

Using MART/AIR therapy in CYP with asthma



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Presenters:

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Introduction

- We are:

Surrey Heartlands CYP Asthma Team
'Beating Asthma Together'

Team members are:

Suzanne Bailey – ICS CYP Clinical Respiratory Lead/Senior Specialist CYP Asthma Practitioner – suzanne.bailey5@nhs.net

Specialist CYP Asthma Practitioner – Lisa Cook – lisa.cook40@nhs.net

Project Manager – Vacancy

With support from: Charlotte Arnold and Julia Newman – CYP Long Term Conditions Transformation Leads

Keeping an eye on us and the budget are Fiona Whitaker and Kylie Langridge, and we also have support from Nicola Mundy from Surrey County Council

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What are we going to talk about?

- What are AIR and MART ?
- What do the new NICE/BTS/SIGN guidelines say about asthma treatment in CYP?
- Why NICE recommend AIR and MART
- Which inhaler devices can be used for AIR and MART, and off-label use in CYP
- Which CYP may be suitable for AIR and MART
- Action plans for AIR and MART
- Case studies
- Do patient's need SABAs when using AIR and MART





Anti-inflammatory Reliever Therapy (AIR) and Maintenance and Reliever Therapy (MART)

Preventer and reliever therapy in 1 inhaler = “2 in 1” inhaler

Contains:

ICS low or moderate dose - budesonide (or beclomethasone adults only)

PLUS

Formoterol (rapid onset and long-acting LABA)



AIR anti-inflammatory reliever	MART Maintenance and reliever
Low dose ICS/formoterol	Low and moderate dose ICS/formoterol
Use as needed in response to symptoms (no regular Rx)	Use as twice daily maintenance Rx, and use as needed in response to symptoms
Licensed from 12 years, Limited evidence in CYP < 12 years	Licensed from 12 years, Growing evidence for CYP <12 years
Not recommended in CYP < 12 years	Recommended in CYP from 5 years (off-label use)
No SABA needed as reliever	No SABA needed as reliever



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

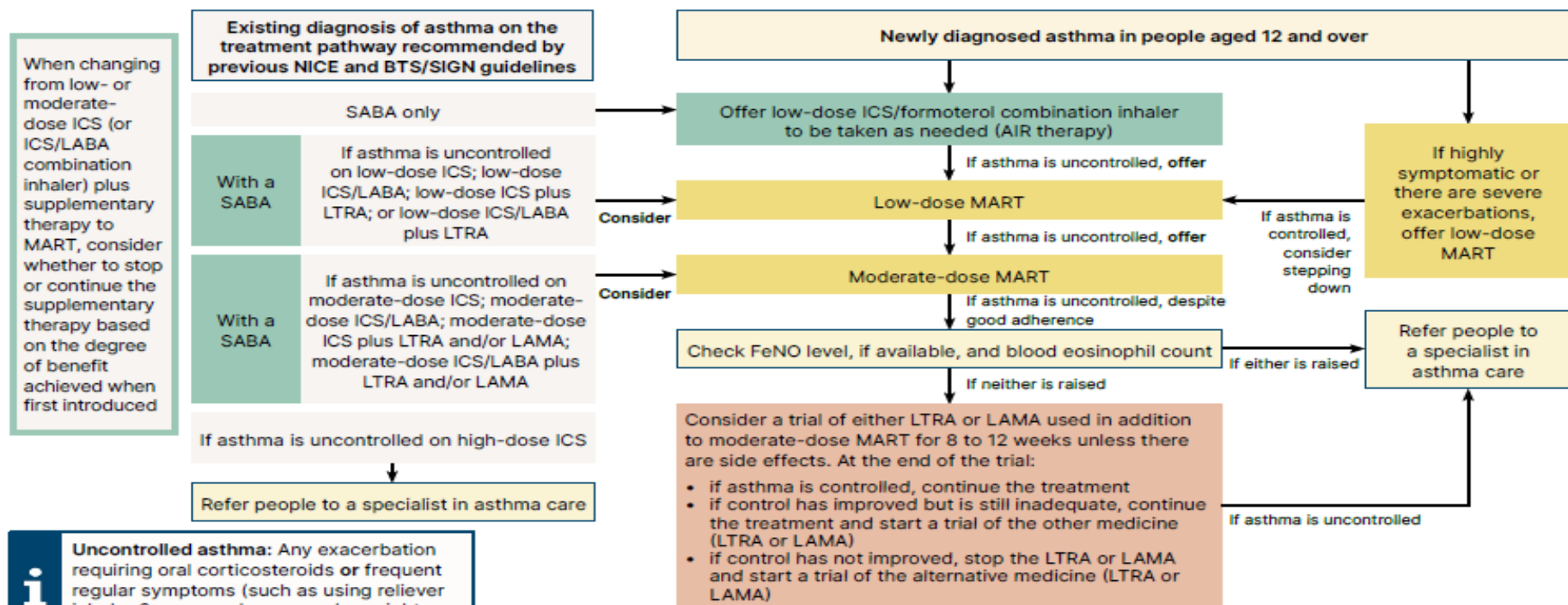
BTS, NICE and SIGN guideline on asthma

Take into account and try to address the possible reasons for uncontrolled asthma before starting or adjusting medicines for asthma.
For example: alternative diagnoses or comorbidities; suboptimal adherence; suboptimal inhaler technique; active or passive smoking (including e-cigarettes); psychosocial factors; seasonal factors; environmental factors (such as air pollution and indoor mould exposure)

Symptom relief

MART

Maintenance therapy



British
Thoracic
Society

NICE

National Institute for
Health and Care Excellence



SIGN

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

BTS, NICE and SIGN guideline on asthma

Take into account and try to address the possible reasons for uncontrolled asthma before starting or adjusting medicines for asthma.
For example: alternative diagnoses or comorbidities; suboptimal adherence; suboptimal inhaler technique; active or passive smoking (including e-cigarettes); psychosocial factors; seasonal factors; environmental factors (such as air pollution and indoor mould exposure)

Symptom relief

MART

Maintenance therapy

Newly diagnosed asthma in children aged 5 to 11 years

Offer twice-daily paediatric low-dose ICS

With a SABA

If asthma is uncontrolled

Assess ability to manage MART regimen

Able to manage MART regimen

Unable to manage MART regimen

Consider paediatric low-dose MART

Consider adding an LTRA to twice daily paediatric low-dose ICS for a trial period of 8 to 12 weeks. Stop if ineffective or side effects

With a SABA

If asthma is uncontrolled

If asthma is uncontrolled

Consider increasing to paediatric moderate-dose MART

Offer twice daily paediatric low-dose ICS/LABA combination (with or without an LTRA)

With a SABA

If asthma is uncontrolled

If asthma is uncontrolled

Refer the child to a specialist in asthma care

Offer twice daily paediatric moderate-dose ICS/LABA combination (with or without an LTRA)

With a SABA

If asthma is uncontrolled

Refer the child to a specialist in asthma care

In November 2024, no asthma inhalers were licensed for MART in children under 12, so use would be off-label

For guidance on dosages for paediatric low-dose ICS, see [inhaled corticosteroid doses for the BTS, NICE and SIGN asthma guideline](#)



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 beta₂ agonist; LTRA, leukotriene receptor antagonist;

MART, maintenance and reliever therapy (using ICS/formoterol combination inhalers); SABA, short-acting beta₂ agonist.



Why do NICE recommend AIR and MART?

AIR in newly diagnosed asthma, ≥ 12 years old

- Fewer severe exacerbations vs ICS + prn SABA, or vs prn SABA
- ICS containing Rx always had better outcomes than prn SABA regimen (see below)
- Health economic data found AIR Rx cheaper than ICS + prn SABA

Outcomes
are better!

MART in ≥ 12 years old

- Fewer exacerbations, fewer hospital admissions and less reliever Rx vs ICS/LABA + prn SABA

MART in 5 to 11 years old

- Fewer exacerbations, reduced need for reliever Rx and fewer side effects vs ICS + prn SABA or vs ICS/LABA + prn SABA
- Currently one key study in CYP age 4 to 11 years, mean age 8 yrs old
- Further RCTs are ongoing

Recommendation 1.6.3:

Do not prescribe SABA alone to any patient of any age with asthma without an ICS





Devices used in AIR/MART for CYP ≥ 12 yrs

- ✓ Low carbon inhalers
- ✓ Have dose counter
- ✓ DPIs require no co-ordination of breathing




	DuoResp Spiromax 160/4.5	Fobumix Easyhaler 160/4.5	Symbicort Turbohaler 200/6	WockAIR (Forspiro) 160/4.5
				
Maintenance dose (Adult Low dose MART)	1 puff twice a day Or 2 puffs daily	1 puff twice a day Or 2 puffs daily	1 puff twice a day Or 2 puffs daily	1 puff twice a day Or 2 puffs daily
Maintenance dose (Adult Moderate dose MART)	2 puffs twice a day	2 puffs twice a day	2 puffs twice a day	2 puffs twice a day
Reliever dose	1 puff as needed	1 puff as needed	1 puff as needed	1 puff as needed
	Maximum 6 puffs on a single occasion. Total maximum number of puffs per day is 8 Can use up to 12 puffs per day for short time when unwell			
AIR dose	1 puff as needed	1 puff as needed	1 puff as needed	1 puff as needed
	Maximum 6 puffs on a single occasion. If needed up to 8 puffs per day. Can use up to 12 puffs per day for short time when unwell			



Devices used in MART for CYP 5 to 11 yrs

*Inhalers licensed from age 6 years for maintenance Rx, but not licensed for MART in <12 years

** Symbicort pMDI licensed for > 12 years only (maintenance and MART)

	Fobumix Easyhaler* 80/4.5	Symbicort Turbohaler* 100/6	Symbicort pMDI** 100/3
			
Paediatric Low dose MART	1 puff twice a day Or 2 puffs daily	1 puff twice a day Or 2 puffs daily	1 puff twice a day Or 2 puffs daily
Paediatric Moderate dose MART	Up to 2 puffs twice a day	Up to 2 puffs twice a day	Up to 2 puffs twice a day
Reliever dose	1 puff as needed Maximum 6 puffs on a single occasion. Total maximum number of puffs per day is 8	1 puff as needed	2 puffs as needed Maximum 8 puffs on a single occasion. Total maximum number of puffs per day is 16





Using inhalers off-label in CYP

- Only inhalers that are licensed are being recommended in CYP
 - A licensed medicine meets acceptable standards of efficacy, safety, and quality
- Prescribing is in the patient's best interests
 - NICE are recommending off-label use when there is enough evidence or experience to support the recommendation
 - This situation is common in paediatrics
- Healthcare professionals should follow relevant professional guidance. They should take full responsibility for the decision when prescribing or advising the use of off-label medicine
 - Understand the risks (off-label use of inhalers in CYP with good evidence is low risk)
- Provide information to the patient about off-label use
 - Where current practice supports the use of a medicine outside the terms of its licence, it may not be necessary to draw attention to the licence when seeking consent. However, it is good practice to give as much information as patients or carers require or which they may see as relevant

References:

Drug Safety Update; MHRA: Volume 2 Issue 9 April 2009 [Off-label or unlicensed use of medicines: prescribers' responsibilities - GOV.UK](#)
NICE [Making decisions using NICE guidelines](#) | [NICE guidelines](#) | [NICE guidance](#) | [Our programmes](#) | [What we do](#) | [About](#) | [NICE](#)





Which patients to consider for MART?

Confirmed or highly suspicious of asthma diagnosis

Poor adherence/forgetfulness

Can recognise symptoms and act on them

Confusion over reliever and preventer inhalers

Poor inhaler technique, DPI easier to use - doesn't need a spacer

Frequent asthma attacks/uncontrolled asthma

Seasonal symptoms- stepping up and down treatment as needed

Overuse/over ordering of SABA inhalers



Which patients may not be suitable for MART ?

Patient is unable to recognise symptoms

Don't have the capacity to use it when needed, and need someone else to make that decision

Unable to understand the plan e.g. language, disability

Unsure of diagnosis

Struggles to use a DPI i.e. Insufficient respiratory flow, unable to handle, load and prime device





Consider before starting MART

- Age - 12+, though can be considered in a younger age group
- Device- check inhaler technique, can they manage a DPI? Very different if they have previously only ever had an MDI and spacer
- Check their understanding, do they know what to do during an asthma attack
- Provide an asthma action plan for school, will schools need to know what to do if they have an asthma attack





AIR Asthma action plan- age ≥ 12 years

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.

My asthma triggers

My triggers and what I do to manage them

For example: Hay fever – I take antihistamines; pollen – 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 for surgery who to call when they are closed)

Name:

Phone number:

Created 2016, next review 2027

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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 whenever 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: 0800 223 8600 (Mon-Fri, 9am-5pm)
Join one of our online or in-person support groups: [AsthmaAndLung.org.uk/groups-support](https://www.asthmaandlung.org.uk/groups-support)
Message our respiratory nurse specialists on WhatsApp: 07999 377 775
Follow us on Facebook, X (formerly known as Twitter), and Instagram for news and tips about your asthma.
Find out more on our website: [AsthmaAndLung.org.uk/air](https://www.asthmaandlung.org.uk/air)



Watch our inhaler videos to learn how to use your AIR inhaler: [AsthmaAndLung.org.uk/inhaler-videos](https://www.asthmaandlung.org.uk/inhaler-videos)

ASTHMA QUESTIONS?

Ask our respiratory nurse specialists: 0800 223 8600. Mon-Fri 9am-5pm. [07999 377 775](https://www.asthmaandlung.org.uk/999) (Monday-Friday, 9am-5pm)

ASTHMA+
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YOUR AIR ASTHMA ACTION PLAN

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

Name and date:

AIR asthma action plan – Asthma + Lung UK
MART asthma action plan – Asthma + Lung UK





12 year old Female



- ACT score 21
- Asthma attacks in the past year- 0
- Takes Seretide 125 MDI one puff twice a day and montelukast 5mg
- Forgets Seretide every other day
- Has symptoms when exercising, especially after PE at school
- Has ordered 10 salbutamol inhalers in the last year, has been previously discussed in annual reviews, in 2022 had ordered 26 in the last year
- Reports needing salbutamol once a week, challenged on ordering of SABA inhalers, mum admits they are probably in “the bag of medicines”
- Started Symbicort Turbohaler 100/6 two puffs bd as MART





11 year old female July 2023



- ACT 13
- Takes Clenil pMDI 50 two puffs twice a day
- Inhaler technique poor, takes two puffs together through the spacer
- Waking 2-3 nights a week with coughing
- Mum gives 4 puffs of SABA before PE, still struggling to breathe and coughing when running
- Uses SABA once a day
- Recent cold, had prednisolone
- Advised to improve inhaler technique, only use SABA prn, montelukast added





Follow up review- August 2023

ACT score
improved to 19
from 13

Side effects from
montelukast,
stopped taking it as
waking at night

Uses SABA twice a
day routinely, takes
an extra dose
before exercising

Struggles with
swimming

Stepped up to
Seretide 50 two
puffs twice a day
through spacer

Advised to only use
SABA prn

Flu vaccine given

Follow up 4 weeks
booked





March 2024- now age 13

Cancelled previous
appt

Went to A & E 4
times in December
2023

Prednisolone

Antibiotics

Switched to MART
plan- Symbicort
Turbohaler 200 one
puff twice a day





April 2024

**Asthma a lot better, no
hospital visits**

**Only needs to use an
extra puff of Symbicort
1-2 times a week when
swimming.**

**No hospital visits this
year**

**Uses nasal spray also
for allergy**

ACT 23





Do we need SABA in CYP on AIR / MART?

- Why do patients over rely on SABA?
 - First inhaler they are given and told to use whenever has symptoms
 - Works (despite inhaler technique - buccal absorption) - especially compared with ICS
 - Rapid onset of action
 - Convenience - one inhaler they can carry round and use at will!
- Over-reliance on SABA can increase airway hyperresponsiveness, reduce bronchoprotection and reduced bronchodilator response
- Formoterol as a reliever reduces risk of exacerbations more than SABA reliever

CYP ≥ 12 years on AIR or MART therapy should not be prescribed a SABA inhaler

CYP age 5 to 11 years on MART therapy - consider providing an additional SABA inhaler plus spacer for **emergency use** who might not be able to activate a DPI during an acute asthma attack





Key messages

NO SABA alone

AIR and MART improves
outcomes in asthma in
CYP ≥ 12 years old

Change to MART
regimen in CYP ≥ 12
years old with
uncontrolled asthma

In CYP 5-11 years
Consider MART if
assessed as able to use
when step up from ICS

MART is off-label in CYP
 ≤ 12 years old

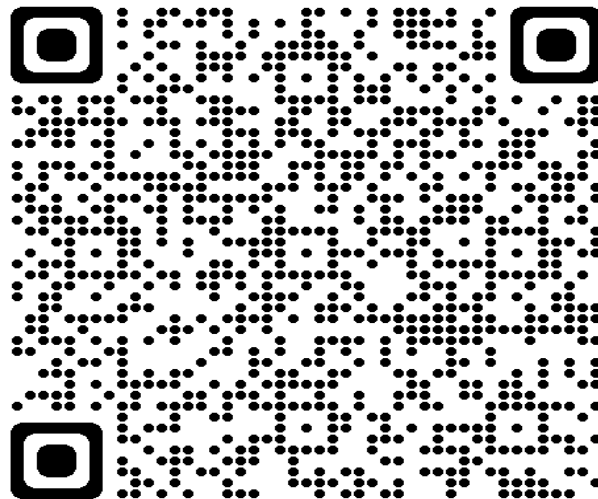
Ensure all patients have
an appropriate PAAP





Children & Young People's Asthma Toolkit

[Children and young people asthma toolkit | Healthy Surrey](#)





Education & Training for all agencies that support CYP with asthma

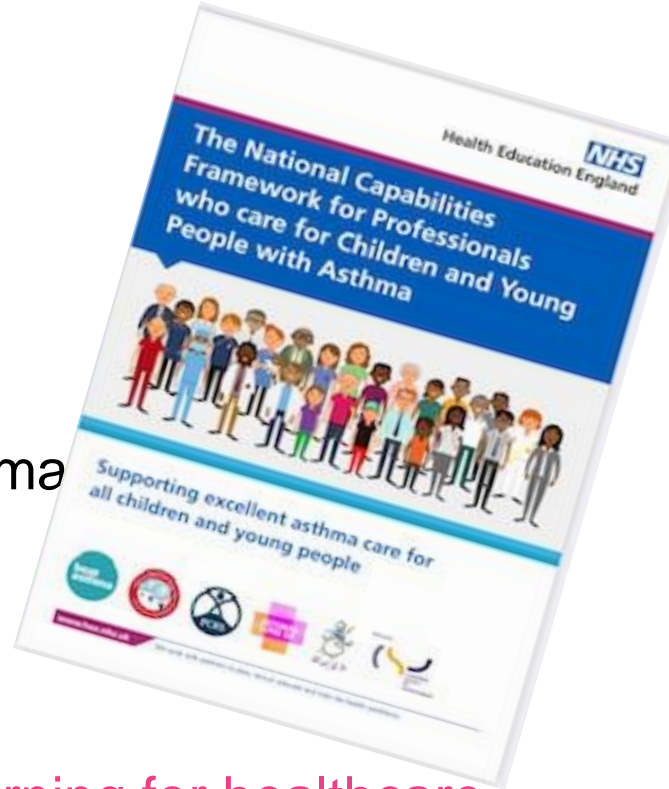
- [Training and education | Healthy Surrey](#)

This link to the toolkit takes you to the page highlighting the new approach to online asthma training.



- [Asthma \(Children and young people\) - elearning for healthcare \(e-lfh.org.uk\)](#)

This link takes you directly to the training page





Questions





Please complete our survey



<https://forms.office.com/e/8xff0U2UiE>

