January 2025 review:
CESEL are currently undertaking a review of this guide, in light recently-published NICE/BTS/SIGN Asthma Guidance (NG245). The review has highlighted that some of the hyperlinks require updating. This will be included as part of the review/ update.

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

CONTENTS

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.**

Why focus on Asthma?[1]

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 in[4]:

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

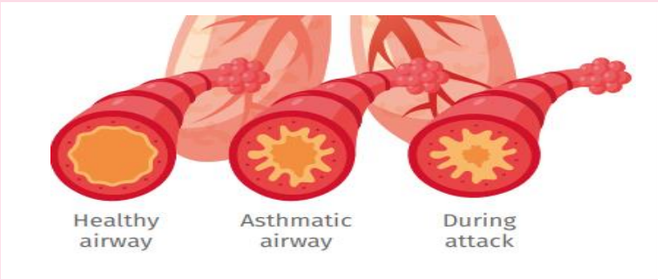
Asthma is dangerous

In SEL we have higher than national average hospital admissions for young people with asthma[2].

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

Asthma diagnosis[9,10]

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.

6/6 features = high probability of asthma

1-5/6 features = intermediate probability of asthma

Features to support asthma diagnosis

1	2	3	4	5	6
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.

Presence of ≥ 1 feature to support asthma diagnosis?

NO → Consider alternative diagnosis

YES

Objective tests available and patient suitable?

NO → **PEFR monitoring and trial with ICS**

Undertake PEFR monitoring and if positive a trial with ICS over 6-8 weeks assessed using the Asthma Control Test™ and ideally FEV1 and/or serial PEFR

DO NOT DELAY TREATMENT IF YOU HAVE A HIGH CLINICAL SUSPICION OF ASTHMA AND OBJECTIVE TESTS ARE NOT AVAILABLE OR THERE IS A DELAY IN ACCESS.

YES

Asthma diagnosis supported by objective tests

Quality Assured Spirometry
Fractional exhaled nitric oxide (FeNO)
Bronchodilator reversibility
Peak Expiratory Flow Rate (PEFR) monitoring
Direct Bronchial Challenge Test

Objective tests indicate a positive diagnosis → ASTHMA

Objective tests indicate an uncertain diagnosis → SUSPECTED ASTHMA

Positive result → **Asthma diagnosis in the absence of objective tests**

Asthma diagnosis is a clinical decision based on high asthma probability and positive outcome of trial with ICS.

Clinical decision → ASTHMA

Negative or uncertain result → **Uncertain?**

Only a few features to support diagnosis of asthma?
Negative or uncertain response to ICS trial?
Undertake an ICS trial and then withdrawal of treatment.
If symptoms resolve with treatment and then return when treatment is withdrawn asthma is more likely. Natural resolution of symptoms is more common in CYP than adults.

The benefits of a confirmed asthma diagnosis may outweigh the risks of uncertainty of suspected asthma for patients and their carers.

Clinical decision → SUSPECTED ASTHMA

ASTHMA

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.

SUSPECTED ASTHMA

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.

POOR RESPONSE TO TREATMENT OR ATYPICAL FEATURES?

Check adherence and inhaler technique, review diagnosis, and consider referral

Objective tests for asthma[11, 12, 13]

Objective test: Use links for patient information	Peak Expiratory Flow Rate (PEFR) monitoring	Quality Assured Spirometry*Z	Bronchodilator reversibility (BDR) $ß_2$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 Spirometry should only be done by those on National Register of Certified Professionals and Operators (ARTP Spirometry)			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 ≥200mls or >12%		Adults ≥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	Take all inhalers to test. Before tests stop SABA for 4-6 hours, LABA for 36 hours, LAMA 36-48 hours, continue ICS. Before test avoid smoking for 24 hours, large meal or exercise. Wear loose clothing **Normal spirometry does not exclude asthma** Spirometry is less reliable at age extremes Spirometry and BDR usually offered together More details including contraindications 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

Self-care

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.

> '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.

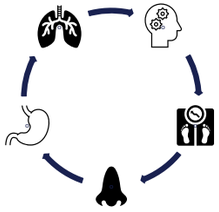
Atopic conditions

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

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



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.

Access to healthcare

General Practice regular review

Patients who are reviewed regularly have a lower risk of asthma attack. Patients should be reviewed in general practice at least annually, after dose changes and exacerbations.

Continuity

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

Vaccination

Offer flu vaccination annually + other vaccinations as required e.g. COVID.

Emergency care

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 care

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

Environment

Asthma control

Well controlled asthma has the lowest carbon imprint.

Outdoor Pollution

People with asthma should try to avoid busy roads and vigorous outdoor exercise on high pollutions days..

Indoor pollution

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

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

Inhalers

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

Occupational asthma

If symptoms are worse at work involve specialist review

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	**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. **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.	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	• **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		Use Ardens asthma template to ensure correct coding. **Consider creating/using EMIS proformas** to add to asthma review to ensure information given and recorded e.g. **1 – ICS – patient informed** - 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 **2 – Spacers – patient informed** -Importance of spacer for drug delivery to the airways -SMS sent with link to video on correct spacer technique. -Discussed spacer care and replacement. -If hears spacer whistle when breathing in is breathing in too fast and needs to breathe more slowly so no whistle is heard. -Leave 30-60s between each puff. -Rince mouth after ICS **To create EMIS hashtag proformas**: (video here) Go to 'CR configuration' on the tap at the top → click on 'Quick codes and test' under 'Organisation Options' (top left) → click 'Add' → Give the item a name → type in the text above e.g. #asthmareview Asthma and Lung UK Training Videos Encourage your patients to use Digital Health Passport – Digital Health Passport
Control test (QOF)	Review and record the validated ACT™ result with patient to help inform management.	
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.	
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 dependance 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	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.	
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.	
Goals	Review previous goals and consider new goals e.g. weight loss, reduce SABA use	

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.

Managing asthma in adults [16,17], local practice

For abbreviations see here

18 years +

1 Choose between propellant and non-propellant inhalers

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

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

Propellant inhalers pMDI
Pressurised metered – dose inhaler

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 overuse[6].
Step 1: start with AIR (As Needed **A**nti-**I**nflammatory **R**eliver therapy) and progress to MART (**M**aintenance and **R**eliever **T**herapy) – 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	DPI	Symbicort Turbohaler 200/6 1 puff as needed No regular inhaler	
	pMDI	Fostair pMDI 100/6 1 puffs as needed No regular inhaler (off license indication)	
MART	DPI	Symbicort Turbohaler 100/6 1-2 puffs BD **and** as needed	Symbicort Turbohaler 200/6 1 puff BD **and** as needed
		Fostair Nexthaler 100/6 1 puffs BD **and** as needed	
	pMDI	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	

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

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

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	
Atectura 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	

SABA PATHWAY

Regular ICS

DPI	Easyhaler Beclometasone 200 1 puffs BD	
	Pulmicort 200 turbohaler 1 puff BD	
pMDI	QVAR 100 1 puff BD	
	Clenil 100 2 puffs BD	

As needed SABA

DPI	Ventolin 200 Accuhaler as needed	
	Bricanyl 500 Turbohaler as needed	
	Salbutamol Easyhaler as needed	
pMDI	Salamol pMDI 100 as needed	
	Airomir pMDI 100 as needed	

DPI	pMDI
SABA-free choices above or	Fostair pMDI 100/6 2 puffs BD
Atectura Breezhaler 125/127.5 1 capsule OD	
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 ,

Suggested inhalers for adults [16,17]

Training videos: click on the title links

For abbreviations see here

Non-propellant inhalers

Propellant containing metered dose inhalers

How to use an pMDI

SABA
Short acting beta agonist
RESCUE Treatment

Bricanyl Turbohaler 500

Terbutaline 500 micrograms/dose

Ventolin Accuhaler

Salbutamol 200micrograms/dose

Salbutamol Easyhaler

Salbutamol 100 micrograms/dose

Salamol pMDI

Salbutamol 100 micrograms/dose

Airomir pMDI

Salbutamol 100 micrograms/dose

ICS
Inhaled corticosteroid

Beclometasone 200 Easyhaler

Beclometasone 200micrgrams/dose

Pulmicort 100 Turbohaler

Budesonide 100 micrograms/dose

Clenil Modulite 100 pMDI

Beclomethasone 100 micrograms/dose

QVAR pMDI

Beclometasone 100micrograms/dose

ICS/LABA
Combined ICS + long-acting beta agonist

Rapid-release LABA (formoterol)

Symbicort 200/6 Turbohaler

Budesonide 200micrograms/dose Formoterol 6 micrograms/dose

Fostair Nexthaler 100/6

Beclometasone 100micrograms/dose Formoterol 6micrograms/dose

Fostair Nexthaler 200/6

Beclometasone 200micrograms/dose Formoterol 6micrograms/dose

NOT rapid-release LABA

Atectura Breezhaler 125/127.5

Indacaterol 125micrograms/dose Mometasone 127.5micrograms/dose

Atectura Breezhaler 125/260

Indacaterol 125micrograms/dose Mometasone 260 micrograms/dose

Relvar Ellipta

Fluticasone furoate 92 micrograms/dose Vilanterol 22micrograms/dose

Rapid-release LABA (formoterol

Fostair 100/6 pMDI

Beclometasone 100micrograms/dose Formoterol 6micrograms/dose

Fostair 200/6 pMDI

Beclometasone 200micrograms/dose Formoterol 6micrograms/dose

ICS/LABA/LAMA
Combined ICS/LABA + long acting muscarinic antagonist

Trimbow Nexthaler 88/5/9

Beclometasone 88micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose

Enerzair Breezhaler 114/46/136

Indacaterol 114micrograms/dose Glycopyrronium 46micrograms/dose Mometasone 136micrograms/dose

Trimbow pMDI 87/5/9 *Beclometasone 87micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose*

Trimbow pMDI 172/5/9 *Beclometasone 172micrograms / dose Formoterol 5micrograms / dose Glycopyrronium 9micrograms / dose*

LAMA
long acting muscarinic antagonist

Spiriva Respimat

Tiotropium bromide 2.5 micrograms/dose

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.

Inhalers and Spacers[9]

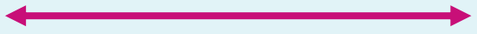
For abbreviations see here

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



pMDI	DPI
Slow and steady	Fast and deep

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

Sustainability[19]

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-propellent 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.

Management of acute asthma in adults[9, 20]

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 precited 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 is 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:			
$ß_2$ 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
$ß_2$ 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%

When to seek advice and/or refer?[21, 22]

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 Flags'[2]

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 oversite 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..

1. Discuss with a clinician with interest in respiratory within your primary care team or PCN, if there is one
2. Consider seeking specialist advice via Consultant Connect or Advice & Guidance
3. May need secondary care referral if the first 2 steps do not answer the clinical questions.

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 Intermediate or high probably of asthma 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
Darenth 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 • 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

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

Asthma resources

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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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	Fractioned 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
$Sp0_2$	Peripheral capillary oxygen saturation
URTI	Upper respiratory tract infection
VBA	Very brief advice