

Asthma in adults

18 years and over

A guide for South East London General Practice[©]

Key Messages

- All patients should be treated with an inhaled corticosteroid (ICS) to reduce airway inflammation.
- Short acting beta agonists (SABA) provide short term relief only and should always be used alongside a regular ICS. SABA overuse risks exacerbations.
- Check adherence, inhaler technique and update personal asthma action plan (PAAP) at least annually.
- Document your reasons for diagnosing asthma or suspected asthma.

CESEL Children and Young People's Asthma Guide [here](#)

Always work within your knowledge and competency

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This guide covers the care of adults with asthma or suspected asthma. Use the links on this contents page to help you navigate to the section you need, Links throughout the guide interconnect sections of the guide and supporting information. A separate children and young people's asthma guide can be found [here](#).

The South East London picture

Diagnosis can be improved

Asthma is the 3rd most prevalent condition in South East London (SEL) but our captured prevalence is lower than national average, suggesting we have not coded or diagnosed all cases and that there is unmet need. (Recorded SEL prevalence 4.9% SEL compared to 6.4% nationally).^{1,2}

Incorrect diagnosis of asthma is common and leads to unnecessary treatment.³

Asthma is not evenly spread, with higher rates in⁴:

- African, Caribbean and Asian families,
- People living in deprivation,
- People living close to major roads.

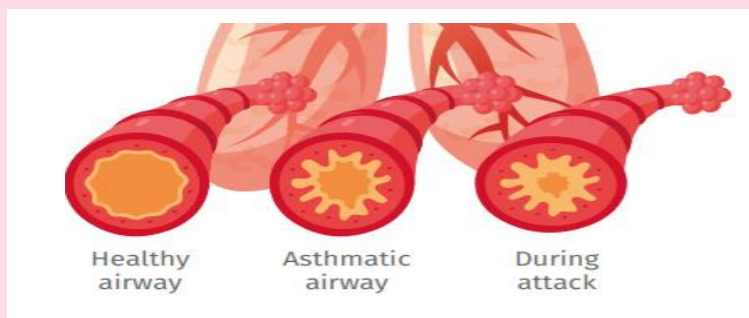
Asthma is dangerous

In SEL we have higher than national average hospital admissions for young people with asthma².

There are over 20 asthma deaths across SEL every year, including adults and children and young people, and many more near misses.

Asthma deaths^{2,5}

- are largely attributable to avoidable factors,
- often occur before hospital admission,
- 30% are in patients with infrequent symptoms,
- adverse psychosocial factors are recorded in most asthma deaths.



What's new in asthma care?

Dangers of prescribing SABA without an ICS^{6,7}

SABA, when used alone, increases the risk of exacerbations and mortality and can lead to an overuse cycle. The use of 3 SABA inhalers over a 12-month period is associated with an increased risk of exacerbation compared to use of 1-2 SABA inhalers. See the new, preferred [SABA-free treatment pathway](#) on page 8.



All patients should be on an ICS to treat their airway inflammation, to reduce symptoms and reduce the risk of exacerbation.

Patients USING more than 3-6 short acting relievers e.g.. salbutamol, in previous 12 months should be invited for review.

The Climate Emergency

Look out for the **green leaf** throughout this guide to support environmentally friendly asthma care.



Improved Diagnostics

High quality spirometry supports accurate diagnosis.

This means a move to **spirometry in a respiratory service** e.g. community respiratory hub.

Why do we need this guide?

This is a **one stop guide** for busy clinicians. It synthesises and highlights the most relevant content of the multiple evidence-based asthma guidelines available combined with local pathways (including NICE, BTS/SIGN, PCRS, GINA – see references).

Use the links in the index and throughout the guide to navigate to the content you need.

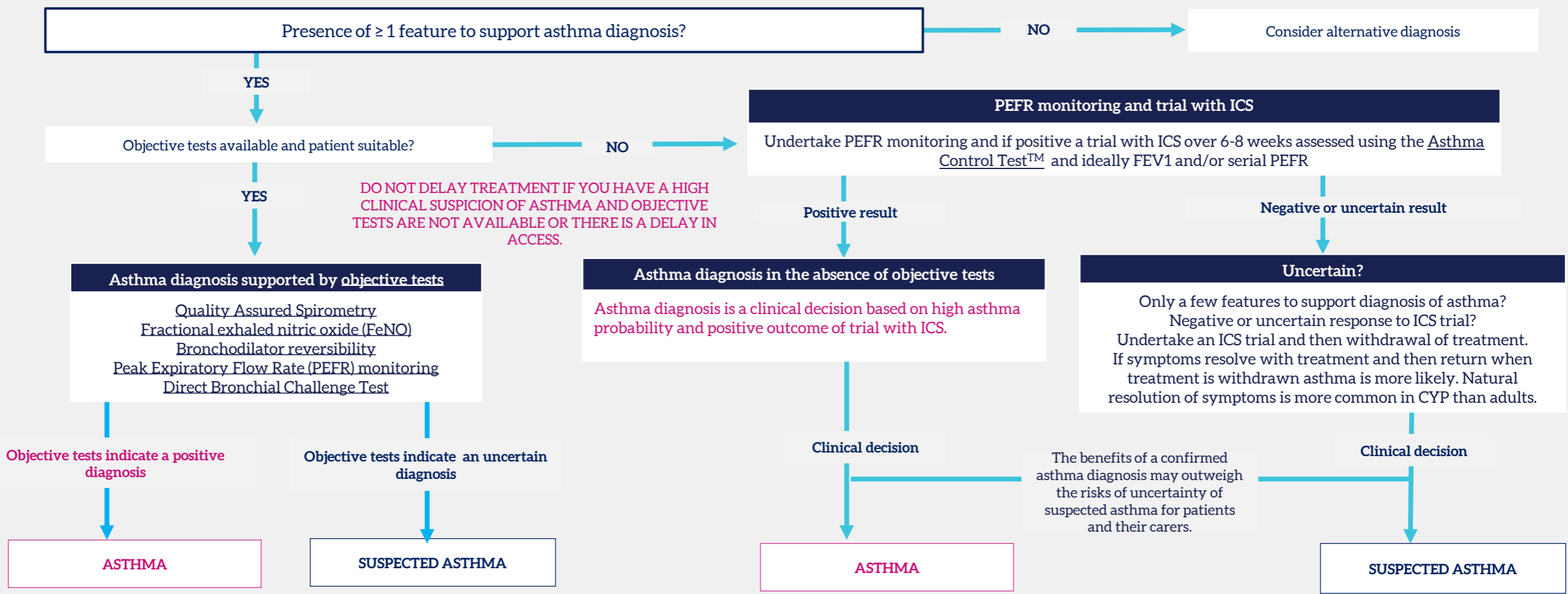
This guide aligns with SEL medicines guidance and will be updated when new guidance and new local services become available.

[Resources](#), [references](#) and [abbreviations](#) can be found at the end of this guide.

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

There is not a single, definitive test for asthma. Asthma diagnosis should be made based on history and ideally supported by objective tests. There is variable availability of objective tests across SEL, See [here](#) for local referral pathways.

		Features to support asthma diagnosis						
		1	2	3	4	5	6	
6/6 features = high probability of asthma		Recurrent episodes of cough, wheeze, chest tightness and shortness of breath.	Symptom variation e.g. throughout the day and between seasons.	Absence of symptoms suggestive of an alternative diagnosis (exclude red flags).	Recorded clinical observation of wheeze. Opportunistically check and record this whenever possible.	Personal/family history of atopy +/- raised eosinophils as indicator of atopy.	Positive peak expiratory flow rate (PEFR) monitoring or FEV1 variance. See here	Features may occur over time, and so recording each one when they occur in patient notes is important.
1-5/6 features = intermediate probability of asthma								



ASTHMA

SUSPECTED ASTHMA

POOR RESPONSE TO TREATMENT OR ATYPICAL FEATURES?

Confirm asthma or suspected diagnosis with patient. Ensure understanding. Code diagnosis using Ardens template. Record basis on which diagnosis has been made. Agree on a [management/asthma action plan](#) with patient and review date.

Offer the same level of care for suspected asthma confirmed asthma, with appropriate treatment and at least annual review. Consider objective tests again or when available, especially if symptomatic.

Check adherence and inhaler technique, review diagnosis, and [consider referral](#)

Objective test: Use links for patient information	Peak Expiratory Flow Rate (PEFR) monitoring	Quality Assured Spirometry* ²	Bronchodilator reversibility (BDR) β_2 agonist or corticosteroid	Fractional exhaled nitric oxide (FeNO)	Direct bronchial challenge test (DBC)
What does it test?	Reversibility	Obstruction	Reversibility	Inflammation	Reversibility
Where is it done?	Can be offered by GP teams	Offered by community respiratory hub or secondary care <i>Spirometry should only be done by those on National Register of Certified Professionals and Operators (ARTP Spirometry)</i>			Only for adults and in specialist setting
Positive threshold for diagnosis	Variability > 20%	FEV1/FVC ratio <70% or below the lower limit of normal FEV1 increase \geq 200mls or >12%		Adults \geq 40ppb	
Notes	Each reading best of 3 hard and fast blows. Twice daily or more for at least 2 weeks Use charts and check patients can plot correctly, available from: Asthma and Lung UK . Watch this short video for help calculating PEFR variability	<u>Take all inhalers to test.</u> <u>Before tests stop SABA for 4-6 hours, LABA for 36 hours, LAMA 36-48 hours, continue ICS.</u> <u>Before test avoid smoking for 24 hours, large meal or exercise. Wear loose clothing</u> Normal spirometry does not exclude asthma Spirometry is less reliable at age extremes Spirometry and BDR usually offered together <u>More details including contraindications</u> Patient info; Spirometry - NHS (www.nhs.uk)		Results may be affected by steroid use, smoking, URTI and allergen exposure. NHSE patient FeNO information	

Both symptoms and objective tests have significant false positive and false negative rates. Tests are more likely to be positive when a patient is symptomatic.

Ideally objective test for asthma should be done before ICS treatment is started as this may impact on results, but do not delay treatment in symptomatic patients if objective tests are not available or there is a long wait.

For detailed NICE diagnostic summary click here

ASTHMA CONTROL TEST

ACT™ takes time, and can be done ahead of appointments via text, email or filling in a paper questionnaire which can be obtained on the [GSK supported website](#)

Adult and over 12 years



Aged 4-11 years



WHICH TEST?

Ideally all asthma diagnosis should be supported by positive spirometry with BDR +/- positive FeNO. DBC can be used in adults where there is diagnostic uncertainty

Asthma initial diagnosis and QOF: AST011 coding

New diagnoses or newly registered from April 2023 require **quality-assured spirometry PLUS** either **FeNO** or **Peak expiratory variability** or **bronchodilator reversibility**, 3/12 before or 6/12 after diagnosis

If QA spirometry and/or FeNO is not available, the following codes can be used:

QOF (Quality and Outcomes Framework) diagnostic spirometry service not available

QOF (Quality and Outcomes Framework) - FeNO (fractional exhaled nitric oxide) test service not available

Ardens template supports accurate coding

Education

Understanding asthma and how the treatment works is an important aspect of care (see [here](#) for patient resources).

Personalised asthma action plans (PAAP)

PAAPs should be collaboratively agreed, regularly updated and include daily management and when and where to seek advice. PAAP can be uploaded into [Digital Health Passport - Digital Health Passport](#).

Smoking, passive smoking and e-cigarettes/vaping

Offer tobacco dependence [advice](#) and treatment for those with asthma, including asking about vaping.

Adherence and technique

Nonadherence plays a large role in poorly controlled asthma and exacerbations. Review adherence by asking and checking inhaler prescriptions ordered and support good technique with education and resources.

Exercise

Exercise is good for asthma. Ensure good asthma control to benefit from regular exercise.



Continuity within a practice team helps build relationships and trust and improve asthma care.

Offer [flu vaccination](#) annually + other vaccinations as required e.g. COVID.

Asthma plans should include details of when and where to access urgent care. Review in general practice or with community asthma team within 48 hours an A&E visit or hospital discharge.

Specialist referral is indicated when

- 2 or more attacks/year
- asthma is not controlled despite treatment
- asthma is worse at work
- asthma and COPD overlap

‘Asthma is not just an acute condition that only needs treating when it’s bad. It’s a long-term chronic condition that need to be treated even when it’s ok and patients feel good.’

Nurse specialist, south London

Comorbidities

Obesity

Weight management support for overweight patients can contribute to good asthma control.

Atopic conditions

Hay fever and rhinitis: Use low steroid nasal spray and ensure [correct technique](#). Optimise eczema care.

Disordered breathing and sleep apnoea

Acid reflux and heartburn

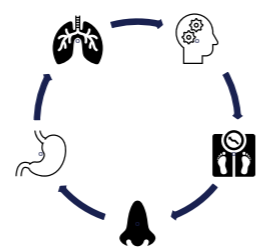
Depression and anxiety

Adverse asthma outcomes are associated with depression and panic disorder. Always ask, consider treatment and signpost to support.

COPD

COPD may overlap with asthma and is best managed with specialist input.

Managing co-morbidities is an important aspect of asthma care.



Asthma control

Well controlled asthma has the lowest carbon imprint.

People with asthma should try to avoid busy roads and vigorous outdoor exercise on [high pollution days](#).

Electricity is the cleanest home energy source. Damp and mould issues, burning wood, candles and incense adversely affect asthma. ‘Chemical free’ or ‘allergy friendly’ household and personal products limit asthma triggers.

Triggers include pollen, cigarettes, emotion, weather changes and pets. Recognising and mitigating triggers will reduce risk of attacks and improve control.

Using inhalers as prescribed and with the correct technique reduces waste, improves control and reduces need for unplanned medical care.

Non-propellant (NP) inhalers such as DPIs, have a lower carbon footprint and can be used effectively by most people. They require a greater respiratory effort than pMDIs so may not be suitable for all patient groups, e.g. neurodiverse patients. Aim for an inhaler the patient can and will use.

Used inhalers should be returned to the pharmacy to be recycled or environmentally friendly disposal. [SEL support for prescribing sustainably](#)

If symptoms are worse at work involve specialist review

General Practice regular review

Continuity

Vaccination

Emergency care

Specialist care

Environment

Outdoor Pollution

Indoor pollution

Triggers

Inhalers

Occupational asthma

Asthma and suspected asthma review 13, 14, 15

For abbreviations see [here](#)

A general 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.

Asthma reviews should be undertaken by a clinician with expertise in asthma care.

Review planning at practice/PCN level	<p>Call/recall planning: include all patients coded for asthma or suspected asthma. Review notes of patients prescribed inhalers without a diagnosis of asthma or COPD as this may be uncoded asthma.</p> <p>Consultations type: telephone consultations are helpful for low-risk patients and those who find it difficult to attend the practice. Face-to-face contacts better suit a personalised care approach, allow for checking and demonstrating inhaler technique and are more suitable for patients with poor control and/or complex needs, when changing treatment and after exacerbations. Patients value being offered a range of appointment types and times, including outside of work hours.</p>	Contact CESEL team for advice and information on searches and quality improvement support
Pre-patient review	For QOF purposes the ACT™ and exacerbation recording can be done up to one month before the review. Ask patients to bring all inhalers and spacer devices to their review appointment.	Text/email / AccurxFlorey / ACT™
Aims of the review	<ul style="list-style-type: none"> To improve quality of life: NO daytime symptoms or limitations on activity, NO disturbed sleep, MINIMAL side effects from medication. To minimize the risk of exacerbations: optimal control, recognizing and mitigating triggers, recognizing and managing exacerbations and referring those at high risk. 	
1. ASSESS CONTROL AND SEVERITY		
Control test (QOF)	Review and record the validated ACT™ result with patient to help inform management.	Use Ardens asthma template to ensure correct coding.
Inhaler ratio	Review how many inhalers have been ordered and ask how many have been used. If fewer than 4 ICS (suboptimal adherence) or ICS/LABA inhalers, or more than 3-6 SABA (SABA over reliance) in a 12-month period – this suggests poor adherence or control. Use the Asthma Slide Rule or the Reliever Reliance Test to support a conversations for patients who may be over reliant on their SABA inhaler.	<p>Consider creating/using EMIS proformas to add to asthma review to ensure information given and recorded e.g.</p> <p>1 - ICS - patient informed</p> <ul style="list-style-type: none"> - ICS treats underlying airway inflammation as opposed to the blue inhaler only rescue/short-term opens the airways -ICS takes 4-8 weeks to start working, up to 12 weeks for full effect. -Overuse of SABA and its effects discussed e.g. increases risk of exacerbations, fixed airways disease. -If, after 4-6 weeks of using the preventer inhaler, still symptomatic/waking at night/using the blue inhaler 3x per week this is a sign of poor asthma control and increased risk of an asthma attack and needs review
Exacerbations: reduce risk (QOF)	Optimise disease control, avoid triggers, appropriate management of exacerbations and identifying and referring those at high risk into specialist care , to available specialist services within your borough .	
PEFR	Review PEFR measurements if available. Record PEFR, document best PEFR in include in notes and action plan (PAAP). Record height and weight to support calculating the predicted peak flow rate.	
2. REVIEW		
Diagnosis	Ensure the reason for asthma or suspected asthma diagnosis is recorded in the notes. If any uncertainty revisit diagnostic page and refer for objective tests as appropriate/where available.	
Understanding	Check patient's understanding of what asthma is and how it is treated.	
Inhaler technique (QOF)	Suboptimal inhaler 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, reinforce the benefits for drug delivery, importance of technique, spacer care and when to replace. More information on page 10 .	
Adherence	Poor ICS adherence may explain poor control. (Complete the adherence training module Modifying non-adherence to medicines in asthma - Pulse 365 (Pulse registration needed)	
Smoking status (QOF)	Offer tobacco dependence support for patients and carers. NCSCT Very Brief Advice training module . Smokers may need higher dose ICS due to impact of smoking on ICS efficacy.	
Triggers	Identify triggers , including indoor triggers such as mould , and consider ways to reduce and mitigate exposure. Consider a housing letter or referral to Social Prescribing Link Worker for support. If asthma is worse at work, refer to secondary care for suspected occupational asthma .	
Co-morbidities	Identify and manage co-morbidities . This includes exploring low mood and anxiety and signposting to support, and optimising hay fever treatment.	
Medication	<p>If asthma is poorly controlled despite good ICS adherence and technique, consider a step up their management. If stable for 3 or more months and low risk of exacerbations, consider a step down in treatment. Give your patients the option of switching to a lower carbon inhaler where appropriate. Check and address any SABA over reliance. Provide written material and signpost to training videos. Update asthma medication review in notes. Check patients know how to use the NHS App to order repeat prescriptions.</p>	
Vaccination	Review vaccination status and offer flu and COVID vaccinations as appropriate	
3. COLLABORATE:		
Explore ideas, concerns and expectations, share relevant information, discuss risks and benefits of treatment and importance of self-management..		
PAAP (QOF)	Co-create a personalised asthma management plan in collaboration with the patient to support self-management. Update annually. Use the link in the Ardens template or here .	Asthma and Lung UK Training Videos
Goals	Review previous goals and consider new goals e.g. weight loss, reduce SABA use	Encourage your patients to use Digital Health Passport – Digital Health Passport
<p>Follow up: At least annually and 4-6 weeks after any medication changes. More frequent follow ups may be necessary for patients with poor disease control or those with severe asthma. There is lots of information to share in an asthma review and shorter and more frequent appointments may reduce the risk of information overload. Consider group consultations.</p>		

1 Choose between propellant and non-propellant inhalers

Non-propellant inhaler DPI/SMI
Dry Powder inhaler (DPI) and Soft Mist inhaler (SMI)
OR

Propellant inhalers pMDI
Pressurised metered - dose inhaler

DPI/SMI have a lower carbon footprint than propellant based, pressured metered dose inhalers (pMDI),

pMDI - must be used with a spacer device.
Use the inhaler links on this page to find the right spacer for each device.

2 Choose between SABA-Free and SABA Pathways

SABA-Free Pathway For Step 1 and 2
NEW PREFERRED

Using a combination ICS + rapid-release LABA (formoterol) inhaler instead of separate ICS and SABA inhalers reduces the risk of exacerbations and SABA overuse⁶.
Step 1: start with AIR (As Needed Anti-Inflammatory Reliever therapy) and progress to MART (Maintenance and Reliever Therapy) - with rescue ICS/rapid action LABA (formoterol) inhaler as required.
SABA-Free can only be for step 1 and 2, if moving to Step 3, consider specialist input and move to SABA pathway as rescue/as required ICS/LABA use exceeds recommended ICS dose at Step 3 and 4.

OR

SABA Pathway Traditional

Separate ICS and SABA inhalers. Risks SABA overuse.
There is a wider choice of ICS/LABA inhalers in this pathway as it is **not** restricted to rapid acting LABA - (formoterol) inhalers.

3 Choose step: starting at Step 1

Step up if symptoms are not controlled despite good adherence and technique.

Step down if symptoms well controlled and not at risk of exacerbations.

Review 6-8 weeks after a change.

4 Choose inhaler

Some steps offer a range of inhalers. Support patient choice using the table on [P.11](#)

Improving symptoms Review and correct inhaler technique and confirm adherence to treatment before considering a step up in treatment. Consider step down once good asthma control has been maintained for 3 months Worsening symptoms

Continue specialist-initiated management plans which may differ from this guide **New joint guidance from NICE/BTS/SIGN is due in 2024. Watch this space** Support for prescribing off license Medium or high dose steroid? Issue steroid card SEL Guidance PIL

SABA-FREE PATHWAY: PREFERRED

Step 1: Low dose ICS + bronchodilator			
AIR		MART	
	DPI		DPI
	Symbicort Turbohaler 200/6 1 puff as needed No regular inhaler		Symbicort Turbohaler 200/6 1 puff BD and as needed
	Fostair pMDI 100/6 1 puffs as needed No regular inhaler (off license indication)		Fostair Nexthaler 100/6 1 puffs BD and as needed
			Fostair pMDI 100/6 1 puffs BD and as needed

Step 2: Moderate dose ICS/LABA		
	DPI	pMDI
	Fostair Nexthaler 100/6 2 puffs BD and 1 as needed	Fostair pMDI 100/6 2 puffs BD and 1 as needed
	Symbicort Turbohaler 200/6 2 puffs BD and 1 as needed	

Step 3: High dose ICS/LABA or Moderate dose ICS/LABA/LAMA		
SEEK ADVICE before stepping up to Step 3&4		
	DPI/SMI	pMDI
High dose ICS/LABA		
	Fostair Nexthaler 200/6 2 puffs BD	Fostair pMDI 200/6 2 puffs BD
	Relvar Ellipta 184/22 1 puff OD	
	Aectura Breezhaler 125/260 1 capsule OD	
Moderate dose ICS/LABA/LAMA		
	Trimbow Nexthaler 88/5/9 2 puffs BD (off license indication)	Trimbow pMDI 87/5/9 2 puffs BD
	Symbicort Turbohaler 200/6 2 puffs BD PLUS Spiriva Respimat SMI 2 puffs OD	

Step 4: High dose ICS/LAMA/LABA		
SEEK ADVICE before stepping up to Step 3&4		
	DPI/SMI	pMDI
	Fostair Nexthaler 200/6 2 puffs BD PLUS Spiriva Respimat 2 puffs OD	Trimbow pMDI 172/5/9 2 puffs BD (link to electronic medicines compendium)
	Enerzair Breezhaler 114/46/136 1 capsule OD	
	Relvar Ellipta 184/22 1 puff OD PLUS Spiriva Respimat SMI 2 puffs OD	

Rescue/as needed low dose ICS/LABA in addition to regular preventer treatment as stepping up and down:
[Maximum doses](#): Symbicort Turbohaler (200/6) 6 puffs on a single occasion, 12 puffs daily for short periods only, Fostair pMDI and Nexthaler max 8 puffs/day
























SABA PATHWAY

Regular ICS			
	DPI	As needed SABA	
	DPI	DPI	pMDI
	Easyhaler Beclometasone 200 1 puffs BD	Ventolin 200 Accuhaler as needed	
	Pulmicort 200 turbohaler 1 puff BD	Bricanyl 500 Turbohaler as needed	
	QVAR 100 1 puff BD	Salbutamol Easyhaler as needed	
	Clenil 100 2 puffs BD	Salamol pMDI 100 as needed	
		Airomir pMDI 100 as needed	

	DPI	pMDI
	SABA-free choices above or	
	Aectura Breezhaler 125/127.5 1 capsule OD	Fostair pMDI 100/6 2 puffs BD
	Relvar Ellipta 92/22 1 puff OD	

Rescue/as needed SABA in addition to regular preventer treatment as stepping up and down: Ventolin Accuhaler, Bricanyl Turbohaler, Salamol pMDI, Airomir pMDI, Salbutamol Easyhaler.

Before stepping up to Step 3 and 4: Seek advice from asthma specialist GP, pharmacist or nurse, or referral to integrated/community or secondary care team. Up to date eosinophil count and FeNO, if available, will help specialist management decisions

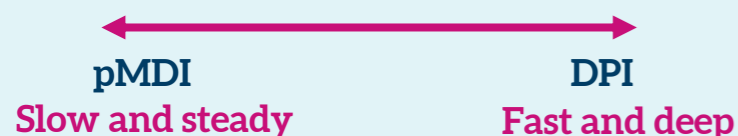
	 Non-propellant inhalers				Propellant containing metered dose inhalers How to use an pMDI			
SABA Short acting beta agonist RESCUE Treatment	 <p>Bricanyl Turbohaler 500 Terbutaline 500 micrograms/dose</p>	 <p>Ventolin Accuhaler Salbutamol 200micrograms/dose</p>	 <p>Salbutamol Easyhaler Salbutamol 100 micrograms/dose</p>	 <p>Salamol pMDI Salbutamol 100 micrograms/dose</p>	 <p>Aiomir pMDI Salbutamol 100 micrograms/dose</p>			
ICS Inhaled corticosteroid	 <p>Beclomethasone 200 Easyhaler Beclomethasone 200micrograms/dose</p>		 <p>Pulmicort 100 Turbohaler Budesonide 100 micrograms/dose</p>		 <p>Clenil Modulite 100 pMDI Beclomethasone 100 micrograms/dose</p>	 <p>QVAR pMDI Beclomethasone 100micrograms/dose</p>		
ICS/LABA Combined ICS + long-acting beta agonist	Rapid-release LABA (formoterol)				NOT rapid-release LABA		Rapid-release LABA (formoterol)	
	 <p>Symbicort 200/6 Turbohaler Budesonide 200micrograms/dose Formoterol 6 micrograms/dose</p>	 <p>Fostair Nexthaler 100/6 Beclomethasone 100micrograms/dose Formoterol 6micrograms/dose</p>	 <p>Fostair Nexthaler 200/6 Beclomethasone 200micrograms/dose Formoterol 6micrograms/dose</p>	 <p>Aectura Breezhaler 125/127.5 Indacaterol 125micrograms/dose Mometasone 127.5micrograms/dose</p>	 <p>Aectura Breezhaler 125/260 Indacaterol 125micrograms/dose Mometasone 260 micrograms/dose</p>	 <p>Relvar Ellipta Fluticasone furoate 92 micrograms/dose Vilanterol 22micrograms/dose</p>	 <p>Fostair 100/6 pMDI Beclomethasone 100micrograms/dose Formoterol 6micrograms/dose</p>	 <p>Fostair 200/6 pMDI Beclomethasone 200micrograms/dose Formoterol 6micrograms/dose</p>
ICS/LABA/LAMA Combined ICS/LABA + long acting muscarinic antagonist	 <p>Trimbow Nexthaler 88/5/9 Beclomethasone 88micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose</p>		 <p>Energair Breezhaler 114/46/136 Indacaterol 114micrograms/dose Glycopyrronium 46micrograms/dose Mometasone 136micrograms/dose</p>		 <p>Trimbow pMDI 87/5/9 Beclomethasone 87micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose</p>	 <p>Trimbow pMDI 172/5/9 Beclomethasone 172micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose</p>		
LAMA long acting muscarinic antagonist	 <p>Spiriva Respimat Tiotropium bromide 2.5 micrograms/dose</p>				SPACERS with pMDI All pMDIs must be used with compatible spacer device. Use Rightbreathe or links on the 'Inhaler and Spacers' page for compatible spacer devices for each inhaler.			

Inhaler Choice: prescribe by brand

Consider patient's ability to use,

- Once or twice daily dosing
- Environmental considerations, most adults can use the more sustainable, non-propellant (DPI) inhalers with training.
- Patients with special needs and/or neurodiversity may manage a pMDI better than a DPI
- Incheck© or placebo devices can help inform inhalers choice

Inspiratory technique required by patient when using inhaler device



USEFUL QUESTIONS TO ASK:

- What has your previous experience with inhalers been?
- Do you prefer once or twice daily regime?
- Can you take a quick, deep breath in?

- **Changing inhaler devices:** only change after discussion and agreement
- Offer a face-to-face contact for support using a new inhalers
- Use [Rightbreathe](#) and [How to use your inhaler | Asthma + Lung UK](#) resources to support inhaler and spacer choice, technique and care.

Refer patients to Community Pharmacist for [New Medicines Service](#) when starting a new inhaler to reinforce inhaler technique & to support adherence

Looking after inhalers

Follow instructions in the box of inhaler

- **MDI (Aerosol)** - Wipe mouthpiece weekly with dry cloth
- **DPI** - Wipe mouthpiece weekly with dry cloth. Never use water on a DPI
- Keep cap on when not using/storing

Looking after spacers

- Soak in warm water for 15 minutes and gently clean using a detergent (e.g. washing up liquid)
- Not all dishwasher safe
- Do not scrub the inside, okay to scrub mouth piece and outside
- Air-dry and store in a safe place
- Replace at least annually if used daily, or when opaque

Inhaler technique: check before prescribing

- Steps common to all devices
 - Prepare inhaler device e.g. remove cap and prime,
 - For pMDI put inhaler in spacer device
 - Load dose e.g. shake inhaler, insert and pierce capsule, click the lever
 - Breathe out as far as is comfortable
 - Put lips around mouthpiece to form a tight seal
 - Breathe correctly for the device type:
 - Aerosol device: slow = steady inspiration
 - Dry powder: quick = deep inspiration
- Remove inhaler from mouth and hold breath for 5-10 seconds
- Repeat as directed and finish
- Rinse mouth after using ICS inhaler to prevent thrush

Sustainability¹⁹



The issues

- Well controlled asthma has the lowest carbon footprint.
- The UK has a high carbon footprint from inhalers due to an over-reliance on pMDIs, both for rescue and ICS treatment.
- Non-propellant DPI and SMI have a substantially lower carbon footprint than pMDI, as they do not contain hydrofluorocarbons. DPIs may be challenging for patients who have difficulty with the inspiratory technique required. DPIs may be more expensive than some pMDIs.
- Reduced use of pMDIs supports sustainability as well as clinical outcomes.
- [SEL Position Statement: Environmental Impact of Inhalers](#)

The solutions

- [SEL support for prescribing sustainably](#)
- Ensure asthma diagnosis is correct
- Provide information to support low carbon alternatives whenever possible and suitable
 - [Environmental Impact of Inhalers: Patient Information SEL](#)
 - [Asthma inhalers and climate change: Patient decision aid](#)
- Look out for SABA over reliance
- Optimise inhaler technique
- Prescribe refills when available e.g. Respimat.
- Encourage patients to return used inhalers to their pharmacy for recycling or environmentally friendly disposal
- Encourage patient to use inhalers until they are finished, this is easier with inhalers with dose counters
- Ensure patients are not reducing their inhaler use due to environmental concerns, address any concerns and share the decisions on the most environmentally friendly treatment regime that suits them as an individual.



Practice Resources: Placebo Inhalers

Placebo inhalers can be ordered for your practice from individual pharmaceutical manufactures.

Many asthma deaths are preventable. Treatment delays can be fatal. Patients 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 – patient resource.](#)

Arrange follow up within 48 hours in general practice or with community asthma team for all patients who have been seen in an emergency setting for an asthma attack

Review should include:

- Check asthma is responding to treatment
- Continue prednisolone – 5-7 days
- Explore avoidable triggers
- Ensure correct treatment is prescribed – including ICS, adhered to and correct technique
- Update PAAP
- Code all asthma attacks managed in general practice and hospital settings using Ardens template Asthma Exacerbation page- refer to specialist care if 2 or more in 12 months

Assess and record	Moderate acute	Severe acute	Life-threatening
Speak in sentences	Yes	No	No
SpO ₂	SpO ₂ ≥92%	SpO ₂ ≥92%	<92%
PEFR best or predicted only use predicted if best PEFR within last 2 years is unknown	>50-75%	33-55%	<33%
HR Beats per minute	HR < 110	HR ≥ 110	Silent chest, cyanosis, poor respiratory effort, arrhythmia, exhaustion, hypotension, confusion
RR/minute	RR < 25	RR ≥ 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 patient until ambulance arrives.	Arrange immediate admission Stay with patient until ambulance arrives.
Treatment:			
β₂ BRONCHODILATOR: SABA pathway SABA pMDI via spacer – if no improvement via nebuliser	Via spacer = one puff at a time, inhaled separately using tidal breathing, one puff every 60 seconds, up to 10 puffs. Via nebuliser – salbutamol 5mg ideally oxygen drive	Via nebuliser, spacer if not available	With ipratropium via nebuliser – Salbutamol 5mg and ipratropium 0.5mg - via spacer if nebuliser not available
β₂ BRONCHODILATOR: SABA-free pathway ICS/rapid-action LABA (formoterol) inhaler	ICS/LABA (formoterol):: one puff as needed up to a max 8 puffs in 24hrs – seek medical advice if using this much.. Can use up to 12 puffs in 24 hours as a temporary measure. If no relief after first puff, wait a few mins then take a 2nd puffs. Up to 6puffs at a time, if no relief after 6puffs, call 999. If on MART, continue with maintenance dose and can use up to 2 puffs four times a day to manage exacerbation.		
PREDNISOLONE Use plain, white prednisolone, this can be CRUSHED and DISSOLVED in water. Soluble prednisolone is expensive and confers no added benefit. Taken in the morning with or after food	40-50mg daily for 5-7 days	Prednisolone 40-50mg (or IV hydrocortisone 100mg)	Prednisolone 40-50mg (or IV hydrocortisone 100mg)
OXYGEN If available	To drive nebuliser if used	To maintain SpO ₂ 94-98%	To maintain SpO ₂ 94-98%

In an emergency

Asthma action plans should include details of when to seek urgent help. See [here](#) for emergency management of asthma and when to call 999/refer to A&E

Worrying Symptoms/Red Flags²

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

Patient under specialist care

Patients with asthma under specialist care including those receiving biologics, should receive the same level and access to general practice care as all patients with asthma or suspected asthma – this includes an annual review. Do not reduce or stop ICS without consulting specialist.

Patients on biologics are not immunocompromised and do not have additional monitoring requirements.. Inhaled medication dose change should only be made in consultation with specialist. [More information](#)

Communication between primary, secondary and community services is key to ensure patients receive consistent advice and support and have clear oversight of their care.

Complexity

Asthma and COPD overlap
Occupational asthma
Complex co-morbidity

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. Before referring check the following:

On high intensity treatment?

Are they at the high-end of treatment escalation according [treatment algorithm](#)?

Adherence?

Have you explored if taking meds as prescribed?
If fewer than 4 ICS or ICS./LABA inhalers, or more than 3- 6 SABA in a 12-month period – this suggests poor adherence or control.

Severe exacerbations?

Refer if ≥2 courses of PO steroids or admission in last year

Technique

Is their inhaler technique correct? Consider changing inhalers to best suit the patient.

Exclude other conditions

Are comorbidities being managed?

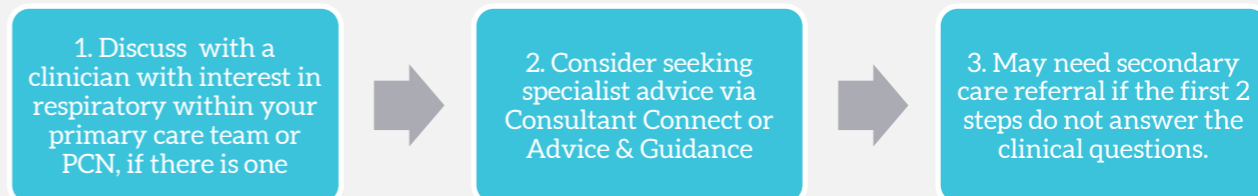
Psychosocial factors

Adverse asthma outcomes are associated with depression, anxiety, panic disorder and low socioeconomic status. Consider referring for support for patients or their primary carers to mental health workers, Talking therapy, Social Prescribing Link Worker, community support and to community asthma nurses.

For inhaler technique and medicines advice

Refer to community pharmacy team

If in doubt..



Bexley

Bromley

Greenwich

Lambeth

Lewisham

Southwark

Before referring to secondary care:

- Check **adherence** & inhaler **technique**
- Look at 'when to refer' page
- Ask - is there a clinician with interest in respiratory within your primary care team or PCN?
- Consider **Advice & Guidance** via eRS or **Consultant Connect**

Health warning:

Services are constantly changing. Work is underway to improve provision of community respiratory hubs across SEL.

If you know of a new service, or a service listed is not correct, please let us know and we will update this information:

clinicaleffectiveness@selondonics.nhs.uk

Bexley and Greenwich

Service	Objective Testing	Diagnostic & management Support	Referral criteria	How to refer
Respiricare	Yes - for suspected asthma +/- other respiratory conditions	No	Aged 18+ Registered with a Bexley or Greenwich GP <u>Intermediate or high probably of asthma</u> PEFR diary over 2 weeks	Use DXS form 'The Bexley & Greenwich Community Respiratory Diagnostic (Lung Function) Hub' on DXS, → email to pulm.rehab@nhs.net
Darent Valley Hospital (Dartford & Gravesham NHS Trust): Adults	No	Yes	Aged 16+	Referral letter → eRS → Respiratory General - Thoracic Medicine - Dartford & Gravesham NHS Trust - RN7
Queen Mary's Hospital (Dartford & Gravesham NHS Trust): Adults	No	Yes	Aged 16+	Referral letter → eRS → Respiratory General - Planned Care Centre, Queen Mary's Hospital, Sidcup RN7
Queen Elizabeth Hospital - Lewisham and Greenwich NHS Trust: Adults	No	Yes	Aged 16+	Referral letter → eRS → Respiratory General - RAS @ Queen Elizabeth Woolwich for Lewisham & Greenwich Trust - RJ2

Bromley

Services Offered BROMLEY	Objective Testing	Diagnostic & management support	Referral criteria	How to refer
Princess Royal University Hospital (PRUH): Adults	No	Yes	Aged 16+	Using Referrals Optimisation Protocol (ROP) Respiratory Menu Item "Respiratory" and referral sent via eRS → Respiratory Medicine - General Thoracic Services for Kings @ PRUH - RJZ30

South East London Adults & CYP Referral Pathways: Lewisham

Services Offered	Objective Testing	Diagnostic & management support	Referral criteria	How to refer
One Health Lewisham (OHL)	Yes	Yes	Registered at a Lewisham GP Aged 7+ Infection free for 6 weeks prior to spirometry testing Has had a CXR in the 12 months	Book directly via EMIS 'Cross-organisational' slots into age appropriate and presentation appropriate clinic <ul style="list-style-type: none"> OHL Respiratory diagnostic paediatrics aged 7-15 years OHL Respiratory diagnostics OHL Respiratory Disease Deterioration
Community Respiratory Team (Lewisham and Greenwich NHS Trust): Adults	Yes	Yes	Registered with a Lewisham GP Aged 16+ Possible new diagnosis of asthma Deterioration of symptoms despite optimal treatment; unstable or difficult to control	Referral 'Spirometry and COPD Generic Referral Form' on DXS → email lg.respiratorynursingteam@nhs.net
Lewisham Community Children's Asthma Team	No	Yes	Ages 0-19 registered with a Lewisham GP with a diagnosis of asthma (for details & criteria, see here)	Use the 'Lewisham Community Children's Asthma Team Referral Form' on DXS → email to lg.asthmanursespecialist@nhs.net
University Hospital Lewisham (Lewisham and Greenwich NHS Trust): Adults	No	Yes	Aged 16+ Relevant blood tests and CXR (attach report)	Referral letter → eRS → Respiratory General RAS @ Lewisham Hospital for Lewisham & Greenwich Trust - RJ2
University Hospital Lewisham (Lewisham and Greenwich NHS Trust): Children and Young People	No	Yes	Aged 15 and under	Referral letter -> eRS-> Children's and Adolescents Services-Other Medical Children's Medicine RAS at University Hospital Lewisham for Lewisham and Greenwich NHS Trust-RJ2

South East London Referral Pathways: Lambeth and Southwark adults

Services Offered	Objective Testing	Diagnostic & management support	Referral criteria	How to refer
Integrated Respiratory Team (IRT): Community Lung Function service:	Yes	No	16+ years New symptoms of asthma and/or COPD, or Old spirometry not meeting quality standards/results do not support current diagnosis	Complete IRT referral form (DXS) – select Community Lung Function Service. Refer via eRS → ‘Diagnostic Physiological Measurement’ → ‘Respiratory – Full Lung Function’ → ‘Community Lung Function Service – (name of the location)’ Attach IRT referral form
Integrated Respiratory Team (IRT) Hospital Chest Clinic Kings College Hospital (KCH) & Guys and St Thomas’ Hospital (GSTT)	No	Yes	Aged 16+ Please ensure patients have had diagnostic tests provided by the Community Lung Function (above) if indicated	Complete IRT referral form (DXS) Choose: Hospital Chest Clinic Service Refer via eRS → Asthma, Guy’s site – Respiratory Medicine – Guy’s & St Thomas’ – RJ1 eRS → Chest, Guy’s site – Respiratory Medicine – Guy’s & St Thomas’ – RJ1 Attach IRT referral form
Adult advice			16 years and over	If your enquiry is URGENT King’s TALK service includes acute medicine: 020 3299 6613 Monday-Friday 8.30am – midnight, weekends 8.30am-8pm. GSTT GP Direct Line: 020 7188 4488

For clinicians

GENERAL

[Asthma and Lung UK health professional resources](#)

[Asthma Right Care \(ARC\) | Primary Care Respiratory Society \(pcrs-uk.org\)](#)

[RightBreathe](#): Information and practical tips with videos on inhalers & spacers, for professionals and patients

[Primary Care Respiratory Society](#) - resources include best practices and educational materials

[Oxford Academic Health Science Network: Asthma](#) - includes toolkits, medication review templates

EDUCATIONAL

[e-Learning for Health: the Asthma programme](#). A range of free e-Learning modules on different aspects of asthma care.

[Very Brief Advice training module \(ncsct.co.uk\)](#) free e-Learning resource for smoking cessation advice

[Modifying non-adherence to medicines in asthma - Pulse 365](#) (Pulse registration needed))

ENVIRONMENT

[SEL support for prescribing sustainably](#)

[Greener Practice Asthma Care](#) - clinician led network

[Clean Air Information Hub: Health](#)

[Daily Air Quality Index - Defra, UK](#)

[Blog: Delivering high quality, low carbon respiratory care](#)

[London: Top Tips for Respiratory Prescribing and Sustainability](#)

[‘Greener’ asthma treatment: a golden opportunity or red flag?](#) Free Open Access Medical Education

[The London Damp and Mould Checklist](#)

[Global Action Knowledge Hub: Resources on clean air for Health Professionals](#)

GUIDELINES:

[Global Initiative for Asthma \(GINA\) Pocket Guide 2022\)](#)

[NICE Asthma NG80](#)

[SIGN/BTS Guide](#)

An integrated NICE/BTS/SIGN guidance is expected in 2024

For patients and carers

GENERAL

[Asthma Right Care \(ARC\) | Primary Care Respiratory Society \(pcrs-uk.org\)](#)

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

Asthma + Lung UK:

- [Inhaler choices \(asthma.org.uk\)](#) - in multiple languages
- [How to use your inhalers \(videos\)](#)
- [Peak flow Diary](#)
- [Groups + Support](#)

ASTHMA ATTACKS

[Asthma UK attack recovery plan](#)

POLLUTION

British Lung Foundation: [Air pollution and your lungs](#)

Asthma + Lung UK: [Air pollution](#)

STAYING HEALTHY WITH ASTHMA

Asthma + Lung UK: [Keeping active with a lung condition](#)

[Digital Health Passport - Digital Health Passport](#)

YOU TUBE EDUCATION VIDEOS

[Asthma + Lung UK - YouTube](#)

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22. [NHS Recognising uncontrolled asthma in primary care](#)

CESEL guides are co-developed by SEL primary care clinicians and SEL experts.

The guides go through a formal approval process including SEL Integrated Medicines Optimisation Committee (IMOC) for the medicines content, a local borough-based Primary Care Leads group and CESEL Steering Group with representation from SELICB and PCNs, and borough-based Medicines Management Teams (MMT). CESEL would like to thank all our colleagues who participated and fed-back during the guide development and consultation process.

Abbreviations

A&E	Accident and Emergency
ACT™	Asthma control test™
BD	Twice a day
BDR	Bronchodilator reversibility
BTS	British Thoracic Society
COPD	Chronic obstructive pulmonary disease
CXR	Chest X-ray
CYP	Children and Young People
DBC	Direct bronchial challenge
DPI	Dry powder inhaler
eRS	Electronic referral system
FeNO	Fractionated exhaled nitric oxide
FEV ₁	Forced expiratory volume in one second
FH	Family history
FVC	Full vital capacity
HR	Heart rate
ICS	Inhaled corticosteroid
LABA	Long acting β agonist
LAMA	Long-acting muscarinic antagonist
MART	Maintenance and reliever therapy
MDI	Metered dose inhaler
NICE	National Institute for Health and Care Excellence
OD	Once a day
PAAP	Personalised asthma action plan
PCN	Primary care network
PEFR	Peak expiratory flow rate
PIL	Patient information leaflet
pMDI	Powdered metered dose inhalers
PO	By mouth
QOF	Quality and outcomes framework
RCP	Royal College of Physicians
RR	Respiratory rate
SABA	Short acting β agonist
SIGN	Scottish Intercollegiate Guidelines Network
SMI	Soft mist inhaler
SpO ₂	Peripheral capillary oxygen saturation
URTI	Upper respiratory tract infection
VBA	Very brief advice