#AskAboutAsthma primary care webinar

NHS England – London
Babies, Children and Young People's Programme

Housekeeping

Attendees are automatically muted with camera switched off during the webinar.

Use the group chat feature to ask questions and please like any questions that you would like answered.

This session is being recorded. A link will be available after the webinar with the slides.

Agenda

#AskAboutAsthma primary care webinar
Tuesday 10 September 2024 13:00 – 14:00pm
Click here to join the webinar

Topic	Speaker
Chair: Rosi Marsh NCL ICB Start Well (CYP) Clinical Lead for Islington & Children's Asthma Lead for North Central London; GP Partner, Andover Medical Centre	
CYP asthma refresher for primary care: How will the new guidance impact primary care?	**Chris Griffiths** GP; Professor of Primary Care, Centre for Applied Respiratory Research Innovation and Implementation
MART and AIR (as needed) in primary care	**Richard Chavasse** Consultant Respiratory Paediatrician, St George's Hospital
Q & A	**All**

CYP Asthma Refresher for primary care

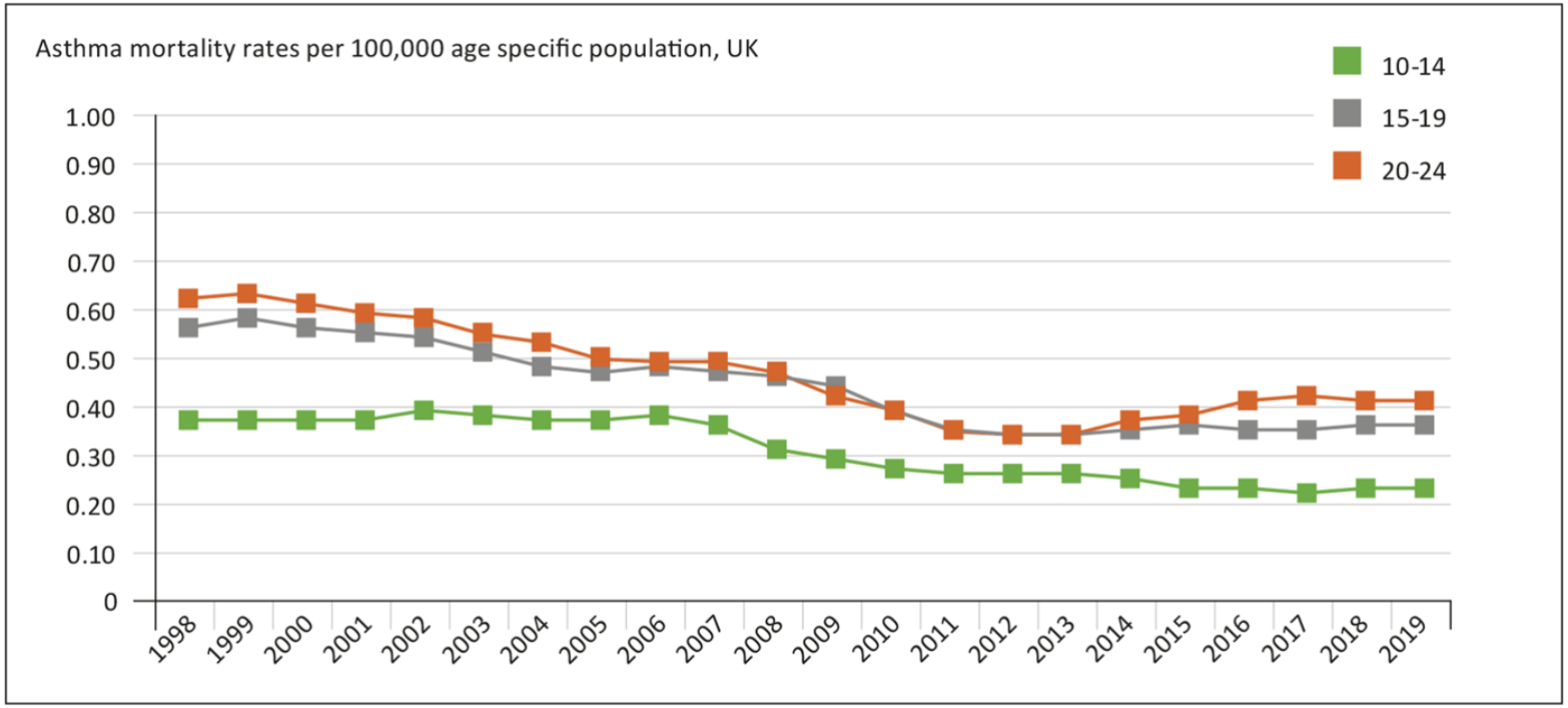
How will the new guidance affect primary care?

Chris Griffths
GP, Professor of Primary Care
Centre for Applied Respiratory Research Innovation and Implementation

OVERVIEW:
Big opportunity to improve outcomes

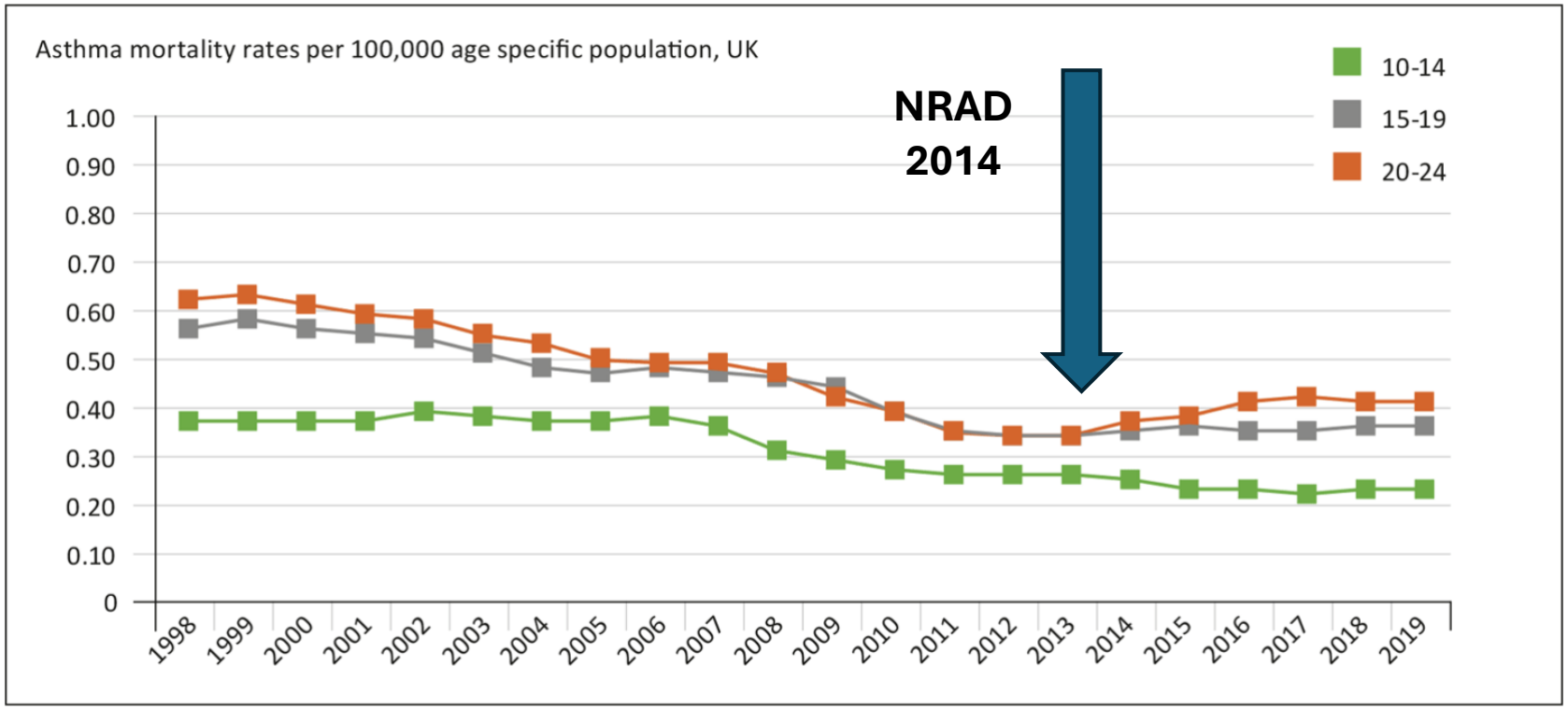
- New draft BTS/NICE/SIGN guidelines
- New diagnosis pathway
- New treatment: switch to MART combination inhalers
- No solo SABA
- Control and asthma reviews
- Emphasis on air pollution

Improvements in death rates have stalled



Source: Global Burden of Disease Study, 2019 (last accessed April 2021)
Note: Rates are based on modelling and will change slightly as new data are added. These estimates are up to date as of April 2021.

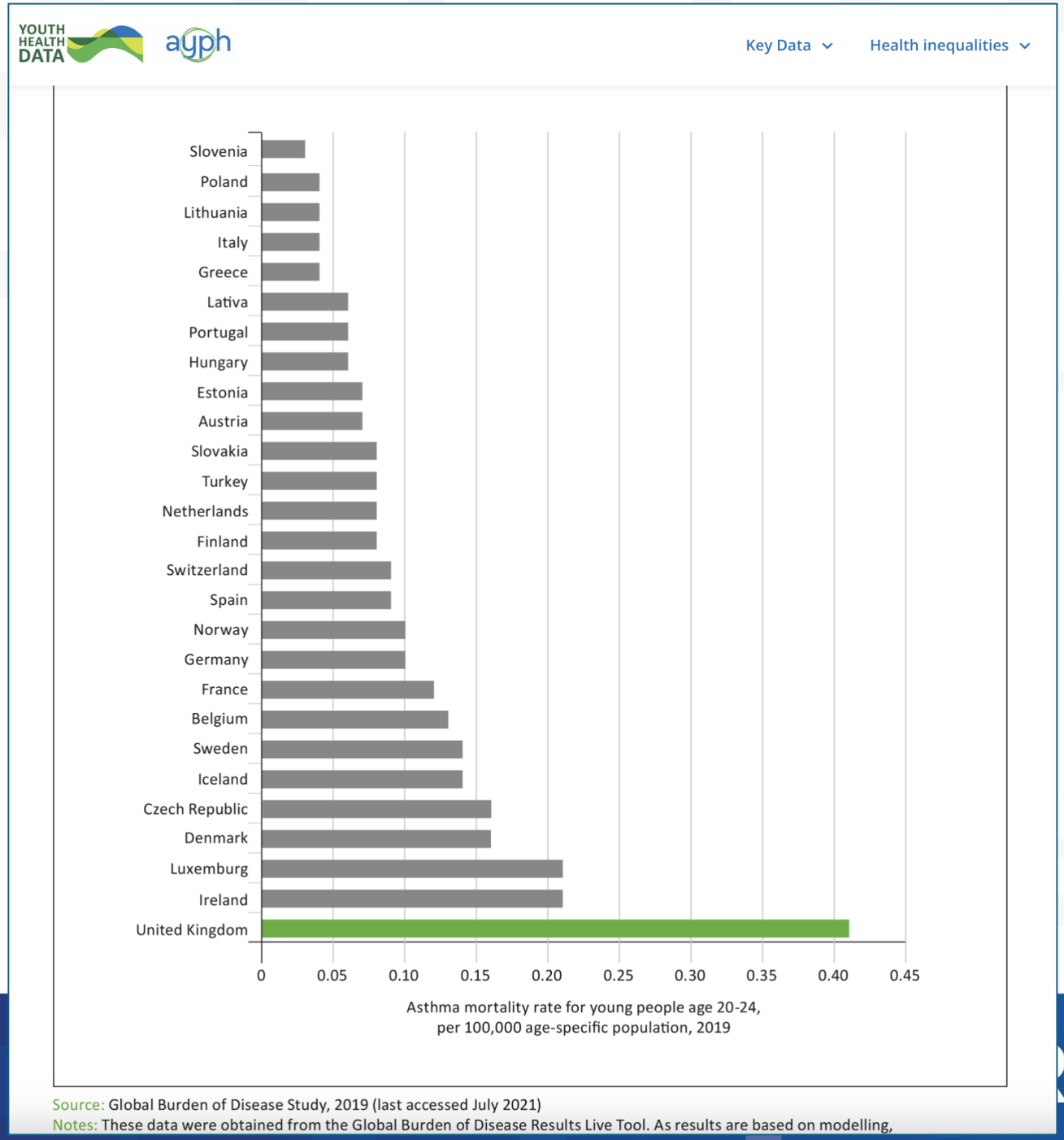
Worse since 2014 national review of asthma deaths



Source: Global Burden of Disease Study, 2019 (last accessed April 2021)

Note: Rates are based on modelling and will change slightly as new data are added. These estimates are up to date as of April 2021.

UK ranks worst for asthma deaths in Europe



Hospital admission rates for asthma for most deprived are twice those of least deprived

Chart 4.11: Hospital admissions for asthma are more than twice as prevalent in the most deprived areas of England, compared with the least deprived

Source: Public Health England Fingertips tool: Hospital Episode Statistics

Air pollution triggers asthma attacks

LEWISHAM NEWS

Rosamund Kissi-Debrah sues Government over daughter's death linked to pollution

ELSEVIER

Urban Climate

Volume 44, July 2022, 101173

Association between short-term NO_x exposure and asthma exacerbations in East London: A time series regression model

Hajar Hajmohammadi [a d], Paul Pfeffer [b], Anna De Simoni [a], James N. Cole [a], Christopher J. Griffiths [a d], Sally A. Hull [a], Benjamin Heydecker [c]

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https://doi.org/10.1016/j.uclim.2022.101173 Get rights and content

Highlights

- Evaluating the effects of air pollution on 33,672 patients registered with asthma for two years
- Using up to 21 days lag for daily NOx concentrations
- Using both roadside and background monitoring stations for air pollution measurements

Diagnosis in adults (ie 17 years and over):

If history and exam support a diagnosis of asthma:

1. Measure FeNO or blood eosinophils: diagnose asthma if >=50 ppb or eosinophils > lab normal range
2. Spirometry: diagnose if bronchodilator reversibility >12% from baseline and >200ml, or 10% of predicted normal
3. Bronchial challenge: diagnose if bronchial hyper-responsiveness present

Diagnosis aged 5-16:

If history and exam support a diagnosis of asthma:

1. Measure FeNO: diagnose asthma if >35 ppb
2. Spirometry: diagnose if bronchodilator reversibility >12% from baseline, or 10% of predicted normal
3. If still suspected: skin prick testing to house dust mite, measure IgE and eosinophils: diagnose if SPT +ve, IgE raised, or eos >0.5x10^9/L
4. Still suspected? Refer to paediatric respiratory specialist

Diagnosis aged under 5:

"No evidence was available for diagnostic tests in children under 5.

The age at which a child can co-operate with tests will vary, but the committee agreed that it is usually necessary to manage these children pragmatically based on symptoms and signs"

Treatment guidance changes - summary

- No solo SABA
- Use MART and AIR ICS-formoterol regimens
- ICS recommended for all age groups both as first line treatment and at all stages of treatment escalation
- Never prescribe LABA without ICS
- Never prescribe theophylline
- Offer climate conscious inhalers

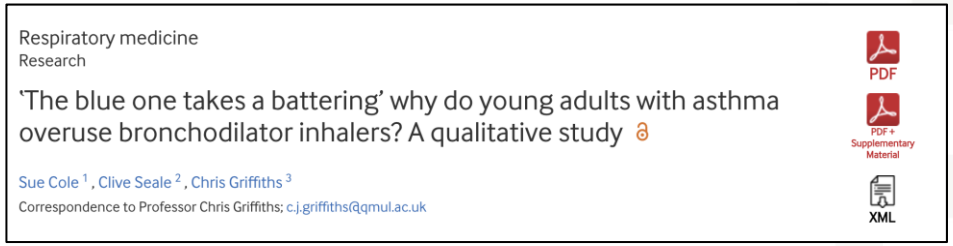
No solo SABA prescribing, because…

- SABA treats symptoms but not the disease
- People with mild asthma can have severe and fatal attacks
- Starting with SABA trains people to rely on SABA, reducing ICS adherence
- ICS-Formoterol (MART and AIR) regimens are more effective
- Regular SABA can increase airway hyper-responsiveness

Young people with asthma overusing SABA inhalers

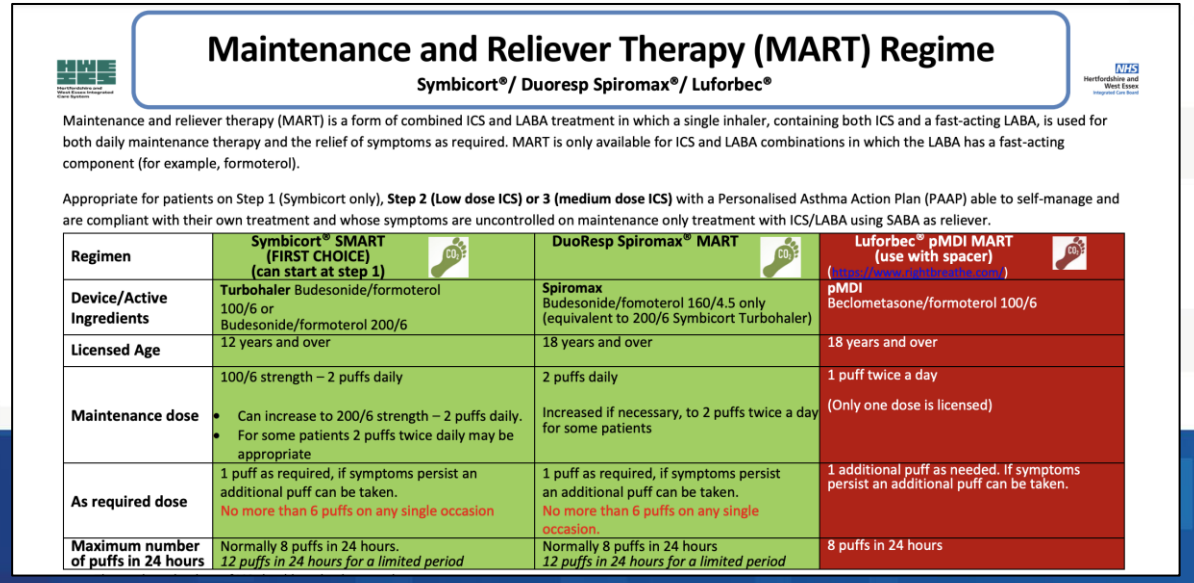
"The blue one takes a battering, it really does *and that's probably not the best way of doing things but its the only way I think….*

……I mean, if it's the only way you can be comfortable, then that's what you've got to do"



ICS-formoterol regimes - MART and AIR

- **Reduce exacerbation and admission rates** – see next presentation
- Use your locally recommended inhaler recommendations
- Offer MART/AIR if poor control on 'old SABA inhaler regimes'



Maintenance and Reliever Therapy (MART) Regime

Symbicort®/ Duoresp Spiromax®/ Luforbec®

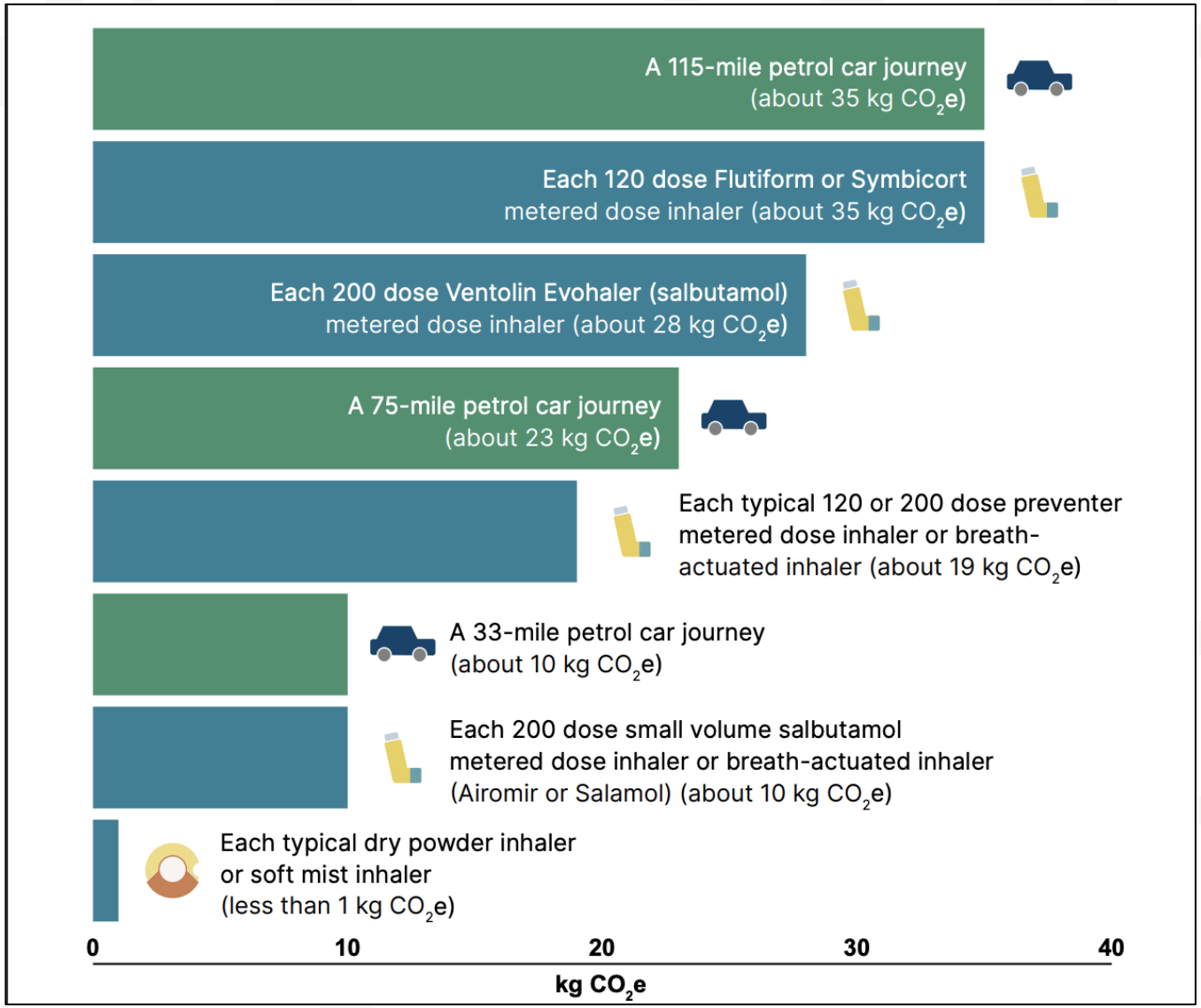
Maintenance and reliever therapy (MART) is a form of combined ICS and LABA treatment in which a single inhaler, containing both ICS and a fast-acting LABA, is used for both daily maintenance therapy and the relief of symptoms as required. MART is only available for ICS and LABA combinations in which the LABA has a fast-acting component (for example, formoterol).

Appropriate for patients on Step 1 (Symbicort only), **Step 2 (Low dose ICS) or 3 (medium dose ICS)** with a Personalised Asthma Action Plan (PAAP) able to self-manage and are compliant with their own treatment and whose symptoms are uncontrolled on maintenance only treatment with ICS/LABA using SABA as reliever.

Regimen	Symbicort® SMART (FIRST CHOICE) (can start at step 1)	DuoResp Spiromax® MART	Luforbec® pMDI MART (use with spacer) (https://www.rightbreathe.com/)
Device/Active Ingredients	**Turbohaler** Budesonide/formoterol 100/6 or Budesonide/formoterol 200/6	**Spiromax** Budesonide/fomoterol 160/4.5 only (equivalent to 200/6 Symbicort Turbohaler)	**pMDI** Beclometasone/formoterol 100/6
Licensed Age	12 years and over	18 years and over	18 years and over
Maintenance dose	100/6 strength – 2 puffs daily • Can increase to 200/6 strength – 2 puffs daily. • For some patients 2 puffs twice daily may be appropriate	2 puffs daily Increased if necessary, to 2 puffs twice a day for some patients	1 puff twice a day (Only one dose is licensed)
As required dose	1 puff as required, if symptoms persist an additional puff can be taken. No more than 6 puffs on any single occasion	1 puff as required, if symptoms persist an additional puff can be taken. No more than 6 puffs on any single occasion.	1 additional puff as needed. If symptoms persist an additional puff can be taken.
Maximum number of puffs in 24 hours	Normally 8 puffs in 24 hours. *12 puffs in 24 hours for a limited period*	Normally 8 puffs in 24 hours *12 puffs in 24 hours for a limited period*	8 puffs in 24 hours

Climate conscious prescribing

- **The best inhaler is the one that works for the patient**
- **See NICE decision aid**



Monitoring asthma - control:

Monitor asthma control at every review, in addition to symptoms, check:

1. Time off work/school, reliever used, OCS courses, smoking/vaping
2. Always check inhaler technique
3. Consider a validated questionnaire: eg Asthma Control Test (Not RCP3)
4. Do not use PEF monitoring
5. Consider FeNO monitoring at regular review and treatment change

Rapid review after every exacerbation / admission

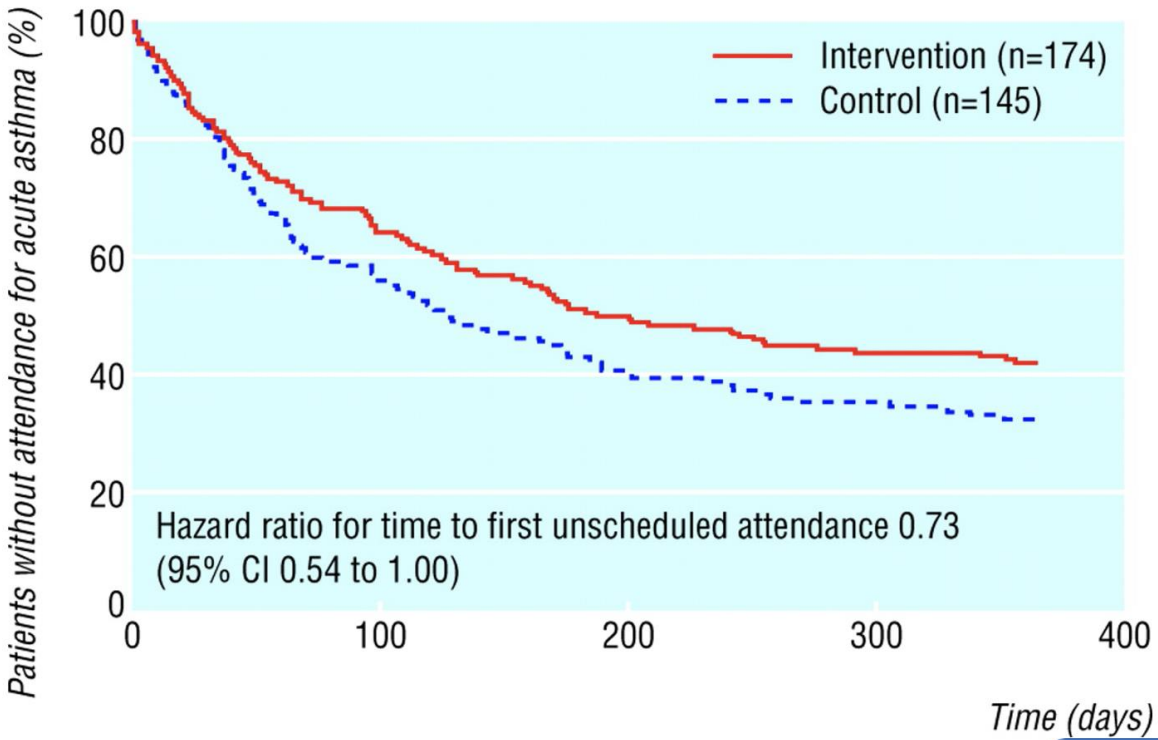
Follow up review – what went wrong? What to change?

1. Time off work/school, reliever used, OCS courses, smoking
2. Always check inhaler technique and review/give action plan
3. Consider validated questionnaire: eg Asthma Control Test (Not RCP3)
4. Do not use PEF monitoring
5. Consider FeNO monitoring at regular review and treatment change
6. Flag patients at high-risk

Rapid review after asthma attack, with specialist nurse, reduces risk of further attack

ELECTRA study

Time to first unscheduled attendance with acute asthma after intervention for all participants (number of participants without reattendance at 365 days was 73 for intervention and 47 for control).



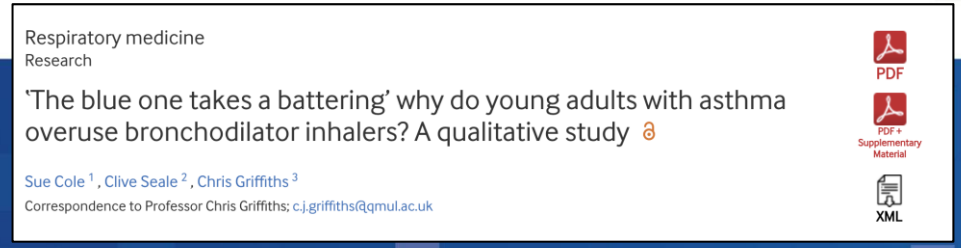
Chris Griffiths et al. BMJ 2004;328:144

thebmj

Quality of life
Asthma blights the lives and dreams of young people

"it actually changed my life completely.. …because I wanted to be a marine biologist and study sharks, a PhD in sharks. I was diving but I couldn't use the tanks
What did you do?
Nothing, I did computer work, very uneventful…

"I would have gone into the army if I had not had it….Really would have done and there's lots of things I'd like to have done…at the back of my mind I think…I've got asthma, I can't.


Respiratory medicine
Research

'The blue one takes a battering' why do young adults with asthma overuse bronchodilator inhalers? A qualitative study

Sue Cole [1], Clive Seale [2], Chris Griffiths [3]

Correspondence to Professor Chris Griffiths; c.j.griffiths@qmul.ac.uk

PDF

PDF + Supplementary Material

XML

Summary

- MART and AIR – a big opportunity to reduce attacks and improve control
- No solo SABA
- New tests supporting diagnosis
- Air pollution triggers asthma attacks - ask
- Rapid review after attacks
- Offer climate conscious inhalers

MART and AIR (as needed) in primary care

RICHARD CHAVASSE

CONSULTANT RESPIRATORY PAEDIATRICIAN

ST GEORGE'S HOSPITAL, LONDON

Definitions

- Reliever / Rescue
  - Treatment used for symptom relief or before exercise / allergen exposure
- Maintenance / Controller / Preventer
  - Usually a regular treatment to reduce underlying inflammation to reduce risk of attacks and improve symptom control.
  - Typically an ICS containing medication
  - May include additional treatments (LTRA, biologics)

AIR (Anti-inflammatory Reliever Therapy)

- Use of a combination inhaler containing an Inhaled Corticosteroid (ICS) and Fast-Onset reliever (Formoterol) in place of a single agent Short Acting Bronchodilator (SABA) for the acute rescue / relief of asthma symptoms.
- Either
  - As required – stand-alone therapy
  - As part of MART

MART (Maintenance and Reliever Therapy)

- Use of a combination inhaler containing ICS and Formoterol for both regular preventer / controller doses AND acute rescue / reliever doses as required.

- Morning and evening preventer doses.
- As required interval doses with symptoms.

Why?

- SABA treats acute symptoms and not the underlying disease
- Regular use SABA
  - Overuse associated with increased AHR, eosinophilia and reduced bronchodilator effect with B-receptor downregulation.
  - Overuse SABA associated with increased exacerbations
- Encourages over-reliance on short term hit (reduced adherence with preventer)
- Many with apparent mild asthma can have severe / fatal exacerbations.

Then and Now

- ~~Salbutamol (SABA) as required~~

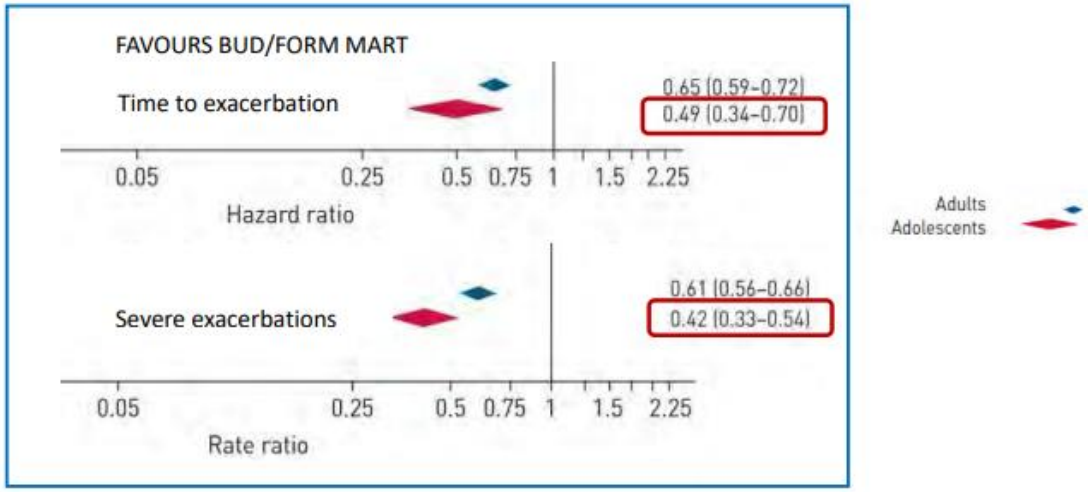
- ~~Preventer Inhaler (ICS or ICS/LABA) 2 x per day~~
  ~~+~~
  ~~Salbutamol (SABA) as required~~

- ICS / Formoterol combination as required
  or
  Separate low dose ICS taken each time SABA taken.

- ICS / Formoterol combination
  Preventer – twice daily
  Rescue – as required (see regime)

Evidence: 12yrs +

MART

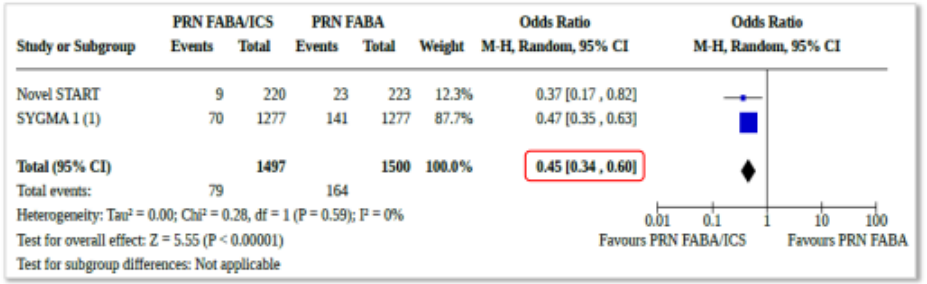


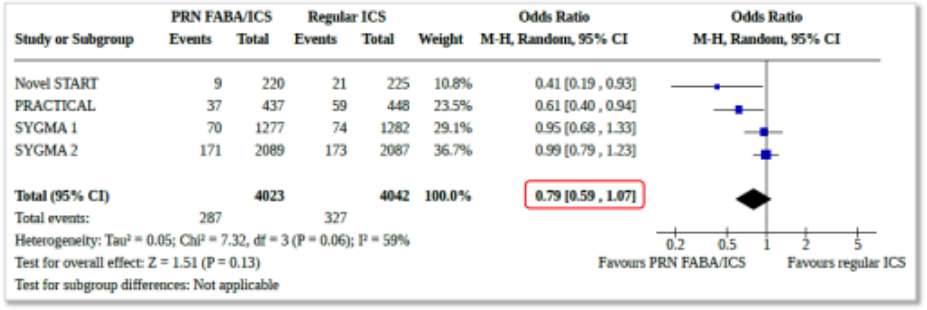
Adults
Adolescents

Post hoc analysis of six double blind RCTs (BUD/FORM MART)

Jorup, Eur Respir J 2018:51:1701688

AIR





Crossingham – Cochrane 2021

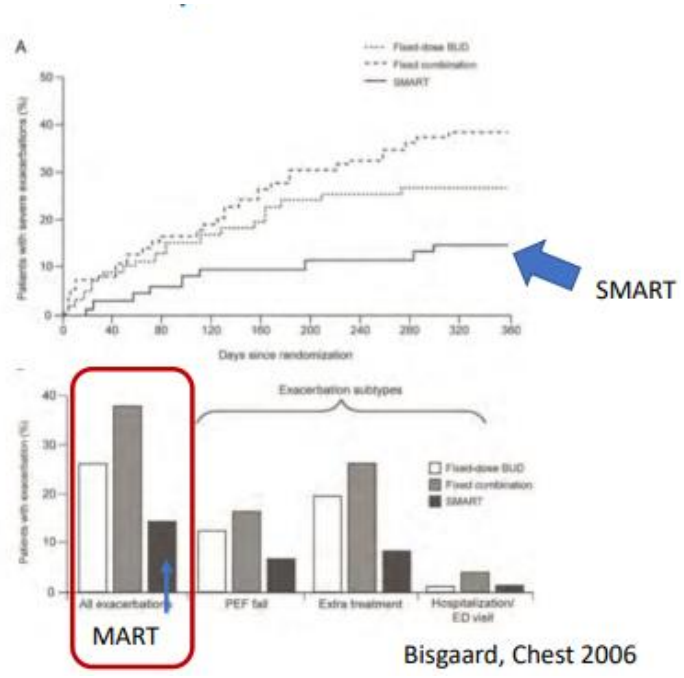
Evidence: 6-11 years

MART

- 12 month double blind RCT
- 341 children aged 4 -11 years randomised to:

1. SMART: Budesonide/formoterol 80/4.5mcg once daily maintenance plus additional doses for symptom relief
2. Fixed combination: 80/4.5mcg once daily
3. Fixed dose budesonide: 320mcg BUD once daily

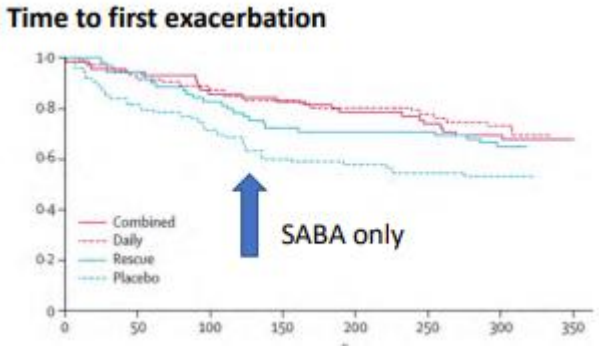
- Reduction in exacerbations by 70 - 79% compared to ICS and ICS-formoterol



Bisgaard, Chest 2006

AIR

- No evidence for ICS / LABA
- TREXA
  - Martinez 2011
- BDP



GINA 2023 – Children 6–11 years

Personalized asthma management:
Assess, Adjust, Review

Confirmation of diagnosis if necessary
Symptom control & modifiable risk factors (see Box 2-2)
Comorbidities
Inhaler technique & adherence
Child and parent/caregiver preferences and goals

Symptoms
Exacerbations
Side-effects
Lung function
Comorbidities
Child (and parent/ caregiver) satisfaction

Treatment of modifiable risk factors & comorbidities
Non-pharmacological strategies
Asthma medications (adjust down or up)
Education & skills training

Asthma medication options:
Adjust treatment up and down for individual child's needs

	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
PREFERRED CONTROLLER to prevent exacerbations and control symptoms	Low dose ICS taken whenever SABA taken*	Daily low dose inhaled corticosteroid (ICS) (see table of ICS dose ranges for children)	Low dose ICS-LABA, OR medium dose ICS, OR very low dose ICS-formoterol maintenance and reliever (MART)	Medium dose ICS-LABA, OR low dose ICS-formoterol maintenance and reliever therapy (MART). Refer for expert advice	Refer for phenotypic assessment ± higher dose ICS-LABA or add-on therapy, e.g. anti-IgE, anti-IL4Rα, anti-IL5
Other controller options (limited indications, or less evidence for efficacy or safety)	*Consider daily low dose ICS*	*Daily leukotriene receptor antagonist (LTRA), or low dose ICS taken whenever SABA taken**	*Low dose ICS + LTRA*	*Add tiotropium or add LTRA*	*As last resort, consider add-on low dose OCS, but consider side-effects*
RELIEVER	As-needed SABA (or ICS-formoterol reliever* in MART in Steps 3 and 4)				

*Anti-inflammatory relievers (AIR)

Box 3-13

Which combination inhalers

- Symbicort Turbohaler – Budesonide / Formoterol (100/6, 200/6)
- Symbicort pMDI – Budesonide / Formoterol (100/3)
- Fostair pMDI / Nexthaler – Beclomethasone / Formoterol (100/6, 200/6)
- Wockair – Budesonide / Formoterol (160/4.5)

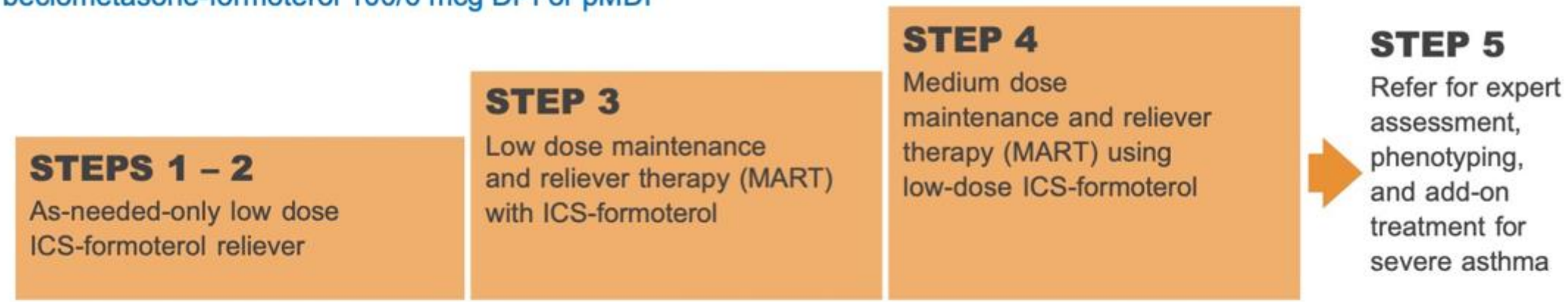
Licenced >18 years

- DuoResp Spiromax – Budesonide / Formoterol (160/4.5)
- Luforbec pMDI – Beclomethasone / Formoterol (100/6, 200/6)
- Fobumix Easihaler – Budesonide / Formoterol (160/4.5)

TRACK 1, Steps 1–4: PREFERRED CONTROLLER and RELIEVER for adults and adolescents.

Using ICS-formoterol as an anti-inflammatory reliever (AIR), with or without maintenance ICS-formoterol, reduces the risk of exacerbations compared with using a SABA reliever, and is a simpler regimen, with a single medication across treatment steps.

For budesonide-formoterol 200/6 mcg [160/4.5] DPI or pMDI*, or beclometasone-formoterol 100/6 mcg DPI or pMDI



One inhaler, use as needed

Same inhaler, take 1 inhalation once or twice daily and 1 as needed

Same inhaler, take 2 inhalations twice daily and 1 as needed

*In some countries, a budesonide-formoterol pMDI with 100/3 [80/2.25] mcg per actuation is available for AIR-only or MART. For this pMDI, the recommended number of inhalations is double those shown above above.

Typical Regimes

MART

- 1 (or 2) puffs twice daily - Preventer

- If symptomatic (Rescue)
  - Take one additional puff
  - Repeat if needed after 1-3 minutes
  - Maximum 6 puffs in one dose
  - Maximum 12 puffs in 24 hours including preventer
  - Maximum 8 puffs in 24 hours for children 6-11

URGENT Assessment Required

ASTHMA+ LUNG UK

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.

Summary

- Understanding of AIR / MART
- When to use and why
- How to use & what to advise
- Limitations in 6-11 (at present)