Implementing the new BTS/SIGN/NICE 2024 Asthma Guidelines in Clinical Practice

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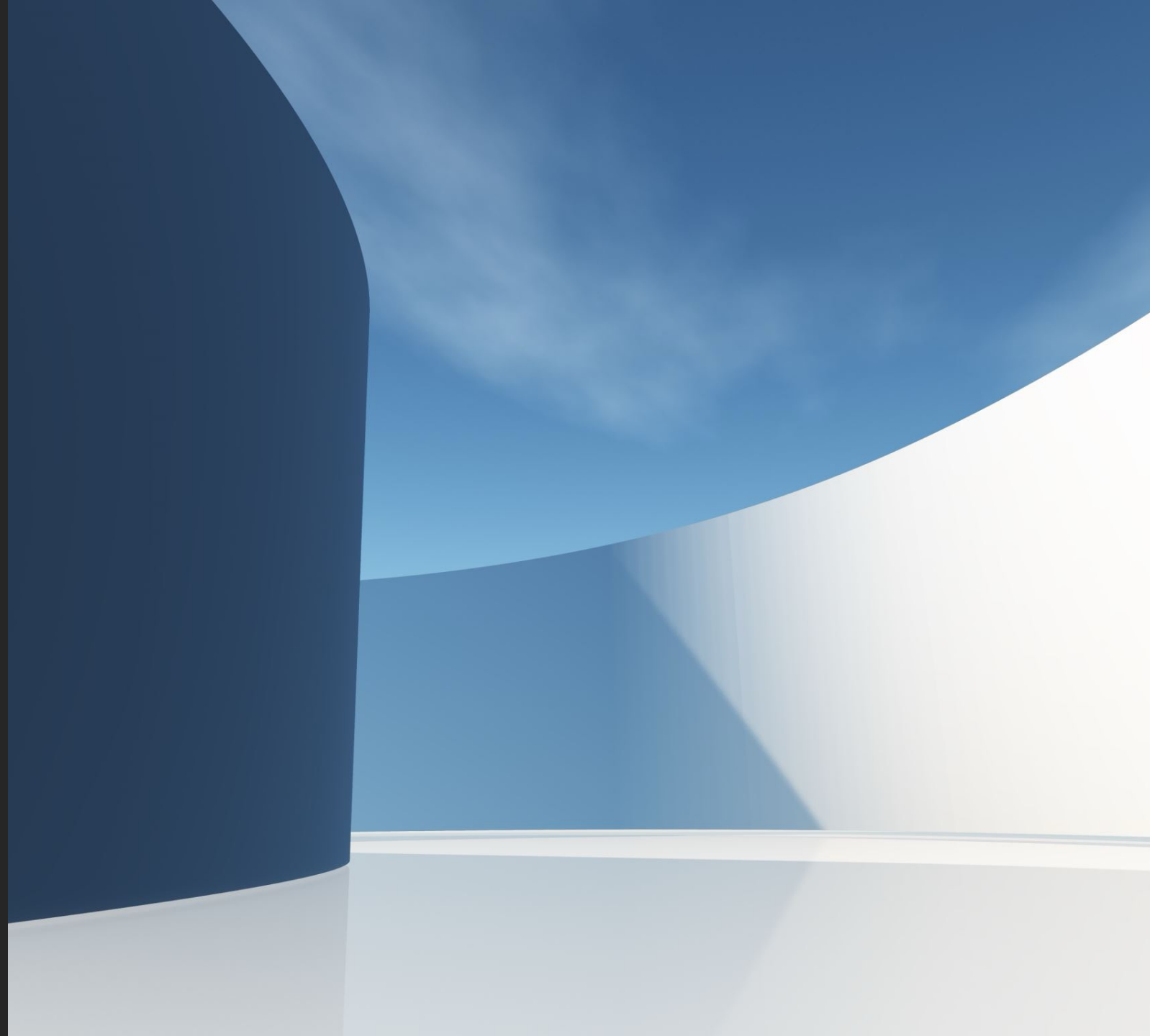


Setting the scene

The potential reality of Asthma

We lost our daughter to asthma and want people to take it more seriously

Nearly five years on the family are still campaigning for better care and awareness of the chronic lung condition that affects 36,000 children in Northern Ireland

A+L UK Released on 3rd May 2023

A father from County Down whose daughter died from an asthma attack has said people have become too complacent about the condition.

Rachel Williamson was 16 years old when she died after suffering an attack at home in Portavogie in 2017.

Her father, Simon, has launched an asthma awareness initiative for teenagers, believed to be the first of its kind in the UK and Ireland.

About one in 10 people in NI have asthma, including 36,000 children.

Many asthma deaths can be prevented through correct use of inhalers and regular check-ups.

But in 2017, the last year for which figures are available, 38 people in Northern Ireland died from it.

Asthma death: Bereaved father warns about complacency
NNC NI Published 28 September 2019

23rd December 2019

Belfast Telegraph

Death of Down teen James Grant from asthma attack stuns community

Asthma deaths in NI 'could have been prevented'

Figures show that there were 40 asthma deaths in Northern Ireland in the past year

07 November 2017 The Irish News

State of the Nation

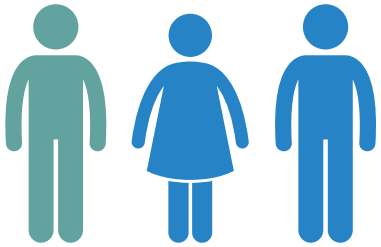
5.4 million[1]

People living with asthma in the UK

Every 10 seconds[2]

Someone is having a potentially life-threatening asthma attack in the UK

Every day, the lives of **three families** are devastated by the death of a loved one to an asthma attack...



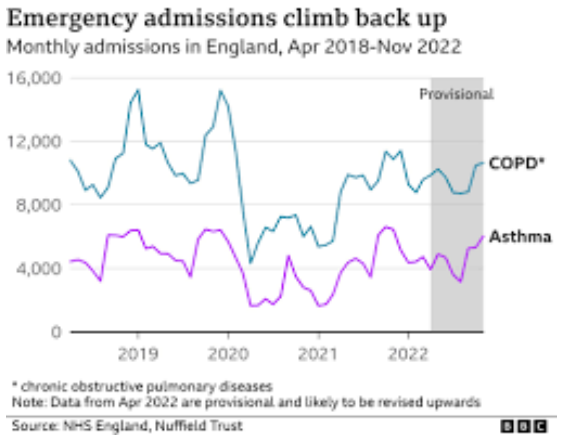
...yet

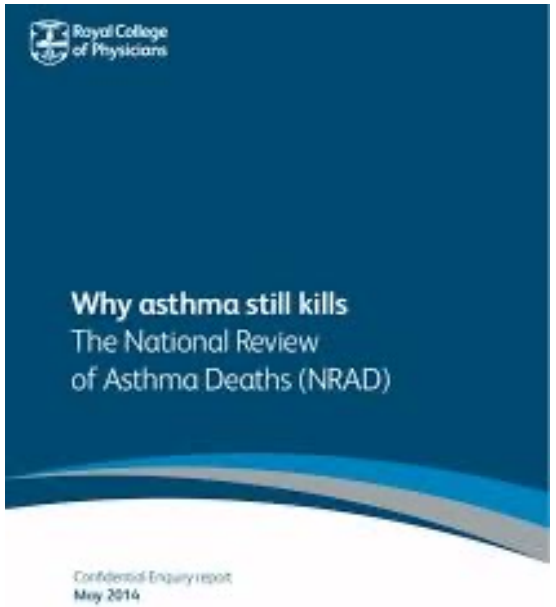
two-thirds

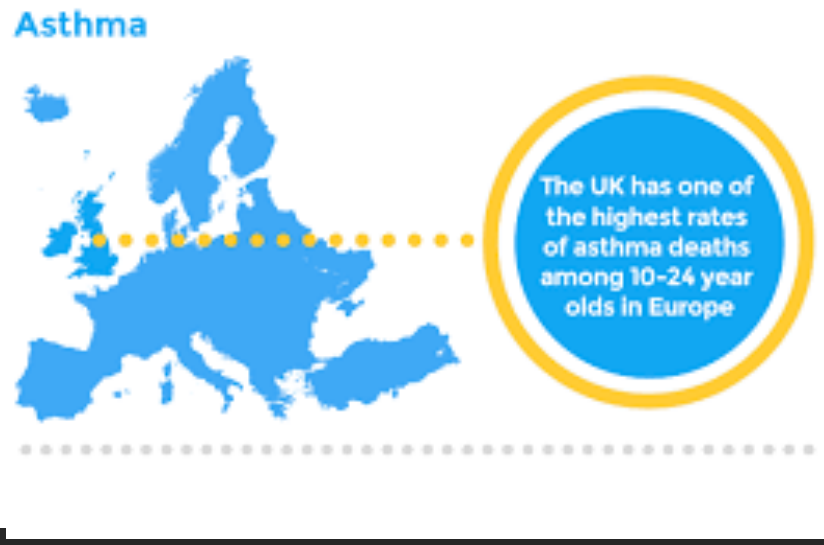
of these deaths are preventable

1. BTS/SIGN/NICE 2024

1. Asthma UK. *Asthma facts and statistics* [online] 2016. Available from: https://www.asthma.org.uk/about/media/facts-and-statistics/ [Last accessed: February 2024].







This report was published in May 2014 and we are only acting on it's recommendations 2024

SHOCKING

Asthma: Definition

GINA 2023 defines asthma as follows:

Asthma is a heterogeneous disease, usually characterised by chronic airway inflammation.

It is defined by the history of respiratory symptoms, such as wheeze, shortness of breath, chest tightness and cough, that vary over time and in intensity, together with variable expiratory airflow limitation.

Airflow limitation may later become persistent[1].

Asthma is usually associated with airway hyperresponsiveness and airway inflammation, but these are not necessary or sufficient to make the diagnosis[1]

Recognisable clusters of demographic, clinical and/or pathophysiological characteristics are often called ‘asthma phenotypes’; however, these do not correlate strongly with specific pathological processes or treatment responses[1]

Asthma is a multifactorial disease process with genetic, allergic, environmental, infectious, emotional and nutritional components[2]

1. https://ginasthma.org/2023-gina-main-report/
2. https://www.ncbi.nlm.nih.gov-pubmed

NICE
National Institute for Health and Care Excellence

Asthma: Definition

Asthma is a chronic respiratory condition associated with airway inflammation and hyper-responsiveness.

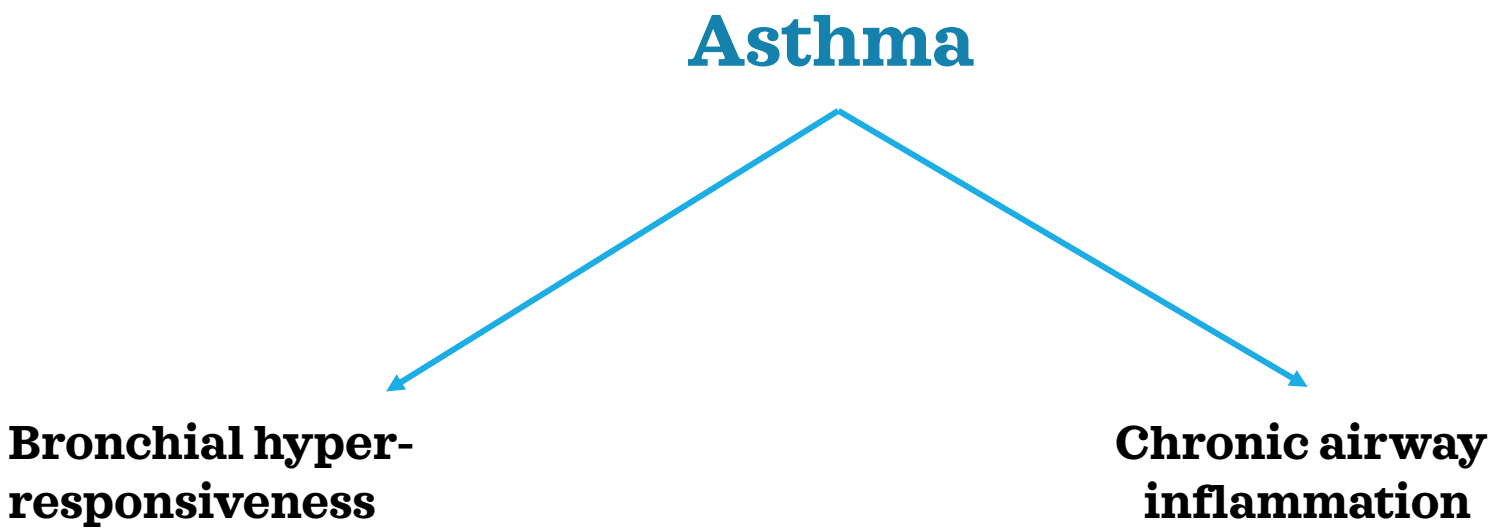
- The disease is heterogeneous, with different underlying disease processes and variations in severity, clinical course, and response to treatment.

Asthma is characterized by symptoms including cough, wheeze, chest tightness, and shortness of breath, and variable expiratory airflow limitation, that can vary over time and in intensity.

- Symptoms can be triggered by factors including exercise, allergen or irritant exposure, changes in weather, and viral respiratory infections.
- Symptoms may resolve spontaneously or in response to medication and may sometimes be absent for weeks or months at a time.

Acute asthma exacerbation is a term used to describe the onset of severe asthma symptoms, which can be life-threatening.

Asthma symptoms include – variable and episodic wheeze, cough, dyspnoea, chest tightness and occasionally a raw sensation in chest[1]



1. https://www.ncbi.nlm.nih.gov-pubmed

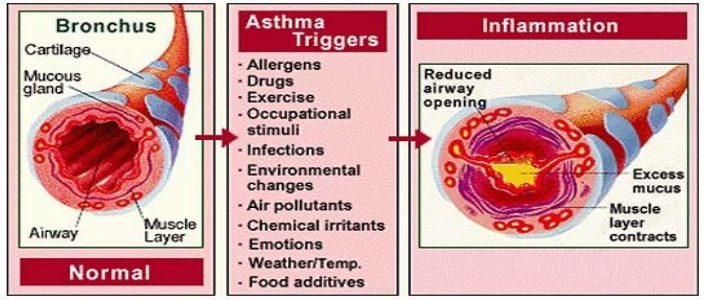
Asthma is an inflammatory disease

Inflammation in asthma contributes to:

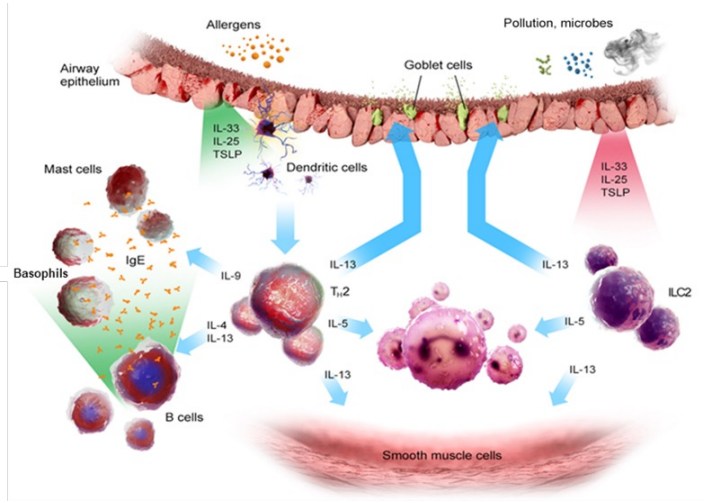
- Bronchial hyperresponsiveness
- Bronchoconstriction
- Airway oedema

Poor symptom control is also strongly associated with an increased risk of asthma exacerbations

Asthma symptoms include variable and episodic wheeze, cough, dyspnoea and chest tightness



Eosinophilic inflammation in allergic and non-allergic asthma:



Allergic asthma

Non-allergic asthma

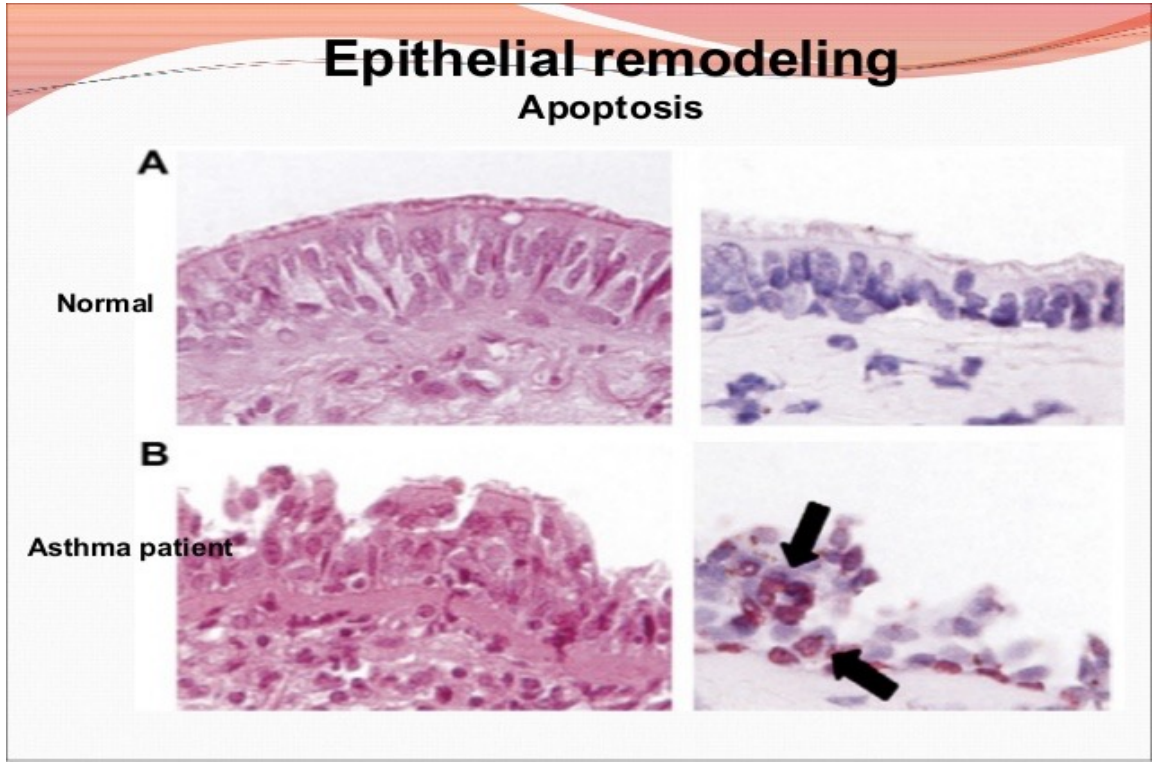
Eosinophilic asthma

1. Global Initiative for Asthma (GINA). Global strategy for asthma management and prevention. 2023. Available from: ginasthma.org/ (Accessed Jan 2024). 2. Brusselle G, Bracke K. Ann Am Thorac Soc 2014; 11:S322-S328. 3. National Asthma Education and Prevention Program Expert Panel Report 3. Available at: www.nhlbi.nih.gov/files/docs/guidelines/asthgdln.pdf (Accessed Jan 2024).

Long term damage and re-modelling

The epithelium

- Loss of cilia, damaged cells, hyperplasia of goblet cells
- **Increased mucus production from goblet cells.**



The airway smooth muscle

- Enlarges in mass (hypertrophy)
- Airway hyper-responsiveness

Reticular basement membrane (RBM) thickening

- Classical feature of asthma
- Only diagnosed with microscope

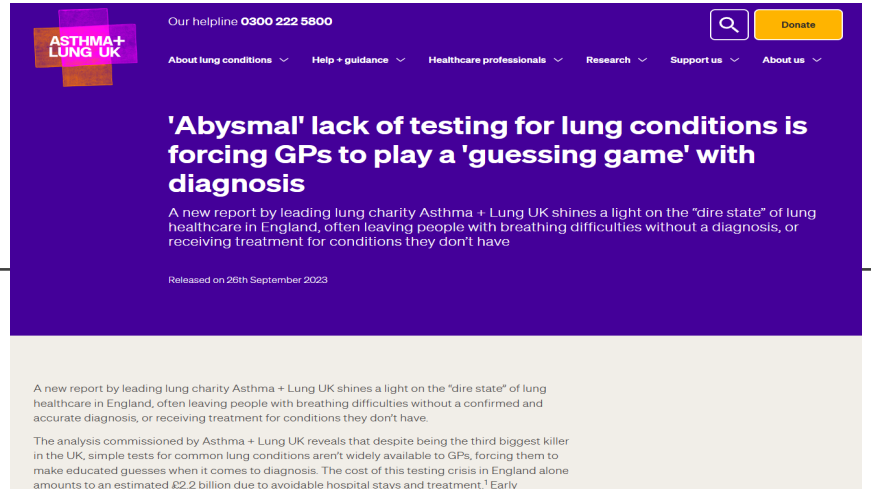
Thickening is caused by an imbalance between synthesis and degradation

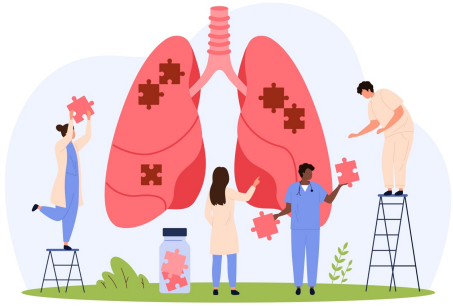
- Severity of the disease correlates with RBM thickening

Diagnosing Asthma

CONSIDER THE POTENTIAL CHALLENGES

There is a need to get the diagnosis right first time





<u>The current Situation:</u> A report published on the 26th September 2023 by leading lung charity Asthma + Lung UK shines a light on the "dire state" of lung healthcare in England, often leaving people with breathing difficulties without a diagnosis, or receiving treatment for conditions they don't have[1]

The report entitled "**Abysmal lack of testing for lung conditions is forcing GPs to play a 'guessing game' with diagnosis"**

This reflects a similar substandard of care for respiratory conditions across the 4 nations, which potentially gives rise to misdiagnosis and increased risk for patients as well as an increased healthcare costs, unscheduled emergency care and Hospital Admissions.

The reports goes on to say:

"There are huge savings to be made by improving the diagnosis and treatment of lung conditions such as asthma and COPD, in terms of direct NHS savings, including reducing hospital bed days. It doesn't make sense that lung conditions aren't given the same priority as other big killers such as heart disease."

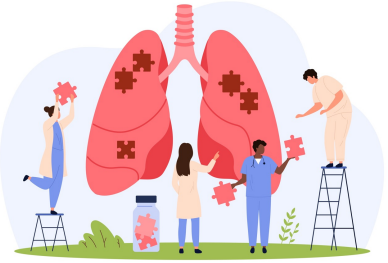
It has been noted that, due to lack of funding of diagnostic services in General – many private clinics are offering diagnostic services to those who can afford to pay – exploiting the marginalised and potentially most in need of these services in our society.

1. https://www.asthmaandlung.org.uk/media/press-releases/abysmal-lack-testing-lung-conditions-forcing-gps-play-guessing-game-diagnosis

Asthma: Some of the potential challenges to gaining an accurate diagnosis

- By its very nature asthma poses a considerable challenge –its tendency to be variable in nature, intermittent, provoked by triggers and fully reversible.
- Poorly conducted and unreliable peak flow testing
- Lack of biomarkers
- Historical QOF targets
- Poor understanding of the underlying etiology of asthma

BUT: We need to be Getting the diagnosis right first time



If we Stop the ‘Guess work’ we can potentially . . .

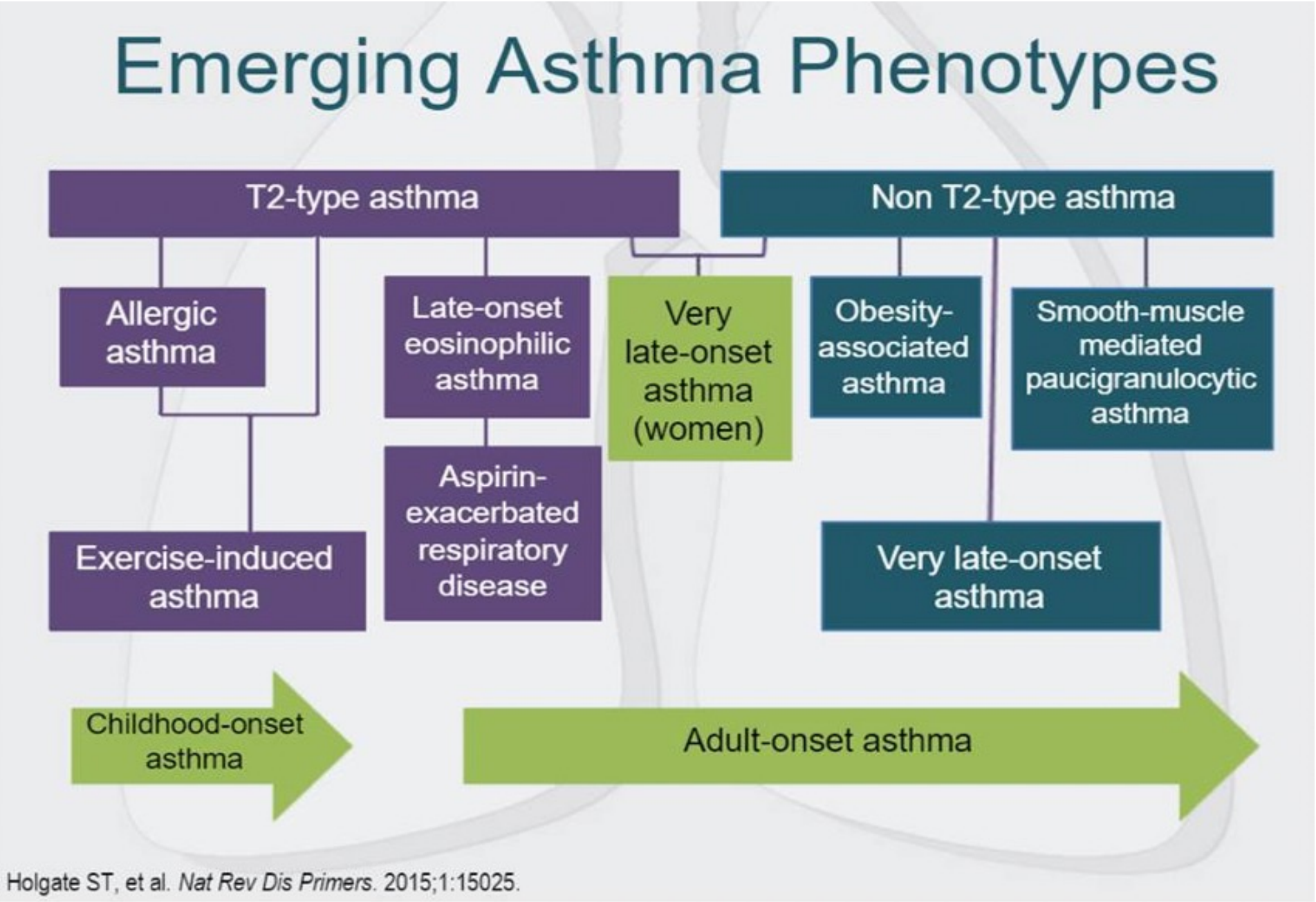
Reduce overarching healthcare costs

Reduce unscheduled visits

Reduce avoidable Hospital Admissions

Reduce inappropriate prescribing and the associated risks and costs.

Type 1
&
Type 2
asthma



Atopic asthma (Extrinsic) T2+ve

Atopic (allergic) asthma is the most common form, begins in childhood.

Other allergic manifestations might include - allergic rhinitis, eczema, urticaria, nut allergy, dairy or food allergy. Positive skin prick tests RAST

Other family members affected

(+ F/H)

Non atopic asthma (Intrinsic) T2-ve

Late onset often in adulthood commonly following a viral respiratory infection

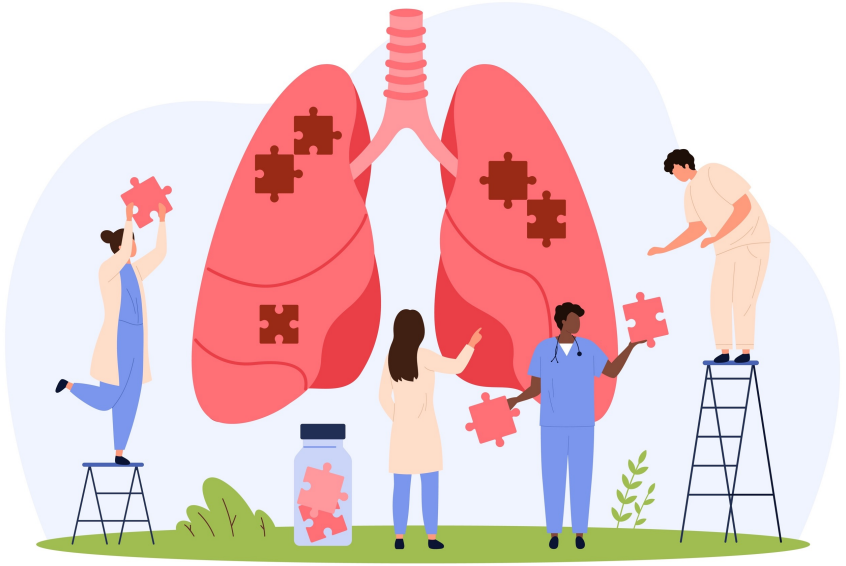
Persistent symptoms and may have prominent upper airway symptoms – marked rhinosinusitis, polyps

No obvious precipitating factors

May have Aspirin / NSAID other drug sensitivities

A broader look at the sub- sets of Asthma[1]

1. Allergic asthma - extrinsic asthma
2. Seasonal Asthma
3. Non-allergic asthma – intrinsic asthma
4. Allergic bronchopulmonary mycosis -
5. Aspirin-induced asthma
6. Asthma with fixed airflow obstruction
7. Exercise induced asthma ?
8. Cough-variant asthma
9. Work-induced asthma
10. Nocturnal asthma
11. Asthma associated with obesity



1. https://www.asthmaandlung.org.uk/conditions/asthma/types-asthma

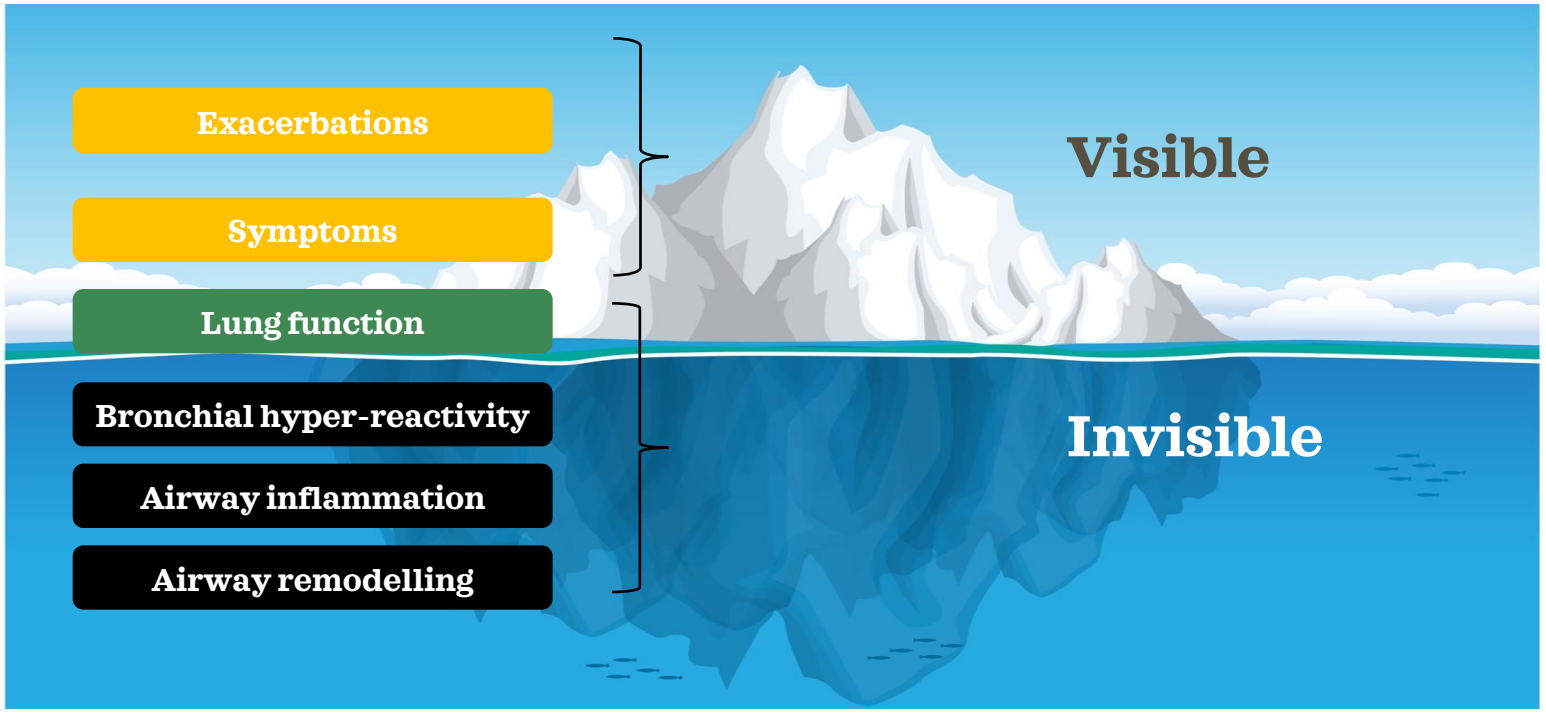
Other factors to consider

Uncontrolled nasal symptoms - trial of Antihistamines / nasal steroids

Uncontrolled GORD – trial PPI

Underlying pathobiology is inflammation

We need to proactively treat the **invisible** components, not just react to visible **Symptoms**



So, asthma more complex than you might think

The predictive value of isolated symptoms or signs is poor[1]

Symptoms **can** and do vary over time[1]

Therefore

Classification of asthma based on symptoms and their severity does not address the underlying pathophysiological processes that drive the disease

27th November 2024

Initial treatment and objective tests for acute symptoms at presentation

1.1.5 Treat people immediately if they are acutely unwell or highly symptomatic at presentation and perform objective tests that may help support a diagnosis of asthma (for example, eosinophil count, fractional exhaled nitric oxide [FeNO], spirometry or peak expiratory flow [PEF] before and after bronchodilator) if the equipment is available. [NICE 2017, amended BTS/NICE/SIGN 2024]

1.1.6 If objective tests for asthma cannot be done immediately for people who are acutely unwell or highly symptomatic at presentation, carry them out when acute symptoms have been controlled, and advise people to contact their healthcare professional immediately if they become unwell while waiting to have objective tests. [NICE 2017, amended BTS/NICE/SIGN 2024]

1.1.7 Be aware that the results of spirometry and FeNO tests may be affected in people who have been treated with inhaled corticosteroids (the test results are more likely to be normal). [NICE 2017]

Published on 27th November 2024

BTS/SIGN/NICE guidelines propose big changes to asthma care

British Thoracic Society

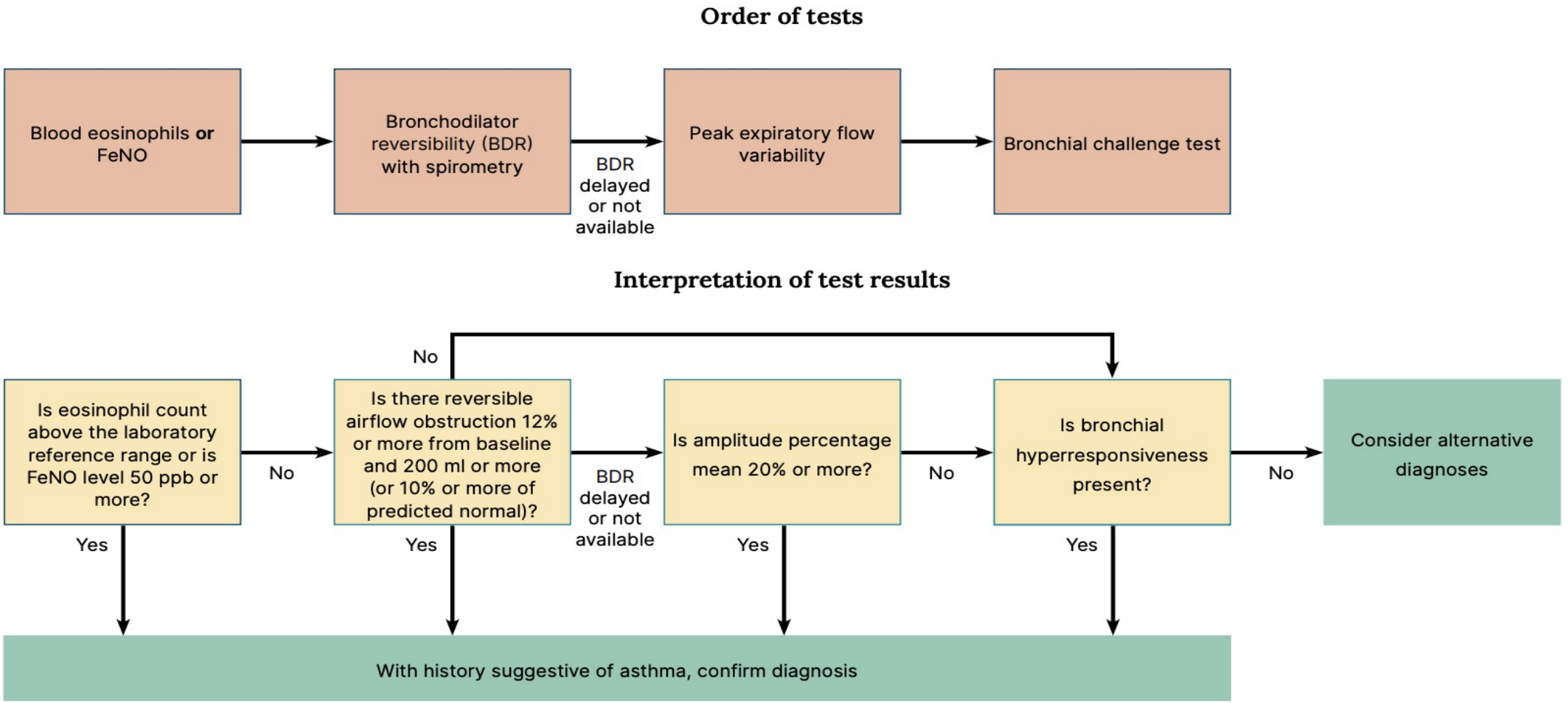
NICE

SIGN

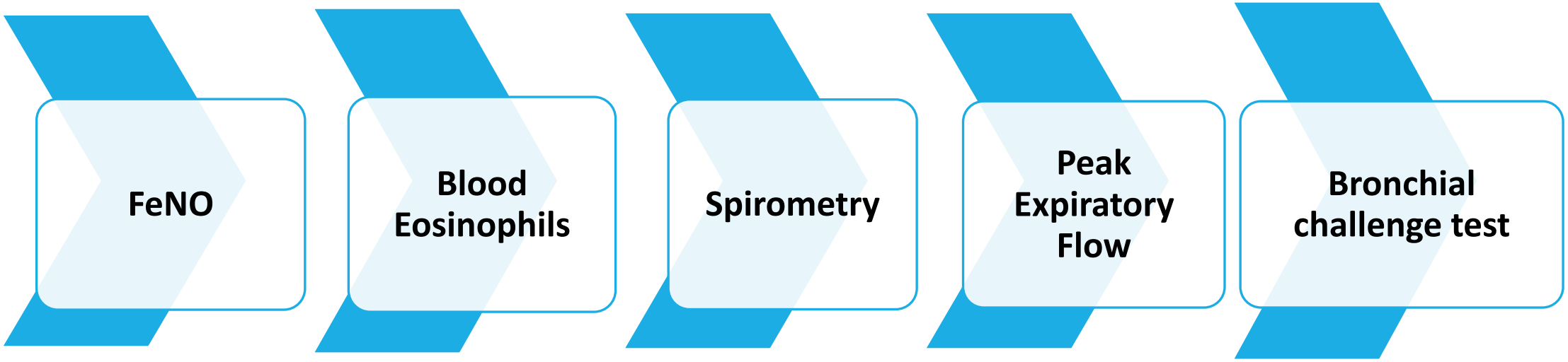
These Guidelines have changed the face of asthma diagnosis dramatically

Algorithm for diagnosing asthma in adults and young people over 16yrs with a history suggestive of asthma

BTS, NICE and SIGN guideline on asthma



Confirming and asthma diagnosis in Adults and young people over 16years



1.3 Diagnosing asthma in children under 5

Diagnosis is hard in this age group because it is difficult to do the tests and there are no good reference standards.

1.3.1 For children under 5 with suspected asthma, treat with inhaled corticosteroids in line with the recommendations on medicines for initial management in children under 5, and review the child on a regular basis. If they still have symptoms when they reach 5 years, attempt objective tests (see the section on objective tests for diagnosing asthma in adults, young people and children aged 5 to 16). [NICE 2017]

1.3.2 If a child is unable to perform objective tests when they are aged 5:

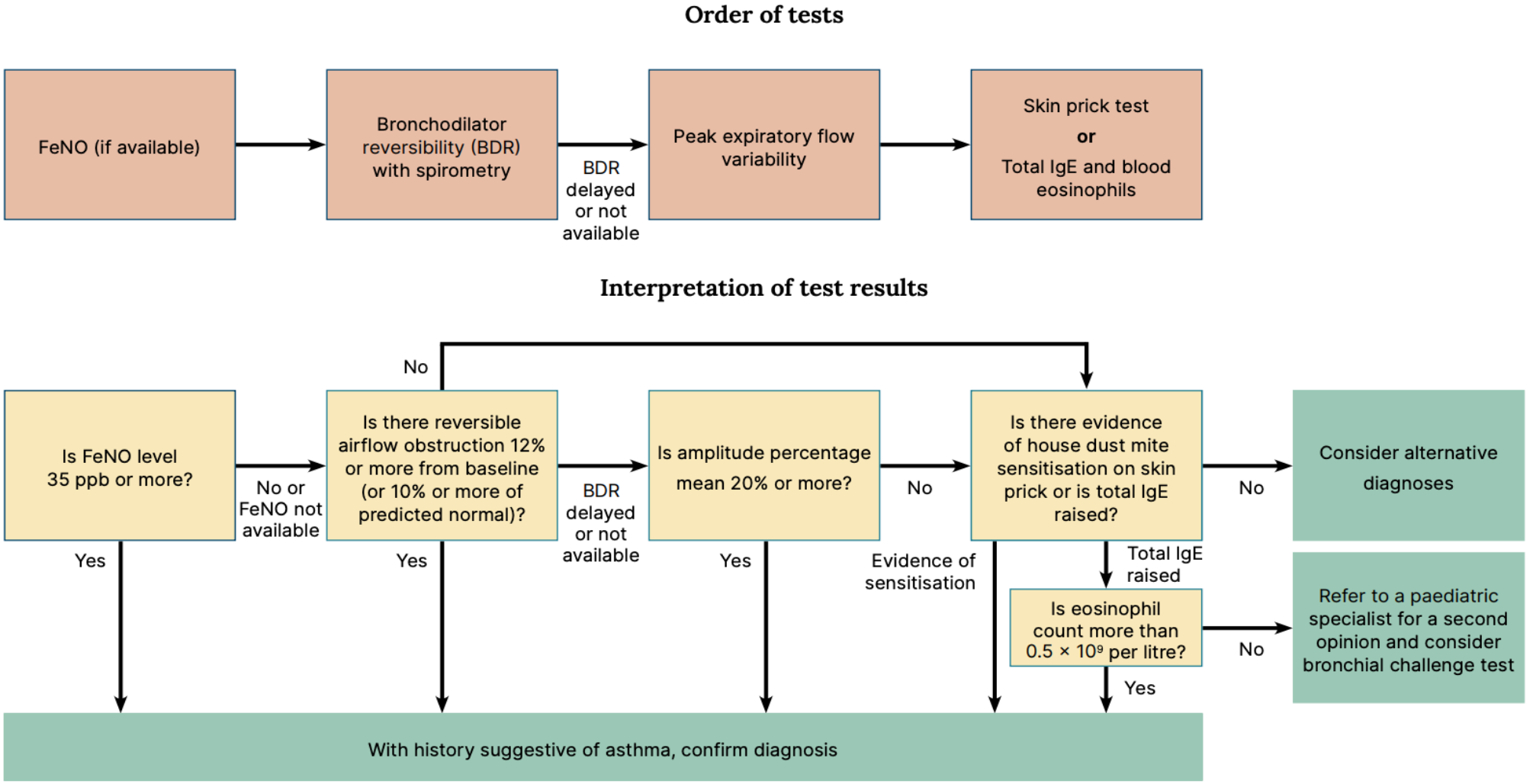
- try doing the tests again every 6 to 12 months until satisfactory results are obtained
- refer for specialist assessment if the child's asthma is not responding to treatment.

[NICE 2017, BTS/SIGN 2019, amended BTS/NICE/SIGN 2024]

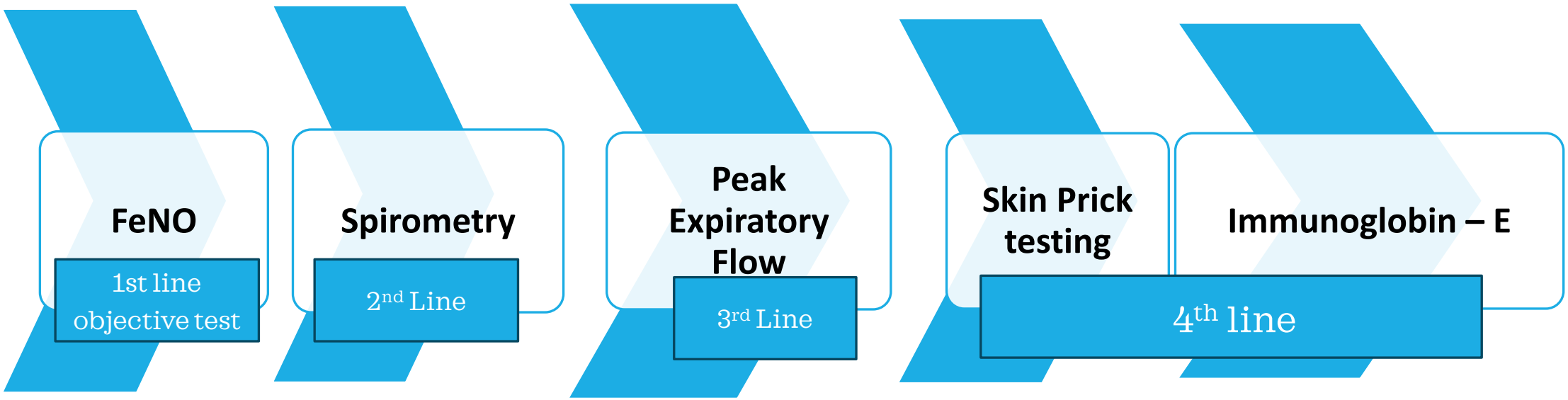
1.3.3 Refer to a specialist respiratory paediatrician any preschool child with an admission to hospital, or 2 or more admissions to an emergency department, with wheeze in a 12-month period. [BTS/NICE/SIGN 2024]

Algorithm for diagnosing asthma in children 5yrs to 16yrs with a history suggestive of asthma

BTS, NICE and SIGN guideline on asthma



Confirming and asthma diagnosis
Children between 5 years and 16 years



BTS/SIGN/NICE guidelines propose big changes to asthma care

What potential challenges might there be to implementing the BTS/SIGN/NICE 2024 diagnostic pathways

Capacity

Poor incentives

Lack of funding

Patient - Understanding

Education

Objective Testing

The BTS/SIGN/NICE 2024 recommend FeNO or eosinophils as first line objective assessments

British Thoracic Society

NICE

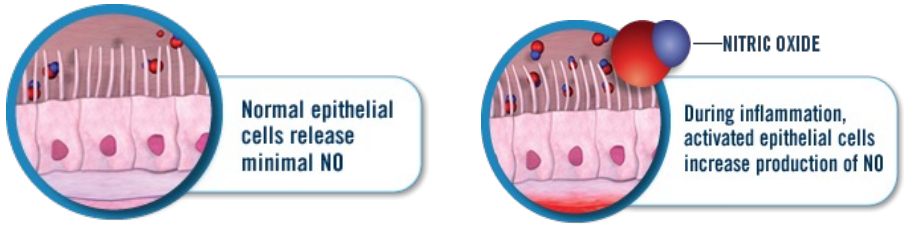
SIGN

FeNO Practical Or Video

https://youtu.be/OziKKnE9X4Y

https://www.youtube.com/watch?v=OziKKnE9X4Y

Fractional exhaled nitric oxide (FeNO) is a biomarker of eosinophilic inflammation



- Nitric Oxide (NO) is produced in the lung and often in greater quantities in asthmatics[1]
- FeNO is a diagnostic tool measuring exhaled NO level from lungs[1]
- Quantitative, non-invasive biomarker[1]
- NO levels correlate with eosinophilic airway inflammation[1]
- Potentially indicates underlying state of disease and responsiveness to steroids[1]
- FeNO levels of ≥40 parts per billion (in adults) and ≥35 parts per billion (in children) are regarded as positive for eosinophilic inflammation[2]
- A positive test increases the probability of asthma, but a negative test does not exclude asthma[2]

1. Dweik R, et al. *Am J Respir Crit Care Med*. 2011;184:602–615;
2. 2. British Thoracic Society. *BTS/SIGN British guideline on the management of asthma* [online] 2016. Available from: https://www.brit-thoracic.org.uk/standards-of-care/guidelines/btssign-british-guideline-on-the-management-of-asthma/ [Last accessed: December, 2024].

Interpretation of FeNO scores

FeNO (ppb)*	LOW	INTERMEDIATE	HIGH
Adults	<25	25-50	>50
Children (<12 years)	<20	20-35	>35
Th2-driven inflammation	Unlikely	Likely	Significant

However, FeNO levels can be:

Increased in patients with allergic rhinitis exposed to allergen, even without any respiratory symptoms

Increased by rhino virus infection in healthy individuals, but this effect is inconsistent in people with asthma

Increased in men; tall people; and by consumption of dietary nitrates and lower in children

Reduced in cigarette smokers

Reduced by inhaled or oral steroids

Cost effectiveness of using FeNO – Northern Ireland study

Small study in Northern Ireland : 46 subjects included demonstrated the following information:

Age	No. of patients	Successful test	Increase in ICS dose	ICS not increased or initiated
Under 12 years	14	9	1	8
12-18 years	5	5	3	2
Over 18 years	27	27	14	13

- **The prescribing decisions based on symptoms and FENO result were recorded for each successful test.**
- **With a normal result in 33.64% of those patents tested, 23 patients did not receive an increase or start of ICS inhaler either in combination or single agent – the majority of these patients would have been started/increased on AIR/MART therapy**
- **Assuming 60% of these patients did not start AIR/MART (13/23) and did not receive a prescription for a budesonide/formoterol MART/AIR formulation there was a saving of £386.40.**

The above small study - courtesy of Maura Corry
Practice Based Pharmacist North Belfast

Blood Eosinophils

Normal range

Eosinophils make up 0.0 to 6.0 percent of your overall blood cells.

The normal range of eosinophils is between 0 to 500 cells per microliters or 1% to 4% of your white blood cell count.

Eosinophils are one of three types of granulocytes* - along with neutrophils and basophils.

The absolute count is the percentage of eosinophils multiplied by your overall granulocyte count (leukocytes**).

The count may range a bit between different laboratories, but a normal range is usually between 30 and 500 cells

*Granulocytes: are the most common type of white blood cells, they have small granules that release enzymes when your immune system is under attack. This can happen during an infection, allergic reaction or asthma episode.
Granulocytes form in your bone marrow and only live for a few days.
** Leukocytes are: A type of blood cell that is made in the bone marrow and found in the blood and lymph tissue. Leukocytes are part of the body's immune system. They help the body fight infection and other diseases.

Blood eosinophils

People with eosinophilic asthma will have a high eosinophil count - at least above 150 cells/ul but generally the eosinophil count well be over 300 cells/ul and higher when the patient is symptomatic.

But it is important to note that high eosinophils may not always mean a person has eosinophilic asthma as other types of eosinophil-associated diseases can cause elevated eosinophils in the blood as well.

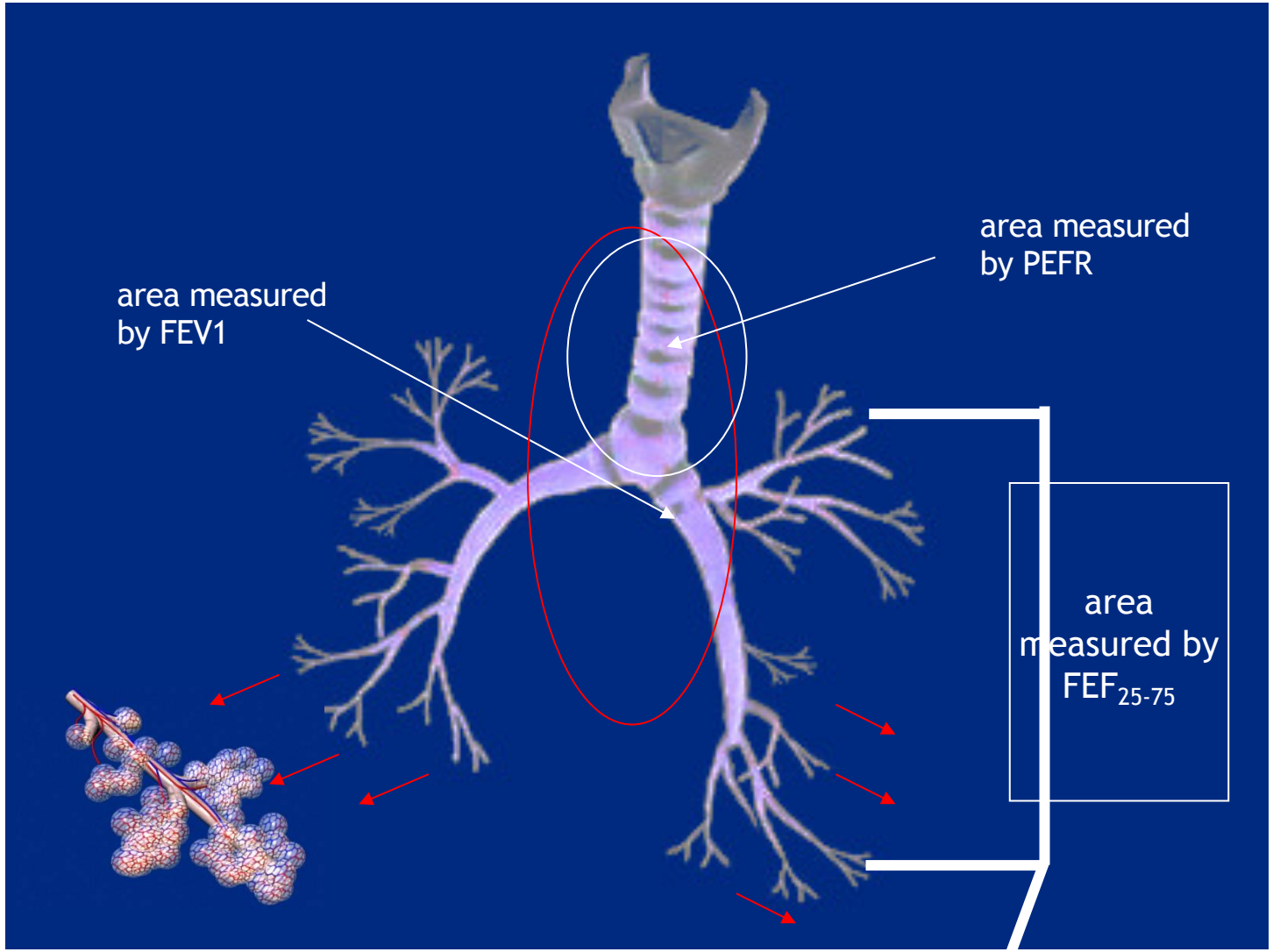
Therefore, a clinician should interpret the results in context of a patient's history, symptoms, and clinical exam.

Sputum eosinophils

A patient's sputum sample can be examined under a microscope to establish a direct airway eosinophil count.

This procedure is non-invasive and if the count is more than 2-3% of cells being eosinophilic in the sputum it is suggestive of eosinophilic asthma – but the guidelines do not propose this assessment.

Lung Function Tests



Spirometry

Spirometry measures the volume and speed of air that the patient can expel from the air conducting passages from a position of full inspiration to full expiration

Spirometry

"Spiro" – from the greek for breathing

"Metry" – measurement

"Spirometry" – The measurement of breathi

Volume in Litres + Speed in Litres/Sec

Spirometry gives us 4 important measurements

RVC, SVC or VC- the volume or air that can be expelled slowly from a position of full inspiration to a position of full expiration in one breath in one breath

And is represented in capacity in litres, % pred and z-score

FVC - The total volume of air that the patient can expel forcibly from a position of full inspiration to a position of full expiration in one breathe

And is represented in capacity in litres, % pred and z-score

FEV_1 – is the volume of air that the patient expels in the first second of forced manoeuvre

And is represented in capacity in litres, % pred and z-score

FEV_1 / FVC (VC) is the ratio calculated by dividing the volume of gas expelled in the first second by the total amount of gas expelled in total and is expressed as a percentage

And is represented in % (NOT of predicted) and z-score

Peak Expiratory Flow Reading (PEFR) BTS/SIGN/NICE 2024

Age/sex/height

Time of day specified

Serial PEFR

Exercise testing

Dependent on patient cooperation and effort.

BARRETT McGRATH
Education Mentoring Services (EMS) Ltd

Peak flow exercise

Name **Date**

Result sheet

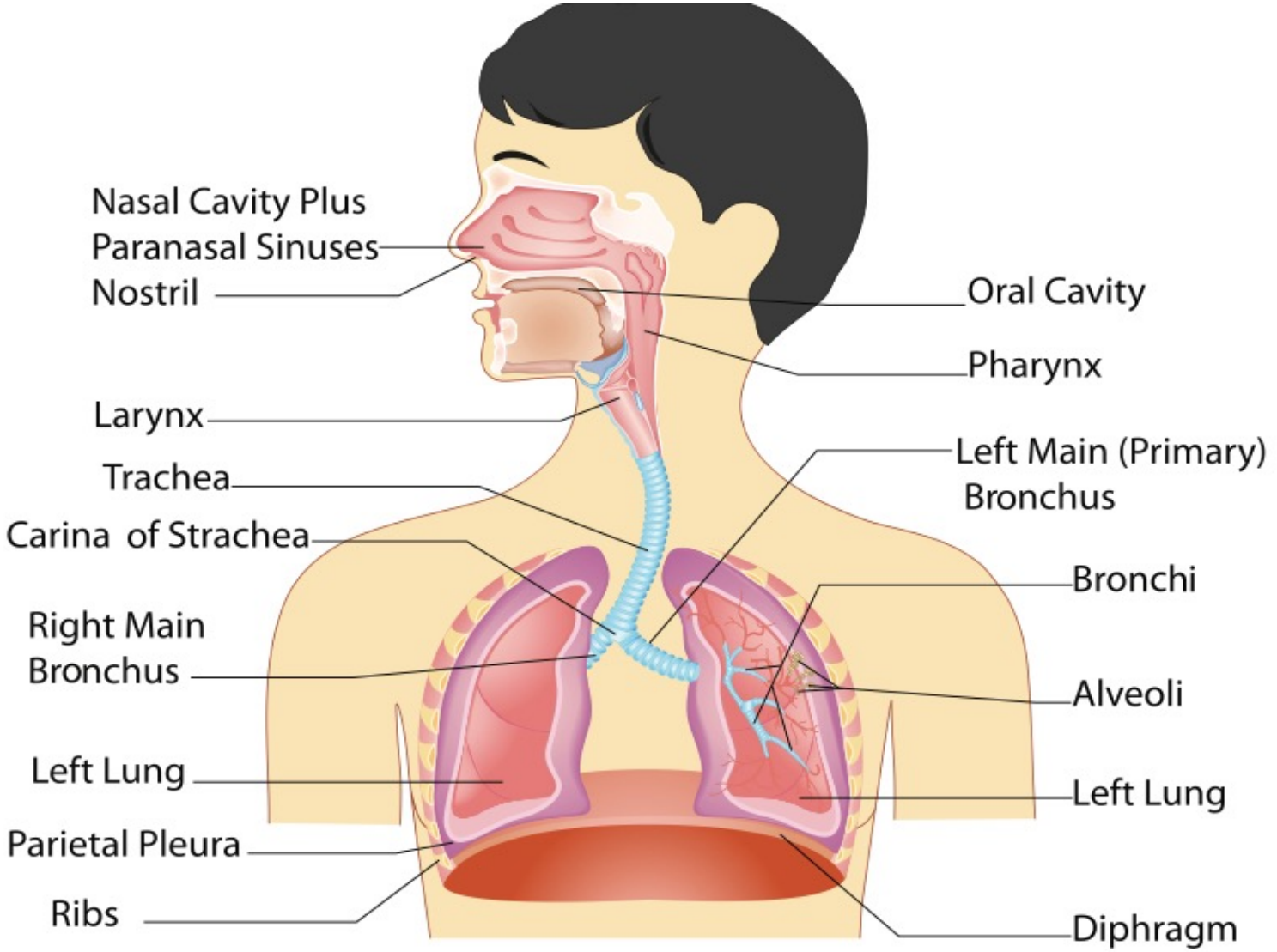
Highest Peak flow	Lowest Peak flow	Litres/min	%
500	400	100	20%

Exercise testing

- Baseline PEFR
- 6mins of exercise
- Check PF immediately after then at 10mins, 20 mins and 30 mins

One Airway Hypothesis

Back to basics – lets look at the anatomy



In an article entitled 'Sinusitis, Rhinitis, Asthma, and the Single Airway Hypothesis' – published by

Christopher C. Chang MD, PhD, MBA, FAAAAI, FACAAI in 2014

Stated that:

'The one airway, one disease hypothesis proposes that the upper and lower airways share the same physiology and histomorphology. Epidemiological clinical studies support a link between rhinosinusitis and asthma. The relationship can occur in both directions, with nasal allergen challenge leading to inflammatory changes in the lower airway and bronchoprovocation studies of the lower airway leading to inflammatory changes in the upper airway. In addition, both similarities and differences exist in the pathogenesis of nasal polyps and asthma.'

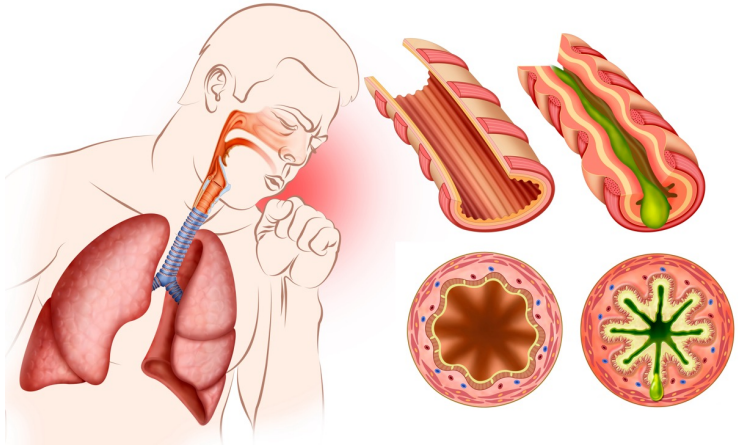
https://link.springer.com/chapter/10.1007/978-1-4939-0265-1_11

For more information on The One Airway Concept, please visit :

https://www.pcrs-uk.org/one-airway-one-disease

To listen to a podcast between Steve Holmes and Frances Barrett on: The One Airway Concept, please visit :

https://www.pcrs-uk.org/resource/podcast-concept-one-airway-one-disease

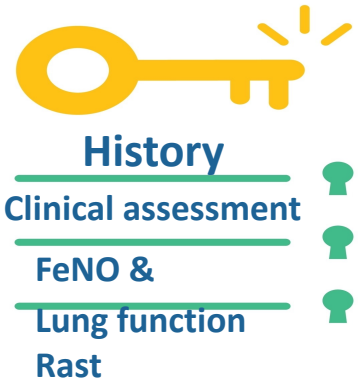


It is Time – To accurately diagnose Asthma promptly:

Putting all the relevant pieces of the jigsaw together is the key to accurately diagnosing asthma

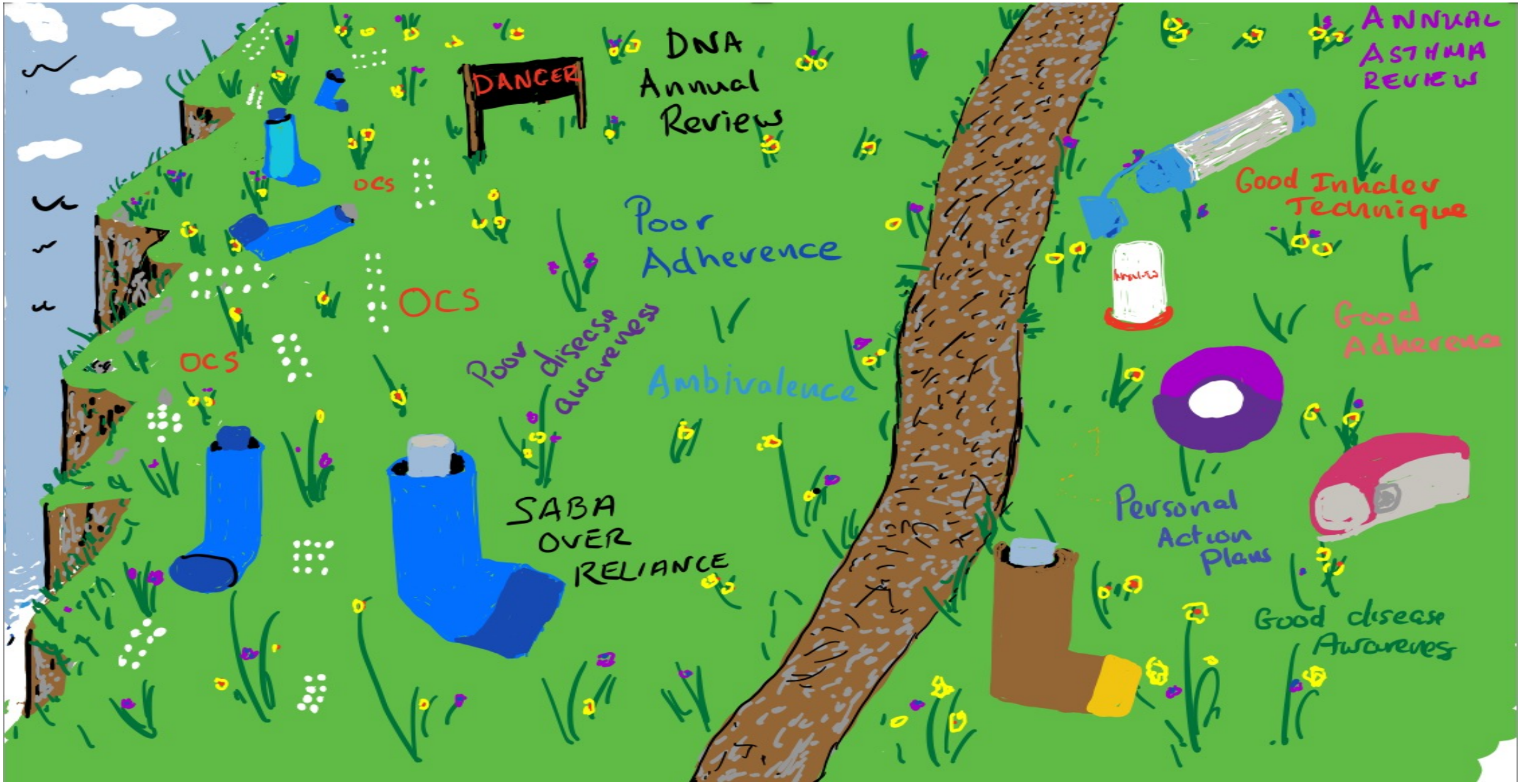
ICPRG jigsaw - https://www.ipcrg.org/DTH15

This is the "KEY" to gaining an accurate Asthma Diagnosis



Ensure the patient is on the correct management path

Right Path OR Wrong Path?


DANGER
DNA
Annual
Review
OCS
OCS
OCS
Poor
Adherence
Poor disease awareness
Ambivalence
SABA
OVER
RELIANCE
ANNUAL
ASTHMA
REVIEW
Good Inhaler
Technique
Good
Adherence
Personal
Action
Plans
Good disease
Awareness

Patients may want to have their symptoms managed –

But we need to educate the patient as the the underlying cause of their symptoms

Classes of medication used to treat asthma

Inhaled Corticosteroids (ICS) – the cornerstone management of asthma, however there are many other groups of drugs that are used in conjunction with this therapy.

Leukotriene Receptor Antagonists (LRTA) such as Montelukast (Singulair)

Long-acting bronchodilators to include

- **LABA ~~(not recommended as monotherapy – ONLY in combination with an ICS)~~**
- **LAMA – only one licensed**
- **Combination LABA/ICS & ICS/LABA/LAMA**
- **Theophylline – oral agents - narrow therapeutic window 10/20 mcg/mL**
- **Short acting beta2 Agonists (SABA)** rescue medications such as Salbutamol / Terbutaline – Use with caution – see BTS/SIGN/NICE 2024
- **Short acting muscarinic antagonist (SAMA)** such as Atrovent. Again – use with caution

- **Biologics** taken alongside preventative medications to stop underlying biological responses causing inflammation in the lungs particularly in severe cases. These include

1. **Omalizumab (Xolair)**
2. **Mepolizumab (Nucala)**
3. **Benralizumab(Fasenra)**
4. **Reslibumab (Cinquir)**

And now the BTS/SIGN/NICE guidelines
Published on 27th November 2024

BTS/SIGN/NICE guidelines propose big changes to asthma care

British Thoracic Society

NICE

SIGN

SABA only treatment is no longer recommended for treatment of asthma in adults and adolescents – but MART or AIR is

This change was based on strong evidence that SABA-only treatment increases the risk of severe exacerbations and asthma-related death, and that adding any ICS significantly reduces the risk.

GINA now recommends that all adults and adolescents with asthma should receive either symptom-driven (in mild asthma) or daily inhaled corticosteroid (ICS) containing controller treatment, to reduce the risk of severe exacerbations and asthma-related death.

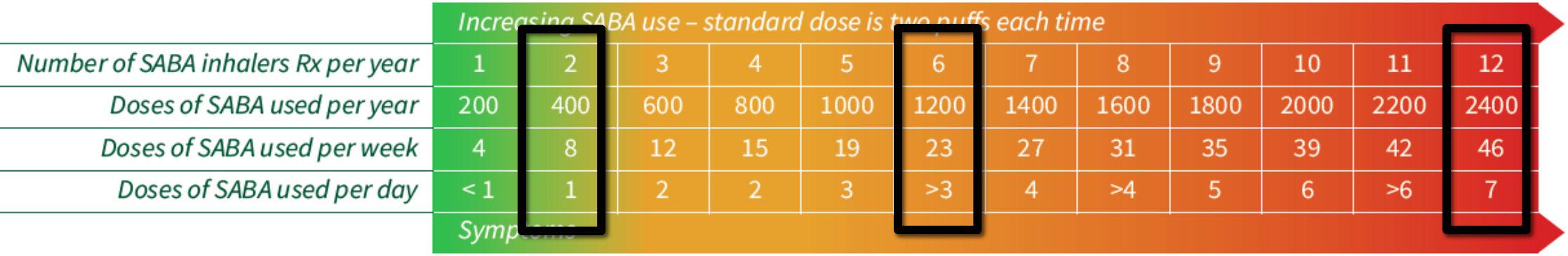
GINA 2023

BTS/SIGN/NICE 2024

Always check for SABA over-reliance …

How much is too much??

Putting SABA prescriptions into perspective - **The SABA Slider**



- BTS/SIGN 2016 suggests that those patients with symptoms or SABA use **3** times or more per week should be considered for increased preventative therapy.[1]
- Anyone prescribed more than one short-acting bronchodilator inhaler device a month should be identified and have their asthma assessed urgently and measures taken to improve asthma control if this is poor.[1]

BTS=British Thoracic society; SABA=short-acting ß-agonist;
Image used with permission of IPCRG

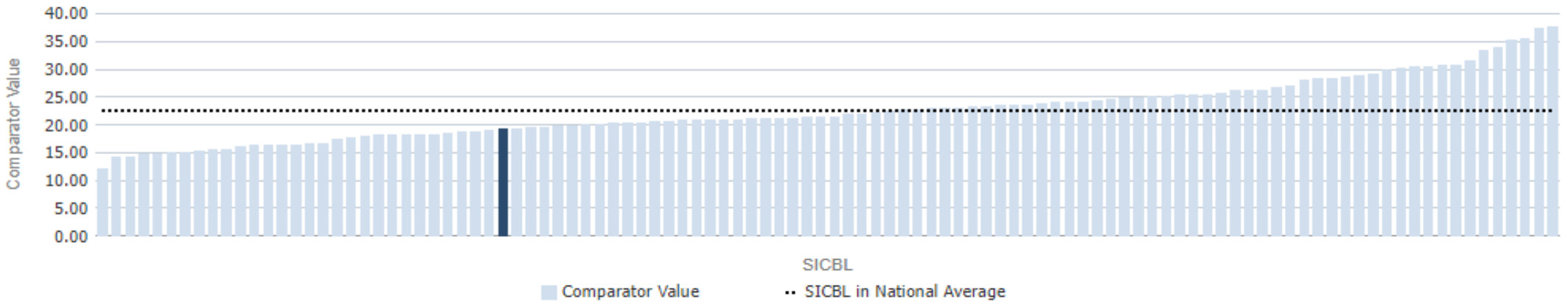
1. British Thoracic Society. *BTS/SIGN British guideline on the management of asthma* [online] 2016. Available from: https://www.brit-thoracic.org.uk/standards-of-care/guidelines/btssign-british-guideline-on-the-management-of-asthma/ [Last accessed: March, 2018].

Proportion of patients receiving 6+ SABA inhalers

NHS NORTHAMPTONSHIRE ICB - 78H highlighted within results for all SICBLs during Jan-24

Numerator Definition Denominator Definition

Display:- Chart



19.41

SICBL Value

21.46

SICBL in National Average

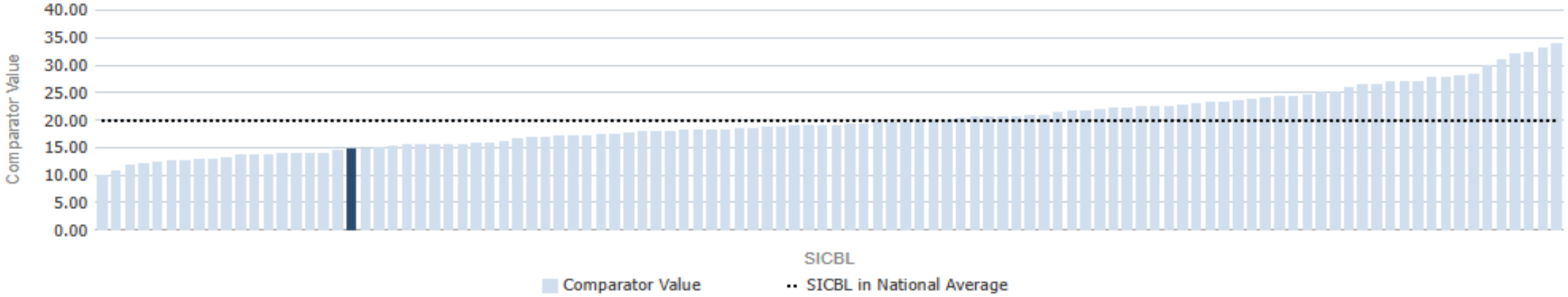
Refresh - Print - Export

Proportion of patients receiving 6+ SABA inhalers

NHS NORTHAMPTONSHIRE ICB - 78H highlighted within results for all SICBLs during Nov-24

Numerator Definition Denominator Definition

Display:- Chart



14.83

SICBL Value

18.82

SICBL in National Average

Refresh - Print - Export

Education before medication

Asthma cannot be cured,

but it can be controlled:

Medications broken into the following groups :

- ***Quick relief - reliever***
- ***Long term – maintenance***
- ***Maintenance and reliever***
- **Learning to recognize one's own triggers and taking steps to avoid them may reduce increasing symptoms.**

Maintenance and Reliever Therapy - MART and Anti-Inflammatory and Reliever – AIR

Symbicort Maintenance & Reliever Therapy – SMART

Symbicort – Anti-inflammatory and reliever (AIR)

Maintenance & Reliever Therapy – MART

BTS/SIGN/NICE (2024) also recommend that a **MART** regimen should be considered in children aged over 12 years with a history of **asthma** attacks on a medium-dose ICS alone, or on a fixed-dose ICS and LABA regimen.

Symbicort

WockAIR

Fostair

DuoResp Spiromax

Fobumix Easyhaler

Symbicort Maintenance & Reliever Therapy – SMART

Maintenance & Reliever Therapy - MART

Maintenance and Reliever Therapy

SMART/MART regime:

S/MART inhalers are mainly prescribed to adults (aged 18 or over). But some children over 12 may be prescribed a MART inhaler when their asthma is not well controlled.

One inhaler rather than two – helps adherence

Less inhaled steroids required to control asthma symptoms and prevent asthma attacks

Cheaper prescription costs as separate reliever and preventer inhalers not required.

ASTHMA UK 2019
GINA 2023
BTS/SIGN/NICE 2024

Anti Inflammatory Reliever Treatment approach – AIR

An anti-inflammatory reliever, known as AIR, is a combination inhaler containing an inhaled corticosteroid and formoterol.

AIR is only prescribed to adults and children 12 years and over.

Your patients might benefit from an AIR inhaler if:

- They only get asthma symptoms occasionally (usually no more than twice a month) and are not taking a regular preventer
- They get seasonal asthma which means they only use a preventer inhaler at certain times of the year, or for specific triggers they come into contact with only occasionally
- They have been using a blue reliever (salbutamol) only.

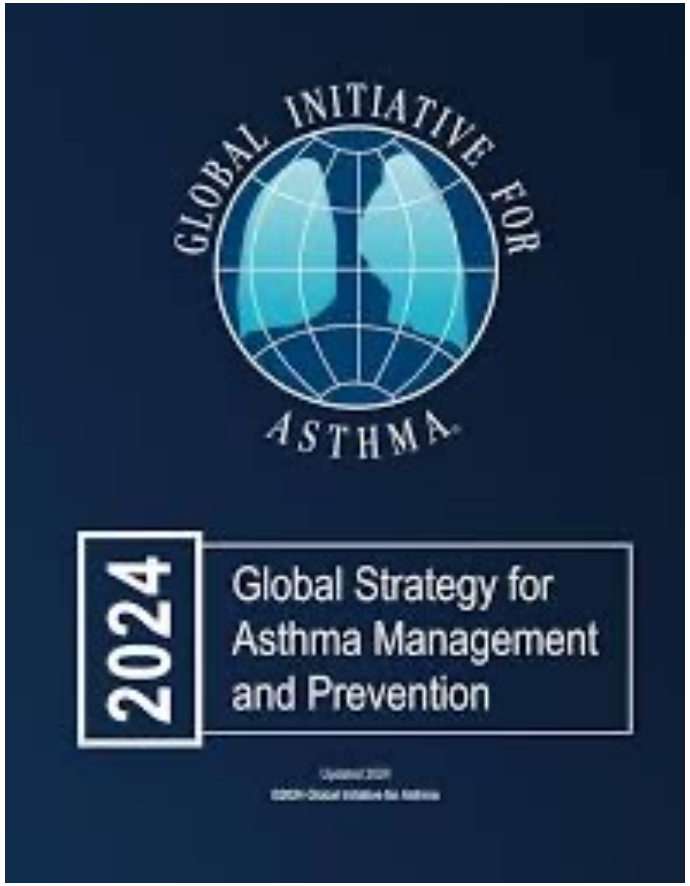
https://www.asthmaandlung.org.uk/healthcare-professionals/adult-asthma/AAPs/completing-air-action-plan-your-patients

The Guidelines

British Thoracic Society

NICE

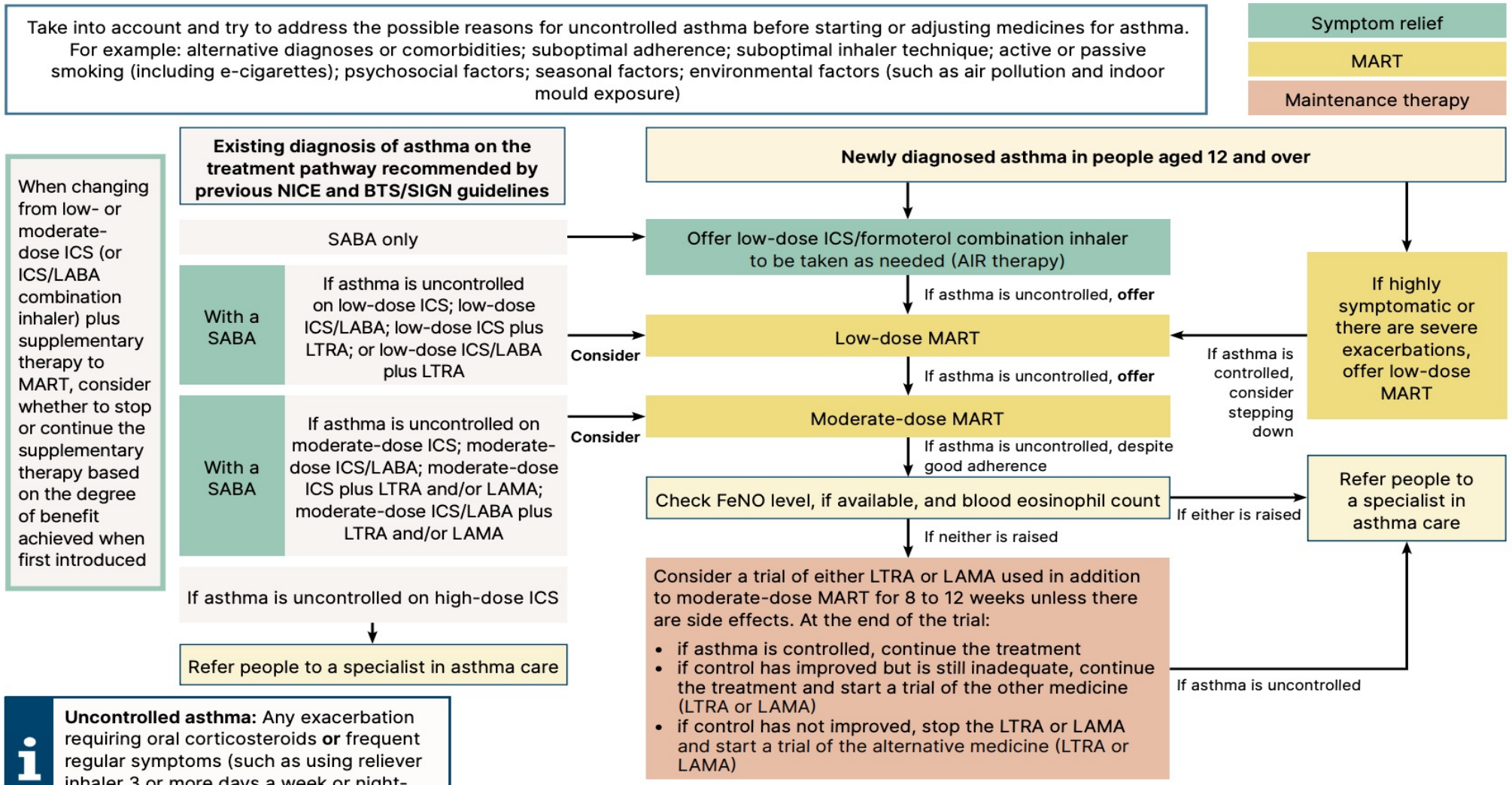
SIGN



27th November 2024

Algorithm C: Pharmacological management of asthma in people aged 12 years and over

BTS, NICE and SIGN guideline on asthma



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

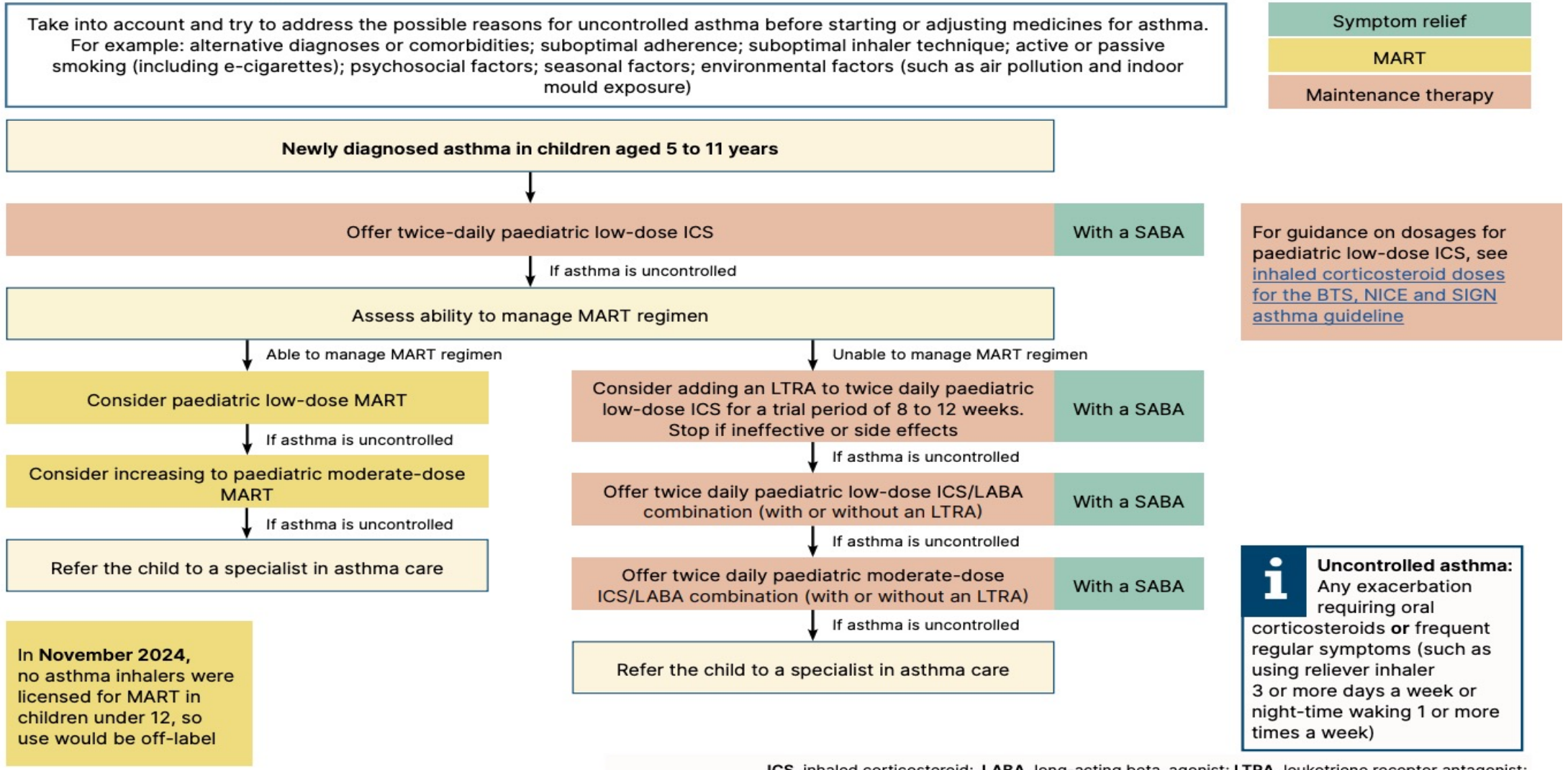
ICS, inhaled corticosteroid; **LABA**, long-acting beta$_2$ agonist; **LAMA**, long-acting muscarinic receptor antagonist; **LTRA**, leukotriene receptor antagonist; **MART**, maintenance and reliever therapy (using ICS/formoterol combination inhalers); **SABA**, short-acting beta$_2$ agonist.

British Thoracic Society | NICE National Institute for Health and Care Excellence | Healthcare Improvement Scotland | SIGN

BTS ISBN: 978-1-917619-28-8. NICE ISBN: 978-1-4731-6639-4. SIGN ISBN: 978-1-909103-97-9.

Algorithm D: Pharmacological management of asthma in children aged 5 to 11 years

BTS, NICE and SIGN guideline on asthma

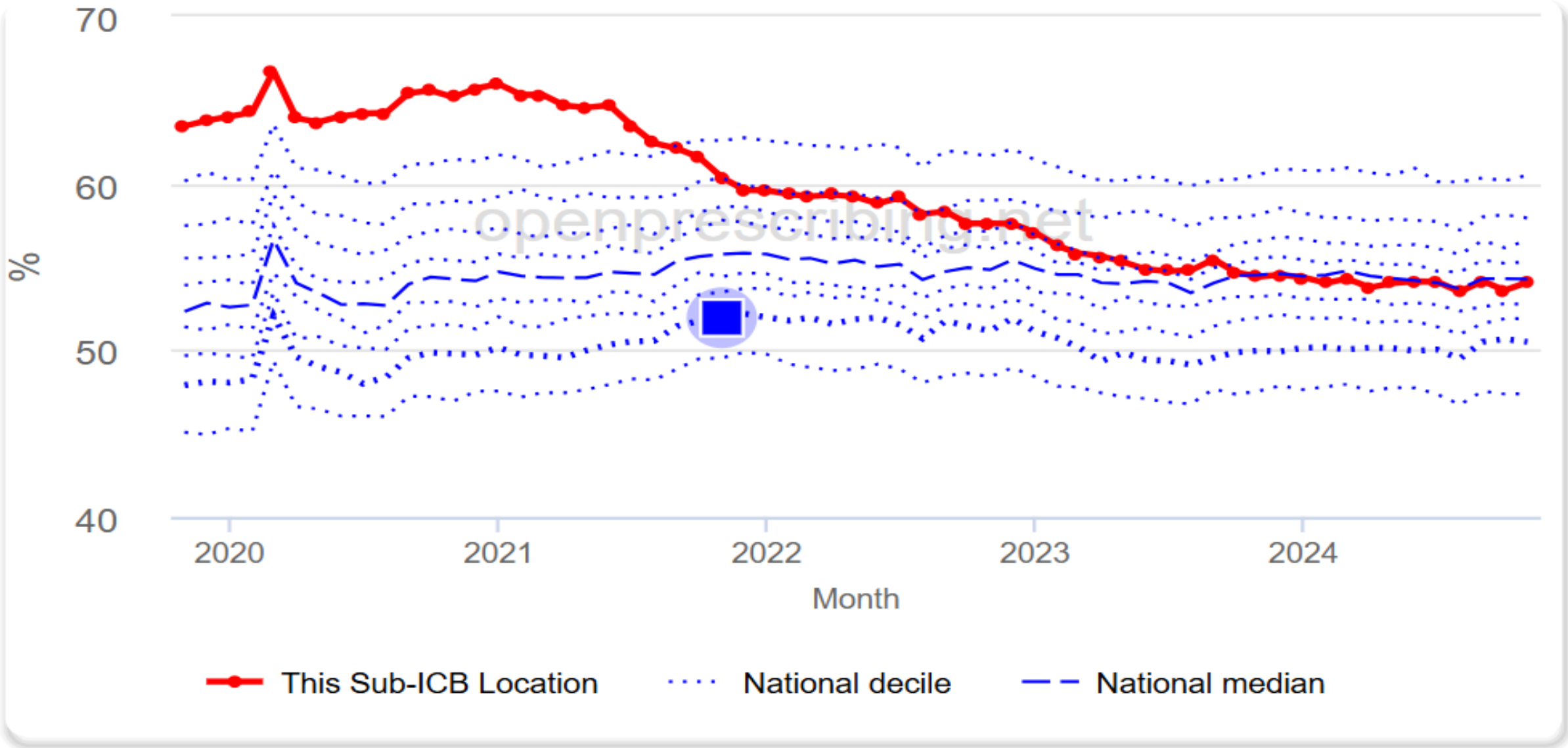


ICS, inhaled corticosteroid; **LABA**, long-acting $beta_2$ agonist; **LTRA**, leukotriene receptor antagonist; **MART**, maintenance and reliever therapy (using ICS/formoterol combination inhalers); **SABA**, short-acting $beta_2$ agonist.

British Thoracic Society | NICE National Institute for Health and Care Excellence | Healthcare Improvement Scotland SIGN

BTS ISBN: 978-1-917619-29-5. NICE ISBN: 978-1-4731-6640-0. SIGN ISBN: 978-1-909103-98-6.

MDIs prescribed as a proportion of all inhalers in BNF Chapter 3, excluding salbutamol



Adverse effects with Montelukast GINA 2019

FDA boxed warning in March 2020 about risk of serious neuropsychiatric events, including suicidality, with montelukast

- Includes suicidality in adults and adolescents
- Nightmares and behavioural problems in children

Before prescribing montelukast, health professionals should consider its benefits and risks, and patients should be counselled about the risk of neuropsychiatric events

What are biologic treatments for asthma?

Biologic treatments used for asthma are also known as monoclonal antibodies or mAbs. These are specialist treatments using antibodies produced from cells in a laboratory which can target specific cells in the body.

Monoclonal antibodies can treat some types of severe asthma by helping to stop body processes that cause lung inflammation. This is inflammation that may be caused by allergies or by high levels of a cell in the body called an eosinophil[1].

1. Asthma + lung UK 2023 (last accessed February 2024)

Which biologic treatments are available for asthma?

There are currently six biological treatments approved for use in the UK and available on the NHS to treat severe asthma.

These include:

1. Mepoliz**umab** (Nucala)
2. Reslizumab (Cinqaero)
3. Benralizumab (Fasenra)
4. Omalizumab (Xolair)
5. Dupilumab (Dupixent)
6. Tezepelumab (Tezspire)

Monoclonal antibodies are a very specialist, targeted treatment. They are also expensive, and there are strict criteria for who can access them. Most monoclonal antibodies are given as an injection, either in clinic, or using pre-filled syringes at home. Reslizumab is given through an intravenous drip1.

1. Asthma + lung UK 2023 (last accessed February 2024)

Summary of characteristics for 5 of the 6 Biologic agents licensed in the UK

Table 1. Biologic agents approved for the treatment of severe asthma in the UK (as of April 2023).

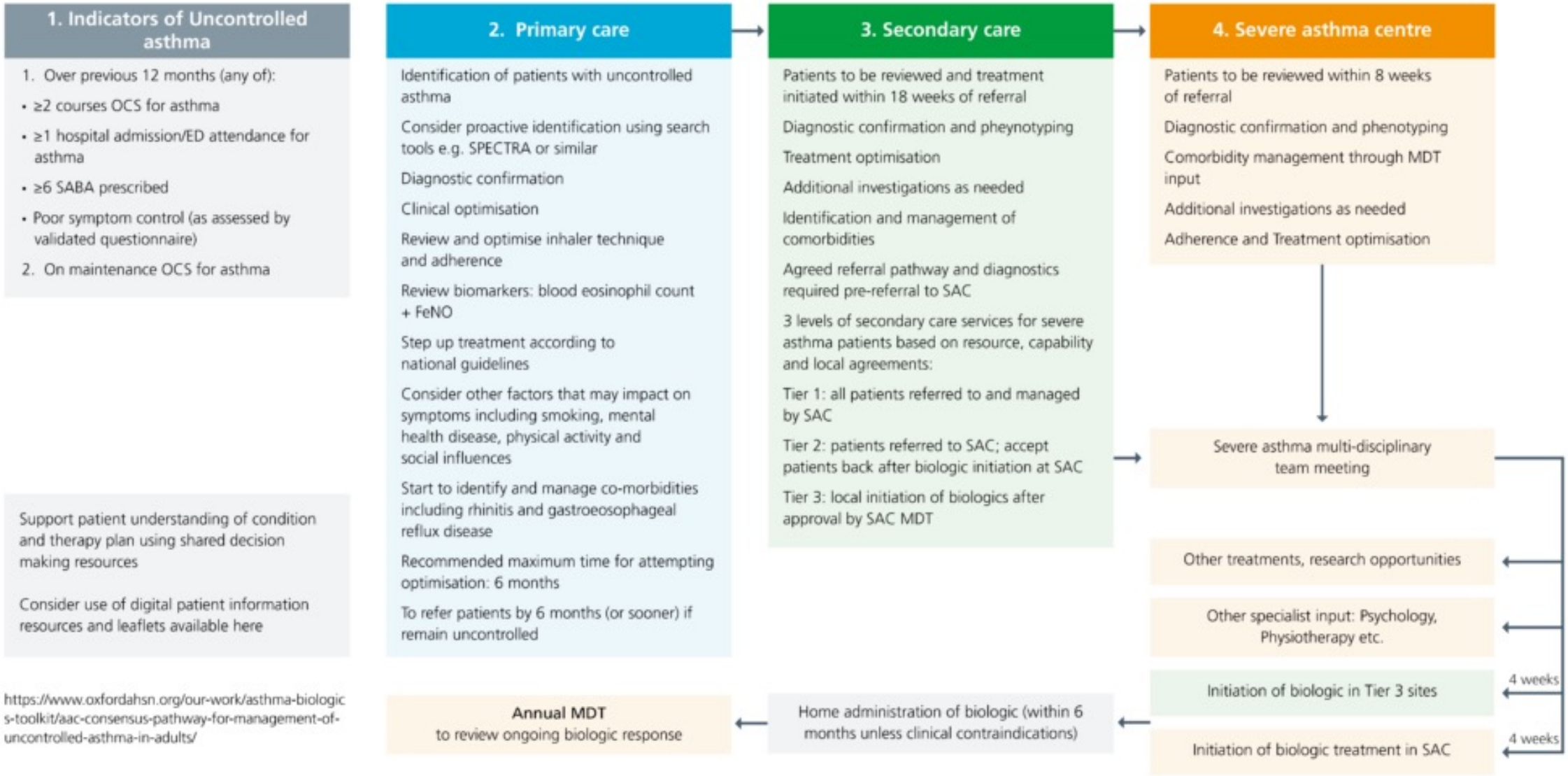
Agent	Administration	Indication(s)	Eligibility criteria	Age group(s) and dose	Most common adverse effects
Benralizumab (Fasenra; AstraZeneca UK Ltd)[14]	Subcutaneous injection into the thigh or abdomen Pre-filled syringe	Add-on maintenance treatment of severe eosinophilic asthma inadequately controlled despite high-dose ICS + LABA	If blood eosinophils ≥300 cells/μL: ≥4 exacerbations in previous 12 months OR continuous OCS If blood eosinophils ≥400 cells/μL: ≥3 exacerbations in previous 12 months needing systemic CS	Adults (30 mg every 4 weeks for the first 3 doses and then every 8 weeks thereafter)	Headache, pharyngitis, pyrexia, injection site reactions, hypersensitivity reactions (urticaria and rash)
Dupilumab (Dupixent; Sanofi Genzyme)[15]	Subcutaneous injection into the thigh or abdomen Pre-filled pen	For patients not eligible for mepolizumab, reslizumab or benralizumab, or has asthma that has not responded adequately to these biological therapies as an add-on maintenance treatment of severe asthma with type 2 inflammation inadequately controlled with high dose (adults) or medium to high dose (children) ICS plus another medicinal product for maintenance treatment	Raised blood eosinophils (≥150 cells/μL), raised FeNO and ≥4 exacerbations in the last 12 months	Adults (initial dose of 400 mg followed by 200 mg every other week. For patients with severe asthma on OC, with comorbid moderate-to severe atopic dermatitis or severe chronic rhinosinusitis with nasal polyposis, initial dose if 600 mg followed by 200 mg every other week) Children ≥6 years of age (dose by body weight: 15–<30 kg, 100 mg every other week or 300 mg every four weeks; 30–<60 kg, 200 mg every other week or 300 mg every four weeks; ≥60 mg, 200 mg every other week)	Injection site reactions, conjunctivitis, arthralgia, oral herpes and eosinophilia *Safety warning issued in November 2022: risk of ocular adverse reactions*[a]
Mepolizumab (Nucala; GSK)[16]	Subcutaneous injection into the thigh or abdomen Pre-filled pen (for patients >11 years old) Pre-filled syringe	Severe eosinophilic asthma	If blood eosinophils ≥300 cells/μL: ≥4 exacerbations in previous 12 months OR continuous OCS If blood eosinophils ≥400 cells/μL: ≥3 exacerbations in previous 12 months needing systemic CS	Adults (100 mg every 4 weeks) Children ≥6 years of age (40 mg every 4 weeks)	Headache, injection site reactions (pain, swelling, erythema, pruritus) and back pain
Omalizumab (Xolair; Novartis Pharmaceutical)[17]	Subcutaneous injection into the thigh or abdomen Pre-filled syringe	Moderate to severe persistent allergic asthma (by positive skin test or in vitro reactivity to a perennial aeroallergen) not well controlled with ICS	IgE-mediated asthma Continuous or frequent OCS (≥4 courses in the previous 12 months)	Adults Children ≥6 years of age *Dose determined by baseline IgE and body weight with administration every 2 weeks*[17]	Headache and injection site reactions (pain, swelling, erythema, pruritus)
Reslizumab (Cinqaero; Teva Pharmaceuticals)[18]	Intravenous (administered in hospital)	Add-on therapy for severe eosinophilic asthma inadequately controlled despite high-dose ICS plus another medicinal product for maintenance treatment	Blood eosinophils ≥400 cells/μL ≥3 exacerbations in previous 12 months needing systemic CS	Adults *Dose determined by body weight with administration every 4 weeks*[18]	Increased blood creatine phosphokinase and anaphylactic reaction

[a] Most cases are mild but rare severe cases have been reported. Patients should be advised to be aware of and report ocular effects which should be promptly reviewed and treated or referred for urgent review in case of sudden vision changes or significant eye pain (NICE 2023).

CS, corticosteroid; ICS, inhaled corticosteroids; LABA, long-acting bronchodilator; OCS, oral corticosteroid.

TheAHSNNetwork

ACCELERATED ACCESS COLLABORATIVE



https://www.healthinnovationoxford.org/our-work/respiratory/asthma-biologics-toolkit/aac-consensus-pathway-for-management-of-uncontrolled-asthma-in-adults/ (last accessed February 2024)

How do Biologics treat asthma?

Biologic treatments are only available for certain types of severe asthma which are not well controlled with high doses of steroid inhalers. If you're eligible, your specialist will work out the best biologic treatment for you.

Severe allergic asthma where severe symptoms are triggered by allergies. This type of asthma mostly starts in childhood.

Omalizumab is a biologic that targets severe allergic asthma, reducing the allergic response.

Eosinophilic asthma where severe symptoms are triggered by higher levels of cells called eosinophils. This type of asthma is usually associated with adult-onset asthma. Mepolizumab, reslizumab and benralizumab are all biologics that target severe eosinophilic asthma, by reducing eosinophils.

Severe asthma with type 2 inflammation where severe asthma symptoms are driven by both allergies and high levels of eosinophils. Dupilumab is a biologic targeting severe type 2 inflammatory asthma. It works by damping down the inflammatory response.

All types of severe and uncontrolled asthma. Tezepelumab has been found to work across all types of severe and uncontrolled asthma. It works on inflammation and reduces 'airway responsiveness' or 'twitchiness' which means it can stop airways reacting so much to triggers. Unlike other biologics, people with severe asthma can access Tezepelumab without the need for specific biomarkers, like eosinophil count, or allergy status.

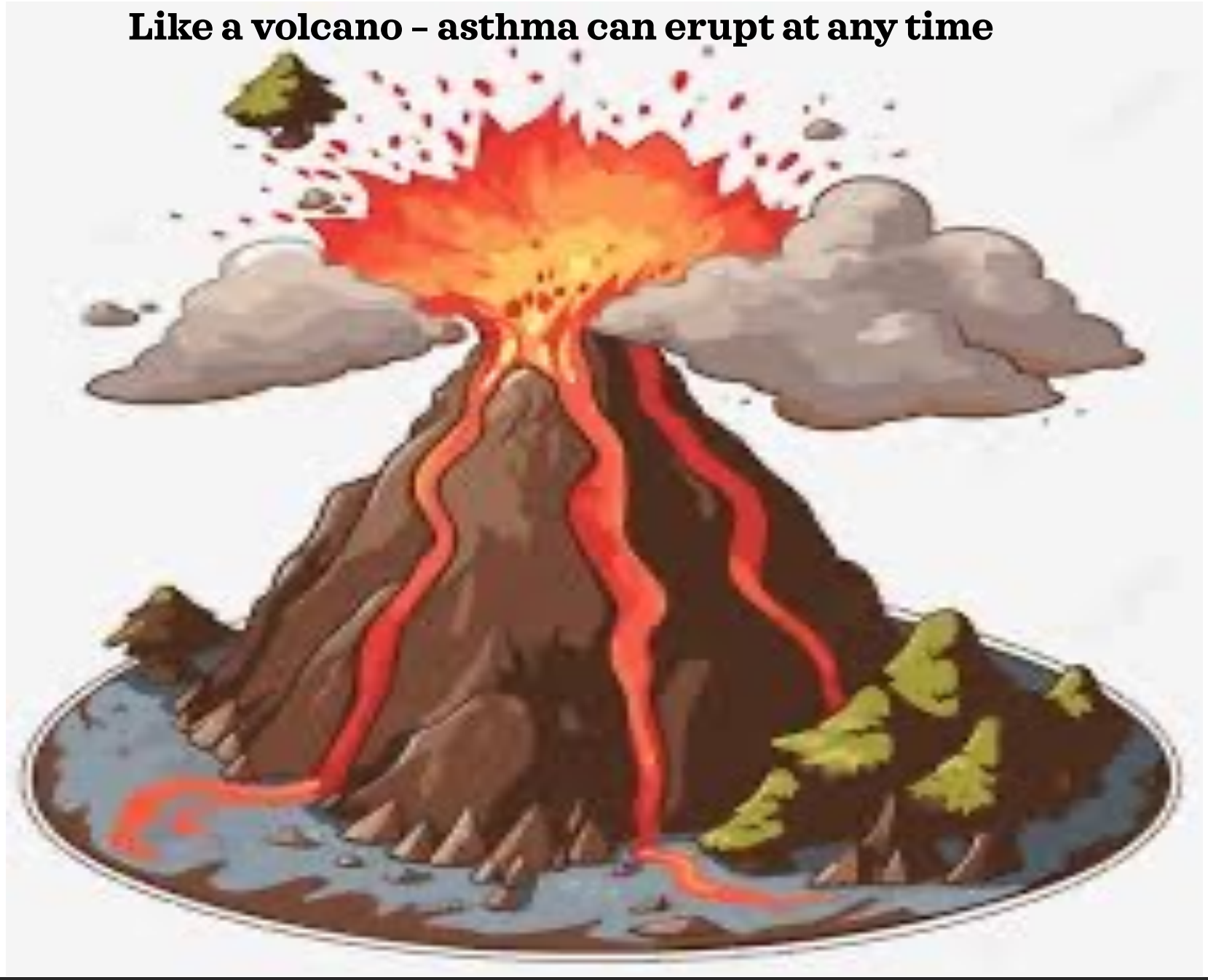
Ensure the patient understands that Airway inflammation is the underlying cause of asthma- it is fundamental that the patients understand this

Educate

Educate

Educate

Like a volcano – asthma can erupt at any time



PAAPs are an essential component of supported patient self-management

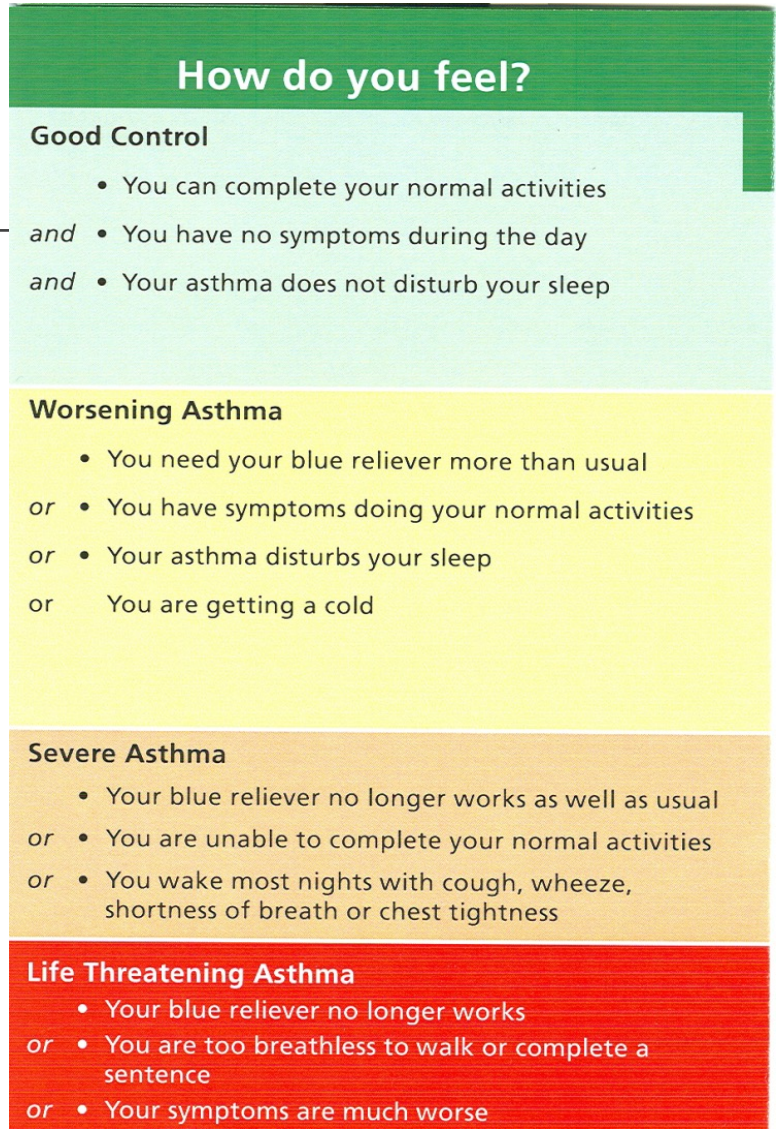
All patients (and/or their family or carers) should receive self-management education, including a written PAAP

PAAPs should:

- Be **easy to understand**
- Be linked to the patient's **individual treatment goals**
- Include information on **trigger avoidance** and the importance of a smoke-free environment
- Be supported by **regular** professional **review**

Other considerations for self-management

- For adults, written PAAPs are **based on symptoms** and/or peak flow values
- **All patients admitted** into hospital should undergo a **review** of their self-management skills, and **clinicians should ensure a PAAP is in place**.
- During consultations for URTIs or other known triggers, **ensure the patient knows what to do** in the event of their asthma deteriorating



PAAP=personalised asthma action plan; URTI=upper respiratory tract infection

British Thoracic Society. BTS/SIGN British guideline on the management of asthma [online] 2016. Available from: https://www.brit-thoracic.org.uk/standards-of-care/guidelines/btssign-british-guideline-on-the-management-of-asthma/ [Last accessed: March 2018].

My asthma triggers
Taking my asthma medicine each day will help reduce my reaction to these triggers. Avoiding them where possible will also help.

My asthma review
I should have at least one routine asthma review every year. **I will bring:**
- My action plan to see if it needs updating
- My inhaler and spacer to check I'm using them in the best way
- Any questions about my asthma and how to cope with it.

Next asthma review date: ____/____/_____

GP/asthma nurse contact
Name:
Phone number:

Out-of-hours contact number
(ask your GP surgery who to call when they are closed)
Name:
Phone number:

Get more advice & support from Asthma UK:
Speak to a specialist asthma nurse about managing your asthma on: **0300 222 5800**
Get news, advice and download information packs at: **www.asthma.org.uk**

*Adams et al; Factors associated with hospital admissions and repeat emergency department visits for adults with asthma; Thorax 2000;55:566–573

Use it, don't lose it!

Your action plan is a personal guide to help you stay on top of your asthma. Once you have created one with your GP or asthma nurse, it can help you stay as well as possible.

People who use their action plans are four times less likely to end up in hospital because of their asthma.

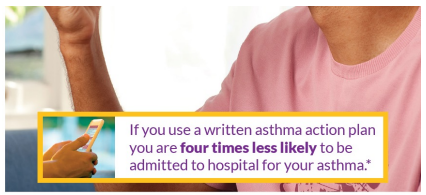
Your action plan will only work at its best to help keep you healthy if you:

1. **Put it somewhere easy for you and your family to find –** you could try your fridge door, the back of your front door, or your bedside table. Try taking a photo and keeping it on your mobile phone or tablet.
2. **Check i** calenda through with your day-to-day asthma medicines? Are you having any asthma symptoms? Are you clear about what to do?
3. **Keep a copy near you –** save a photo on your phone or as your screensaver. Or keep a leaflet in your bag, desk or car glove box.
4. **Give a copy of your action plan or share a photo of it with a key family member or friend –** ask them to read it. Talk to them about your usual asthma symptoms so they can help you notice if they start. Help them know what to do in an emergency.
5. **Take it to every healthcare appointment – including A&E/consultant.** Ask your GP or asthma nurse to update it if any of their advice for you changes. Ask them for tips if you're finding it hard to take your medicines as prescribed.

The step-by-step guide that helps you stay on top of your asthma

Your asthma action plan

Fill this in with your GP or asthma nurse



If you use a written asthma action plan you are **four times less likely** to be admitted to hospital for your asthma.*

Name and date:

Any asthma questions?
Call our friendly helpline nurses
0300 222 5800
(9am – 5pm; Mon – Fri)
www.asthma.org.uk

Every day asthma care:

My personal best peak flow is:

My **preventer** inhaler (insert name/colour):

I need to take my preventer inhaler every day even when I feel well

I take ____ puff(s) in the morning and ____ puff(s) at night.

My **reliever** inhaler (insert name/colour):

I take my reliever inhaler only if I need to

I take ____ puff(s) of my reliever inhaler if any of these things happen:

- I'm finding it hard to breathe
- I'm coughing.

Other medicines I take for my asthma every day:

With this daily routine I should expect/aim to have no symptoms. If I haven't had any symptoms or needed my reliever inhaler for at least 12 weeks, ask my GP or asthma nurse to review my medicines in case they can reduce the dose.

People with allergies need to be extra careful as attacks can be more severe.

When I feel worse:

- My symptoms are coming back (wheeze, tightness in my chest, feeling breathless, cough)
- I am waking up at night
- My symptoms are interfering with my usual day-to-day activities (eg at work, exercising)
- I am using my reliever inhaler ____ times a week or more
- My peak flow drops to below ____

This is what I can do straight away to get on top of my asthma:

1. **If I haven't been using my preventer inhaler, start using it regularly again or:**
   preventer inhaler dose to ____ ____ times a day until my symptoms have gone and my peak flow is back to normal
   Take my reliever inhaler as needed (up to ____ puffs every four hours)
   URGENT! If I don't improve within 24 hours make an emergency appointment to see my GP or asthma nurse.
2. **If I have been given prednisolone tablets (steroid tablets) to keep at home:**
   Take ____ mg of prednisolone tablets (which is ____ x 5mg) **immediately** and again every morning for ____ days or until I am fully better.

URGENT! Contact my GP or asthma nurse today and let them know I have started taking steroids and make an appointment to be seen within 24 hours.

In an asthma attack:

- My reliever inhaler is not helping or I need it more than every ____ hours
- I find it difficult to walk or talk
- I find it difficult to breathe
- I'm wheezing a lot or I have a very tight chest or I'm coughing a lot
- My peak flow is below ____

THIS IS AN EMERGENCY TAKE ACTION NOW

1. Sit up straight — don't lie down. Try to keep calm
2. Take one puff of my reliever inhaler every 30 to 60 seconds up to a maximum of 10 puffs
3. A) If I feel worse at any point while I'm using my inhaler → CALL 999
   B) If I don't feel any better after 10 puffs → CALL 999
   C) If I feel better: make an urgent same-day appointment with my GP or asthma nurse to get advice

CALL 999 → Ambulance taking longer than 15 minutes? Repeat step 2

If I feel better, and have made my urgent same-day appointment:
- Check if I've been given rescue prednisolone tablets
- If I have these I should take them as prescribed by my doctor or asthma nurse

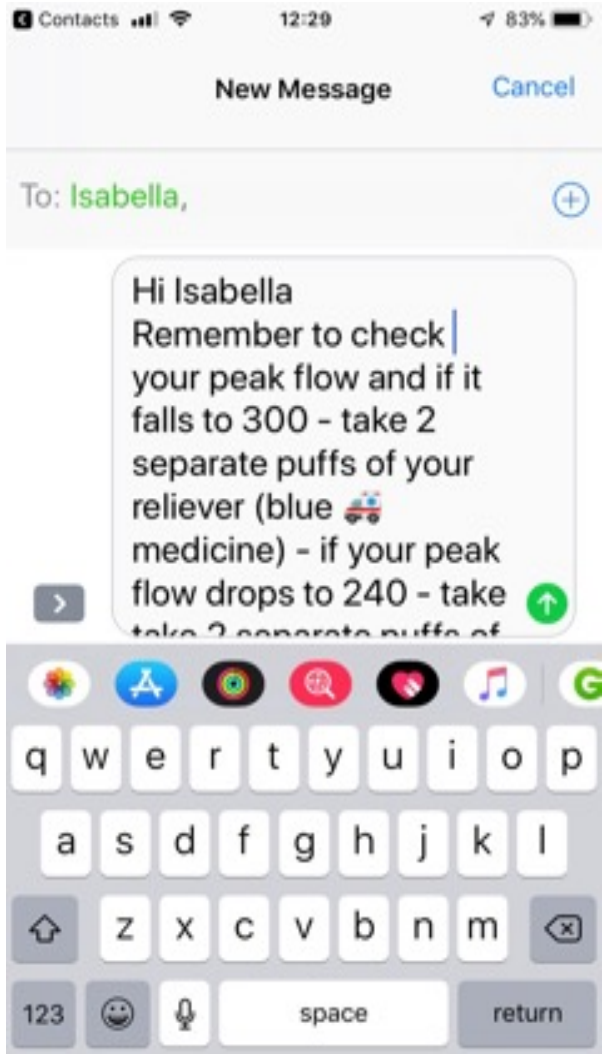
IMPORTANT! This asthma attack information is not designed for people on a SMART or MART medicine plan. If you're on a SMART or MART medicine plan, please speak to your GP or asthma nurse to get the correct asthma attack information.

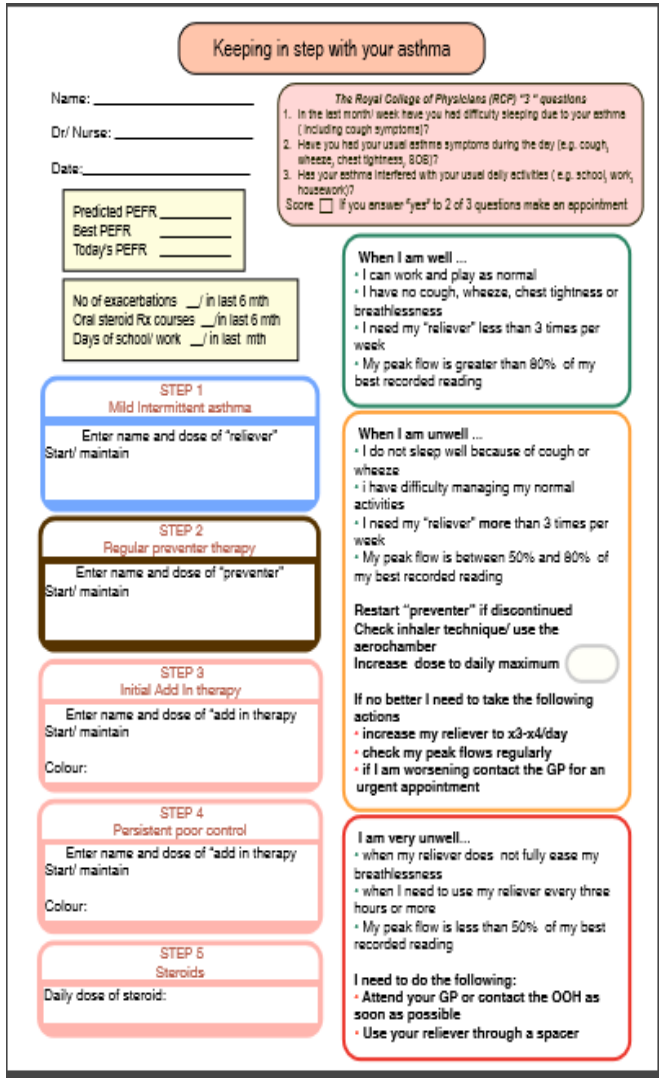
Asthma action plans

Regular, MART & AIR

https://www.asthma.org.uk/globalassets/health-advice/adult-asthma-action-plan.pdf accessed January 2025

https://www.asthmaandlung.org.uk/healthcare-professionals/adult-asthma/AAPs/completing-air-action-plan-your-patients
last accessed January 2025





Action plans – what format should we use?

AIR – Action plan – in English

My asthma triggers

My triggers and what I do to manage them

For example: *hay fever – I take antihistamines; pollution – I avoid busy roads*

My asthma review

I should have at least one routine asthma review every year, even if I only have occasional asthma symptoms. I will bring:

- my AIR asthma action plan to see if it needs updating
- my AIR inhaler to check I'm using it correctly
- my peak flow meter if I use one
- any questions about my asthma.

Next asthma review date:

GP/nurse/healthcare professional contact details

Name:

Phone number:

Out-of-hours contact number (ask your GP surgery who to call when they are closed)

Name:

Phone number:

Created 2024; next review 2027

How to use this plan

1. **Put it somewhere easy to find** like your fridge door, noticeboard, or bedside table.
2. **Keep it on your mobile phone or tablet** so you can check it wherever you are.
3. **Share it with family, friends, or anyone you live with** so they know how to help you.
4. **Take it to every asthma appointment** Ask your doctor, nurse, or healthcare professional to update your plan if their advice for you changes.

Get more advice + support from Asthma + Lung UK

Speak to a respiratory nurse specialist about managing your asthma: **0300 222 5800 (Mon-Fri, 9am–5pm)**

Message our respiratory nurse specialists on WhatsApp: **07999 377 775**

Find out more on our website: **AsthmaAndLung.org.uk/AIR**

Join one of our online or in-person support groups: **AsthmaAndLung.org.uk/groups-support**

Follow us on Facebook, X (formerly known as Twitter), and Instagram for news and tips about your asthma.

Watch our inhaler videos to learn how to use your AIR inhaler: AsthmaAndLung.org.uk/inhaler-videos

ASTHMA QUESTIONS?

Ask our respiratory nurse specialists
Call **0300 222 5800.** WhatsApp **07999 377 775.**
(Monday-Friday, 9am–5pm)

ASTHMA+ LUNG UK

YOUR AIR ASTHMA ACTION PLAN

Fill this in with your doctor, nurse or other healthcare professional.

Name and date:

1 Every day asthma care:

My AIR (anti-inflammatory reliever) inhaler contains:

- a steroid medicine to treat inflammation in my airways
- a reliever medicine called formoterol to open up my airways.

My AIR inhaler is called (insert name)

I carry my AIR inhaler with me every day so I can use it if I get asthma symptoms.

I take **one puff** of my AIR inhaler if:

- I'm wheezing
- My chest feels tight
- I'm finding it hard to breathe
- I'm coughing.

If my symptoms have not improved after a few minutes, I can take another puff.

I should not take more than puffs at any one time.

I can continue to use my AIR inhaler as needed if:

- I have few or no asthma symptoms during the day, and none at night.
- I can do everything I normally do (e.g. working, being active, socialising).
- My peak flow score stays at or around
- I only need to use my AIR inhaler occasionally, as advised by my GP or nurse.

Other advice for managing my asthma every day:

2 When I feel worse:

I need to contact my doctor, nurse or other healthcare professional as soon as possible if I feel worse.

I should contact them if I have any of these signs and symptoms:

- My symptoms are getting worse (wheeze, tight chest, feeling breathless, cough).
- My symptoms are waking me up at night.
- My symptoms are affecting my day-to-day life (working, being active, socialising).
- My peak flow score drops to below:

I should also contact my GP, nurse or healthcare professional as soon as possible if:

I regularly need to use puffs or more of my AIR inhaler in a day.

The **maximum daily dose** of my AIR inhaler is **puffs**.

Other advice about what to do if my asthma gets worse:

3 When I have an asthma attack:

I'm having an asthma attack if I'm experiencing any of these:

- My AIR inhaler is not helping.
- I find it difficult to walk or talk.
- I find it difficult to breathe.
- I'm wheezing a lot, or I have a very tight chest, or I'm coughing a lot.
- My peak flow score is below:

What to do in an asthma attack

1. Sit up straight – try to keep calm.
2. Take one puff of your AIR inhaler **every 1 to 3 minutes up to six puffs**.
3. If you feel worse at any point **or** you don't feel better after six puffs **call 999 for an ambulance**.
4. If the ambulance has not arrived after 10 minutes and your symptoms are not improving, **repeat step 2**.
5. If your symptoms are no better after repeating step 2, and the ambulance has still not arrived, **contact 999 again immediately**.

If you do not have your AIR inhaler with you, call 999.

After an asthma attack

Follow this advice to make sure you recover well and to prevent further asthma attacks:

- If you dealt with your asthma attack at home, speak to your doctor or nurse today.
- If you were treated in hospital, speak to your doctor or nurse within 48 hours of being discharged.
- Finish any medicines they prescribe you, even if you start to feel better.
- If you don't improve after treatment, speak to your doctor, nurse or other healthcare professional urgently.

And they can be downloaded in many languages

In your language:

- AIR asthma action plan in Arabic (العربية)
- AIR asthma action plan in Bengali (বাংলা)
- AIR asthma action plan in Chinese (中文)
- AIR asthma action plan in Welsh (Cymraeg)
- AIR asthma action plan in Gujarati (ગુજરાતી)
- AIR asthma action plan in Polish (Polskie)
- AIR asthma action plan in Punjabi (ਪੰਜਾਬੀ)
- AIR asthma action plan in Urdu (اردو)

In Arabic

ASTHMA+ LUNG UK

خطة عمل جهاز الاستنشاق الهوائي للربو الذي تعانيه

املأ هذه الخطة مع طبيبك أو ممرضتك أو أي اختصاصي رعاية صحية آخر.

1 الرعاية اليومية لحالة الربو:

يحتوي جهاز الاستنشاق الهوائي (المسكن المضاد للالتهابات) الخاص بي على:

- دواء ستيرويد لعلاج الالتهاب في الشعب الهوائية لديّ
- دواء مسكن يسمى فورموتيرول لفتح الشعب الهوائية لديّ.
- **يسمى جهاز الاستنشاق الهوائي الخاص بي (اكتب الاسم)**

أحمل معي جهاز الاستنشاق الهوائي الخاص بي كل يوم حتى أتمكن من استخدامه إذا ظهرت عليّ أعراض الربو.

آخذ **بخة واحدة** من جهاز الاستنشاق الهوائي الخاص بي إذا كنت:

- أصدر صفيرًا
- أشعر بضيق في صدري
- أجد صعوبة في التنفس
- أسعل.

وإذا لم تتحسن أعراضي بعد بضع دقائق، يمكنني أن آخذ بخة أخرى.

يجب ألا آخذ أكثر من ____ البخات في وقت واحد.

يمكنني مواصلة استخدام جهاز الاستنشاق الهوائي الخاص بي عند اللزوم إذا:

- كنت أعاني أعراض ربو قليلة أو معدومة أثناء النهار، ولا أعاني أي أعراض في الليل.
- كنت أستطيع أن أفعل كل ما أفعله عادةً (مثل العمل والنشاط والتواصل الاجتماعي).
- كانت درجة تدفق الهواء لديّ عند نفس القيمة أو حولها ____
- أحتاج فقط إلى استخدام جهاز الاستنشاق الهوائي الخاص بي من حين إلى آخر، وفقًا لما نصح به الطبيب العام المتابع لحالتي أو الممرضة.

نصائح أخرى للسيطرة على الربو كل يوم:

2 حين أشعر بالسوء، يتعين عليّ فعل ما يلي:

يتعين عليّ الاتصال بطبيبي أو ممرضتي أو غيرهما من اختصاصي الرعاية الصحية في أقرب وقت ممكن إذا شعرت بسوء.

يجب أن أتصل بهم إذا كان لدي أي من هذه العلامات والأعراض:

- تزداد أعراضي سوءًا (أزيز، أو ضيق في الصدر، أو شعور بضيق في التنفس، أو سعال).
- أعراضي توقظني في الليل.
- تؤثر أعراضي في حياتي اليومية (العمل، والنشاط، والتواصل الاجتماعي).
- تنخفض درجة تدفق الهواء لديّ عن: ____ .

يجب عليّ أيضًا الاتصال بالطبيب العام المتابع لحالتي أو الممرضة أو اختصاصي الرعاية الصحية في أقرب وقت ممكن إذا:

كنت بحاجة بانتظام إلى استخدام ____ بخات أو أكثر من جهاز الاستنشاق الهوائي الخاص بي في يوم واحد.

أقصى **جرعة يومية** من جهاز الاستنشاق الهوائي الخاص بي هي ____ **بخات.**

نصائح أخرى من طبيبي أو ممرضة الربو أو اختصاصي الرعاية الصحية حول ما يجب فعله إذا تفاقمت حالة الربو لدي:

3 عندما أعاني نوبة ربو:

أعاني نوبة ربو حين أواجه أيًا مما يلي:

- جهاز الاستنشاق الهوائي الخاص بي لا يساعد في تحسني.
- أجد صعوبة في المشي أو التحدث.
- أجد صعوبة في التنفس.
- أصدر صفيرًا كثيرًا، أو أعاني ضيقًا شديدًا في الصدر، أو أسعل كثيرًا.
- درجة تدفق الهواء لديّ أقل من: ____ .

ما يجب فعله في نوبة ربو

1. اجلس بشكل مستقيم – حاول أن تحافظ على هدوئك.
2. خذ بخة واحدة من جهاز الاستنشاق الهوائي الخاص بك **كل دقيقة إلى 3 دقائق بما يصل إلى ست بخات.**
3. إذا شعرت بسوء في أي وقت **أو** لم تشعر بتحسن بعد ست بخات **فاتصل بالرقم 999 لطلب سيارة إسعاف.**
4. إذا لم تصل سيارة الإسعاف بعد 10 دقائق ولم تتحسن أعراضك، **فكرر الخطوة رقم 2.**
5. إذا لم تتحسن الأعراض بعد تكرار الخطوة 2، ولم تصل سيارة الإسعاف بعد، **فاتصل بالرقم 999 مرة أخرى فورًا.**
6. **إذا لم يكن لديك جهاز الاستنشاق الهوائي الخاص بك معك، فاتصل بالرقم 999**

بعد التعرض لنوبة ربو

اتبع هذه النصيحة للتأكد من تعافيك بشكل جيد ولمنع الإصابة بمزيد من نوبات الربو:

- إذا تعاملت مع نوبة الربو التي عانيتها في المنزل، فتحدث إلى طبيبك أو ممرضتك اليوم.
- وإذا عولجت في المستشفى، فتحدث إلى طبيبك أو ممرضتك خلال 48 ساعة من خروجك من المستشفى.
- قم بإنهاء جرعات أي أدوية تم وصفها لك، حتى لو بدأت تشعر بالتحسن.
- وإذا لم تتحسن بعد العلاج، فتحدث إلى طبيبك أو ممرضتك أو أي اختصاصي رعاية صحية آخر على وجه السرعة.

محفزات إصابتي بأزمة ربو

محفزات إصابتي وما أفعله للسيطرة عليها

على سبيل المثال: حمى القش - أتناول مضادات الهيستامين؛ التلوث - أتجنب الطرق المزدحمة

مراجعة حالة الربو الذي أعانيه

يجب أن أخضع لمراجعة روتينية واحدة على الأقل للربو كل عام، حتى لو كنت أعاني أعراض الربو في بعض الأحيان. سأحضر ما يلي:

- خطة عمل جهاز الاستنشاق الهوائي للربو الذي أعانيه لأعرف هل تحتاج إلى تحديث
- جهاز الاستنشاق الهوائي الخاص بي للتحقق من كوني أستخدمه بشكل صحيح
- جهاز قياس تدفق الهواء لديّ إذا كنت أستخدم واحدًا
- أسئلتي حول الربو الذي أعانيه.

تاريخ مراجعة حالة الربو القادمة: ____

تفاصيل الاتصال بالممارس العام/الممرضة/اختصاصي الرعاية الصحية

الاسم: ____

رقم الهاتف: ____

رقم اتصال خارج ساعات العمل (اسأل الطبيب العام المتابع لحالتك عمن تتصل به عندما يكونون غير متاحين)

كيفية استخدام هذه الخطة

1 **ضعها في مكان يسهل العثور عليه** مثل باب ثلاجتك أو لوحة الملاحظات أو الطاولة الجانبية للسرير.

2 **احتفظ بها على هاتفك المحمول أو جهازك اللوحي** حتى تتمكن من التحقق منها أينما كنت.

3 **شاركها مع العائلة أو الأصدقاء أو أي شخص تعيش معه** حتى يعرفوا كيفية مساعدتك.

4 **وخذها معك إلى كل موعد لطبيب الربو.**
اطلب من طبيبك أو الممرضة أو اختصاصي الرعاية الصحية تحديث خطتك إذا تغيرت نصائحهم الموجهة إليك.

احصل على المزيد من النصائح والدعم من Asthma + Lung UK

التنفسي حول السيطرة على حالة الربو التي تعانيها على الرقم التالي:
0300 222 5800
(الاثنين الجمعة 9 صباحًا 5 مساءً)

راسل متخصصي تمريض الجهاز التنفسي لدينا على رقم الواتساب التالي:
07999 377 775

اعثر على المزيد على موقعنا الإلكتروني **AsthmaAndLung.org.uk/AIR**

انضم إلى مجموعات الدعم لدينا عبر الإنترنت أو شخصيًا **AsthmaAndLung.org.uk/groups-support**

تابعنا على فيسبوك وX (المعروف سابقًا باسم تويتر) وإنستجرام للحصول على أخبار ونصائح حول الربو الذي تعانيه.

شاهد مقاطع فيديو جهاز الاستنشاق الخاصة بنا لتتعلم كيفية استخدام جهاز الاستنشاق الهوائي الخاص بك:
AsthmaAndLung.org.uk/inhaler-videos

The MART asthma action plan

My asthma triggers

Taking my asthma medicines every day means I'm less likely to react to these triggers. Avoiding them if I can may also help.

My triggers and what I do to manage them

For example: *hay fever – I take antihistamines; pollution – I avoid busy roads*

My asthma review

I should have at least one routine asthma review every year. I will bring:

- My MART asthma action plan to see if it needs updating
- Any inhalers and spacers I have to check I'm using them correctly
- Any other medicines I take for my asthma
- My peak flow meter if I use one
- Any questions about my asthma.

Next asthma review date:

GP/nurse/healthcare professional contact details

Name:

Phone number:

Out-of-hours contact number (ask your GP surgery who to call when they are closed)

Name:

Phone number:

Last reviewed and updated 2023; next review 2026

How to use this plan

1. **Put it somewhere easy to find** like your fridge door, noticeboard, or bedside table.
2. **Keep it on your mobile phone or tablet** so you can check it wherever you are.
3. **Share it with family, friends, or anyone you live with** so they know how to help you if you're unwell.
4. **Take it to every asthma appointment**. Ask your doctor, nurse, or healthcare professional to update your plan if their advice for you changes.

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Asthma questions?

Ask our respiratory nurse specialists
Call **0300 222 5800.** WhatsApp **07999 377 775.**
(Monday-Friday, 9am–5pm)

ASTHMA+ LUNG UK

Your MART asthma action plan

Fill this in with your doctor, nurse or other healthcare professional.

Name and date:

1 Every day asthma care:

With this daily routine:

- I should have few or no asthma symptoms during the day and none at night (wheeze, tight chest, feeling breathless, cough).
- I should be able to do everything I normally do in my day-to-day life (working, being active, socialising).
- My personal best peak flow score is:
- Date taken

My Maintenance and Reliever Therapy (MART) inhaler is called (insert name):

I need to take my MART inhaler every day even when I feel well.

I take puff(s) in the morning
and puff(s) at night.

I use my MART inhaler as my reliever inhaler if I get asthma symptoms.

I take one puff of my MART inhaler if:

- I'm wheezing
- My chest feels tight
- I'm finding it hard to breathe
- I'm coughing.

I can take up to a **maximum** of puffs a day (including my morning and night puffs).

Other medicines and devices (for example, spacer, peak flow meter) I use for my asthma every day:

2 When I feel worse:

My asthma is getting worse if I'm experiencing any of these:

- My symptoms are getting worse (wheeze, tight chest, feeling breathless, cough).
- My symptoms are waking me up at night.
- My symptoms are affecting my day-to-day life (working, being active, socialising).
- My peak flow score drops to below:

If my asthma gets worse:
I can continue to take **one** puff of my MART inhaler as needed to deal with my asthma symptoms, up to a **maximum** of puffs a day (including my morning and night puffs).

URGENT! Contact your doctor, nurse or other healthcare professional if:

- You need to use the **maximum** daily dose of your MART inhaler and your symptoms are not improving **or**
- You're regularly using extra doses of your MART inhaler most days for weeks (as advised by your healthcare professional) **or**
- You're worried about your asthma.

Other advice from my doctor, asthma nurse or healthcare professional about what to do if my asthma is worse:

3 When I have an asthma attack:

I'm having an asthma attack if I'm experiencing any of these:

- My MART inhaler is not helping.
- I find it difficult to walk or talk.
- I find it difficult to breathe.
- I'm wheezing a lot, or I have a very tight chest, or I'm coughing a lot.
- My peak flow score is below:

What to do in an asthma attack

1. Sit up straight – try to keep calm.
2. Take one puff of your MART inhaler **every 1 to 3 minutes up to six puffs**.
3. If you feel worse at any point **or** you don't feel better after six puffs **call 999 for an ambulance**.
4. If the ambulance has not arrived after 10 minutes and your symptoms are not improving, **repeat step 2**.
5. If your symptoms are no better after repeating step 2, and the ambulance has still not arrived, **contact 999 again immediately**.

After an asthma attack
Follow this advice to make sure you recover well and to prevent further asthma attacks:

- If you dealt with your asthma attack at home, see your doctor or nurse today.
- If you were treated in hospital, see your doctor or nurse within 48 hours of being discharged.
- Finish any medicines they prescribe you, even if you start to feel better.
- If you don't improve after treatment, see your doctor, nurse or other healthcare professional urgently.

If you don't have your MART inhaler with you and need to use a blue reliever inhaler, take one dose every 30–60 seconds up to a maximum of 10 puffs and call 999 for an ambulance.

And again, area available in many languages

In your language:

- MART asthma action plan in Arabic (العربية)
- MART asthma action plan in Bengali (বাংলা)
- MART asthma action plan in Chinese (中文)
- MART asthma action plan in Welsh (Cymraeg)
- MART asthma action plan in Gujarati (ગુજરાતી)
- MART asthma action plan in Polish (Polskie)
- MART asthma action plan in Punjabi (ਪੰਜਾਬੀ)
- MART asthma action plan in Urdu (اردو)

You might even need to translate one from English to the patient's language

See below action plan converted from English - Mandarin and send via AccuRx

Take 2 puffs of your blue inhaler if you experience increased symptoms like shortness of breath, cough, wheezing or chest tightness or if your peak flow falls to or below 280l/min

如果您出现呼吸急促，咳嗽，喘息或胸闷等症状增加或峰值流量低于或低于280l / min，请吸取2次蓝色吸入器吸入

Are all patients' first language English?

Our Changing World

- We are now very much in a digital era
- Do we need to keep up with technology ?

Asthma self-management and action plans should be:
Bespoke, collaborative and individualized

Round up and close