CYP Asthma Treatment Algorithm		
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NHS
Nottinghamshire Area Prescribing Committee

Children and Young People (5 to 17 years) Asthma Treatment Algorithm

At every step: Assess symptoms. Check and optimise inhaler technique and adherence. Make non-drug interventions before stepping up. Review after 4-8 weeks. Adjust therapy by moving up and down the algorithm as appropriate. Wait > 3 months before step down. Use Asthma Self-Management Plan.

Step 1. Regular Inhaled Corticosteroid Steroid (ICS) + Short Acting Beta-agonist (SABA)

MDIs require a spacer – prescribe Areochamber plus Vu flow. Consider DPI from 8 years.

Using SABA more than twice week indicates poor asthma control.

	5-11 years	12-17 years
DPI	**Budesonide 100 Easyhaler 1 dose twice a day**	**Budesonide 100 Easyhaler 1-2 doses twice a day**
pMDI	**Clenil 50 1-2 doses twice a day**	**Clenil 100 1-2 doses twice a day**
Breath actuated MDI	**Qvar 50 Easi-breathe 1 dose twice a day**	**Qvar 50 Easi-breathe 1-2 doses twice a day**

+

	5-17 years
DPI	**Salbutamol 100 Easyhaler 1-2 doses PRN**
MDI	**Salamol 100 Inhaler 1-2 doses PRN**
Breath actuated MDI	**Salamol 100 Easi-breathe 1-2 doses PRN**

A very limited number of patients with occasional mild symptoms less than TWICE a MONTH may be prescribed a SABA alone. **This is no longer standard treatment.** GINA recommends using PRN ICS at the same time as SABA. **Needing >2 SABA inhalers in 12 months indicates poor control.**

Step 2. Combined ICS and Long-Acting Beta Agonist (LABA) + SABA

Initial treatment doses combined ICS and LABA. Dose should be initiated appropriate to the severity of the disease.

pMDIs require a spacer – Areochamber plus Vu flow.

	5 – 11 years	12 – 17 years
DPI	**Symbicort 100/6 Turbohaler 1-2 doses BD**	**Symbicort 100/6 Turbohaler 1-2 doses BD**
MART APC guide	Off label <12 but included in NICE NG80. **Symbicort 100/6 Turbohaler 1-2 doses BD and PRN** (to a max 8 doses in 24 hours). **Flutiform 50 MDI 1-2 doses BD and PRN** (to a max of 8 doses in 24 hours) Use reliever inhaler as per self-management plan. Seek medical advice if using high dose for more than 3 days.	**Symbicort 100/6 Turbohaler 1-2 doses BD 1-2 doses twice a day and PRN** (to a max 12 doses in 24 hours) **Flutiform 50 MDI 1-2 doses BD and PRN** (to a max of 12 doses in 24 hours) Use reliever inhaler as per self-management plan. Seek medical advice if using high dose for more than 3 days.
pMDI	**Seretide 50 Evohaler 2 doses twice a day**. Do not use for MART, the LABA is not rapid onset. **Flutiform 50 MDI 1-2 doses BD**	**Seretide 50 Evohaler 2 doses twice a day.** Do not use for MART, the LABA is not rapid onset. **Flutiform 50 MDI 2 doses BD**

Step 3. Prescribe same dose ICS / LABA + SABA PRN. CONSIDER a trial of Montelukast

AGE	Montelukast dose
5 years	**4mg** in the evening
6 – 14 years	**5mg** in the evening
15 – 17 years	**5-10mg** in the evening

- **Warn carers about neuropsychiatric ADRs** including sleep disorders, stuttering, obsessive compulsive symptoms.
- **Must be reviewed after 1 month,** continue if effective.
- Must **stop if not effective** or ADRs outweigh benefit.

Step 4. Refer to Specialist Paediatrician

Age 5 – 11 years
Refer to specialist Respiratory Paediatrician

Age 12 – 17 years Refer to Specialist Paediatrician AND increase dose of ICS / LABA +/- montelukast	
DPI	Symbicort 200/6 2 doses BD
pMDI	Seretide 125 Evohaler 2 doses BD
Above max recommended dose. Risk of adrenal insufficiency. ISSUE steroid card to all these patients	

Children and Young People – What to do during an asthma review

Assess symptoms and control

Discuss symptoms and triggers Use Asthma control test cACT [4-11yrs] or ACT [>12yrs]	Plot height & weight annually Consider lung function; peak flow or spirometry	Number of Exacerbations including ED/Hospital admissions Courses of steroids prescribed

Think about future asthma attack risk

• **Using SABA >twice a week**	• Smoking status of household and patients

Observe inhaler technique and advise at EVERY ASTHMA RELATED CONTACT

MDIs must have a spacer Ensure correct spacer size, discuss mouthpiece vs facemask	DPI - inhale quick and deep. Aerosols MDI- inhale slow and steady.

Review medication

Document the number of controller and & relievers actually issued over 12 months **> 2 devices of SABA = loss of control**	Explore understanding and concordance issues **Consider DPI in children from approx. 8 years** Move up and down the algorithm

Written asthma self-management plan and education

Review if asthma control deteriorates Explain: pollution can trigger/exacerbate asthma How to minimise exposure minimise exposure indoor/outdoor	Offer smoking cessation advice to household Asthma UK **Inhaler advice for carers**

Prescribing Tips:

Review patients regularly e.g. 4-8 weeks after a change in treatment Review within 1-4 weeks after an ED attendance/admission for asthma Advise – don't stop therapy independently and if restarting treatment, the ICS must restart with the SABA Seretide and Qvar are twice as potent as Clenil	Ensure annual vaccinations if appropriate Pharmacies can also reinforce inhaler technique refer for a New Medicines Service review Right Breath detailed inhaler information here & eLfH Training for all staff here

Maximum ICS licenced doses **PER day**. **Issue a blue steroid card for high doses**.
Ask about nasal, topical & oral steroids (NPPG advice)

Inhaler	Contains (micrograms)	Micrograms (years)
Budesonide	**Budesonide**	**800 (< 12)**
Clenil	**Beclomethasone 50 & 100**	**800**
Symbicort	**Budesonide 100 /Formoterol 6**	**800 (< 12)**
Flutiform	**Fluticasone 50 / Formoterol 5**	**400 (4 -16)**
Seretide	**Fluticasone 50 & 125 / Salmeterol 25**	**400 (4 to 16)**

Criteria for stepping down ICS

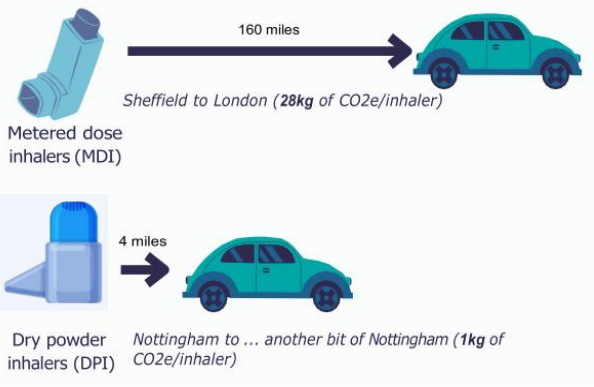
High doses of ICS may cause long term harm including growth restriction
If good control and **stable for >3 months, consider reducing down**
Review changes 4 to 8 weeks after treatment reduction.
Ask patients to submit cACT / ACT to the practice to assess control.

Greener NHS Information for families
Good control of asthma = less relievers = less environmental impact
DPIs have a lower carbon footprint than MDIs and are

- **preferred -** when appropriate for patient.
- **easier to use for children >8yrs** - require less co-ordination
- **No spacer required -** easier for out and about

When an MDI is more appropriate

- **Salamol has a significantly lower carbon footprint than Ventolin**
- **Return Used/old MDIs to pharmacy**



MHRA. Don't prescribe Nebulised SABAs for Asthma
Increased mortality rates. Delayed medical attention
ONLY initiated and managed by consultant led Paediatric Asthma Clinic

MHRA warning Montelukast
Neuropsychiatric reactions including sleep, speech impairment (stuttering) and obsessive–compulsive symptoms