

Asthma In Schools

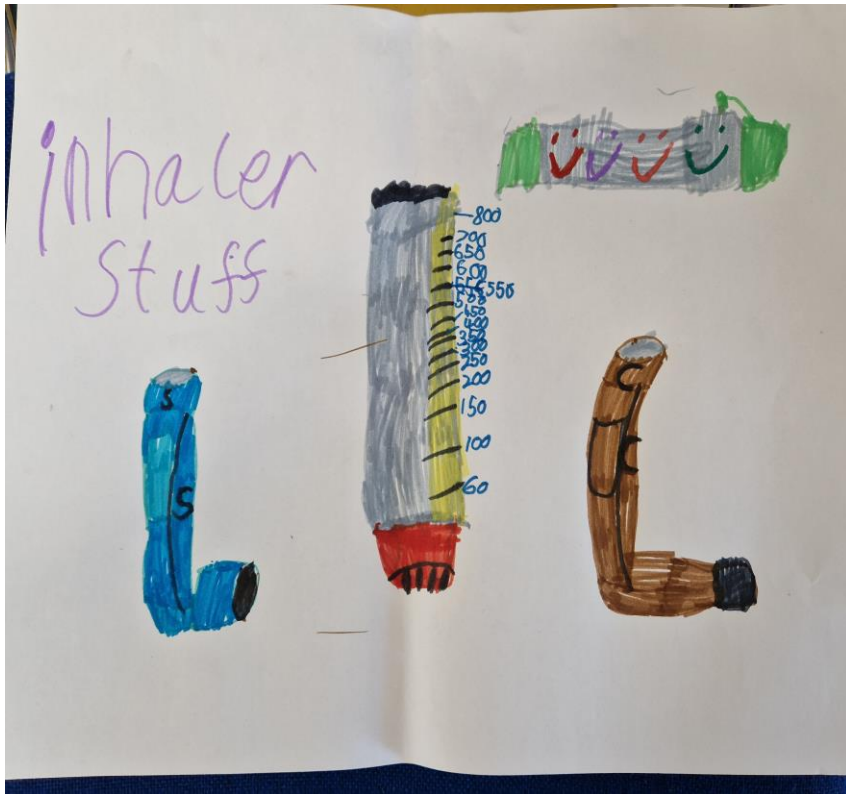


Preventable Asthma Video:

- <https://youtu.be/w2hK mz H4b4s>



Asthma Training



Huge impact; it is **disruptive**, days off school, fatigue, inability to concentrate in lessons, stigma, mental health and can make **activities difficult**, exercise, sleep overs, etc.

It is a serious medical condition; asthma attacks are very frightening and can be life threatening.

Supporting pupils with medical conditions is a statutory requirement for schools in England. Asthma is thought to be responsible for up to 18% of school absences.

Training means children will be safe and can get involved in the same activities as any other child or young person.

Aim to give you the knowledge and confidence to support children, deal with emergency situations and help save lives.



Aims

- What is asthma?
- Asthma attacks are preventable.
- Treatment (long term management to prevent attacks)
- Treatment (recognition of, and acute management of an asthma attack).
- Spacers and Inhaler technique
- Emergency school inhaler / school role.
- School project involving children's asthma nurse specialist.
- **What was wrong with the first picture.....**
- Consider plans you may need to make to ensure that children and young people with asthma are supported
- Air pollution resources



What is Asthma?



Asthma Is A Long-term Condition Associated With Airway Inflammation And Hyper-responsiveness.

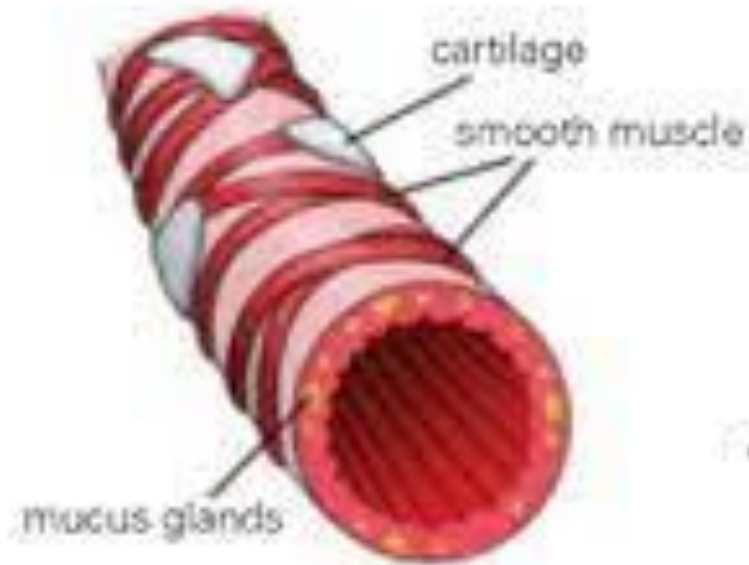
Symptoms : Cough, Wheeze, Chest Tightness, And Shortness Of Breath.

Triggers :Exercise, Allergen Or Irritant Exposure,(eg Smoking Or Mould), Changes In Weather, Viral Respiratory Infections, Air Pollution, Laughter, Stress, Etc.

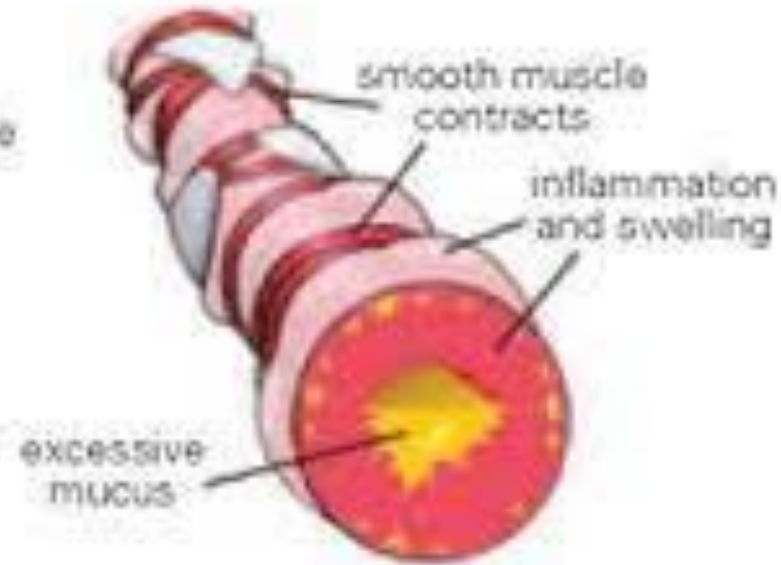
Symptoms May Be Absent For Weeks Or Months At A Time.



Asthma: Airway gets inflamed and smooth muscle contracts.



Normal Airway



Asthma Airway

Source: Asthma Foundations Australia



UK Asthma management particularly poor:

- 1.1 million children in the UK have asthma
- **Roughly 3 in every classroom**
- UK has one of the worst asthma death rates in Europe and mostly these deaths are preventable.
- Deprivation is a significant risk factor

Despite these numbers children's asthma in the UK is not receiving the attention it deserves.



Childhood Asthma deaths are Preventable.

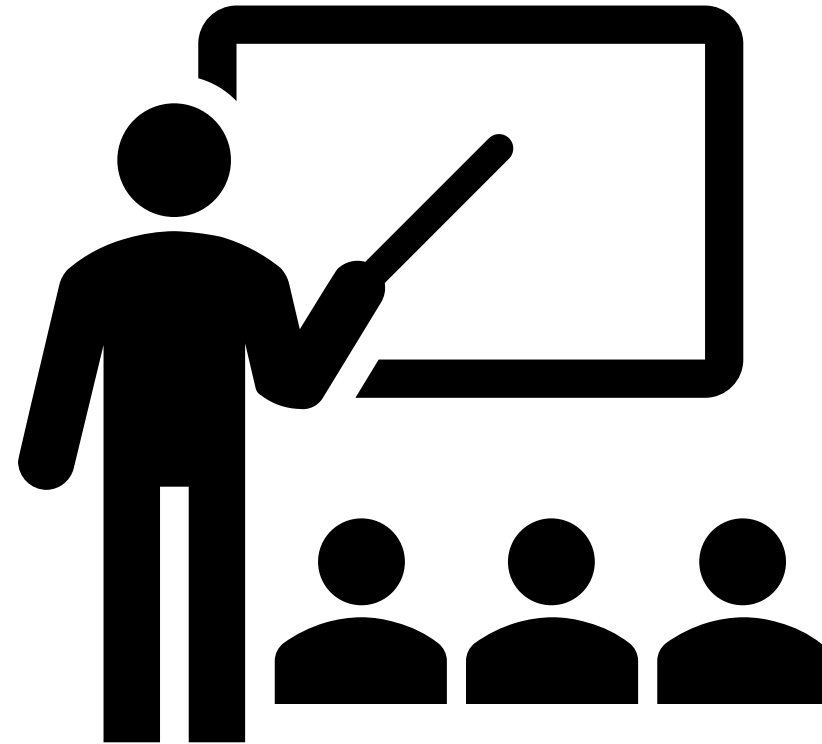
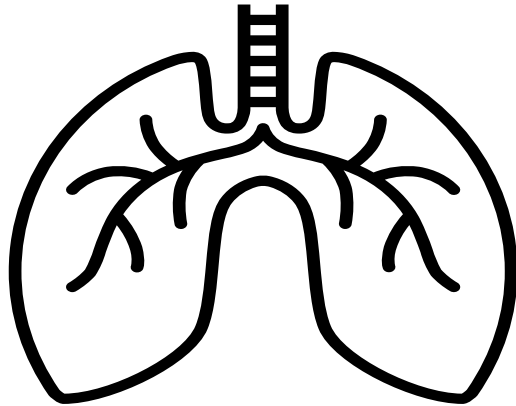
Why asthma still kills The National Review of Asthma Deaths (NRAD)

- 2/3rds had inadequate care
 - 21 children died.
-
- Coroner's conclusions:
 - fragmented care
 - and simple interventions not carried out.



SCHOOL REPORT:

“Could do better “



Feedback from children / young people and parents



“We need more help at school to feel safe and supported with our asthma care...”

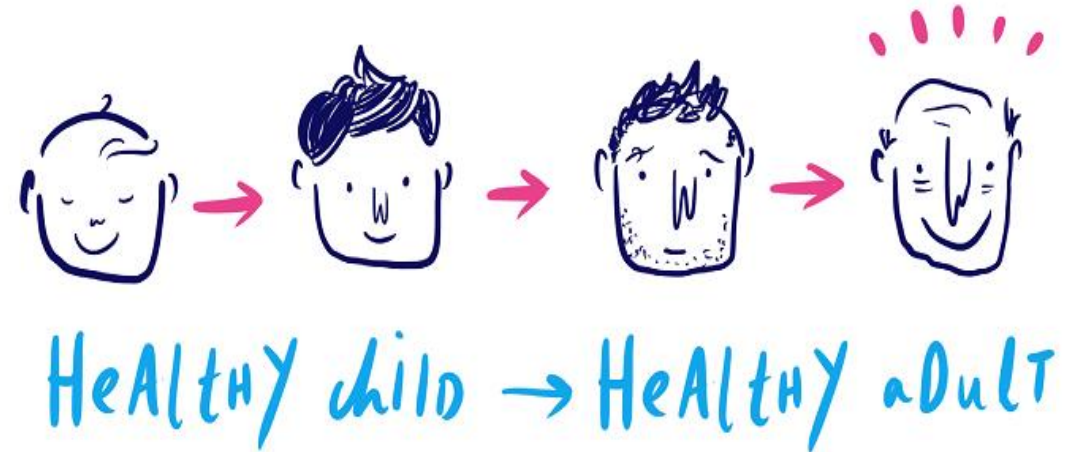
[Asthma – RCPCH – State of Child Health, 2020.](#)

“School should be more aware of asthmano one could help when my son had an attack” (parent at one school attended).

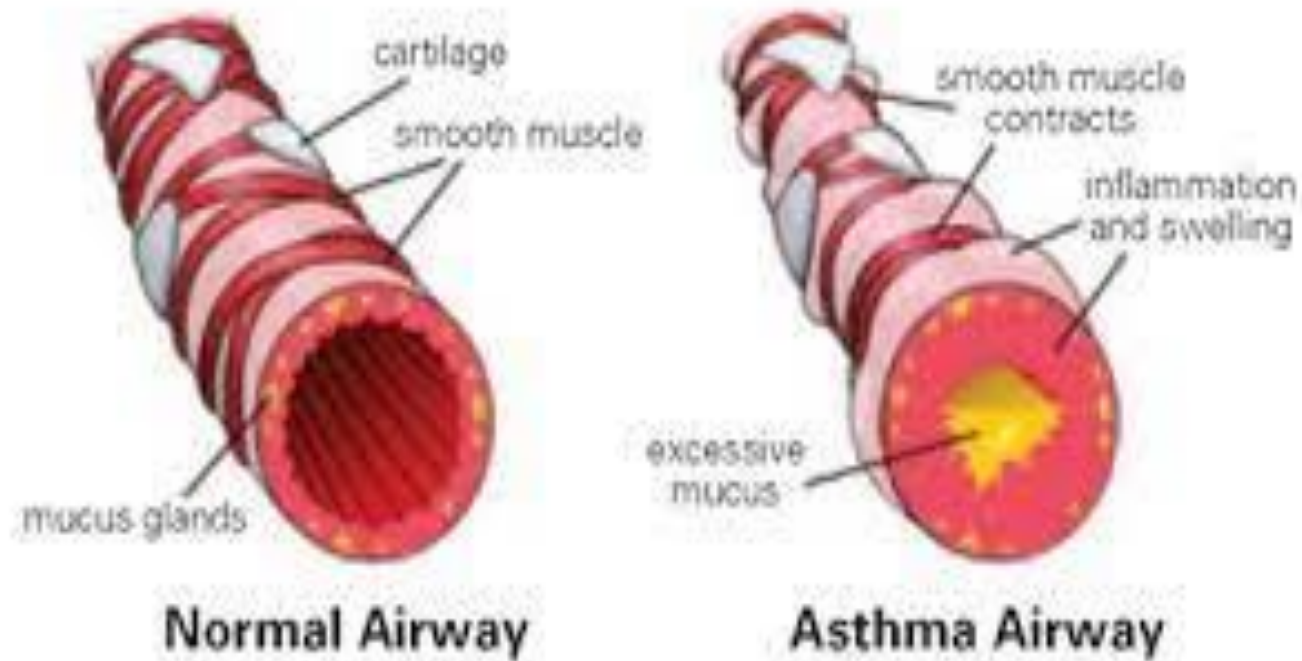


Getting it right now:

- “would support children and young people and their families to engage in and **establish lifelong healthy behaviours**” (Nuffield Trust, 2017) .



Treatments

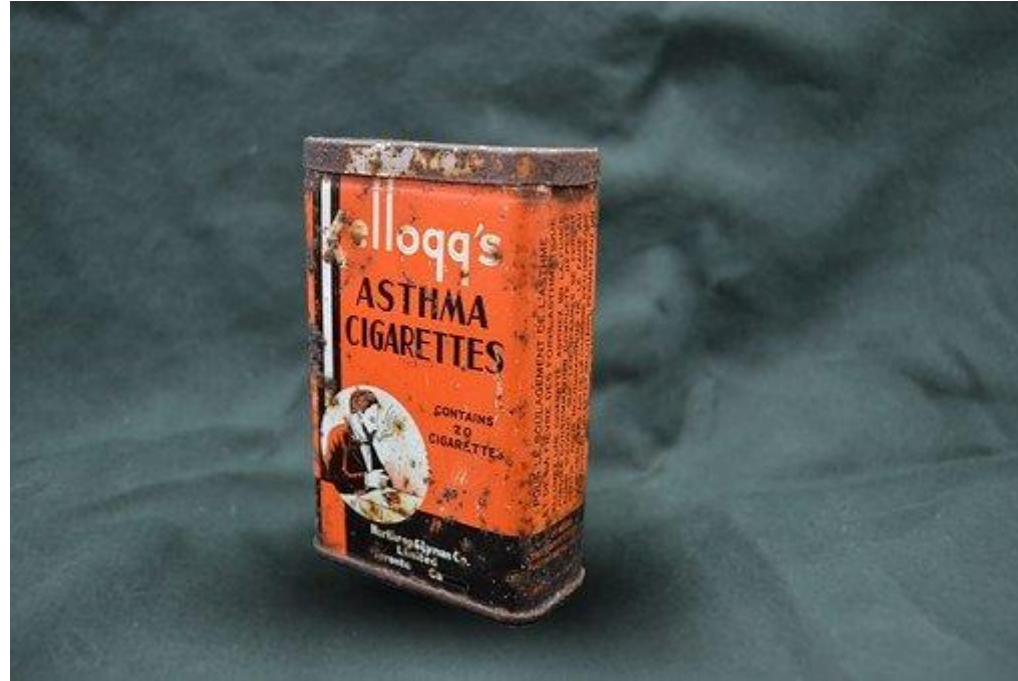


Source: Asthma Foundations Australia

- Airways in asthma gets **inflamed** and smooth muscle **contracts**



Not recommended



Preventor Inhalers

- Beclomethasone (**preventor**, anti-inflammatory to keep airways open). Also known as **Clenil**
- Take morning and evening to **prevent** attacks, ie take when well and when unwell (all the time)
- **Will not provide any immediate relief therefore not appropriate in an asthma attack. Use blue salbutamol inhaler for attacks.**
- Different strengths (**light brown, dark brown**).
- Taken with spacer / aero-chamber
- Rinse mouth afterwards and spit out.
- Steroid but minimal side effects if inhaled with spacer and mouth rinsed.
- very poor adherence, please encourage and if symptomatic ask if remembering to take preventer.



Clenil keeps children out of hospital !!!!



Inhalers



- **Seretide** contains two medicines, salmeterol and fluticasone propionate.
- Salmeterol is a long lasting bronchodilator which helps the airways to stay open, making it easier for air to get in and out. Effect lasts for 12 hours.
- Flucasonepropionate is a corticosteroid which reduces swelling and irritation in the lungs.
- Use with spacer / aerochamber.
- Need to use every day (usually twice a day) even when no symptoms. Rinse mouth and spit it out afterwards.
- **It should not be used for attacks of breathlessness or wheezing, still need to use blue salbutamol rescue inhaler.**
- Always carry fast acting blue rescue inhaler with you.



Inhalers

Salbutamol / Salamol (blue reliever). (Also known as Ventolin).

- Bronchodilator (quickly relaxes muscles in airway that have constricted due to trigger thereby making airway larger again).
- Use with aero-chamber / spacer.
- Used during an asthma attack to alleviate symptoms of chest tightness, cough, wheeze, breathless. (see pupil's individual asthma action plans).



Inhaler and spacer



Small Mask
(0-18 months)



Medium Mask
(1-5 years)



Large Mask
(5 years +)



Mouthpiece
(5 years +)

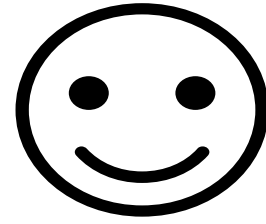


- **Always use a spacer** (unless dry powder inhaler)

Without a spacer:
less medicine delivered into the lungs, so less effective,
more side effects as delivered into the mouth and
swallowed
more difficult to co-ordinate timing and speed of
inhalation



Use a spacer and good inhaler technique



Aero-chamber for toddler with mask
(by school age should have a
mouthpiece).



Asthma and Lung UK guidance on:

inhaler technique (tidal breathing and breath and hold).

spacers / aero-chamber washing and storage:

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



How may a child having an asthma attack present?

cough
cough



shutterstock - 1202302858



HOW TO RECOGNISE AN ASTHMA ATTACK

- Persistent dry cough

- A wheeze

- **Difficulty breathing** (the child could be breathing **fast** and with **effort**, using all **accessory muscles** in the upper body)

- **Unable to talk or complete sentences.** Some children will go very **quiet.**

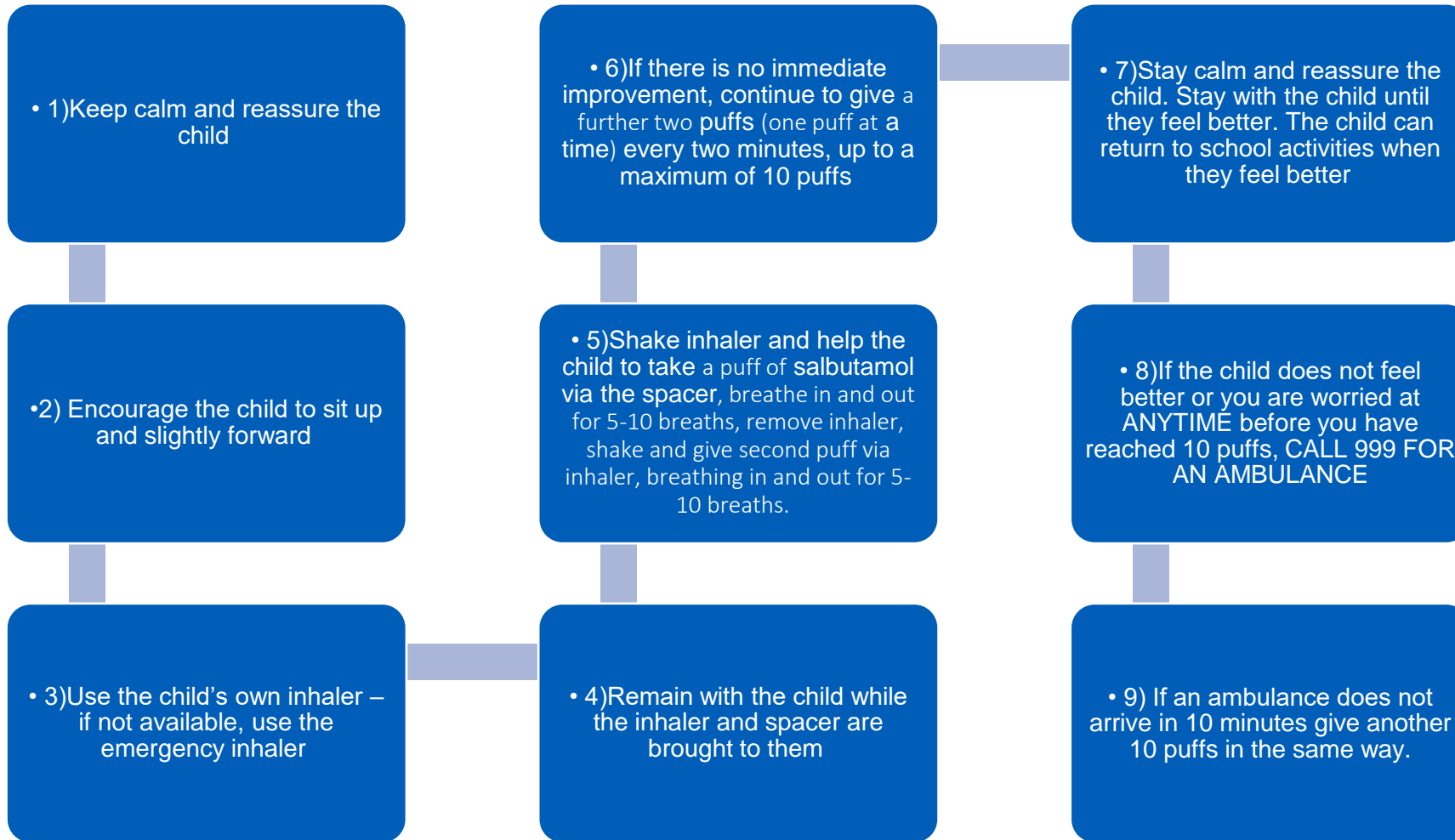
- May try to tell you that their **chest 'feels tight'** (younger children may express this as tummy ache)



CALL AN
AMBULANCE
IMMEDIATELY
AND COMMENCE
THE
ASTHMA ATTACK
PROCEDURE
WITHOUT DELAY
IF THE CHILD

- Appears exhausted
- Has a blue/white tinge around lips
- Is going blue
- Has collapsed

ASTHMA ATTACK-WHAT TO DO



What are you seeing?

- Mild/Moderate Symptoms**
- Cough
 - Wheeze
 - Shortness of breath
 - Chest tightness/pain
 - Sore tummy
 - Not as active/quiet

- Severe/life threatening Symptoms**
- Rapid breathing rate
 - Heaving upper body
 - Inability to talk in full sentences
 - Colour change in skin or lips
 - Distress/confusion

- Actions**
- Be calm and reassuring
 - Encourage pupil to sit down and loosen clothing if needed
 - Take 2 puffs of the blue inhaler through a spacer, 1 puff at a time. Make sure you shake the inhaler between each puff.
 - Keep doing this every 10 minutes if there are still symptoms up to a total of 6 puffs.
 - Encourage a normal breathing rate if the pupil is able.

- Actions**
- Ask a colleague to DIAL 999 (ambulance) and then contact parent/guardian
 - Be calm, confident, reassuring
 - Administer 1 puff of reliever (blue) inhaler every 30 secs through a spacer
 - Shake before each puff, give 1 puff at a time, and count 4-5 breaths for each puff
 - Follow the actions above until the ambulance arrives
- If losing consciousness (rare) follow emergency first aid procedures.

Is the pupil responding?

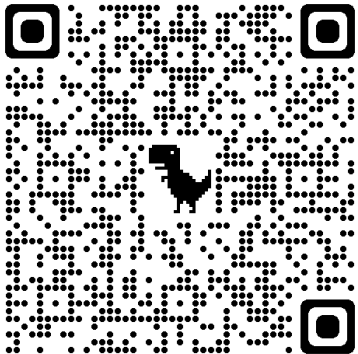
No

Yes

- Actions**
- Allow to sit for 15-20 mins observed by a member of staff
 - Allow to return to class
 - Inform parent/carer
 - If symptoms return after 4 hours, repeat and ask parent/carer to collect

https://youtu.be/_AyV67B0wms

<https://youtu.be/QyIXo5oAYgA>



Junior School Asthma Action Plan (use in conjunction with pupil's personal asthma action plan)

Do I have signs of : wheeze, shortness of breath, coughing, or saying my chest ("tummy") hurts ?
 Stay with me and call for help. Give me 2-6 puffs of my "rescue (blue) inhaler with my spacer using guidance in orange box

How ?

Keep calm and reassure me. Sit me up
 Shake my blue rescue inhaler, remove the cap, and place in my spacer.
 I need to place the mouth piece of the spacer between my teeth and lips to make a good seal.
 I need to spray one puff and then take 5-10 breaths.
 I will repeat the above steps for each puff of the rescue (blue) inhaler (I may need help with this)
 If I feel better but this has happened a few times (including at home) I need to see my GP



If my rescue (blue) inhaler has had little or no effect
 I am struggling to talk in complete sentences, I am coughing and wheezing a lot more, I am breathing hard and fast,
 I may go very quiet, my nostrils may flare:

Give me up to 10 puffs of the rescue (blue inhaler) with my spacer using the guidance in the orange box above.
 You do not have to give the full 10 puffs before you ring 999 if you worried

Call 999

Call 999 for an ambulance if there is little or no improvement and you are worried.
 OR.....If I am exhausted, if I am going blue, if I have collapsed.
 Call my parent/carer. Continue giving me puffs of my blue inhaler until ambulance arrives or symptoms improve

If I'm feeling better (my symptoms have resolved) inform my parent/carer, advise I need to see my GP for an asthma review



Asthma and Panic Attacks-knowing the difference:

The start of an asthma attack and a panic attack can be very similar and it can be hard to know the difference. Both involve feeling anxious! Asthma can increase symptoms of anxiety, and anxiety can increase symptoms of asthma.

Asthma attacks

- Shortness of breath
- Wheezing
- Coughing
- Chest tightness
- Laboured breathing
- Difficulty speaking
- Unable to move freely
- Difficultly eating and drinking
- Can last for several hours

Panic Attack

- Extreme anxiety about the situation
- Shortness of breath
- Chest pain
- Light headed
- Tingling & numbness of the arms and legs
- Feeling like going to have a heart attack
- Sweating or overheating
- Lasts 5-10 minutes

<https://www.beatasthma.co.uk/wp-content/uploads/2017/10/Asthma-and-Panic-Attacks-%E2%80%93-knowing-the-difference-pupil.pdf>



School Emergency Inhaler and Spacer



- There are over 25,000 emergency hospital admissions for asthma amongst children a year in the UK.
- Children should have their own reliever inhaler at school to treat symptoms.
- Inhaler and spacer should be easily accessible.
- However, an Asthma UK survey found that 86% of children with asthma have at some time been without an inhaler at school having forgotten, lost or broken it, or the inhaler having run out
- In 2013, recommended changes to legislation occurred to enable schools to purchase and hold emergency salbutamol inhalers, without a prescription (see school policy for recent 2023 changes where valved spacers can be used more than once if washed thoroughly)



Guidance on the use of emergency salbutamol inhalers in schools

- This will be for any pupil with asthma, or who has been prescribed an inhaler as reliever medication. The inhaler can be used if the pupil's prescribed inhaler is not available (for example, because it is broken, or empty). This change applies to all primary and secondary schools in the UK.
- Schools are not required to hold an inhaler – this is a discretionary power enabling schools to do this if they wish
- Schools can buy inhalers and spacers from a local pharmacy, without a prescription, provided the guidelines are adhered to. Please note that pharmacies are not required to provide inhalers or spacers free of charge to schools: the school must pay for them. Please see link for 2023 guidelines :
- [Supply of Salbutamol Inhalers to Schools – Pharmacy Guide - Transformation Partners in Health and Care](#) .



Ordering Inhaler and Spacer

- A supplier will need a request signed by the principal or head teacher (ideally on appropriately headed paper) stating: - the name of the school for which the product is required; - the purpose for which that product is required, and - the total quantity required.
- Schools may wish to discuss with their community pharmacist the different plastic spacers available and what is most appropriate for the age-group in the school. Community pharmacists can also provide advice on use of the inhaler. [Supply of Salbutamol Inhalers to Schools – Pharmacy Guide - Transformation Partners in Health and Care](#) .



The Emergency Kit

2 -3 blue reliever salbutamol metered dose inhalers (more if large school)

at least two plastic spacers compatible with the inhaler;

instructions on using the inhaler and spacer;

instructions on cleaning and storing the inhaler;

a checklist of inhalers, identified by their batch number and expiry date, with monthly checks recorded;

a note of the arrangements for replacing the inhaler and spacers

a list of children permitted to use the emergency inhaler as detailed in their individual healthcare plans;

- a record of administration (i.e. when the inhaler has been used)



Training school staff.....


- Development of Norfolk wide asthma policy for schools, which includes asthma e-learning for all staff, <https://www.educationforhealth.org/course/supporting-children-and-young-peoples-health-improving-asthma-care-together> asthma champions, an asthma register and aim for accredited “asthma friendly schools”
- This policy reflects the requirements of key legislation and in particular, two key documents:
 - 1. Supporting pupils at school with medical conditions (2014) 1
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/803956/supporting-pupils-at-school-with-medical-conditions.pdf
 - 2. Guidance on the use of emergency salbutamol inhalers in schools (2015)2
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416468/emergency_inhalers_in_schools.pdf
- [Supply of Salbutamol Inhalers to Schools – Pharmacy Guide - Transformation Partners in Health and Care](#) .



 Checklist for policies and plans

Use this checklist to assess what stage you're at with your asthma policy planning, and decide what else you might need to put in place.

Do you have...?	
A register or list of children and young people who have asthma	<input type="checkbox"/>
An information record for each child or young person, with details about their asthma triggers and medication	<input type="checkbox"/>
Knowledge about where each child or young person keeps their inhaler and how they can get it when they need it	<input type="checkbox"/>
Asthma training for all adults with responsibility for children and young people who have asthma	<input type="checkbox"/>
A clear plan to follow in the event of a child or young person having an asthma attack	<input type="checkbox"/>
Emergency contact details	<input type="checkbox"/>

 CONFIRM



Asthma Clinics in schools



Aims:

- Promote accessibility to asthma clinics by holding them in schools in more deprived areas of Norwich.
- Educate families on the importance of annual asthma reviews to encourage re-engagement with the child's GP surgeries.
- Promote prevention of attacks.

1. **A written asthma action plan** drawn up between nurse and pupil with asthma and family. (people are four times less likely to have to go to hospital if asthma action plan in place. A recent audit showed that a personalised asthma action plan was only recorded in 45.5% of cases (Asthma UK).

2. **Using inhalers effectively** (less than $\frac{3}{4}$ of CYP have any form of instruction in how to use their inhalers – meaning they may not be getting the full benefit of their asthma medication).

3. **An asthma review every year** and after every attack to ensure effective management of the condition

4. **Training staff in schools** Pupils report feeling anxious that staff not sufficient understanding of asthma and also perceive a stigma.

Also consider air pollution, smoking cessation and obesity support.

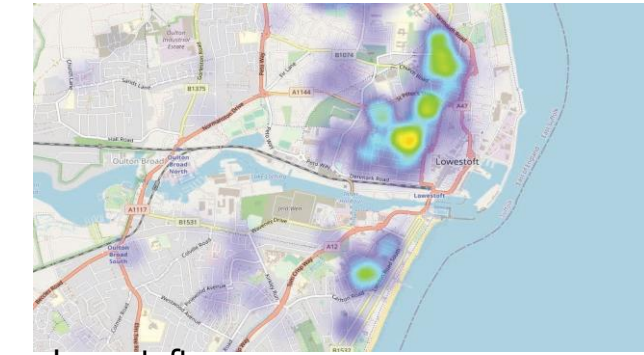
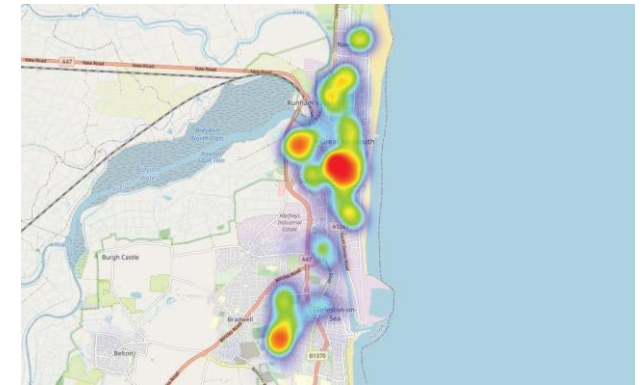
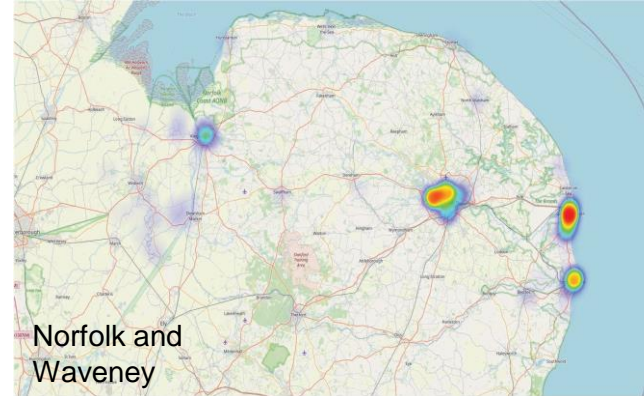


Poverty:

Problem: Children from deprived backgrounds are more than twice as likely to attend hospital and least likely to attend preventative asthma reviews.

Asthma in Schools solution: Focus clinics in deprived areas of Norwich and following ICB approval expansion across all of Norfolk and Waveney:

Prevalence of children with asthma in high levels of deprivation in Norfolk & Waveney. (Health of the Nation East of England, April 2022).



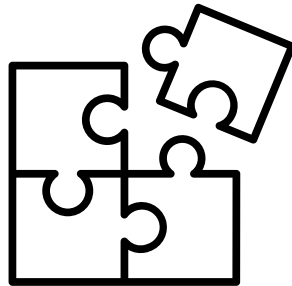
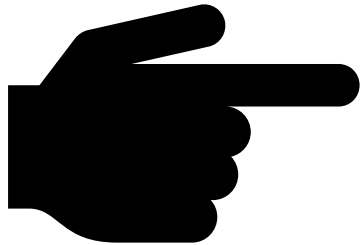
Lowest density of postcodes in deprivation deciles 1 and 2



Highest density of postcodes in deprivation deciles 1 and 2



Schools improve accessibility in deprived areas:



- Almost two thirds of the families that attended school reviews had not had an asthma review at their GP surgery in the past year (despite reminders), or they had not been invited to the surgery at all.
- Large volume (25% of families that attended) with some degree of safeguarding input chose to access reviews through school.
- Holding reviews in schools appears to improve accessibility and therefore significantly increase uptake. This is in deprived areas, where uptake in asthma reviews is especially challenging.
- Other advantages: tackles digital poverty and cost of travel.



Parent comments

“I think having this appointment is brilliant and gives a fantastic opportunity to talk to somebody about my child's asthma after not being able to visit the doctors for so long. The lady we saw was amazing and really explained everything clearly and in depth. We all have a much better understanding”

“I have had asthma for 8 years myself and learnt loads today which didn't know. At all the reviews I had not been told why to take the brown inhaler”

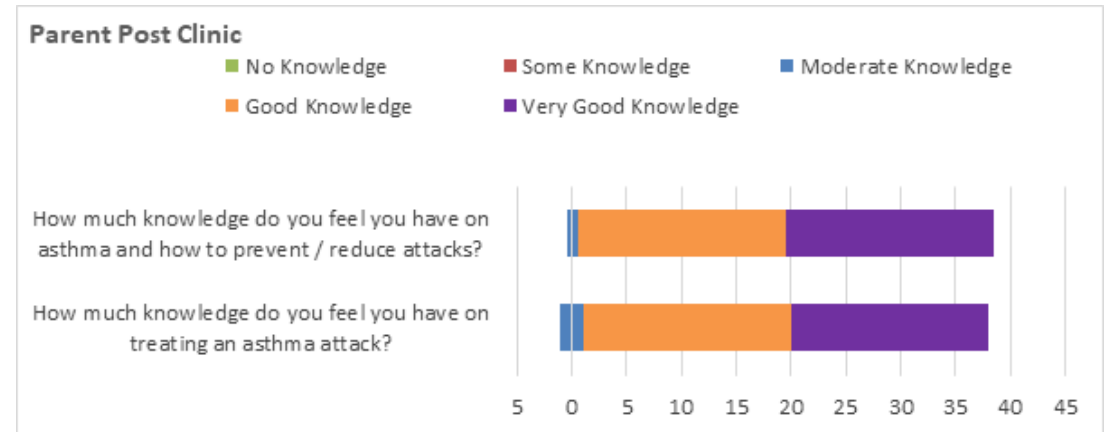
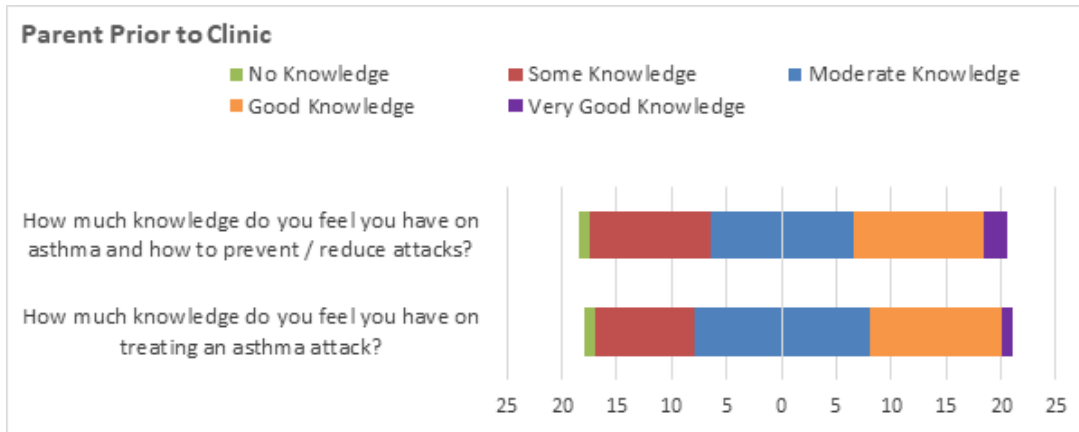
“This has been great as I had a lot of trouble getting an asthma nurse and getting any help when I really needed it. There was a month wait!”

“Myself and my son have both learnt so much today. Its good to do together and learn together. So helpful and I haven't had all explained before like this. Very happy”

“My child used to refuse to use their spacer, but now they know why, they use it”



Parental knowledge improvement



Pollution and Asthma Ella Roberta.

https://youtu.be/Vc16Lf_9hTQ



Air pollution:

What is particulate matter?

Particulate matter is a complex mixture of solids and liquids, including carbon, complex organic chemicals, sulphates, nitrates, mineral dust, and water suspended in the air. Concentrations across the UK are much higher than the levels the World Health Organization considers safe.

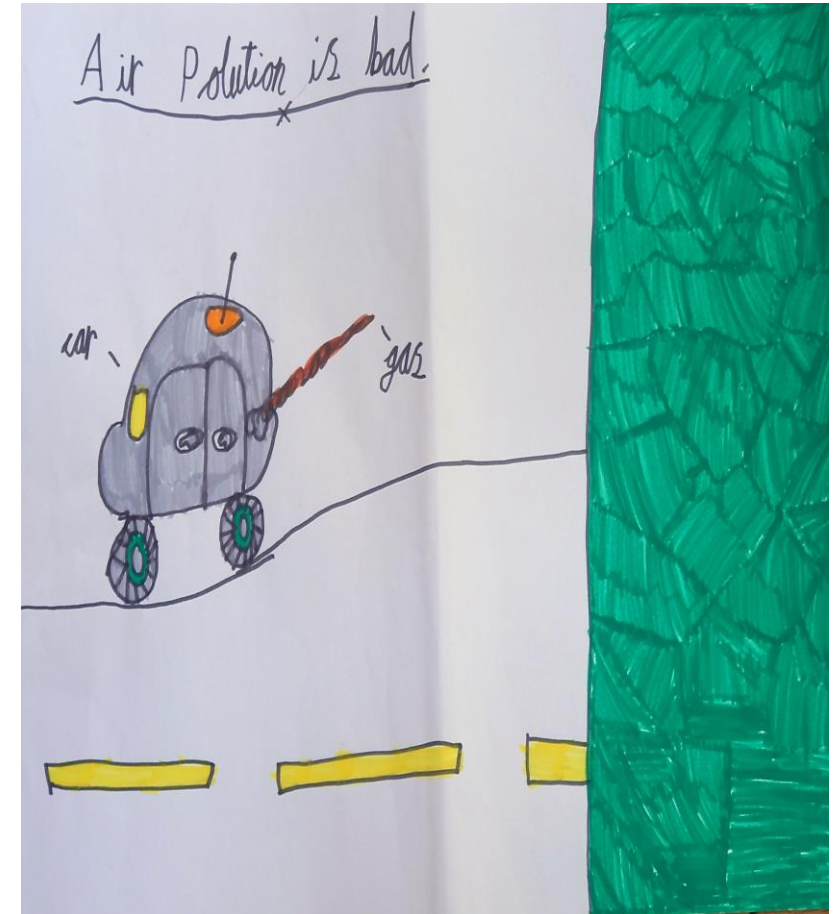
What is nitrogen dioxide?

Nitrogen dioxide (NO₂) is a poisonous gas. Since 2010, the UK has exceeded EU annual legal limits for nitrogen dioxide. The latest statistics show that 86% of areas measured have levels above the legal limit.



Teaching Resources:

- Clean Air Detectives - Workshop presentation. <https://www.transform-our-world.org/campaigns/clean-air-for-schools-resources>
- Transform Our World: Clean Air Campaign Resources
- <https://www.transform-our-world.org/campaigns/clean-air-for-schools-resources/clean-air-campaign-resources>
- <https://youtu.be/JqLrEh8ZYbA>
- <https://youtu.be/3qSrJhxrVAQ>
- https://youtu.be/K_SqROWIZsE?t=181
- Greenpeace:
- <https://www.eco-schools.org.uk/wp-content/uploads/2016/11/Air-Pollution-Teachers-Pack.pdf>






Clean Air Detectives

Clean Air Detectives

Traffic?

Guilty?  Not guilty?

Clean Air Detectives

But the air carries some tiny tiny particles

Ultrafine Particulate Matter (PM2.5) is 40 times smaller than a grain of sand!!



Clean Air Detectives


Broadcast to the world

Right detectives, you're going to design a poster to tell the rest of your school about the crime of air pollution and how they can help stop it!




Clean Air Detectives

Airplanes?

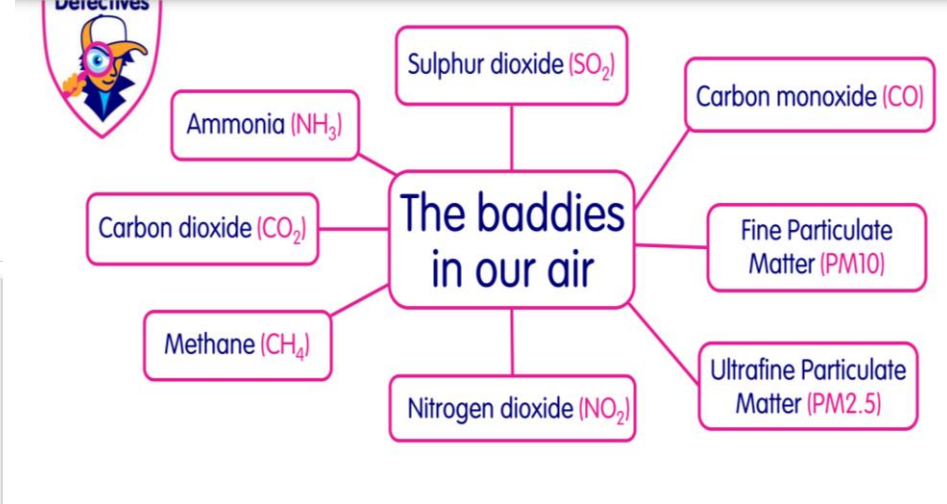
Guilty?  Not guilty?

Clean Air Detectives

Why is this so bad?



These particles are bad for our lungs and airways



Guidelines for Schools on Internal /External Air Pollution.

Be aware of air quality in your school or college

Internal air quality

- [DfE guidelines on internal air quality in schools](#) give information on relevant health and safety legislation, and when internal air filtration systems may be appropriate.

- Tackling Air Pollution in School (TAPAS) <https://tapasnetwork.co.uk/>

New buildings and developments

- [NICE guidelines on external air pollution](#) recommend buildings are built away from busy roads and schools are built in areas where air pollution is low.

- [The Institute of Air Quality Management](#) recommends that school buildings are built 100 metres from roads to reduce exposure to air pollution.





Clean Air for Schools Framework <https://www.transform-our-world.org/tools/clean-air-for-schools-framework>

SAMHE <https://samhe.org.uk/>

(Schools' Air quality Monitoring for Health and Education)

- Supported by the Department for Education
- Help to understand indoor air quality in UK schools.
- **poor air quality can have impacts on pupils' concentration levels and their health**, affecting both attendance and attainment
- gives pupils the opportunity to be citizen scientists and do hands-on experiments with their monitors.

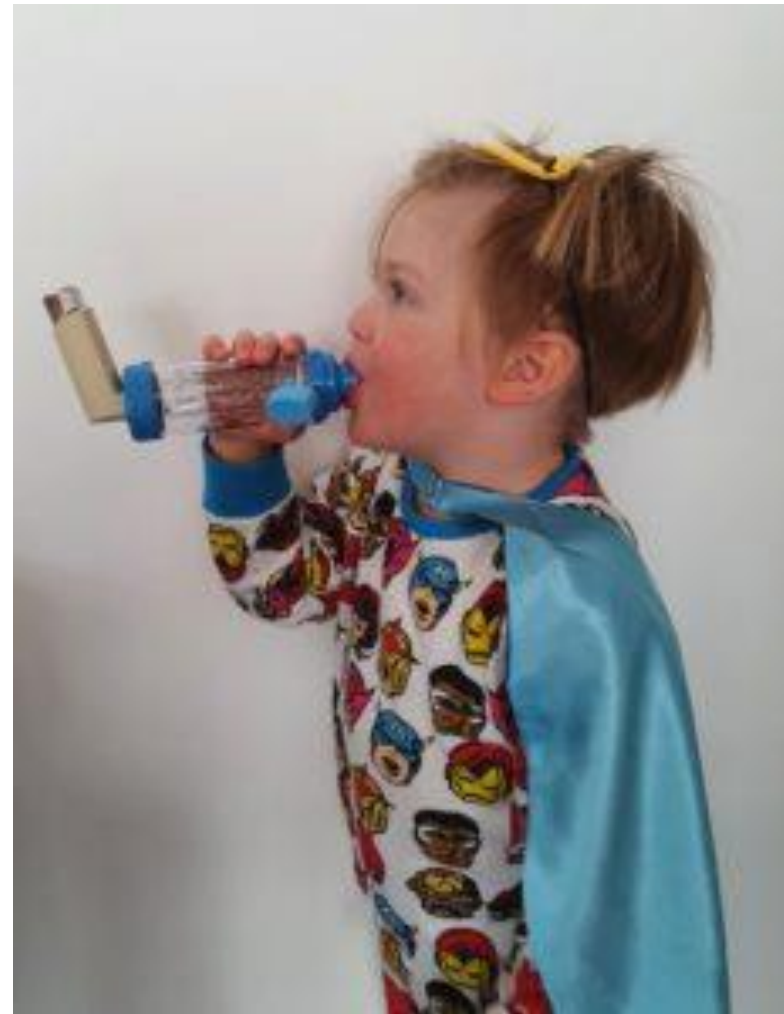
- Create your own bespoke clean air plan by choosing from the recommended air pollution tackling actions and using the suggested advice and resources to help your school become a clean air school.
- 1) Reduce air pollution from your own operations.
- 2) Tackle air pollution at the school gate, including the school run next generation to help them and their families make cleaner air choices.
- 3) Educate the next generation to help them and their families make cleaner air choices.
- 4) Become a local leader on air pollution, working with local partners to improve air quality in the local area.



What's wrong with this picture?



Use a spacer and good inhaler technique

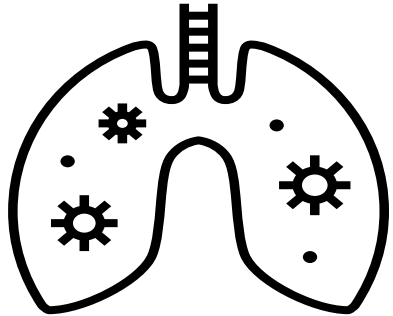
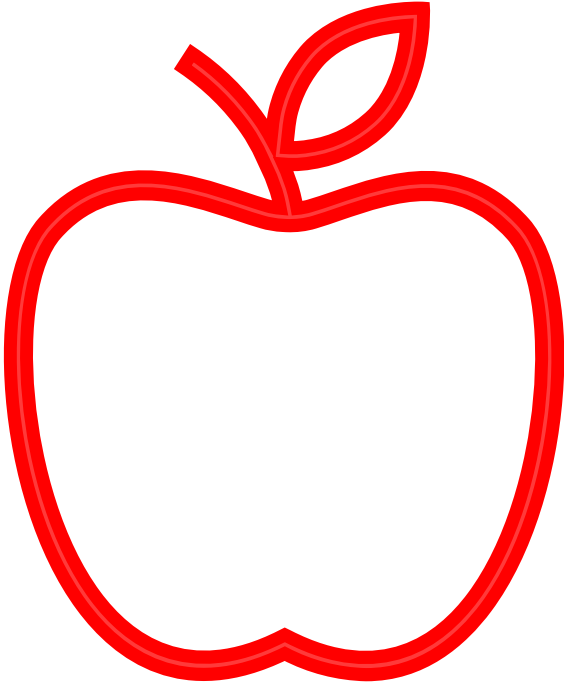


In summary.....

https://youtu.be/pfaG_Rz5CwQ



Thank you for all your support





Watch this space.....

**Asthma Friendly Schools
Accreditation**



Secondary School Asthma Action Plan (use in conjunction with pupil's personal asthma plan)

Do I have signs of : wheeze, shortness of breath, coughing, or saying my chest hurts ?
 Stay with me and call for help. Give me 5-10 puffs of my "rescue (blue) inhaler with my spacer using guidance in orange box

How ?

Keep calm and reassure me. Sit me up and lean me slightly forward.
 Shake my blue rescue inhaler, remove the cap, and place in my spacer.
 I need to place the mouth piece of the spacer between my teeth and lips to make a good seal.
 I need to spray one puff and then take 5 breaths.
 I will repeat the above steps for each puff of the rescue (blue) inhaler (I may need help with this)
 If I feel better but this has happened a few times (including at home) I need to see my GP



If my rescue (blue) inhaler has had little or no effect
 I am struggling to talk in complete sentences, I am coughing and wheezing a lot more, I am breathing hard and fast,
 I may go very quiet, my nostrils may flare:
 Give me up to 10 puffs of the rescue (blue inhaler) with my spacer using the guidance in the orange box above.
 You do not have to give the full 10 puffs before you ring 999 if you worried

Call 999

Call 999 for an ambulance if there is little or no improvement and you are worried.
 OR.....If I am exhausted, if I am going blue, if I have collapsed.
 Call my parent/carer. Continue to give me 10 puffs every 15 minutes until ambulance arrives or symptoms improve

If I'm feeling better (my symptoms have resolved) inform my parent/carer, advise I need to see my GP for an asthma review



Junior School Asthma Action Plan (use in conjunction with pupil's personal asthma action plan)

Do I have signs of : wheeze, shortness of breath, coughing, or saying my chest ("tummy") hurts ?
 Stay with me and call for help. Give me 2-4 puffs of my "rescue (blue) inhaler with my spacer using guidance in orange box

How ?

Keep calm and reassure me. Sit me up
 Shake my blue rescue inhaler, remove the cap, and place in my spacer.
 I need to place the mouth piece of the spacer between my teeth and lips to make a good seal.
 I need to spray one puff and then take 10 breaths.
 I will repeat the above steps for each puff of the rescue (blue) inhaler (I may need help with this)
 If I feel better but this has happened a few times (including at home) I need to see my GP



If my rescue (blue) inhaler has had little or no effect
 I am struggling to talk in complete sentences, I am coughing and wheezing a lot more, I am breathing hard and fast,
 I may go very quiet, my nostrils may flare:
 Give me up to 10 puffs of the rescue (blue inhaler) with my spacer using the guidance in the orange box above.
 You do not have to give the full 10 puffs before you ring 999 if you worried

Call 999

Call 999 for an ambulance if there is little or no improvement and you are worried.
 OR.....If I am exhausted, if I am going blue, if I have collapsed.
 Call my parent/carer. Continue to give me 10 puffs every 15 minutes until ambulance arrives or symptoms improve

If I'm feeling better (my symptoms have resolved) inform my parent/carer, advise I need to see my GP for an asthma review

