-MORBIDITIES		ENVIRONMENT	
Atopic conditions	Manage hay fever and allergic rhinitis. Use low dose steroid nasal spray and educate regarding technique. Optimise eczema care.	Children with asthma should try to avoid busy roads and vigorous outdoor exercise on high pollution days	Outdoor pollution
		Damp, mould issues and burning wood, candles and incense may adversely affect asthma. 'Chemical free' or 'allergy friendly' household products limit asthma triggers.	Indoor pollution
Obesity	Weight-loss interventions (including dietary and exercise-based programmes) can be considered for overweight and obese children with asthma to improve asthma control	Triggers include pollen, smoke, emotion, weather changes and pets. Recognising and mitigating triggers reduces risk of attacks and improves control.	Triggers
Depression and anxiety	Adverse asthma outcomes are associated with depression, anxiety and panic disorder. Consider psychological wellbeing and offer suitable support.	Using inhalers as prescribed with the correct technique reduces waste, improves control, and reduces the need for unplanned care. Non-propellant inhalers, eg. DPIs have a lower carbon footprint and can be used by most children ≥12 years old. They require a greater inspiratory effort.	Inhalers

MANAGEMENT OF CHRONIC ASTHMA

PHARMACOLOGICAL MANAGEMENT UNDER 5 YEARS



PHARMACOLOGICAL MANAGEMENT 5-11 YEARS – CONVENTIONAL PATHWAY

The NICE/BTS/SIGN 2024 guideline update advocates initiating AIR / MART regimes in people ≥ 12 yrs. For 5-11yr olds, NICE/BTS/SIGN recommend assessing a child's ability to use MART (DPI only) before trialling. AIR is not recommended. The Primary care Respiratory Society (PCRS) have produced consensus recommendations for the practical application of using MART in this age group.⁷ See below for the conventional pathway (ICS containing + SABA PRN) and overleaf for relevant PCRS recommendations and MART regimes.

Step Up and Down treatment according to control. Review & correct inhaler technique and confirm adherence before stepping up.

	Step 1	Step 2	Step 3	Step 4	Step 4
Choose between MDI and DPI #	Low dose ICS + SABA All patients with asthma should be treated with an ICS. Using Salbutamol monotherapy is now outdated and no longer acceptable	Consider trial of Montelukast	ICS/LABA low dose + SABA	ICS/ LABA moderate dose + SABA	
MDI OR Preferred in most patients	Clenil pMDI 50 (with spacer) 2 puffs BD + Salamol pMDI (with spacer) 2 puffs PRN	Montelukast chewable tablets (Trial for 12 weeks. Stop if no effect or not tolerated.)	Seretide pMDI 50/25 (with spacer) 1 puff BD	Seretide pMDI 50/25 (with spacer) 2 puffs BD	Refer to specialist care
DPI  Some older children with support	Pulmicort Turbohaler 100 1 dose BD	5 years: 4mg in the evening 6-11 years: 5mg in the evening Patient information on Montelukast -include details on side effects including diarrhoea, stomach-ache and sore throat and less commonly sleep disturbance and mental distress.^	Symbicort Turbohaler 100/6* OR Fobumix Easyhaler 80/4.5 * 1 dose BD	Symbicort Turbohaler 100/6* 2 doses BD OR Fobumix Easyhaler 80/4.5* 2 doses BD OR Seretide Accuhaler 100 1 dose BD	
+ SABA	SABA MDI options include: Salamol 100mcg or Salbutamol 100mcg. 1-2 puffs PRN via spacer. (Salamol is preferred as lower carbon footprint.) SABA DPI options include: Salbutamol Easyhaler 100mcg 1-2 puffs PRN.				

Choose between pMDI (propellant) and DPI (non-propellant) inhaler

For **most children in this age group a pMDI inhaler with a spacer is the most appropriate choice**. Some older children will have sufficient inspiratory force to use a DPI. Use an In-Check device to assess and follow up to ensure good inhaler technique. A DPI may also be an option where appropriate, when an older child does not want to carry a spacer. Consider a change to DPI towards the end of primary school / transition to secondary school.

^Montelukast – [MHRA risk of neuropsychiatric reactions](#)

PHARMACOLOGICAL MANAGEMENT 5-11 YEARS – MART PATHWAY

See previous page, MART regimes are advocated by NICE/BTS/SIGN⁵ in some patients. AIR is not recommended. The PRCS has produced the following [recommendations](#) for the application of MART in this age group:

1. The HCP explaining, prescribing and implementing the MART regime is trained to $\geq$ tier level 3 according to the [National capabilities framework for professionals who care for children and young people with asthma](#).
2. For DPIs, a formal assessment of the ability of the CYP to generate adequate inspiratory flow for the device has been undertaken (eg. using In-Check dial, inhaler whistle.)
3. Extra time has been allocated for the consultation to allow adequate explanation and education of the MART regime and to complete a PAAP.
4. There is infrastructure to allow for closer monitoring and more regular surveillance than for those on conventional regimes. (Ensures patient understanding, effectiveness of regime and review potential side effects.

Step Up and Down treatment according to control. Review & correct inhaler technique and confirm adherence before stepping up.

Choose between MDI and DPI #	Step 1. Low dose ICS + SABA PRN All patients with asthma should be treated with an ICS. Using Salbutamol monotherapy is now outdated and no longer acceptable	Step 2. Low dose MART	Step 3 Moderate dose MART
MDI	Clenil pMDI 50 (with spacer) 2 puffs BD + Salamol pMDI 100 (with spacer) 2 puffs PRN	Not recommended* If unable to use a DPI device, to remain on conventional pathway.	Not recommended – Refer to secondary care.
DPI 	Pulmicort Turbohaler 100 1 dose BD + SABA PRN SABA options include: Salbutamol Easyhaler 100mcg 1-2 puffs PRN	Symbicort 100/6 Turbohaler* 1 dose OD - BD and 1 dose PRN (Licensed from 6yrs.)	Not recommended – Refer to secondary care

*For Symbicort >4 doses /24hours is not normally needed; however up to 8 doses could be used for a limited period. ***If patients use >4 doses daily, it is recommended that they seek medical advice. No more than 4* inhalations should be taken on any single occasion.***

ASTHMA MANAGEMENT – INHALER TREATMENT 12-16YRS: SABA FREE REGIMEN (NICE / BTS / SIGN)

For **new diagnosis of asthma**, a SABA free regimen should be initiated as below. For current patients on a traditional SABA containing regimen consider switch when asthma is uncontrolled – see overleaf.

Step Up and Down treatment according to control. Review & correct inhaler technique and confirm adherence before stepping up.

Start here

Start here if highly symptomatic (e.g. regular nocturnal waking) or there are severe exacerbations

AIR therapy (Anti-inflammatory reliever)	
DPI	Symbicort Turbohaler 200/6 OR Fobumix Easyhaler 160/4.5 OR DuoResp Spiromax 160/4.5 1 dose PRN
MDI	No licensed preparation.

Low dose MART	
DPI	Symbicort Turbohaler 200/6 OR Fobumix Easyhaler 160/4.5 OR DuoResp Spiromax 160/4.5 1 dose BD and 1 dose PRN
MDI	Symbicort 100/3 2 puffs BD and 2 puffs PRN

Moderate dose MART	
DPI	Fobumix Easyhaler 160/4.5 OR Symbicort Turbohaler 200/6 OR DuoResp Spiromax 160/4.5 2 doses BD and 1 dose PRN
MDI	Symbicort 100/3 4 puffs BD and 2 puffs PRN (unlicensed dose)

[Choose inhaler](#) – support patient choice. Consider [inhaler device decision aid](#) and [sustainability](#).

*Montelukast: Dose
 12-14 years: 5mg ON, ≥15 years: 10mg ON
 Review at 4-8 weeks. Stop if no response.
 Note risk of [neuropsychiatric reactions](#).

for this age group, licensed only for 1 dose BD.

For Fobumix / DuoResp Spiromax / Symbicort Turbohaler > 8 doses /24hours is not normally needed; however up to 12 doses could be used for a limited period. **If patients use >8 doses daily, it is recommended that they seek medical advice. No more than 6 inhalations should be taken on any single occasion.**

For Symbicort MDI >16 puffs / 24 hours is not normally needed; however up to 24 puffs could be used for a limited period. **If patients use >16 puffs daily, it is recommended that they seek medical advice. No more than 12 puffs should be taken on any single occasion.**

If uncontrolled on moderate dose MART, check FeNO, if available and blood eosinophils.

If neither is raised consider a trial of Montelukast* or Spiriva 2.5mcg Respimat 2 doses OD for 8-12 weeks. (Spiriva more helpful if element of fixed airways obstruction / COPD.) After:

- If asthma controlled, continue treatment
- If improved but still inadequate, trial of adding the other medicine (LTRA or LAMA)
- If not improved, stop and start a trial of the alternative (LTRA or LAMA)

If raised, or trial failed

REFER TO SECONDARY CARE

HIGH dose ICS/LABA combination	
DPI	Fobumix Easyhaler[#] 320 / 9 2 doses BD or Symbicort Turbohaler[#] 400/12 2 doses BD or Seretide accuhaler 500 1 dose BD + SABA PRN
MDI	Seretide evohaler 250 2 puffs BD via spacer + Salamol 100mcg 1-2 puffs PRN via spacer

ASTHMA MANAGEMENT – INHALER TREATMENT – CONVENTIONAL SABA REGIMEN

For patients established on SABA containing regimens, (diagnosed pre NICE/BTS/SIGN 2024 update,) review routinely. **If uncontrolled, check adherence and inhaler technique, then consider switch to an equivalent SABA free regimen.** (See also NICE comparison of [equivalent ICS doses](#).) For patients uncontrolled on other medication combinations see [PCRS guidance](#) for equivalent switch.

All patients with asthma should be treated with an ICS. Using Salbutamol monotherapy is now outdated and no longer acceptable	
Regular low dose ICS + SABA	
DPI 	ICS options include: Budesonide Easyhaler 100mcg OR Budesonide Turbohaler 100mcg 2 doses BD Plus Salbutamol Easyhaler 100mcg 1-2 puffs PRN
MDI	Clenil modulite 100mcg 2 puffs BD via spacer Plus Salamol 100mcg 1-2 puffs PRN via spacer
If uncontrolled, consider switch to low dose MART.	

Regular low dose ICS/LABA + SABA	
DPI 	Symbicort Turbohaler 200/6 OR Seretide accuhaler 100 1 dose BD Plus Salbutamol Easyhaler 100mcg 1-2 puffs PRN
MDI	Seretide evohaler 125 1 puff BD via spacer Plus Salamol 100mcg 1-2 puffs PRN via spacer
If uncontrolled, consider switch to low dose MART	

Regular medium dose ICS/LABA + SABA	
DPI 	Symbicort Turbohaler 200/6 2 doses BD OR Seretide accuhaler 250 1 dose BD Plus Salbutamol Easyhaler 100mcg 1-2 puffs PRN
MDI	Seretide evohaler 250 1 puff BD via spacer Plus Salamol 100mcg 1-2 puffs PRN via spacer
If uncontrolled, consider switch to moderate dose MART.	

Secondary Care led treatment	
HIGH dose ICS/LABA combination	
DPI 	Fobumix Easyhaler [#] 320 / 9 2 doses BD OR Symbicort Turbohaler [#] 400/12 2 doses BD OR Seretide accuhaler 500 1 dose BD + SABA PRN
MDI	Seretide evohaler 250 2 puffs BD via spacer + Salamol 100mcg 1-2 puffs PRN via spacer
If uncontrolled and not previously referred, refer to secondary care.	

Uncontrolled asthma: Any exacerbation requiring oral corticosteroids **or** frequent regular symptoms (such as using reliever inhaler 3 or more days a week or night-time waking 1 or more times a week.)

Refer to formulary for other established inhaler choices which have been available.
Once daily inhalers, eg. Relvar Ellipta + SABA prn can help adherence in some patients.

ICS EQUIVALENT DOSES

(Link to [NICE/ BTS/ SIGN inhaled corticosteroid equivalent doses](#))

ICS dosages for adults and adolescents (12 years and older)			
	Low dose	Moderate dose	High dose
Beclometasone dipropionate			
Standard particle pMDI & DPI eg. Clenil	200-500 micrograms per day in 2 divided doses	600-800 micrograms per day in 2 divided doses	1000-2000 micrograms per day in 2 divided doses
Extra-fine particle pMDI / DPI eg. Fostair, Luforbec, Proxor	100-200 micrograms per day in 2 divided doses	300-400 micrograms per day in 2 divided doses	500-800 micrograms per day in 2 divided doses
Budesonide			
DPI eg. Pulmicort, Budesonide Easyhaler, Fobumix, Symbicort	200-400 micrograms per day in 2 divided doses	600-800 micrograms per day in 2 divided doses	1000-1600 micrograms per day in 2 divided doses
Fluticasone propionate			
pMDI & DPI (excluding Seffalair Spiromax) eg. Seretide, Sereflo, Sirdupla	100-250 micrograms per day in 2 divided doses	300-500 micrograms per day in 2 divided doses	600-1000 micrograms per day in 2 divided doses
Fluticasone furoate			
DPI , eg. Relvar Ellipta	Not available	100 micrograms per day as a single dose	200 micrograms per day as a single dose

ICS dosages for children aged 5-11 years			
	Paediatric low dose	Paediatric moderate dose	Paediatric high dose
Beclometasone dipropionate			
Standard particle pMDI Eg. Clenil,	100-200 micrograms per day in 2 divided doses	300-400 micrograms per day in 2 to 4 divided doses	500-800 micrograms per day in 2 to 4 divided doses
Extra-fine particle pMDI Eg. Qvar	100 micrograms per day in 2 divided doses	150-200 micrograms per day in 2 divided doses	300-400 micrograms per day in 2 divided doses
Budesonide			
Standard particle, DPI or pMDI Eg. Symbicort, Pulmicort, Budesonide Easyhaler	100-200 micrograms per day in 2 divided doses	300-400 micrograms per day in 2 divided doses	500-800 micrograms per day in 2 divided doses
Fluticasone propionate			
DPI or pMDI Eg. Seretide evohaler or accuhaler, Flixotide evohaler or accuhaler	100 micrograms per day in 2 divided doses	150-200 micrograms per day in 2 divided doses	250-400 micrograms per day in 2 divided doses

ASTHMA MANAGEMENT – INHALER DEVICE

INHALER CHOICE: prescribe by brand

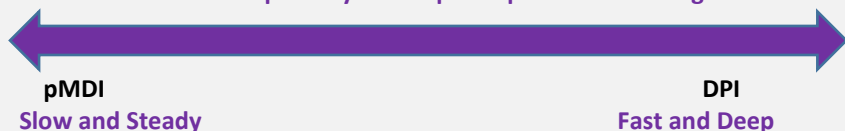
Consider patient's ability to use:

- Most people ≥ 12 years old have sufficient inspiratory force to use DPIs. See technique required below.
- InCheck® or placebo devices can help inform choice
- In children < 5 years a pMDI plus spacer is preferred. A face mask should be worn until the child is old enough to reliably form a seal on the mouthpiece (generally around 5 years old.)
- Try to maintain device type for consistency, ie. 2 x pMDI or 2 x DPI.

Use [Asthma and Lung UK](#), [Beat asthma](#), or [Rightbreathe](#) resources to support inhaler and spacer choice, technique and care.

Offer face to face contact for support with new inhalers. Only change inhalers after discussion and agreement.

Inspiratory technique required when using inhaler



Refer patients to community pharmacy for New Medicines Service when starting a new inhaler to reinforce inhaler technique and support adherence.

SUSTAINABILITY

Context	Actions – Aim for complete control - Good respiratory care is green respiratory care
• Well controlled asthma has the lowest carbon footprint • The UK has a high carbon footprint from inhalers due to relatively high use of pMDIs. • Non-propellant inhalers, (DPIs) have a substantially lower carbon footprint than pMDIs. DPIs require a higher inspiratory effort than pMDIs and may not be appropriate for younger children.	• Ensure asthma diagnosis is correct • Provide information to support low carbon alternatives wherever possible and suitable. • Watch for SABA over-reliance • Optimise inhaler technique • Encourage people to return inhalers to their pharmacy for environmentally friendly disposal. • Advise people not to reduce their inhaler usage due to any environmental concerns. Address any such concerns if present.

SPACER

Children usually need a face mask until around 5 years old (when they can reliably form a seal on the mouthpiece.) Personalise to need.

Aerochamber Plus Flow-Vu Antistatic is the most commonly used spacer in BLMK.



See [link](#) for instructions on use and cleaning instructions. The device will make a whistle sound if the inhalation is too fast, (if there is a good seal.)

Other choices include:

Volumatic Spacer	A2A spacer
	
(Large volume spacer)	Collapsible, pocket sized

Explain the benefits of using spacer devices to parents/carers and children to increase uptake and correct use.

1. Spacers make it easier to get right amount of medicine (increase airways deposition)
2. Using a spacer makes it easier to take asthma medicine (no need to coordinate actuation and inspiration).
3. Using spacer may mean you need less medicine and is easier to use in emergency.
4. Using spacer reduces risk of side effects.
5. Ensure that children and parents are shown how to use the spacer correctly, how to clean and to replace every 6-12 months

[Rightbreathe.com - Spacer info.](https://www.rightbreathe.com/spacer-info)

MONITORING – TEMPLATE FOR ASTHMA REVIEW

A GP practice asthma review should be offered at least once a year (QOF,) after dose changes and within 48 hours of a hospital attendance or admission.

<i>Aim of the review</i>	Improve quality of life. Achieve control, meaning no daytime symptoms or limitation on activity. No disturbed sleep. Minimal side effects from medication.
Assess control and severity	
<i>Control Test</i>	Assess asthma control, eg. Asthma Control Test (cACT (ages 4-11 years,) ACT (≥12 years)), RCP 3 questions.
<i>Inhaler ratio</i>	Review how many inhalers have been ordered and how many used. Use of <4 ICS or ICS/LABA in 12 months suggest poor adherence to preventer inhaler. Use of more than 3-6 SABA in 12 months – suggests poor control. (Allow for additional inhaler issues, eg. for school, pre-exercise use, etc.) Use of SABA inhaler ≥ 3 times per week as a reliever suggests poor control.
<i>PEFR</i>	Review and record PEFR if available. Record weight and height to support calculating the peak flow rate.
<i>Exacerbations</i>	Acute attacks: Number of attacks since last review, number of steroid courses since last review, number of A&E / admissions since last review.
Review	
<i>Diagnosis</i>	Ensure the evidence for asthma or suspected asthma diagnosis is recorded in the notes. If any uncertainty revisit and refer for objective tests as appropriate.
<i>Understanding</i>	Check child and/or parent's understanding of what asthma is and how it is treated.
<i>Triggers</i>	Check known / possible triggers. Consider ways to mitigate exposure. Eg. pollen, smoke, pets, weather changes, food allergies.
<i>Smoking / passive exposure to smoke</i>	Ask about smoking, including vaping, for the child and / or family members. Document and offer smoking cessation if required. Contact details: Bedfordshire and Milton Keynes: Choose You Luton: Total Wellbeing Luton
<i>Co-morbidities</i>	Atopic conditions Consider if there is concomitant rhinitis present? In the absence of a cold are there problems with: Blocked nose, sneezing or runny nose? If yes to the above, on any treatment? Antihistamine / intranasal steroid spray. Nasal spray technique reviewed? Optimise eczema care if present. Psychological wellbeing: Explore and offer appropriate support. Obesity: Consider weight-loss interventions for overweight and obese children with asthma to improve asthma control.
<i>Inhaler technique</i>	Ask the child to show how they use their inhaler. Re-enforce correct technique. Offer inhaler specific training videos . If a spacer is being used re-enforce the benefits for drug delivery, importance of technique, spacer care and when to replace.
<i>Medication</i>	If asthma is poorly controlled despite good adherence and technique, consider a step up in management. Refer to specialist care if poor control despite maximum therapies or ≥ 2 exacerbations requiring oral corticosteroids in the last 12 months. If stable for ≥3 months and low risk of exacerbations consider a step down in management.
<i>Side effects</i>	Check the child's height at least yearly, as poorly controlled asthma can affect growth and growth velocity may be lower in the first 1-2 years of ICS treatment. Ask about frequency and dose of ICS and OCS.

Collaboration	
PAAP	Co-create a personalised asthma action plan with the child and / or parent/ carer with asthma to support self-management and update this annually. Templates from Beat asthma - asthma action plans (also Arden's template.) Review action plan and check understanding on how to manage an exacerbation and when to seek advice

Additional note on asthma symptom control

Children vary considerably in the degree of airflow limitation observed before they complain of dyspnoea or use their reliever therapy, and marked reduction in lung function is often seen before it is recognised by parents. Parents may report irritability, tiredness and changes with mood in their child as the main problems when the child's asthma is not well controlled. Parents may have a longer period of recall than children, who may recall only the last few days; therefore it is important to include both the parent's and child's information when the level of symptom controlled is being assessed.

ASTHMA IN SCHOOLS

Resources for supporting schools to look after pupils with asthma can be found on the Beat Asthma and Asthma and Lung UK websites.

[Schools - Beat Asthma](#)

[Asthma at school and nursery | Asthma + Lung UK \(asthmaandlung.org.uk\)](#)

ASTHMA IN ADOLESCENTS

Adolescents are defined by World Health Organisation (WHO) as young people between the ages 10 and 19 years of age. The UK has amongst the highest rate of asthma deaths due to asthma in this age group.⁹

This age group may be vulnerable to uncontrolled asthma due to factors such as:

- Poor adherence, including forgetfulness, poor routines, and organisational difficulties when self-managing.
- Lack of education - poor understanding of the nature of asthma, perceiving it as an intermittent rather than chronic disease, medications taken on an as required basis and not prioritising asthma treatment.
- Poor inhaler technique
- Tobacco smoking or vaping
- Symptoms becoming the 'norm'
- Deconditioning and obesity
- Deprivation
- Feeling of being invincible.

During asthma reviews for young people it is important that they understand:

- Their asthma needs daily attention
- They should aim for NO symptoms and full participation in activities.
- How to use their asthma treatment
- The importance of adherence to medication
- When to seek advice

During a review:

- Questions should be directed to the young person, not the parent / carer. The ACT should be completed by the young person.
- Questioning may be around what the young person enjoys and how it could be improved with better asthma control. Sleep will also be improved. (Consider use of Salbutamol at night may also lead to wakefulness during the night and sleepiness during the day.)
- Medication regimes should be tailored to the adolescent's needs and lifestyle. The young person may no longer wish to carry a spacer with them and an alternative regime may be considered, such as transition to a DPI. If considering offer support on effective technique over several contacts.

Moving on asthma is a helpful resource for young people aimed at helping develop self-management skills as well as fostering independence in accessing healthcare. [Home - Moving on Asthma](#)

WHEN TO SEEK ADVICE AND / OR REFER^{5,10}

In an emergency

Asthma action plans should include details of when to seek urgent help.

Worrying symptoms / Red Flags

- Failure to thrive
- Unexpected clinical finding, e.g. focal signs, abnormal voice or cry, dysphagia, inspiratory stridor.
- Symptoms present from birth or perinatal lung problem.
- Excessive vomiting or possetting
- Severe upper respiratory tract infection
- Persistent wet or productive cough
- Family history of unusual chest disease
- Nasal polyps

Diagnostic uncertainty

Poor response to treatment or diagnostic uncertainty

Uncontrolled asthma

It is important to distinguish between poorly controlled asthma and severe asthma.

Refer patient with asthma symptoms despite optimal treatment.

Persistent poor control is suggested by:

- ≥3 SABA in the last 12 months despite primary care review including adherence and inhaler technique check.
- ≥2 exacerbations requiring oral steroids in the last 12 months
- Life-threatening asthma attack / admission for asthma attack.

Consider the management of co-morbidities, e.g. hay fever

Refer if asthma is not controlled despite maximum dose treatment in primary care (and good adherence.)

MANAGEMENT OF WHEEZE/ACUTE ASTHMA

1. MANAGEMENT OF WHEEZE IN UNDER 2 YEARS

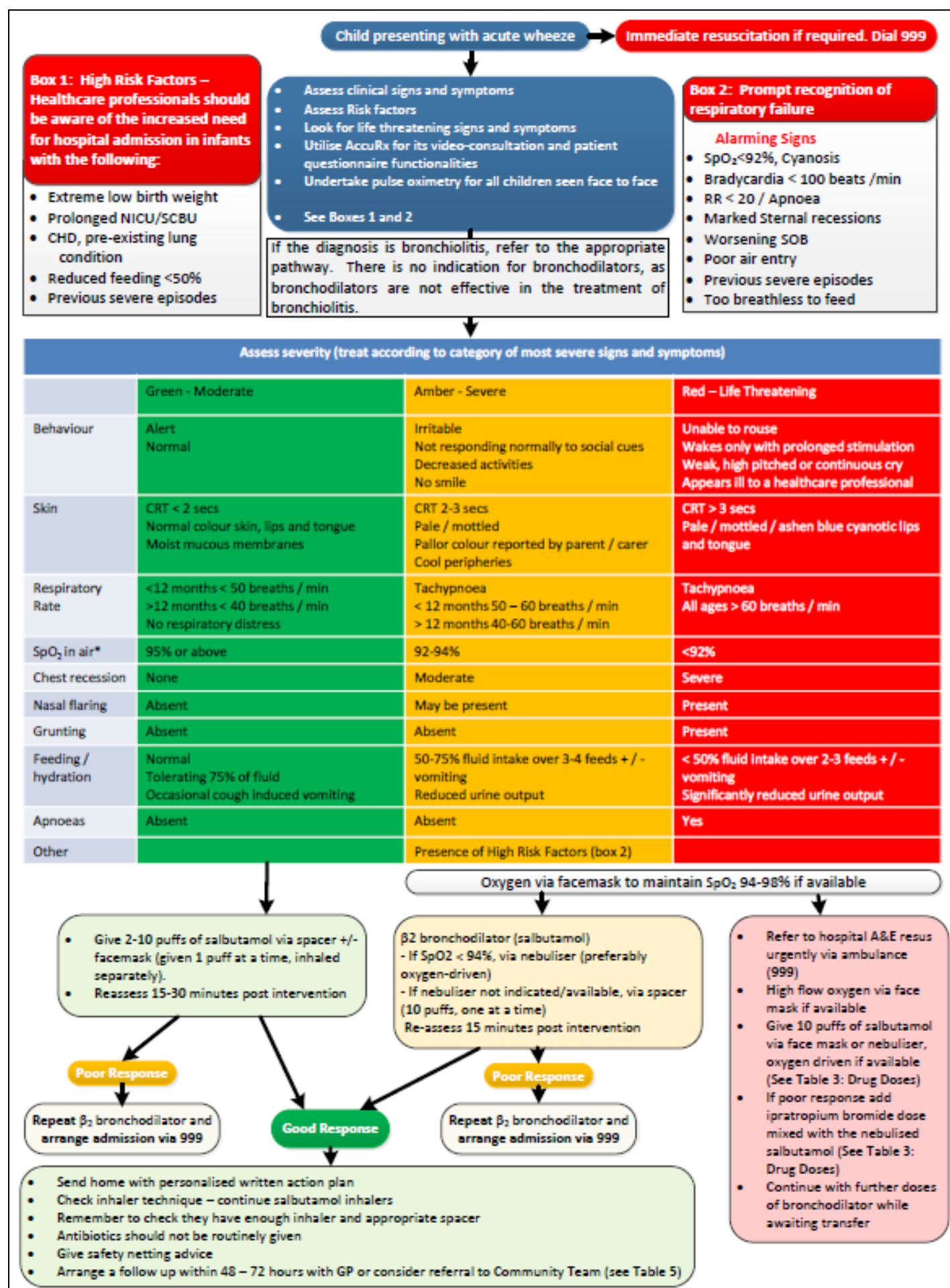


Table 3: Drug Doses:

Dose of Salbutamol nebulisers	<5yrs 2.5 mg
Dose of Ipratropium Bromide nebulisers	250 mcg all ages (or up to 500mcg via nebuliser for over 12 years)

Table 4: Inhalers vs Nebulisers

Indications for nebulisers:

- Low saturations <94%
- Unable to use inhaler and spacer (not compliant)
- Significantly low Sats despite inhaler and spacer use
- Severe and life-threatening respiratory distress
- Nebulisers are generally not recommended for home use

Table 5 - Community Children's Nursing Teams

Bedford and North Bedfordshire

Children's Community Nursing Team 01234 310103

Children's Rapid Response Team - 07966025787

Luton and South Bedfordshire

- Children's Community Nursing Team 0333 405 0079

- Children's Rapid Response Team – 07966025787

Milton Keynes

Urgent Care Centre - 01908 303030

Table 6 - Secondary Care Referrals

Bedford General Hospital

Switchboard 01234 355122: Paediatric Registrar

Luton & Dunstable Hospital

Switchboard 01582 491166: Paediatric Registrar bleep 733

GP Urgent Connect (Monday-Friday 9-5pm) 01582 297297 for referrals and advice

Milton Keynes Hospital

01908 660033 bleep paediatrician on call.

This guidance has been produced by Primary Care and consultant clinicians across Bedfordshire, Luton and Milton Keynes, and is written in the following context:

This assessment tool was arrived at after careful consideration of the evidence available including but not exclusively NICE, SIGN, Bristol guideline, EBM data and NHS evidence. Healthcare professionals are expected to take it fully into account when exercising clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Issue date: November 2025

Management of Acute Asthma / Wheeze in Primary Care

Clinical Assessment / Management Tool for 2 – 16 years

Management – Out of Hospital Setting acute Asthma/Wheeze

Child presenting with acute wheeze

Immediate resuscitation
if required. Dial 999

Table 1: High Risk Factors – Healthcare professionals should be aware of the increased need for hospital admission in children with the following:

- Attack in late afternoon, at night or early in the morning
- Recent hospital admission
- Previous severe attack
- Young age
- Previous cardio-respiratory illness
- Significant co-morbidity
- Already taking oral steroids or high doses of inhaled steroids
- Concern over social circumstances or ability to cope at home
- Food allergy

Table 2: Consider other diagnoses if any of the following are present:

- Fever (pneumonia) $>38.5^{\circ}\text{C}$
- Dysphagia (epiglottitis)
- Productive cough (pneumonia)
- Inspiratory stridor (croup)
- Breathlessness with light headedness and peripheral tingling (hyperventilation)
- Asymmetry on auscultation (pneumonia or a foreign body etc.)
- Excessive vomiting (GORD)
- Possibility of anaphylaxis

Consider video consultation as part of the assessment to determine the need for a face-to-face consultation in Primary Care

Table 3: Traffic Light system for identifying severity of acute wheeze/asthma

	Green Moderate Asthma	Amber Acute Severe Asthma	Red Life Threatening Asthma
Talking	In sentences	Not able to complete a sentence in one breath Too breathless to talk or feed	Not able to talk / Not responding Confusion / Agitation
Auscultation	Good air entry, mild – moderate wheeze	Decreased air entry with marked wheeze	Silent chest
Respiratory Rate	Within normal range ≤ 40 breaths / min (2-5 years) ≤ 30 breaths / min (>5 years)	>40 breaths / min (2-5 years) >30 breaths / min (>5 years) Use of accessory muscles	Cyanosis Poor respiratory effort Exhaustion
Heart rate	≤ 140 beats / min (2-5 years) ≤ 125 beats / min (>5 years)	> 140 beats / min (2-5 years) > 125 beats / min (>5 years)	Hypotension
Oxygen saturation in air	$\geq 94\%$ in air	$< 94\%$ in air	$< 94\%$ in air
PEFR (if possible)	$> 50\%$ best or predicted	33-50% best or predicted	$<33\%$ best or predicted

If all green features and no amber or red:

- Give 1 puff via spacer every minute, up until a maximum of 10 puffs, adjusted to clinical response.
- Reassess 15-30 minutes post intervention
- Consider giving 3 – 5 day course of prednisolone 1mg/kg (max 40mg) – 1st dose now (See Table 4: Drug Doses)
- Nebulise if $\text{SpO}_2 < 94\%$ or unable to tolerate a spacer

Poor Response

- Consider hospital admission/999
- Oxygen if $\text{SpO}_2 < 94\%$
- Continue with further doses of salbutamol while awaiting transfer
- Add ipratropium dose mixed with salbutamol nebuliser

Good Response

- Before discharge review overall asthma control, inhaler technique, medication and ask if parent smokes or if child smokes (if >11 years old). If yes, offer quit smoking support.
- Check understanding of condition and signpost to further resources (Asthma + Lung UK)
- Ensure that Personalised Asthma Action Plan is up-to-date
- Antibiotics should not be routinely given
- Give safety net advice
- Consider referral to appropriate community team (see next page)
- Advise parents to book a follow-up review with their GP surgery within 2 working days
- Check they have enough inhaler and appropriate spacer
- If second (or more) asthma attack within 12 months, consider referral to secondary care

Oxygen via facemask to maintain SpO_2 94-98% if available

Severe Exacerbation

- If $\text{SpO}_2 < 94\%$ give O_2 to achieve SpO_2 in air 94-98%
- Give salbutamol –
 - $\text{SpO}_2 \geq 94\%$: 10 puffs via MDI and spacer
 - If $\text{SpO}_2 < 94\%$ Nebuliser driven by O_2 (Ref Table 4)
 - if nebuliser not indicated/available, give via spacer (10 puffs)
- Reassess after 15 mins, if further treatment needed then repeat salbutamol (as above) and if $\text{SpO}_2 < 94\%$ then add in ipratropium bromide via a nebuliser (refer to Table 4)
- Give oral prednisolone (refer to Table 4)

Reassess as clinically required

Assess response to treatment 15mins after β_2 bronchodilator

Poor Response

Repeat salbutamol and arrange admission via 999

Arrange immediate hospital admission via 999

Salbutamol with ipratropium (via nebuliser if require oxygen) (see Table 4)
- oral prednisolone (see Table 4)

Repeat salbutamol with ipratropium (preferably via oxygen-driven nebuliser) whilst awaiting hospital transfer as required

Table 4: Drug Doses:

Dose of Prednisolone (orally) Plain 5mg tablets (can be crushed if required) Where child already receiving maintenance oral steroid		2-5yrs 20mg; 5-7yrs 30-40mg; >7yrs 40mg 1 – 2 mg per kg per dose (max.40mg) 2mg/kg (max. 60mg)
- If given, should be given within the first hour - In mild to moderate viral induced wheeze, steroids may not be necessary - Three days is usually sufficient, but can be increased / tailored to the number of days necessary to bring about recovery. - Weaning is unnecessary unless the course of steroids exceeds 14 days. - Dexamethasone 0.6mg/kg may be given as alternative to prednisolone.		
Dose of Salbutamol nebulisers	<5yrs 2.5 mg; >5yrs 5mg	
Dose of Ipratropium Bromide nebulisers	250 mcg all ages (or up to 500mcg via nebuliser for over 12 years)	

Adapted from APLS+	Respiratory rate at rest:	Heart rate:	Systolic BP: (mmHg)
Pre-school 2 – 5 years	25 - 30	95 - 140	85 - 100
School 5 - 11 years	20 – 25	80 – 120	90 - 110
Adolescent 12-16 years	15 – 20	60 – 100	100 - 120

Milton Keynes

Milton Keynes Urgent Care Centre

- Tel: 01908 303030

Milton Keynes Hospital

- Paediatric asthma nurse – Tel: 01908 996574 (Monday -Friday, 08:30 to 16:30)
- Paediatrician on call - Tel: 01908 660033 (bleep paediatrician on call)

Table 5: Inhalers vs Nebulisers

- For moderate asthma, use an inhaler and spacer.
 - If >5 years old use the mouthpiece rather than mask (providing their technique is good)
- Indications for nebulisers:
- Low saturations <94%
 - Unable to use inhaler and spacer (not compliant)
 - Severe and life-threatening respiratory distress
 - Nebulisers are generally not recommended for home use

North Bedfordshire

Children's Rapid Response Team

Tel: 07966025787

Bedford General Hospital

Switchboard Tel: 01234 355122 - Paediatric Registrar

Table 6 - Predicted Peak Flow: for use with EU / EN13826 scale PEF meters only

Height (m)	Height (ft)	Predicted EU PEFR (L/min)	Height (m)	Height (ft)	Predicted EU PEFR (L/min)
0.85	2'9"	87	1.30	4'3"	212
0.90	2'11"	95	1.35	4'5"	233
0.95	3'1"	104	1.40	4'7"	254
1.00	3'3"	115	1.45	4'9"	276
1.05	3'5"	127	1.50	4'11"	299
1.10	3'7"	141	1.55	5'1"	323
1.15	3'9"	157	1.60	5'3"	346
1.20	3'11"	174	1.65	5'5"	370
1.25	4'1"	192	1.70	5'7"	393

Luton and South Bedfordshire

Children's Rapid Response Team

- Tel: 07966025787

Luton & Dunstable Hospital

- GP Urgent Connect (Monday - Friday 9am - 5pm) 01582 297297 for referrals and advice
- Out-of-hours: Switchboard 01582 491166: Paediatric Registrar bleep 733

This guidance has been produced by Primary Care and consultant clinicians across Bedfordshire, Luton and Milton Keynes, and is written in the following context:

This assessment tool was arrived at after careful consideration of the evidence available including but not exclusively including NICE and SIGN guidelines, EBM data and NHS evidence. Healthcare professionals are expected to take it fully into account when exercising clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer. Issue date: Nov 2025 v2.7

Children's Community Nursing Teams

Bedford and North Bedfordshire

Children's Community Nursing Team 01234 310103

Children's Rapid response team 07966025787

Luton and South Bedfordshire

Children's Community Nursing Team 0333 405 0079

Children's Rapid Response Team - 07966025787

Milton Keynes

Milton Keynes Urgent Treatment Centre - 01908 303030

Secondary Care Referrals

Bedfordshire Hospital NHS Trusts

Luton & Dunstable Hospital Site

Switchboard 01582 491166: Paediatric Registrar bleep 733

GP Urgent Connect (Monday-Friday 9-5pm) 01582 297297 for referrals and advice

Bedford General Hospital Site

Switchboard 01234 355122: Paediatric Registrar bleep

Milton Keynes University Hospital NHS Trust

Paediatric asthma nurse – Tel: 01908 996574 (Monday-Friday, 08:30-16:30.)

Paediatrician on-call – Tel: 01908 660033 (bleep paediatrician on call)

RESOURCES FOR HEALTHCARE PROFESSIONALS AND PATIENTS/CARERS

RESOURCES FOR CHILDREN AND YOUNG PEOPLE WITH ASTHMA AND THEIR CARERS

Asthma and Lung UK

- [Asthma education](#)
- [How to use your inhalers \(videos\)](#)
- [Peak flow diary](#)
- [Asthma attack recovery plan](#)

Beat Asthma

- [Asthma education](#)
- [Asthmanauts leaflet: helping explain asthma to my child](#)
- [Personalised Asthma Action Plans](#)
- [How to use your inhalers \(videos\)](#)
- [Resources for adolescents](#)
- [Resources for schools](#)

Adolescents

- [Moving on Asthma](#)

General

- [Itchy, Sneezy, Wheezy](#) – Everything you need to know about allergies.
- [Rightbreathe](#) – how to look after inhalers and spacers, including videos

RESOURCES FOR HEALTHCARE PROFESSIONALS

- Asthma and Lung UK: [health professionals information](#)
- Beat Asthma:
 - [resources for primary healthcare professionals](#)
 - [resources for secondary healthcare professionals](#)
- Education: E-learning for healthcare have a range of modules on different aspects of asthma care. Available via; [Asthma \(Children and young people\) - elearning for healthcare \(e-lfh.org.uk\)](#)
- FeNO: [Using FeNO \(wessexahsn.org.uk\)](#)

REFERENCES

1. Asthma and Lung UK. Statistics about lung conditions, updated 19/11/22. Available at <https://public.tableau.com/app/profile/asthmaandlunguk/viz/Asthmaprevalence/Asthmaprevalence> Accessed 10/2025
2. Kavanagh J, et al. 2019. Over and under diagnosis in asthma. *Breathe (Sheff)* 15(1): e20-e27. Available via <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6481983/> Accessed 10/2025.
3. Office for Health Improvement & Disparities. June 25. Fingertips public health data. Available via <https://fingertips.phe.org.uk/profile/respiratory-disease/> Accessed 10/2025.
4. RCP, 2014. Why asthma still kills. The National Review of Asthma Deaths (NRAD) Confidential Enquiry Report. www.rcplondon.ac.uk/sites/default/files/why-asthma-still-kills-full-report.pdf
5. NICE guideline [NG245] 27/11/24. Asthma: diagnosis, monitoring and chronic asthma management (BTS, NICE, SIGN.) Available at <https://www.nice.org.uk/guidance/ng245> Accessed 10/2025.
6. NHS England. National Bundle of Care for Children and Young People with Asthma: Phase one. Sept 2021. [Report template - NHS website \(england.nhs.uk\)](https://www.england.nhs.uk/publications/national-bundle-of-care-for-children-and-young-people-with-asthma-resource-pack-september-2021/) Resource Pack to accompany the National Bundle of Care for Children and Young People with Asthma. [National-bundle-of-care-for-children-and-young-people-with-asthma-resource-pack-September-2021.pdf \(england.nhs.uk\)](https://www.england.nhs.uk/publications/national-bundle-of-care-for-children-and-young-people-with-asthma-resource-pack-september-2021/) Accessed 05/2024
7. Primary Care Respiratory Society, 25.7.25. Recommendations for the application of the new asthma guidance on MART therapy in children and young people. [Recommendations for application of the new asthma guidance on MART therapy in children and young people | Primary Care Respiratory Society](https://www.pcrsociety.org.uk/media/10000/recommendations-for-application-of-the-new-asthma-guidance-on-mart-therapy-in-children-and-young-people-10000.pdf) Accessed 3.10.25.
8. NICE/BTS/SIGN Nov 2024. Inhaled corticosteroid doses for the BTS, NICE and SIGN asthma guidelines. Available at <https://www.nice.org.uk/guidance/ng245/resources/inhaled-corticosteroid-doses-for-the-bts-nice-and-sign-asthma-guideline-pdf-13558148029> Accessed 3.10.25.
9. Shah, R., Hagell A. & Cheung, R. (2019.) International comparisons of health and wellbeing in adolescence and early adulthood. Nuffield Trust & Association for Young People's Health: January 2019. Available via <https://www.nuffieldtrust.org.uk/research/international-comparisons-of-health-and-wellbeing-in-adolescence-and-early-adulthood> Accessed 25/3/24.
10. Beat Asthma 2025. Indications for referral to secondary care. Available at <https://www.beatasthma.co.uk/resources/primary-healthcare-professionals/chronic-management/> Accessed 6.10.25.