

Asthma Guidelines for adults (age ≥ 17 years)

Supporting the diagnosis and management
of asthma within General Practice

Authored and reviewed by BLMK Long Term Conditions,
Respiratory Group: February 2024.

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*These guidelines are aimed for use by suitably trained healthcare
professionals working within Bedfordshire, Luton and Milton Keynes*

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Introduction

6.4% of people aged 6 years and over in Bedfordshire, Luton & Milton Keynes (BLMK) have asthma.¹ It 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.

The impact of asthma is not evenly spread, with people living in more deprived areas tending to have higher rates of asthma-related emergency hospital admissions.¹

Asthma is dangerous. In BLMK there are over 20 deaths due to asthma every year, resulting in a rate of 3.07 deaths per 100,000 people. This compares unfavourably to the England average of 2.36 per 100,000, (data based on 2017 to 2019.) BLMK also has a higher rate of asthma-related admissions for children and young people.¹

Asthma deaths³:

- are largely attributable to avoidable factors
- often occur before hospital admission
- occur in patients with 'mild, moderate or severe' asthma

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

What's new?

This update includes a preferred SABA free treatment pathway. SABA over-reliance (≥ 3 SABA inhalers in 12 months) is associated with a higher rate of exacerbation and mortality.^{3,4}

The new treatment pathway is based on recommendations from the 2023 GINA Report, Global strategy for asthma.⁵

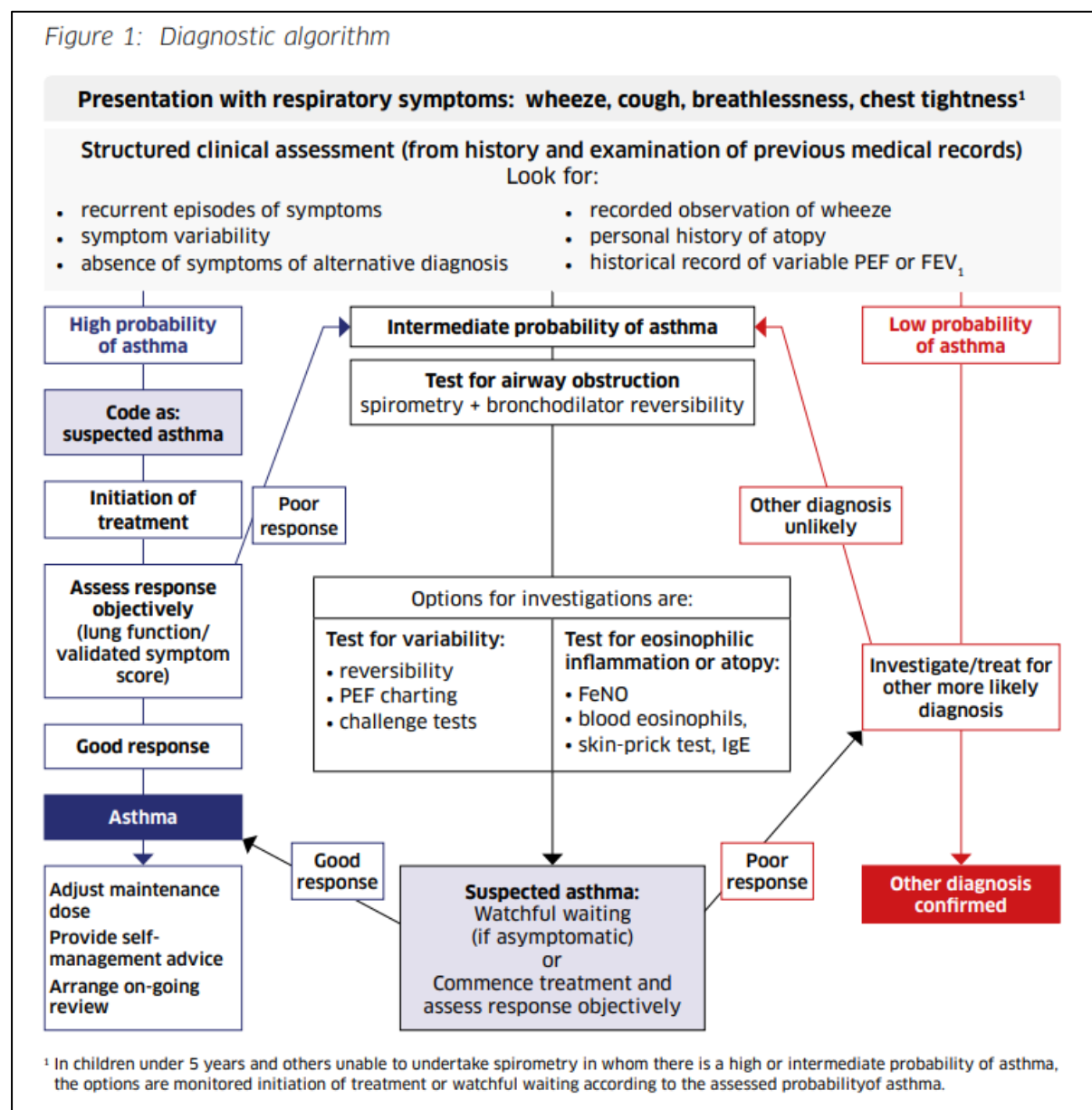
Greener inhalers

Look out for  , denoting more environmentally friendly inhaler choices.

New NICE / BTS / SIGN guidance is due in 2024 – watch this space.

Diagnosis of asthma

There is not a single definitive test for asthma. Diagnosis should be made based on history and ideally supported by objective tests. The algorithm from the British Thoracic Society, may be used to guide the diagnostic process.⁶



[For a detailed NICE diagnostic summary click here⁷](#)

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 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 PEFR variability](#)


Asthma Management

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
Personalised asthma action plans (PAAP)	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, including vaping, and offer smoking cessation advice and support.	Offer flu vaccination annually and offer other vaccinations eg. pneumococcal and COVID-19 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	Exercise can improve overall asthma control, as well as providing multiple other health benefits. Aim for asthma to be managed to support regular exercise.	Specialist referral is indicated if: <ul style="list-style-type: none"> >2 exacerbations requiring oral steroids in past 12m Asthma is not controlled despite step 3 treatment Asthma is worse at work Asthma and COPD overlap 	Specialist care
Co-morbidities		Environment	
Obesity	Weight management support for overweight / obese people can help with asthma control	People with asthma should try to avoid busy roads and vigorous outdoor exercise on high pollution days	Outdoor pollution
Atopic conditions	Manage hay fever and allergic rhinitis. Use low steroid nasal spray and educate regarding technique. Optimise eczema care.	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
Disordered breathing and sleep apnoea	Managing co-morbidities is an important part of asthma care	Triggers include pollen, smoke, emotion, weather changes and pets. Recognising and mitigating triggers reduces risk of attacks and improves control.	Triggers
Acid reflux and heartburn		Using inhalers as prescribed with the correct technique reduces waste, improves control, and reduces need for unplanned care.	Inhalers
Depression and anxiety		Non-propellant inhalers, eg. DPIs have a lower carbon footprint and can be used by most people. They require a greater inspiratory effort.	
COPD	COPD may overlap with asthma and should have specialist management.	If symptoms are worse at work, involve specialist care.	Occupational asthma

Asthma Management – Inhaler Treatment – SABA free regimen (GINA & locally preferred regimen)

1. Choose between propellant (pMDI) and non-propellant (DPI) inhaler	2. Choose between SABA-free and SABA pathway	3. Choose step Step 1 for mild asthma with infrequent symptoms. Consider start at step 2 if symptoms most days or waking with asthma \geq once a week.	4. Choose inhaler - Support personal choice
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Improving symptoms. Review & correct inhaler technique, confirm adherence before stepping up. Consider step down once good control for 3 months. Worsening symptoms

	Step 1. As needed anti-inflammatory (ICS / formoterol) reliever	Step 2. Low dose ICS / formoterol (MART)		Step 3. Moderate dose ICS / formoterol (MART)	Step 4. High dose ICS / LABA (NOT MART) *REFER FOR SPECIALIST CARE AT THIS STEP ***
DPI 	Symbicort Turbohaler 200/6 1 puff PRN (up to 8 puffs daily – rarely 12 puffs)	Fobumix Easyhaler 160/4.5 1 dose BD and PRN (up to 8 puffs daily – rarely 12 puffs) or Fostair NEXThaler 100/6 1 dose BD and PRN (up to 8 puffs daily) or Symbicort Turbohaler 200/6 1 dose BD and PRN (up to 8 puffs daily – rarely 12 puffs)	Consider Montelukast 10mg OD. Consider individual factors, eg. presence of allergic rhinitis. Review at 4-8 weeks. Stop if no response.	Fobumix Easyhaler 160/4.5 2 doses BD and PRN (up to 8 puffs daily – rarely 12 puffs) or Fostair NEXThaler 100/6 2 doses BD and PRN (up to 8 puffs daily) (off label) or Symbicort Turbohaler 200/6 2 doses BD and PRN (up to 8 puffs daily – rarely 12 puffs)	Fobumix Easyhaler 320 / 9 2 doses BD or Fostair NEXThaler 200/6 2 doses BD + SABA PRN <i>Everyone on high-dose ICS should receive a steroid emergency card.</i>
MDI	Luforbec 100/6 1 puff PRN (up to 8 puffs daily) (off-label)	Luforbec 100/6 1 BD and PRN (up to 8 puffs daily)		Luforbec 100/6 2 puffs BD and PRN (up to 8 puffs daily) (off label)	Luforbec 200/6 2 puffs BD or Fostair 200/6 2 puffs BD + SABA PRN

A SABA-free regimen reduces the risk of asthma exacerbations and SABA over-use.
People can switch between SABA-free and traditional regimens if required; always consider if the person is on the right regimen for them.

MART

Stop SABA and remove from repeats.
See [MART further information](#)
Seek medical advice if using additional rescue doses (above usual maintenance dose persistently)


In some instances, people may retain an in date SABA (and spacer) for **emergency use** only, however most people should be SABA free.

For emergency treatment of acute asthma, people may take up to 6 puffs of ICS / formoterol at any one time (at one minute intervals) – as per [PAAP](#).

Asthma Management – Inhaler Treatment – Traditional SABA regimen

1. Choose between propellant (pMDI) and non-propellant (DPI) inhaler	2. Choose between SABA-free and SABA pathway	3. Choose step Step 1 for mild asthma with infrequent symptoms. Consider start at step 2 if symptoms most days or waking with asthma \geq once a week.	4. Choose inhaler - Support personal choice
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Improving symptoms. Review & correct inhaler technique, confirm adherence before stepping up. Consider step down once good control for 3 months. Worsening symptoms

	Step 1. As needed low dose ICS + SABA	Step 2. Low dose ICS / LABA + SABA		Step 3. Moderate dose ICS / LABA + SABA	Step 4. High dose ICS / LABA + SABA REFER TO SPECIALIST CARE AT THIS STEP ***
DPI 	ICS options include: Budesonide Easyhaler 100mcg 2 doses BD or Budesonide Turbohaler 100mcg 2 doses BD SABA options include: Salbutamol Easyhaler 100mcg 1-2 puffs PRN	Fobumix Easyhaler 160/4.5 1 dose BD or Fostair Nexthaler 100/6 1 dose BD or Symbicort Turbohaler 200/6 1 dose BD + SABA PRN	Consider individual factors, eg. history of allergic rhinitis. Review at 4-8 weeks. Stop if no response.	Fobumix Easyhaler 160/4.5 2 doses BD or Fostair NEXThaler 100/6 2 doses BD or Symbicort Turbohaler 200/6 2 doses BD + SABA PRN	Fobumix Easyhaler 320 /9 2 doses BD or Fostair NEXThaler 200/6 2 doses BD + SABA PRN <i>Everyone on high-dose ICS should receive a steroid emergency card</i>
MDI	ICS options include: Clenil modulite 100mcg (+ spacer) 2 puffs BD SABA options include: Salamol 100mcg (+ spacer)	Luforbec 100/6 1 puff BD or Fostair 100/6 1 puff BD + SABA PRN		Luforbec 100/6 2 puffs BD or Fostair 100/6 2 puffs BD + SABA PRN	Luforbec 200/6 2 puffs BD or Fostair 200/6 2 puffs BD + SABA PRN

Asthma Management – Inhaler treatment

<p>Inhaler choice: prescribe by brand</p> <p>Consider patient's ability to use:</p> <ul style="list-style-type: none"> • Use BLMK inhaler device decision aid • Consider environmental considerations – most people can use more sustainable DPIs with training. • InCheck® or placebo devices can help inform choice <p>Use Rightbreathe and Asthma and Lung UK resources to support inhaler and spacer choice, technique and care.</p> <p>Changing inhaler devices: only change after discussion and agreement. Offer face to face contact for support with new inhalers.</p>
<p style="text-align: center;">Inspiratory technique required when using inhaler</p> <p style="text-align: center;">pMDI DPI</p> <p style="text-align: center;">Slow and Steady Fast and Deep</p>
<p>Refer patients to community pharmacy for New Medicines Service when starting a new inhaler to reinforce inhaler technique and support adherence.</p>

Spacer















Aerochamber Plus Flow-Vu Antistatic is the preferred spacer choice in BLMK. Other choices are available – refer to online formulary.



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.)

Sustainability	
Context	Actions – Aim for complete control - Good respiratory care is green respiratory care
<ul style="list-style-type: none"> • 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 DPIs and soft mist inhalers (SMI) have a substantially lower carbon footprint than MDIs. DPIs require a higher inspiratory effort than pMDIs and may not be appropriate for some people, eg. young children. 	<ul style="list-style-type: none"> • Ensure asthma diagnosis is correct • Provide information to support low carbon alternatives wherever possible and suitable. Use the BLMK Greener inhalers – Medicines optimisation tool. • 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.

Inhaler Choice Guide

	Non-propellant inhalers 			Propellant containing MDI 	
SABA	Salbutamol Easyhaler <i>Salbutamol 100mcg / dose</i> 	Ventolin Accuhaler <i>Salbutamol 200mcg / dose</i> 	Bricanyl Turbohaler <i>Terbutaline 500mcg/dose</i> 	Salamol <i>Salbutamol 100mcg / dose</i> 	
ICS	Budesonide Easyhaler 100 <i>Budesonide 100mcg / dose</i> 	Pulmicort Turbohaler 100 <i>Budesonide 100mcg / dose</i> 		Clenil 100 <i>Beclometasone 100mcg/puff</i> 	
ICS/ LABA	Fobumix Easyhaler <i>Budesonide / formoterol 160/4.5mcg per dose</i> 	Fostair NEXThaler <i>Beclometasone (fine particles) / formoterol 100/6mcg / dose</i> 	Symbicort Turbohaler <i>Budsonide / formoterol 200/6mcg / dose</i> 	Luforbec <i>Beclometasone (fine particles) / formoterol 100/6mcg / puff</i> 	Fostair <i>Beclometasone (fine particles) / formoterol 100/6mcg/ puff</i> 
Notes	Beclometasone extra fine particles are at least twice as potent as standard beclomethasone. See ICS dosages for adults age ≥17 years .				

ICS dosages for adults age ≥ 17 years

([Full link to NICE guidance for inhaled corticosteroid doses for adults](#))

	Low dose	Moderate dose	High dose
Beclometasone dipropionate			
Standard particle pMDI & DPI eg. Glenil	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	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 Sefflair 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	Not available	100 micrograms per day as a single dose	200 micrograms per day as a single dose

Maintenance and Reliever Therapy (MART) Regimes – further information.

Consider MART if suboptimal asthma control and frequent need for reliever inhaler or if adherence is a problem.

Stop SABA inhaler on repeat. Some people using MART may retain an in-date SABA pMDI (plus spacer) reserved for emergency use only, however most patients should be SABA free.

Careful education of people with asthma is required for this treatment strategy. Although licensed maximum daily doses vary, anyone using more than 8 inhalations daily of any MART inhaler should be strongly recommended to seek medical advice and their maintenance therapy should be reconsidered.

MART regimes are not licensed for high-dose ICS inhalers, eg. Symbicort 400/12 or Fostair 200/6.

Licensed MART inhalers

DuoResp Spiromax (DPI)	160/4.5 - either 1 dose twice daily plus PRN or 2 doses twice daily plus PRN	Up to 8 puffs daily , rarely 12 puffs.
Fobumix Easyhaler (DPI)	160/4.5 - either 1 dose twice daily plus PRN or 2 doses twice daily plus PRN	Up to 8 puffs daily , rarely 12 puffs.
Fostair NEXThaler (DPI) or Fostair MDI	100/6 - 1 dose twice daily plus PRN	Up to 8 puffs daily
Luforbec MDI	100/6 - 1 dose twice daily plus PRN	Up to 8 puffs daily
Symbicort Turbohaler (DPI)	200/6 - either 1 dose twice daily plus PRN or 2 doses twice daily plus PRN	Up to 8 puffs daily , rarely 12 puffs.

Even in people using a MART regime, a persistent requirement for PRN doses of their inhaler more than twice per week indicates poor asthma control and should prompt a review of therapy.

For emergency treatment of acute asthma, people may take up to 6 puffs of ICS/formoterol at any one time, (1 puff at 1 minute intervals.) If this does not relieve symptoms then urgent medical advice should be sought.

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 , 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 or more than 3-6 SABA in 12 months – suggests poor adherence or control.
<i>PEFR</i>	Review and record PEFR if available. Record weight (and height as appropriate) to support calculating the peak flow rate.
<i>Exacerbations</i>	Check the number of exacerbations in the last 12 months and since last review. Identify and refer those at high risk into specialist care .
	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 person's understanding of what asthma is and how it is treated.
<i>Inhaler technique</i>	Suboptimal technique is linked to poorer asthma outcomes. Check inhaler and spacer technique at every review and reinforce 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>Adherence</i>	Review medication, as stated above for inhaler ratio.
<i>Smoking status</i>	Document and offer smoking cessation if required. Contact details: Bedfordshire and Milton Keynes: Smokefree Bedfordshire Luton: Total Wellbeing Luton
<i>Triggers</i>	Identify triggers and consider ways to mitigate exposure. eg. pets, occupation, beta-blockers, NSAIDs. If asthma is worse at work refer to specialist care for suspected occupational asthma.
<i>Co-morbidities</i>	Identify and manage co-morbidities . Including optimise hayfever management, exploring psychological wellbeing and offer appropriate support.
<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 moderate-dose (step 3) 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. Give people the option of switching to a lower carbon footprint inhaler where appropriate. Check and address any SABA overreliance.
<i>Vaccination</i>	Re-enforce need for annual flu vaccination. Check need for any other vaccination, eg. COVID-19.
	Collaborate
<i>PAAP</i>	Co-create a personalised asthma action plan with the person with asthma to support self-management and update this annually. Templates from Asthma & Lung UK asthma action plan / MART asthma action plan (also on Arden's template.) Review action plan and check understanding on how to manage an exacerbation and when to seek advice

Management of acute asthma in adults in general practice⁶

Assess and record	Moderate acute	Severe acute	Life-threatening
Speak in sentences	Yes	No	No
SpO₂	≥92%	≥92%	<92%
PEFR (best or predicted)	>50-75%	33-55%	<33%
HR (bpm)	<110	≥110	Silent chest, cyanosis or poor inspiratory effort. Arrhythmia or hypotension Exhaustion, altered consciousness
RR / min	<25	≥25	
Where to manage	Manage at home or in primary care. Admit to hospital if life-threatening features, previous near fatal asthma, getting worse. Lower threshold if late in the day, previous severe attacks, concern re: social circumstances.	Consider admission if no response to treatment. Stay with person until ambulance arrives.	Arrange immediate admission. Stay with person until ambulance arrives
Treatment			
β ₂ bronchodilator: SABA pathway	Via spacer: one puff at a time, inhaled separately using tidal breathing, one puff every 60 seconds, up to 10 puffs. If no improvement via nebuliser: Salbutamol 5mg ideally oxygen drive.	Via nebuliser. Via spacer if not nebuliser available.	With ipratropium via nebuliser – Salbutamol 5mg and ipratropium 0.5mg. Via spacer if nebuliser not available.
β ₂ bronchodilator: SABA free pathway ⁸	One puff ICS / formoterol inhaler every minute, up to 6 puffs. If no relief dial 999. Repeat step.		
Prednisolone	40-50mg daily for 5-7 days.	40-50mg or IV hydrocortisone 100mg	40-50mg or IV hydrocortisone 100mg immediately
Oxygen <i>If available</i>	To drive nebuliser if used	To maintain SpO ₂ 94-98%	To maintain SpO ₂ 94-98%

Many asthma deaths are preventable. Treatment delays can be fatal. People with life-threatening acute asthma may not be distressed. Include management of exacerbations and when to seek advice in all action plans. [What to do in an asthma attack – resource for people with asthma](#)

Arrange follow up within 48 hours in general practice or with community asthma team for anyone who has been seen in the emergency setting for an acute asthma exacerbation. Review should include:

- Check asthma is responding to treatment.
- Continue prednisolone 5-7 days.
- Explore avoidable triggers
- Ensure correct treatment is prescribed – including ICS, and check adherence and correct technique
- Update PAAP

When to seek advice and / or refer

In an emergency

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

Worrying symptoms / Red Flags

- Prominent systemic features
- Unexpected clinical finding, eg. cardiac disease, clubbing
- Persistent, non-variable breathlessness
- Chronic sputum production
- Unexplained restrictive spirometry
- CXR changes
- Marked eosinophilia

Diagnostic uncertainty

Poor response to treatment or diagnostic uncertainty

Complexity

- Asthma and COPD overlap
- Occupational asthma
- Complex co-morbidity

Uncontrolled asthma

It is important to distinguish between poorly controlled asthma and severe asthma. Refer patient with asthma symptoms despite optimal treatment. Before referring check the following:

Adherence

Explore if taking medicines as prescribed?

Poor adherence / control is suggested by <4 ICS or ICS/LABA inhalers in 12 months or ≥3-6 SABA in 12 months.

Technique

Check their inhaler technique. Consider changing inhalers to best suit their need.

Manage other conditions that may impact asthma

Optimise the management of co-morbidities, eg. hay fever, depression, anxiety.

On moderate dose (or greater) treatment

Refer if asthma is not controlled despite moderate-dose treatment (and good adherence)

Exacerbation

Refer if ≥2 exacerbations requiring oral steroids or if any requiring hospital admission in the last 12 months.

Psychosocial factors

Adverse outcomes are associated with co-existent depression, anxiety and panic disorders. Offer appropriate support including referral to mental health workers, Social Prescribing Link Worker or other relevant professionals.

Resources

Resources for people with asthma and carers

Asthma and Lung UK

- [Asthma education](#)
- [Inhaler choices](#) (4 simple inhaler changes) – in multiple languages.
- [How to use your inhalers \(videos\)](#)
- [Peak flow diary](#)
- [Groups and support](#)
- [Asthma attack recovery plan](#)

[Rightbreathe](#) – how to look after inhalers and spacers, including videos

Resources for healthcare professionals

Education

- Asthma and Lung UK – [health professionals information](#)
- [e-Learning for healthcare: the asthma programme](#). A range of free e-learning modules on different aspects of asthma care

Environmental

- [BLMK Greener inhalers – medicines optimisation tool for adults](#)
- [Greener Practice Asthma care](#) – clinician led network. Asthma toolkit

Miscellaneous information

Some pMDIs contain very small amounts of ethanol. The content released per puff is less than the ethanol content in a ripe banana. Some people may feel that an inhaler containing ethanol is unsuitable for ethical, cultural, or religious reasons. Healthcare professions should be sensitive to people's personal beliefs and an alternative be offered where appropriate and available.

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