

# Asthma update for school nurses

September 2024

VIV MARSH RN, SCPHN, QN

CHILDREN'S ASTHMA NURSE SPECIALIST

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CLINICAL LEAD FOR CYP ASTHMA TRANSFORMATION,  
BLACK COUNTRY ICB

# Session overview

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- ❖ Why is asthma important and why are school nurses vital for improving asthma outcomes
- ❖ Revision and update of asthma diagnosis and management
- ❖ Who is responsible for what
- ❖ Asthma Friendly Schools
- ❖ Air quality and asthma in schools
- ❖ Questions and discussion

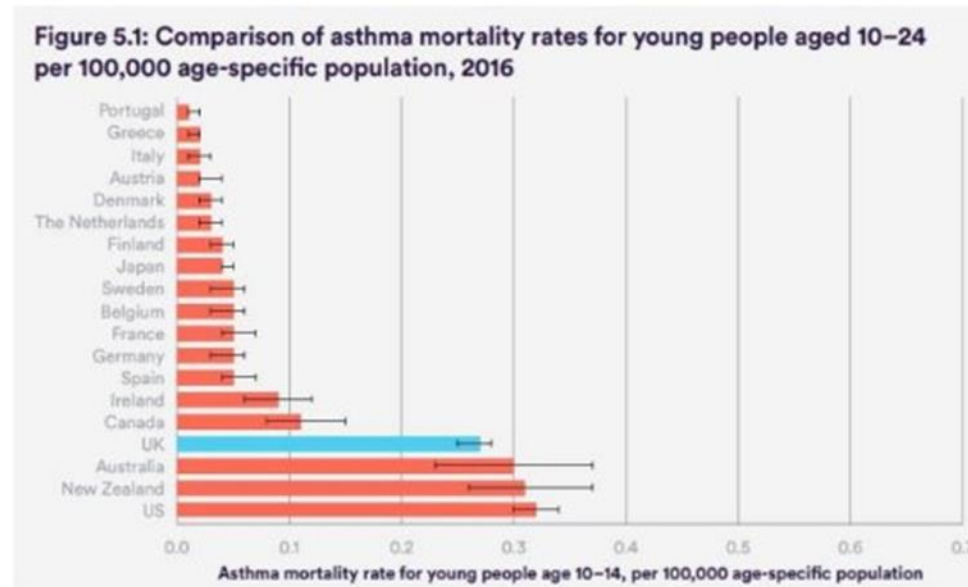
# Asthma in children

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- ❖ Very common, 1:11 children or 2-3 children per class
- ❖ Can and should be well controlled, but often is not
- ❖ Children who do not have well controlled asthma are at risk of asthma attacks which are serious and can be life threatening, 20-40 children in the UK die from asthma every year
- ❖ Children who do not have well controlled asthma have more symptoms which affect their quality of life, they may not sleep well or concentrate at school, and they may not be able to be as active as other children
- ❖ Children with asthma need regular medication to keep their asthma under control, this medication is taken from an inhaler
- ❖ Children with asthma also need access to rescue medication in case they have breathing difficulties or an asthma attack

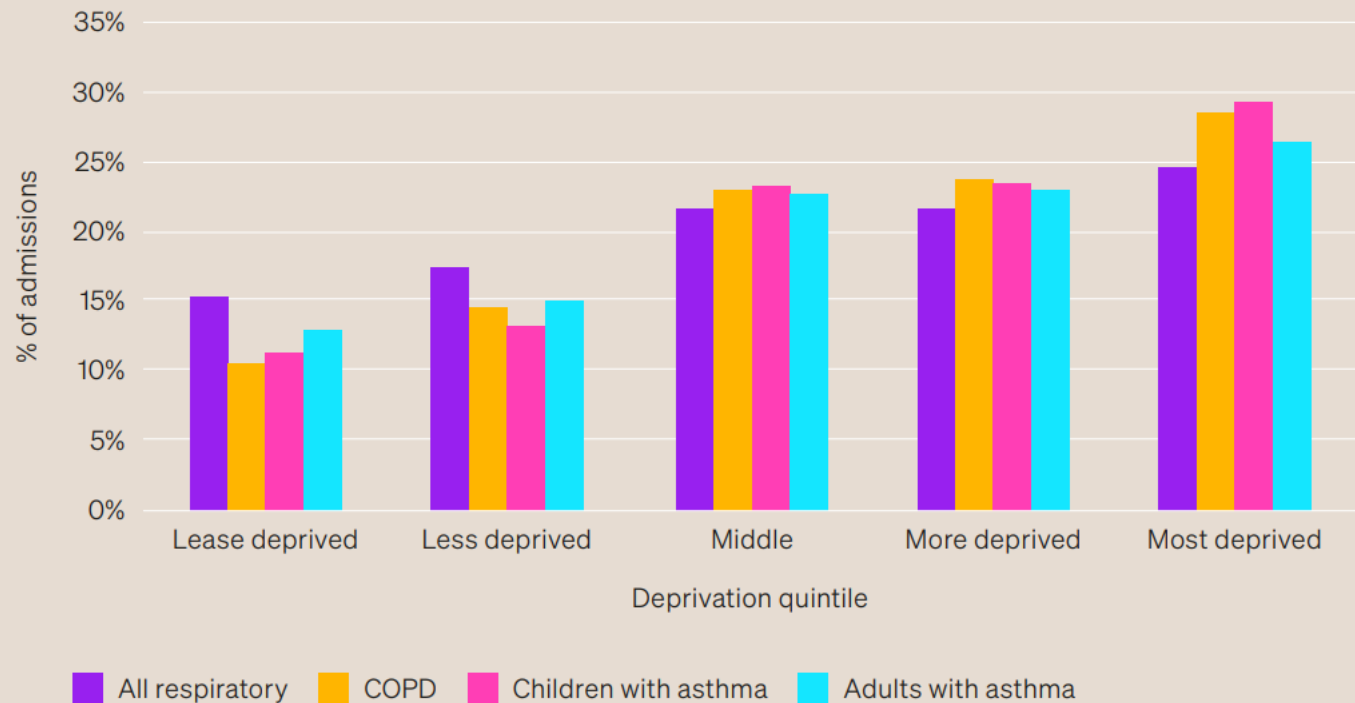
# International comparisons

- Around 1 in 11 children and young people living with asthma. The UK has one of the highest prevalence, emergency admission and death rates for childhood asthma in Europe.
- Young people with asthma are more likely to have special educational needs for mental health reasons, perform worse in exams and leave school earlier than those without an asthma diagnosis.
- A recent global asthma report found that the impact of asthma, measured in disability adjusted life years, was highest in 5–19-year-olds and people over 60.



# Health inequalities – the greatest challenge in child health

Figure 12: Percentage of emergency admissions by condition and deprivation level



Children in the poorest 10% are 4 times more likely to be admitted to hospital

Poverty & related psychosocial/behavioural factors

Ethnicity

# REDUCING HEALTHCARE INEQUALITIES FOR CHILDREN AND YOUNG PEOPLE

**CORE20**  
The most deprived 20% of the national population as identified by the Index of Multiple Deprivation



The **Core20PLUS5** approach is designed to support Integrated Care Systems to drive targeted action in healthcare inequalities improvement

**PLUS**  
ICS-chosen population groups experiencing poorer-than-average health access, experience and/or outcomes, who may not be captured within the Core20 alone and would benefit from a tailored healthcare approach e.g. inclusion health groups



Target population

## CORE20 PLUS 5

Key clinical areas of health inequalities

1



**ASTHMA**  
Address over reliance on reliever medications and decrease the number of asthma attacks

2



**DIABETES**  
Increase access to Real-time Continuous Glucose Monitors and insulin pumps in the most deprived quintiles and from ethnic minority backgrounds & increase proportion of children and young people with Type 2 diabetes receiving annual health checks

3



**EPILEPSY**  
Increase access to epilepsy specialist nurses and ensure access in the first year of care for those with a learning disability or autism

4



**ORAL HEALTH**  
Address the backlog for tooth extractions in hospital for under 10s

5



**MENTAL HEALTH**  
Improve access rates to children and young people's mental health services for 0-17 year olds, for certain ethnic groups, age, gender and deprivation



# Hakeem Hussain: 'Horrendous' lack of help for asthma death boy

🕒 1 September 2022



FAMILY

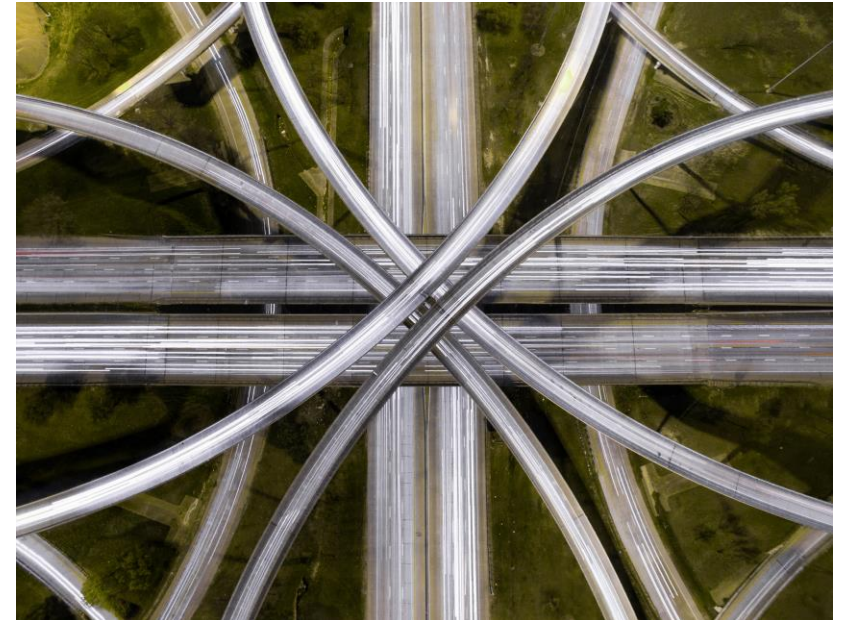
| The body of Hakeem Hussain was found in a freezing garden in November 2017

**Authorities' lack of help for a boy who was found dead in a freezing garden after an asthma attack was "horrendous", a children's safety chief has said.**

# Why are school nurses vital

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- Advice and guidance for schools
- Identify problems early
- Advice and guidance for children and families
- Support children with difficult to control asthma
- Crucial part of the MDT and TAC





# Asthma definition

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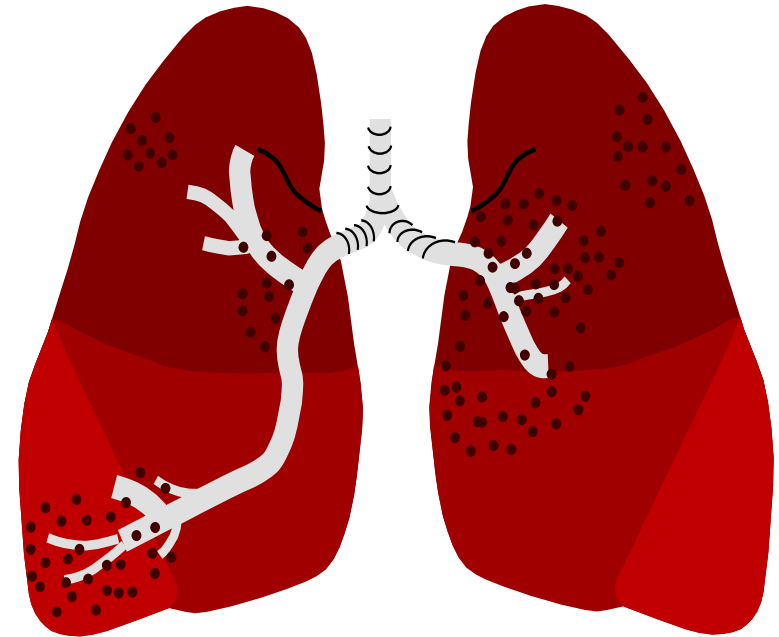
***Hyper-responsive airways and airway obstruction which is reversible, either spontaneously or following treatment***

Characterised by:

Bronchoconstriction

Inflammation

Mucus production



# Diagnosis of Asthma in Children

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Presence of key features

Consideration of alternative diagnosis

Objective tests where possible

Assessment of response to treatment if **probability** is high

Ongoing assessment/reassessment

# Key features of asthma in children

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Evidence of wheeze **plus** other symptoms

Variability

Episodic

Clear triggers (not just colds)

Atopy

Family history of asthma/atopy

# Physical signs of atopy in a child

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Mouth breather

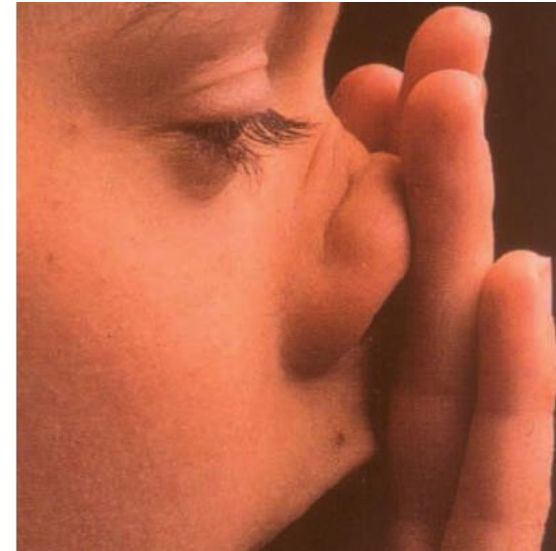
Allergic shiners

Allergic salute

Dennie's line

Inflamed conjunctiva

Eczema



# Tests to confirm asthma

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Difficult to achieve helpful results in adults let alone children

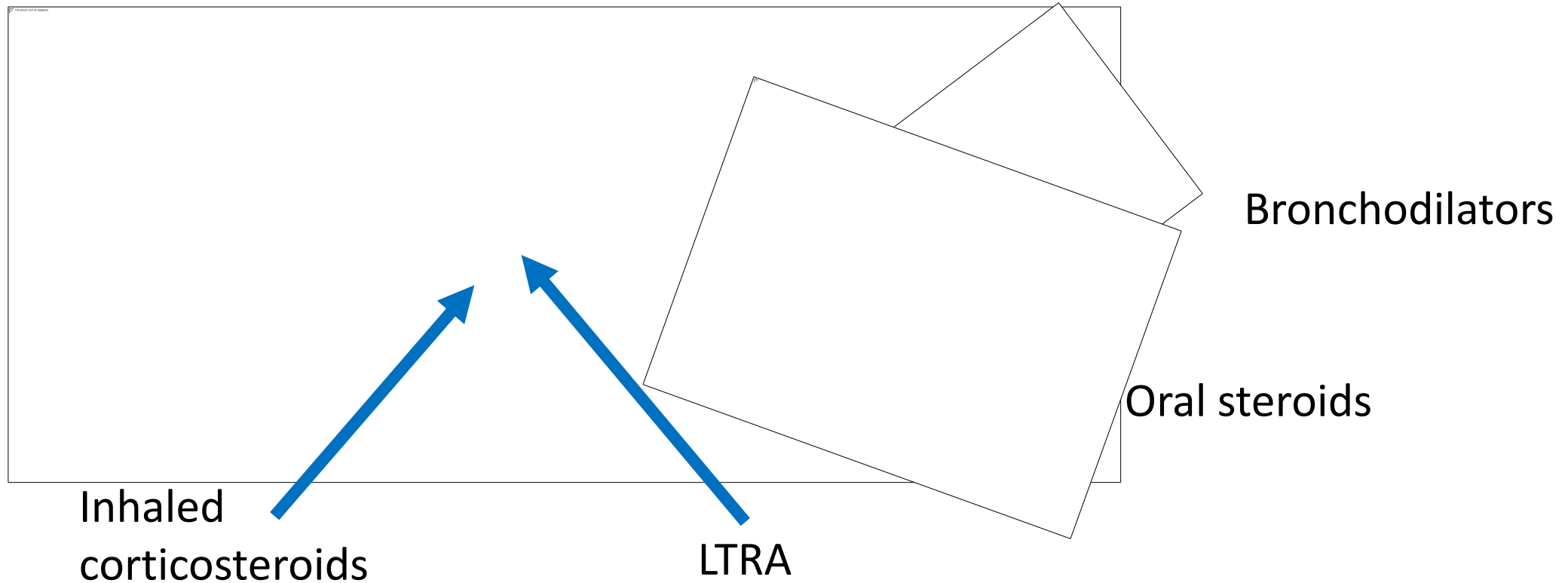
Young children cannot perform most tests

Blood tests can be helpful but ....

Monitored Trial of Treatment is an excellent tool **if done correctly**

# Treating asthma

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# Medicines for asthma

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Inhalers for all children plus other options for some

**Medicine to treat asthma** is found in brown, red, orange, yellow and purple inhalers. This is taken regularly (once or twice daily) to control asthma

**Medicine to relieve (rescue) asthma symptoms** is found in blue inhalers (mostly) -some older children have a single inhaler that does both jobs

The medicine in inhalers can be in spray or powder form

Spacers must always be used with spray (puffer) inhalers

Most young children (under 10-12 years of age) use spray inhalers

Older children might use powder inhalers



# Non-pharmacological management

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Obesity management

Breathing exercises

Tobacco smoke exposure avoidance

Allergy/trigger avoidance

Air Quality



# Essential asthma management

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Regular Inhaled Corticosteroid (ICS) treatment

Reliever treatment for use only when need

Additional treatment if control cannot be achieved

- LABA

Long-acting bronchodilators (*in a combination inhaler with ICS*)

- Anti-leukotrienes

- Allergy treatment

- Inhaler technique
- Adherence
- Trigger avoidance advice
- Self-management support
- Appropriate referral

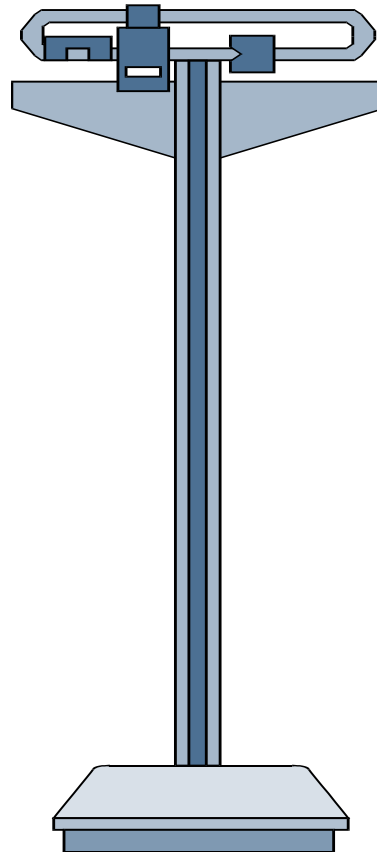
# Steroid concerns

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Long term  
treatment

Growth

Other steroid  
treatment



Steroid  
confusion

Media  
influences

## Montelukast: reminder of the risk of neuropsychiatric reactions

Healthcare professionals prescribing montelukast should be alert to the risk of neuropsychiatric reactions in all patients including children and adolescents. Reported neuropsychiatric reactions include sleep disorders, hallucinations, anxiety and depression, as well as changes in behaviour and mood. Healthcare professionals should advise patients and their caregivers to be alert to these risks and seek medical advice as soon as possible if neuropsychiatric reactions occur.

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From: [Medicines and Healthcare products Regulatory Agency](#)

Published 29 April 2024

# Drugs commonly used in CYP asthma

Brand name	Drug name	Type
Clenil	Beclometasone	ICS
Flixotide	Fluticasone	ICS
Seretide	Fluticasone/Salmeterol	ICS/LABA
Symbicort	Budesonide/Formoterol	ICS/LABA
Singulair	Montelukast	Anti-leukotriene (LTRA)
Salamol Ventolin	Salbutamol	SABA/reliever



Below are the preferred treatment choices, please see local formulary for full listing.

TABLE 1

**ALWAYS**

**ICS is the Cornerstone of Treatment**

- Is it Asthma?
- Prescribe by brand
- Check inhaler technique
- Check adherence
- Identify & document trigger factors
- Use a spacer with MDI
- Ensure patient is using an ICS or ICS/FA combination inhaler
- Provide an Asthma Action Plan
- Maintain lowest controlling therapy

Asthma is not controlled if using >2 reliever inhalers per year. Consider review if >6 requested per year

**CARBON FOOTPRINT**

pMDI and spacer recommended for this age group

DO NOT routinely prescribe DPIs to children under 12yrs

They can be considered for children from 10yrs on an individual basis - ensure that the child can use the inhaler effectively before prescribing

**REGULAR PREVENTER**

Daily Very Low Dose ICS plus reliever (SABA) as needed

see TABLE 3 before stepping up

**VERY LOW DOSE ICS**



**< 5 YEARS**

CONTINUE with ICS ADD LTRA once daily

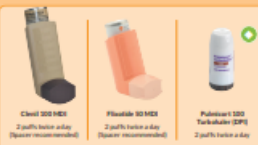
If no benefit after 4 weeks then STOP LTRA see prescribing info opposite

**5-11 YEARS**

Daily Low Dose ICS plus reliever (SABA) OR/AND LTRA once daily

If no benefit after 4 weeks then STOP LTRA see prescribing info opposite

**LOW DOSE ICS**



**LTRA prescribing info**

Leukotriene Receptor Antagonist

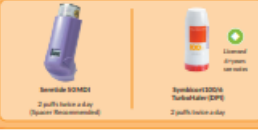
6 months to 5 years Montelukast 4mg Chewtab 5' or 4mg Granules 5' (do not mix with fluid can be mixed with food) Once a day at night

6-11 years Montelukast 5mg Chewtab 5' Once a day at night

**ADDITIONAL CONTROLLER THERAPIES**

Daily Low Dose ICS / LABA plus reliever (SABA) as needed

**LOW DOSE ICS/LABA**



All products are licensed within age group unless otherwise indicated <https://www.medicines.org.uk/medicines>

**SPACER DEVICES** (see local formulary) (DO NOT USE WITH MDI)



**RELIEVER: SABA**



Asthma is not controlled if:

- using reliever 3 times a week or more.
- having symptoms 3 times a week or more.
- waking at least once a week.
- using >2 reliever inhalers per year. Consider review if >6 requested per year.

Key for asthma guidelines

	BDP ICS	Budesonide ICS	Fluticasone Propionate ICS	Formoterol LABA	Salmeterol LABA
Ciclesonide	✓				
Pulmicort		✓			
Fluticasone			✓		
Symbicort				✓	✓
Serevent					✓

Asthma & Lung UK Inhaler videos <https://www.asthma.org.uk/advice/inhaler-videos>

**KEY**

ICS - Inhaled Corticosteroid  
LABA - Long Acting Beta<sub>2</sub> Agonist  
SABA - Short Acting Beta<sub>2</sub> Agonist  
LTRA - Leukotriene Receptor Antagonist  
MDI - Metered Dose Inhaler  
DPI - Dry Powder Inhaler  
pMDI - pressurised Metered Dose Inhaler  
+ - licensed 2 yrs commencing to use in under 2's monitor & review

Below are the preferred treatment choices, please see local formulary for full listing.

TABLE 1

**ALWAYS**

**ICS is the Cornerstone of Treatment**

- Is it Asthma?
- Prescribe by brand
- Check inhaler technique
- Check Compliance
- Identify & document trigger factors
- Use a spacer compatible with MDI
- Ensure patient is using an ICS or ICS in a combination inhaler
- Provide an Asthma Action Plan
- Maintain lowest controlling therapy

Asthma is not controlled if using >2 reliever inhalers per year. REVIEW if >6 requested per year

**LOW DOSE ICS**

plus reliever SABA - see TABLE 3 before stepping up

**INITIAL & ADDITIONAL THERAPY OPTIONS**

**INITIAL**

see TABLE 3 and try different options before stepping up

**LOW/MEDIUM DOSE ICS/LABA**

Relvar A3/23 Ellipta (DPI) 1 puff once daily plus reliever (SABA)

Not licensed for MART

**LTRA**

CONTINUE with ICS ADD LTRA once daily

If no benefit after 4 weeks then STOP LTRA

Leukotriene Receptor Antagonist

12-14 years Montelukast 5mg Chewtab

15+ years Montelukast 10mg tablet once a day at night

**MART**

Symbicort 200/6 Turbohaler (DPI) 1-2 puffs twice daily OR 2 puffs once daily plus reliever (SABA) (see 12 puffs/day) SMART

**MEDIUM DOSE ICS/LABA**

Symbicort 200/6 Turbohaler (DPI) 2 puffs twice daily plus reliever (SABA)

Serevent 125 MDI 2 puffs twice daily (spacer recommended) plus reliever (SABA)

For patients who are already using Symbicort (SABA) will separate reliever - SABA, and using 2 or more SABA per year, consider replacing SABA Reliever with ICS for maintenance (SMART)

**RELIEVERS**

**RELIEVER: SABA**

To be prescribed in addition to daily ICS or daily ICS/LABA

**RELIEVER: ICS/FORMOTEROL**

To be prescribed in addition to daily low dose ICS/Formoterol (SMART)

**CARBON FOOTPRINT**

HFC in MDIs contribute to the NHS carbon footprint. DPIs have a lower carbon footprint BUT patient preference and respiratory flow MUST be considered before offering DPIs

UNCONTROLLED ASTHMA CONTRIBUTES TO A HIGHER CARBON FOOTPRINT

Greener Inhaler Toolkit for GP Practices <https://bit.ly/3x2E3Qh>

**12-17 yrs**

REFER to Respiratory Paediatrician

If you have used above treatment options and control not achieved or diagnostic uncertainty or if any concerns refer sooner

**Asthma & Lung UK Inhaler videos**

<https://www.asthma.org.uk/advice/inhaler-videos>

**SPACER DEVICES** (see local formulary) (DO NOT USE WITH MDI)



**KEY**

ICS - Inhaled Corticosteroid  
LABA - Long Acting Beta<sub>2</sub> Agonist  
SABA - Short Acting Beta<sub>2</sub> Agonist  
LTRA - Leukotriene Receptor Antagonist  
MDI - Metered Dose Inhaler  
DPI - Dry Powder Inhaler  
MART - Maintenance & Reliever Therapy  
HFC - Hydrofluorocarbon  
SMART - Single Maintenance & Reliever Therapy  
BDP - Beclomethasone Dipropionate

	BDP ICS	Budesonide ICS	Fluticasone Propionate ICS	Formoterol LABA	Salmeterol LABA
Ciclesonide	✓				
Pulmicort		✓			
Symbicort				✓	✓
Relvar					✓
Serevent					✓

# Maintenance & Reliever Therapy - MART

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A single inhaler device with combination of ICS and formoterol is used as both maintenance and quick relief therapy

If patient regularly needs one or more rescue doses of their combination inhaler, they will need to have their therapy reviewed

Two systematic reviews have shown that MART can reduce the risk of asthma exacerbations requiring steroid tablets for people who are not well controlled on an ICS alone, and who have a history of asthma exacerbations

No place for a separate blue/reliever inhaler in MART

Currently products are only licensed from 12 years of age, but this will soon change

This is the future for many [but not all] children with asthma – a single inhaler for prevention and symptom relief

# Anti Inflammatory Reliever - AIR

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Single inhaler containing ICS and formoterol used as when needed for symptom relief

Licensed for use for patients with infrequent symptoms

A number of products licensed from 12 years of age

# DO YOU KNOW WHEN THE INHALER IS EMPTY?

Prasad Nagakumar, Clare Onyon, Rajesh Srikantiah

Written on 07/07/2022, Last updated 10/10/2022

## West Midlands Severe Asthma Network QI Project

A QI project was undertaken by 8 hospitals as part of the WMP SAN (West Midlands Paediatric Severe Asthma Network) to look at this issue. Prospective cross-sectional data was collected for children with asthma, preschool wheeze and other children with respiratory diagnoses who had been prescribed an inhaler. Data was collected from 157 children between October 2020 to September 2021.

Children and families were shown an empty MDI salbutamol inhaler that gave the recommended 200 doses and were asked how do they know that the inhaler had medicines left in them. Of 123 children and families, 90 (73.5%) said the inhaler was either full or partially full and 33 (26.5%) said the inhaler was empty.



86 children (54.8%) said they were able to identify an empty inhaler and 71 (45.2%) were unsure or not aware. 105 (69.9%) shook the inhaler to see if there was medication left in it and 27 (29.9%) looked for visible aerosol during actuation, neither of which are useful. Only three patients said that they will look at the dose counter and two kept count of actuations delivered.

# Poor asthma control?

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Daytime symptoms

Night-time symptoms

Activity limitation

Use of SABA >2 x week



# Welcome to the Asthma Control Test

Please select a language

عربي  
中文  
हिन्दी

## Welcome to the Asthma Control Test

Asthma is a common and treatable disease

It cannot be cured, but it can be managed and doesn't have to slow you down



### A Simple Test to Help Manage Your Asthma

The Asthma control Test is a commonly used tool by healthcare providers globally, and has been scientifically tested with hundreds of people with asthma



### Your Answers Create Actionable Results

The Asthma Control Test is a way to help you and your healthcare provider determine if your asthma symptoms are well controlled



### Take the Test and Take the Results to Your Doctor

Based on your score, your healthcare provider can help you take appropriate action to better manage your asthma

## Select your test

### Child

4-11 years

7 questions  
Duration: 5 minutes



### Adult

12+ years

5 questions  
Duration: 1 minute



## Your Asthma Control Test Score

11  
YOUR SCORE



[Save my result ↓](#)

### Your asthma symptoms may not be as well controlled as they could be

If your score is 15 or less, your asthma may be very poorly controlled. Regardless of your score, continue to talk to your healthcare provider. There may be more you and your healthcare provider could do to help control your asthma symptoms.

We suggest you take the test again on 18/10/2024



[Add to my calendar](#)

[Why should I take the test again?](#)



# What are the most common causes of poor asthma control?

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Poor adherence with ICS

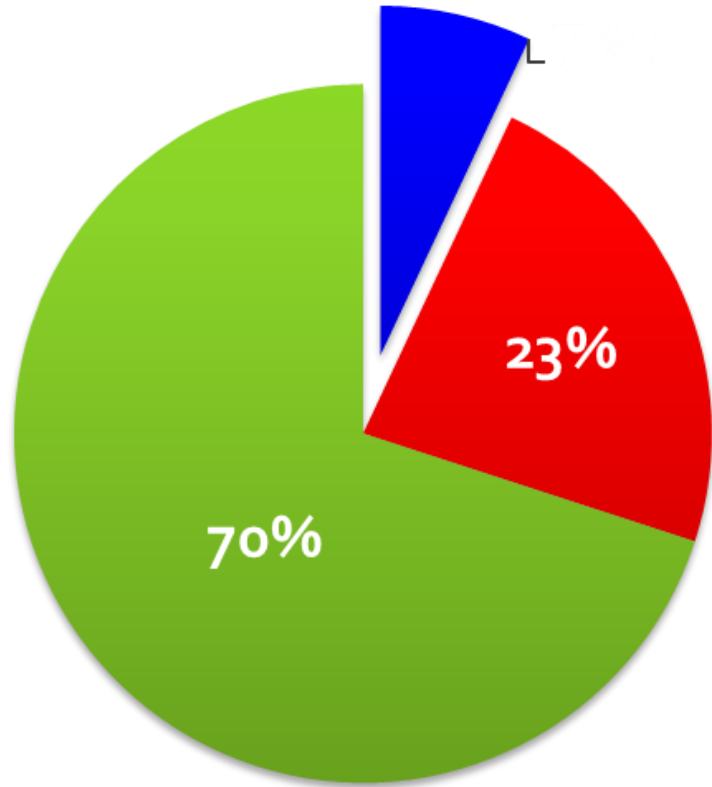
Poor inhaler technique

Exposure to triggers



# What % of healthcare professionals can use a pMDI correctly?

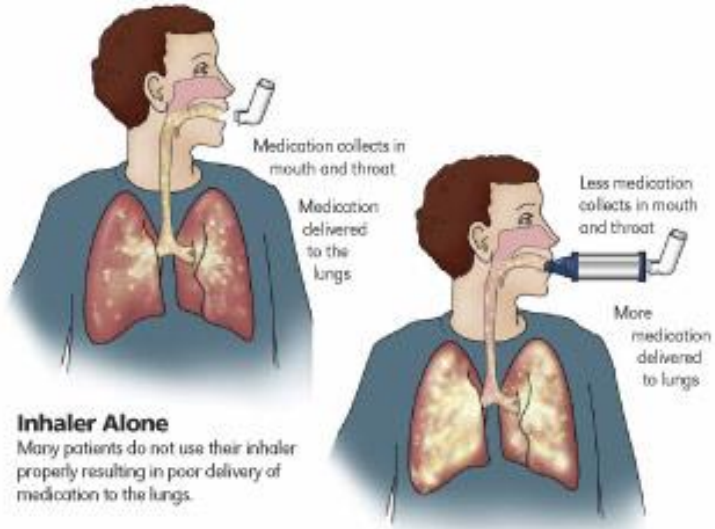
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- Correctly demonstrating all steps and correct inspiratory flow rate: 7%
- Correctly demonstrating all steps: 23%

# Inhalers and spacers

Consider the benefits of using a spacer (air chamber)



## Inhaler Alone

Many patients do not use their inhaler properly resulting in poor delivery of medication to the lungs.

## Inhaler + Air Chamber

Using an air chamber with an inhaler improves delivery of medication to the lungs and reduces side effects.



# Spacers

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MDI + spacer preferred inhaler device for children

Consider other options in older children

Single dose actuation (5 tidal breaths per puff)

Crying reduces efficacy of treatment

Static charge/maintenance



# Inhaler technique videos

**ASTHMA+ LUNG UK**

Our helpline **0300 222 5800**




[About lung conditions](#) [Help + guidance](#) [Research + health professionals](#) [Support us](#) [About us](#)

[Home](#) > [Living with a lung condition](#)

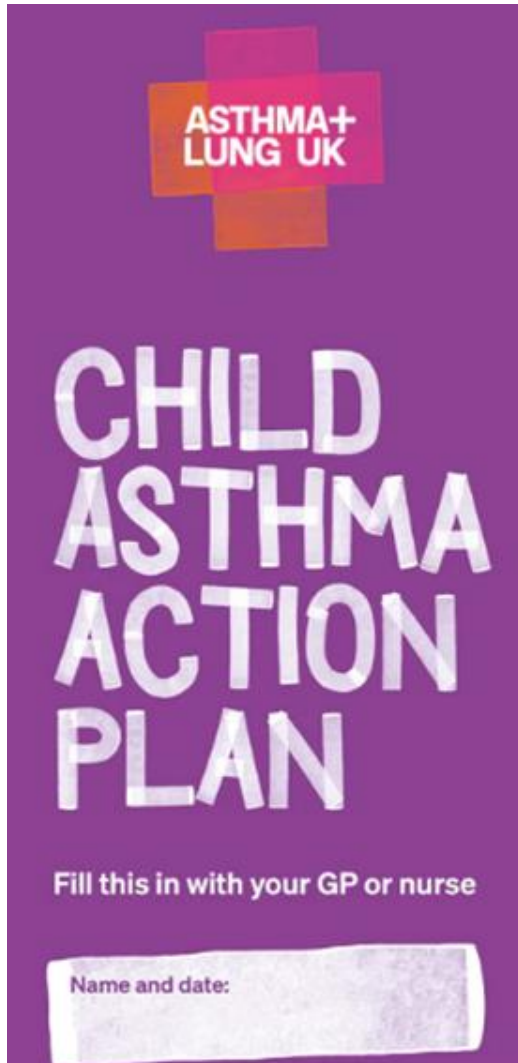
## How to use your inhaler

Improve your inhaler technique in three minutes! Watch these short videos to learn how to use your inhaler properly and better manage your respiratory symptoms.

### Inhaler videos



# Personalised Asthma Action Plans



## Asthma Action Plan to the Rescue

Having a plan is important!  
3 zones, like a traffic light: Green, Yellow, Red

<b>GREEN</b> Your child is good to go!	<b>YELLOW</b> Caution, a few symptoms may be starting, at risk for a flare-up	<b>RED</b> This is urgent! Your child needs medication, fast
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The image illustrates the three zones of an Asthma Action Plan using a traffic light analogy. On the left is a vertical traffic light with three circular lights: red at the top, yellow in the middle, and green at the bottom. To the right of the traffic light, the title 'Asthma Action Plan to the Rescue' is written in orange. Below the title, it says 'Having a plan is important!' and '3 zones, like a traffic light: Green, Yellow, Red'. Below this text are three colored boxes, each representing a zone: a green box for 'GREEN' (Your child is good to go!), a yellow box for 'YELLOW' (Caution, a few symptoms may be starting, at risk for a flare-up), and a red box for 'RED' (This is urgent! Your child needs medication, fast).



# Core principles for children with asthma at school

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- ❖ Should be safe
- ❖ Should be able to learn
- ❖ Should be able to play and be active
- ❖ Should not be excluded

Parents/carers, school staff, healthcare professionals all have a role to play

# Responsibilities – where to begin

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- ❖ Begin from a place of awareness and understanding appropriate to your role in a child with asthma's life
- ❖ Make sure your understanding is up to date, you may need to put your perceptions or beliefs to one side
- ❖ Remember that asthma is a highly variable medical condition that is not the same in every person
- ❖ Know about asthma medicines and how inhalers (and spacers) are used

# Parents/carers

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- ❖ Ensure your child has an asthma review with a health professional trained in asthma at least once a year
  - ❖ Be sure that your child takes their asthma medicine as it has been prescribed for them
  - ❖ Check that your child is using their inhaler correctly and that they have a rescue inhaler for school
  - ❖ Know your child's asthma triggers and try to avoid them where possible
  - ❖ Follow your child's asthma action plan especially if they are having more symptoms than usual
  - ❖ Seek urgent medical attention immediately if your child is having severe breathing problems
  - ❖ Share your child's asthma action plan with everyone who might need it including school
- ✓ Use the Asthma+Lung UK website or advice line for information and help**

# Schools and school staff

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- ❖ Have an asthma policy
- ❖ Know which children at school have asthma and have copies of their asthma action plans
- ❖ Have asthma awareness training
- ❖ Ensure children with asthma can access their rescue inhaler easily
- ❖ Be mindful of asthma triggers in the school environment
- ❖ Be able to recognise and help a child having an asthma attack
- ❖ Work closely with parents/carers and communicate any concerns
- ❖ Access available school nursing services for training and support



✓ **Become an Asthma Friendly School**

# Healthcare professionals

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- ❖ Be aware of your own level of knowledge and understanding, if you need training get it
- ❖ Support parents/carer's and schools with their roles
- ❖ Offer annual reviews before return to school in September and not during school hours
- ❖ Enable parents/carers to share asthma actions plans with schools
- ❖ Ensure children have a rescue inhaler (and spacer) for school
- ❖ Listen to children and their parents/carers

✓ **Be confident in managing asthma in children**

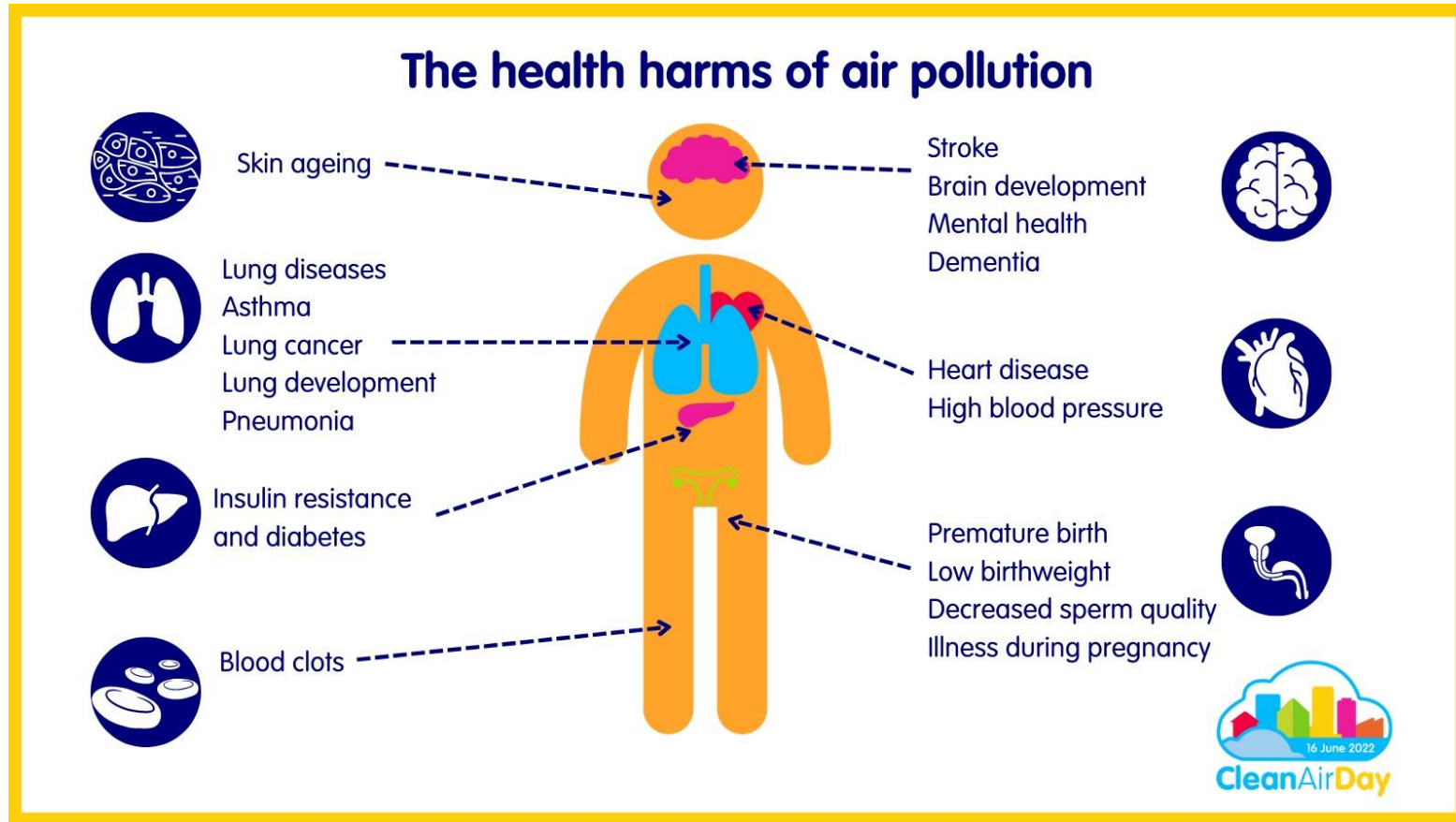
# Black Country Asthma Friendly Schools Criteria

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## **An Asthma Friendly School is one that:**

- Adopts and adheres to their LA recommended asthma policy
- Has a named asthma lead/champion amongst its staff
- Maintains an up-to-date asthma register of the children in its care
- Ensures staff complete baseline asthma training and annual updates
- Ensures staff can recognise when a child is having an asthma attack and know what to do if this happens
- Ensures children always have easy access to their reliever/rescue (usually blue) inhaler
- Provides a school emergency inhaler and spacer device within the allowable legislation or ensures every child with asthma has a spare inhaler for emergency use stored safely on site

# Air Quality and asthma



## Ella Adoo-Kissi-Debrah: High Court action over girl's pollution death

© 25 January



Ella Adoo-Kissi

### Awaab Ishak: Toddler's death from mould triggers review of landlord guidance

Housing secretary Michael Gove says the tragedy "should never have occurred" and underlines the need for "faster action to ensure every landlord provides decent accommodation for tenants."

© Saturday 14 January 2023 14:00 UK



Awaab Ishak died in December 2020 from a respiratory condition caused by mould

f X IG OS

Why you can trust Sky News

Ministers have announced a review of landlord guidance on the health risks of damp and mould following the death of a toddler.

Two-year-old Awaab Ishak died in December 2020 from a respiratory condition caused by "extensive" mould in a one-bedroom flat where he lived with his parents, Feisal Aboullan and Aisha Amin, in



# Summary

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Asthma is common in children

If uncontrolled asthma leads to increased morbidity and mortality

Asthma can and should be controlled – treatment with ICS is key

School nurses have a pivotal role in supporting children with asthma to be safe and live well

Asthma Friendly Schools programmes provide a framework for schools to support pupils with asthma

Health inequalities and associated air quality has become a core element of asthma management and self-management



# Resources

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Asthma+Lung UK - [website](#)

Asthma+Lung UK – [Asthma at school and nursery](#)

Asthma+Lung UK – [Inhaler videos](#)

[NHS recommended sources of children's asthma training](#)

[What is an Asthma Friendly School](#)

[Asthma Control Test](#)

[Ask About Asthma 2024](#)

# Dog, Duck & Cat Trust

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## Moggy's new medicine

Moggy tells us all about asthma, and what that means to him.



**Auntie Duck**



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Time for questions and discussion

