

**Aim to control asthma, defined* as:**

- No daytime symptoms
- No night time awakening due to asthma
- No need for rescue medications
- No exacerbations
- No limitations on activity including exercise
- Normal lung function
- With minimal side effects

Asthma Assessment Tools:

Use a validated tool to assess asthma control e.g.

- Asthma Control Test™ (ACT) for Children 12 years and above
- Childhood Asthma Control Test (C- ACT) for children aged 4 –11 years

N.B. .

Please see overleaf for details on how to access assessment tools.
Note that the Royal College of Physicians (RCP's) 3 Questions to assess asthma control in adults is not validated in children

Prescribing Tips

- Always use the lowest effective doses to achieve control.
- Review patients regularly, considering step *up* and step *down* according to patients asthma control.
- When using Inhaled steroids (ICS) consider *total daily steroid load* (including intranasal, topical and oral steroids taken)
- A spacer device is always recommended when using a metered dose Inhaler (MDI)
- Check inhaler technique and adherence to medicine regimen at each appointment and/or before any change in treatment
- The lowest cost product that is suitable for an individual should be used.
- Provide patients/parents/carers with a personalised action plan

Smoking:

- Always ask about the child's exposure to smoking
- Offer smoking cessation advice to patients/parents/carers
- Always advocate a smoke-free home and car (www.smokefree.nhs.uk)

STEP 1: Short-acting β2-agonist (SABA)

Salbutamol MDI 100 micrograms 2 puffs as required via spacer device (preferred choice)

OR

Salbutamol Easyhaler DPD 100 micrograms 2 puffs as required
if a more portable device is requiredAlways provide written instruction and demonstrate inhaler technique.
Refer to formulary for alternative devices.**If the child:**

- is using SABA more than once a week or
- has symptoms more than once a week or
- is waking once a week or more go to STEP 2.

STEP 2: SABA plus inhaled corticosteroid (ICS)

Either MDI via spacer:

Clenil Modulite (beclometasone) 50 micrograms 2 puffs twice daily (preferred option) OR
QVAR MDI (ultrafine beclometasone) 50 mcg 1 puffs twice a day (Child 12 yrs & above)

OR DPD

Budesonide Easyhaler DPD 100 micrograms 1 puff twice daily (Child 6 yrs & above)
Pulmicort Turbohaler DPD (budesonide) 100 mcg 1 puff twice a day (Child 5 yrs & above)

Refer to formulary for alternative devices.

If child is still symptomatic:

- Review the diagnosis of asthma
- Provide written instruction and demonstrate inhaler technique
- Check inhaler technique
- Check adherence to treatment

If still not controlled go to STEP 3a before increasing ICS dose

STEP 3a: SABA plus ICS plus Long-acting β2-agonist (LABA)

Stop single inhaled steroid inhaler and Re-assess asthma control at ONE month

Symbicort turbohaler (budesonide/formoterol) DPD 100/6 1 -2 puffs twice daily
(Child 6 yrs & above)OR Seretide 50 (fluticasone/salmeterol) MDI 2 puffs twice a day via spacer
(Child 5 yrs & above)

Refer to formulary for alternative devices.

NB Fluticasone is equivalent to twice the potency of standard budesonide or beclometasone

If child is still symptomatic:

- Review the diagnosis of asthma
- Provide written instruction and demonstrate inhaler technique
- Check inhaler technique
- Check adherence to treatment
- See section on next page on choice of combination inhaler at different ages

Ensure step down directions and individual care plans are issued

- If no response or asthma still not controlled seek specialist respiratory advice. Do not continue high dose inhaled steroids long term without specialist input.

STEP 3b: If NO response to 3a (ICS + LABA)

STOP combination inhaler, re-start inhaled corticosteroid (as per Step 2 dose)

OR increase strength of ICS to:

Clenil Modulite 100 mcg 2 puffs twice daily via spacer or
Budesonide Easyhaler 200 mcg 1 puff twice daily (6yrs & above) or
Pulmicort Turbohaler 200 mcg 1 puff twice a day (5yrs & above)

QVAR 100 mcg 1 puffs twice a day (Child 12 yrs & above)

and ADD Montelukast 5mg chewable tablets at night (6 -15 yrs), or 4mg at night (<6 yrs).

REVIEW AND STOP montelukast after one month if no benefit

STEP 4: SEEK SPECIALIST RESPIRATORY ADVICE

Treatment initiated under c/o Specialist Respiratory Paediatrician

Seretide 50 2 puffs twice daily via a spacer (Child 5 years & above), OR

Symbicort turbohaler 100/6 2 puffs twice daily (Child 6 years & above) PLUS

Montelukast 5mg chewable tablets at night (6 -15 years) or 4mg at night (< 6 years)

ASTHMA MEDICATIONS — Licensing and Approximate Costs (Drug Tariff July 2014)

STEP	Drug	Dose	Licensed for	Unit Cost	Annual Cost *
1	Salbutamol MDI <i>Plus appropriate spacer device</i>	100mcg (200 dose unit)	All ages	£1.50	
2	Clenil Modulite MDI (+ spacer) Clenil Modulite MDI (+ spacer) Budesonide Easyhaler	50mcg (200 dose unit) 100mcg (200 dose unit) 100mcg (200 dose unit)	All ages All ages 6 years +	£3.70 £7.42 £8.86	£27.01 £54.17 £64.68
3	Seretide*50 Evohaler (+ spacer) Seretide* 100 Accuhaler Symbicort 100/6 Turbohaler Montelukast Montelukast	50mcg (120 dose unit) 100/50 (60 dose unit) 100/6 (120 dose unit) 4mg granules/tabs (28) 5mg tabs (28)	4 years + 4 years + 6 years + 6 months + 6 years +	£18.00 £18.00 £33.00 £2.01 / £4.22 £2.15	£219.00 £219.00 £200.75 £26.20 / £55.01 £28.02

Approximate equivalent doses of Inhaled Corticosteroids (ICS):

800 micrograms large particle Beclometasone (Clenil) = 400 micrograms ultrafine beclometasone (Qvar) = *Based on recommended doses, 365 days
600 micrograms budesonide via dry powder inhaler (between 400 and 800 micrograms) = 400 micrograms fluticasone

DIAGNOSIS OF ASTHMA IN CHILDREN (See *Asthma Guidelines for Children Under 5 yrs & BTS/SIGN Guidelines 2012*)

- The diagnosis of asthma is a clinical one based on the presence of key features in the history and clinical examination but careful consideration of alternative diagnoses should always be given.
- If the diagnosis of asthma is unclear or in doubt or there is a failure to respond to asthma therapy at any stage refer to a specialist respiratory paediatrician.

ASTHMA ASSESSMENT TOOLS (Validated in children)

- Children's Asthma Control Test™ (C-ACT) for Children aged 4—11 years. This is a simple seven point questionnaire, which is completed by child (questions 1—4) and parent (questions 5—7). A score of 19 or less may mean asthma is not controlled. Available at: www.sheffield.nhs.uk/respiratory/resources/childrensasthmacontroltest/
- Asthma Control Test™ (ACT) for Adults and Children 12 years and above. The Asthma Control Test™ is a simple five-point questionnaire, which is self completed by patients. Each item is scored from one (poor control) to five (good control) and the scores added to give a final score with a maximum of 25. A score of <20 may mean asthma is not controlled, available at: www.asthma.org.uk/applications/control_test/
- Further information on the RCP's 3 Questions can be found on the LLR Adult Asthma Guidelines

INHALER DEVICES (further information/advice on inhaler devices is available at: www.asthma.org.uk)

- A metered dose inhaler (with spacer) should be used in younger children in this age group. The purpose of the spacer device is to act as an intermediary chamber into which the DMI can discharge the drug allowing the child to inhale over several breaths.
- It is the prescriber's responsibility to ensure that the child can use the inhaler device prescribed. If the child is unable to use a device competently an alternative should be found.
- Children using a Dry Powder Device (DPD) who intermittently develop reduced inspiratory flow may require an MDI and spacer alongside the DPD.
- Spacer devices should be cleaned monthly rather than weekly as recommended by manufacturers, or performance can be adversely affected. Replace spacers at least annually or more frequently if necessary as indicated in the table.
- Nebulisers are not considered appropriate in the management of chronic asthma in children

KEY POINTS

- Avoid high dose inhaled corticosteroids (ICS) e.g. daily doses over 800mcg of beclometasone or equivalent. If high doses are required for control e.g. Seretide 125 / Symbicort 400/12 the child should be under the care of a specialist respiratory paediatrician.
- Qvar is not licensed in children under 12 years of age and should not be used in this age group.
- Step down ICS to the lowest possible dose that controls symptoms to minimise side effects.
- All children with asthma should have their height monitored on a regular basis e.g. at the annual review. If there are any concerns regarding growth the child should be referred to a respiratory paediatrician.
- Participation in exercise and sporting activities should be actively encouraged.
- Exercise-induced asthma symptoms are indicative of poorly controlled asthma.
- Adherence to asthma medications should be monitored by checking prescriptions issued.
- Using salbutamol on 2 or more occasions a day can indicate poorly controlled asthma that puts patients at risk.

Spacer Device	Sizes	Sizes Approximations—will vary	Cost	Replacement
Volumatic	Volumatic spacer device Volumatic with paediatric mask	No Information Available	£3.81 £6.70	Replace after 6-12 months
Aerochamber Plus	AeroChamber Plus AeroChamber Plus Adult Mask AeroChamber Plus Child Mask AeroChamber Plus Infant Mask	Adult (Blue): 5 years and over Adult (Blue): 5 years and over Child (yellow): 12 months to 5 years Infant (Orange): 0-18 months	£4.75 £7.92 £7.92 £7.92	Replace after 12 months
Vortex	Vortex with mouthpiece Vortex with adult mask Vortex with mask for child Vortex with mask for infant	4 years and over 10 years and over Frog child mask: age 2+ years Ladybug baby mask: age 0-2 years	£6.28 £9.97 £7.99 £7.99	Replace after 12 months

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