NHS
Basildon and Brentwood
Clinical Commissioning Group

NHS
Thurrock
Clinical Commissioning Group

Pharmacological Management of Asthma in Adults and Children over 18 Years

Aim of Treatment

The aim of asthma management is complete control of the disease, defined as:

- no daytime symptoms
- no night time awakening due to asthma
- no need for rescue medication
- no exacerbations
- no limitations on activity including exercise
- normal lung function (in practical terms FEV_1 and/or PEF >80% predicted or best)
- minimal side effects from medication

Stepwise Approach

1. Start treatment at the step most appropriate to initial severity
2. Achieve early control
3. Maintain control by:
   - stepping up treatment as necessary
   - stepping down when control is good

Before initiating a new drug or changing therapy, check compliance with existing treatment, check satisfactory inhaler technique and eliminate trigger factors.

Stepping Down

- Patients should be maintained at the lowest effective dose of inhaled steroid to achieve control
- Review treatment every 3 months, once stable, decrease dose by approximately 25-50% each time. After treatment is stepped down the patient should have their treatment reviewed within 6-8 weeks

Assessing asthma control: use of the Royal College of Physicians '3 Questions'

In the last month:

1. Have you had difficulty sleeping because of asthma symptoms (including cough)?
2. Have you had your usual asthma symptoms during the day (cough, wheeze, chest tightness or breathlessness)?
3. Has your asthma interfered with your usual activities (e.g. housework, work, school, etc.)?

Yes to any of these questions implies uncontrolled asthma.

Regular review, including:

- An assessment of asthma control
- Identification of risk factors
- Assessment of inhaler technique and reassessment
- Optimisation of medicines
- Provision of an agreed personalised asthma action plan that the patient understands and will use, including step up and step down advice
- Offer smoking cessation advice and education
- Offer annual influenza vaccination

Inhaler devices

- Use a Metered Dose Inhaler (MDI) and a spacer first-line, this minimises the risk of systemic and local side effects, and has the greatest deposition in the lungs.

Combination inhalers

- There is no difference in efficacy in giving inhaled steroid and a long-acting β2 agonist in combination or in separate inhalers.
- Combination inhalers may aid compliance and have the advantage of guaranteeing that the long-acting β2 agonist is not taken without inhaled steroids and are, therefore recommended by MHRA and NICE as the use of long-acting β2 agonist alone has been associated with asthma deaths.

Steroid	Equivalence dose
Beclometasone dipropionate CFC	400mcg
Clenil Modulite (BDP)	400mcg
Qvar (BDP)	200-300mcg
Fostair	200mcg
Symbicort	400mcg
Fluticasone Evohaler/Accuhaler	200mcg
Seretide Evohaler/Accuhaler	200mcg

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Summary of stepwise management-Patients should start treatment at the step most appropriate to the initial severity of their asthma. Check concordance and reconsider diagnosis if response to treatment is unexpectedly poor.

Step 1 **Mild intermittent asthma**	**Inhaled short acting β2-agonist (SABA) as required** • Salbutamol inhaler/MDI 100 mcg/dose (£1.50) 2 puffs as required (spacer device recommended) • Alternative devices: Easyhaler Salbutamol (breath actuated DPI) 100mcg/dose (£3.31) or Airomir Autohaler (breath actuated MDI) 100mcg/dose (£6.02) Using two or more canisters of SABA per month or >10-12 puffs per day is a marker of poorly controlled asthma that puts patients at risk of fatal or near-fatal asthma. Move to step 2 if using inhaled SABA agonists three times a week or more, symptomatic three times a week or more, or nocturnal symptoms once a week, or if exacerbation in the last 2 years requiring oral corticosteroids.
Step 2 **Regular preventer therapy**	**SABA plus standard dose inhaled corticosteroid (ICS) via spacer** Recommended starting dose of 400mcg BDP (beclometasone dipropionate) equivalent per day (however, start at dose of ICS appropriate to severity of asthma) • Clenil Modulite 100mcg/dose 2 puffs BD via a Volumatic • Qvar 50mcg/dose 2 puffs BD (twice as potent as Clenil Modulite) via an AeroChamber Plus • Alternative device (only if patient can't use MDI): Qvar Easi-Breathe 50mcg/inhalation 2 puffs BD (breath actuated inhaler)
Step 3 **Initial add-on therapy**	**SABA plus ICS plus long acting β2-agonist (LABA)-this should be considered before going above a dose of 400 micrograms BDP or equivalent per day. Assess control**
If good response to LABA and good control continue LABA, review after 3 months	Use combination ICS/LABA inhalers as per BTS/SIGN guidelines. Starting doses: • First Choice: Consider Fostair (MDI) (beclometasone/formoterol) 100/6 1 puff BD • Second choice: If patient can't use/tolerate Fostair MDI consider Symbicort Turbohaler (DPI) (budesonide/formoterol) 200/6 Turbohaler 1 puff BD
If benefit from LABA but control still inadequate	Continue LABA and increase ICS dose to 800mcg BDP equivalent per day: • Fostair (MDI) (beclometasone/formoterol) 100/6 2 puffs BD • If patient can't use/tolerate Fostair MDI consider Symbicort Turbohaler (DPI) (budesonide/formoterol) 200/6 Turbohaler 2 puffs BD
No response to LABA	Stop LABA and increase ICS dose to 800mcg BDP equivalent per day: • Qvar 100mcg/inhalation 2 puffs BD • Clenil Modulite 200mcg/inhalation 2 puffs BD • Alternative device (only if patient can't use MDI): Qvar Easi-Breathe 100mcg/inhalation 2 puffs BD (breath actuated inhaler)
If control still inadequate after stopping LABA and increasing ICS dose	Consider trial of other add-on therapy: • Montelukast 10mg ON or Uniphyllin Continus (theophylline) 200mg BD (adjust according to theophylline levels) If control still inadequate go to step 4
Step 4 **Persistent poor control**	**Increase ICS dose to 2000mcg BDP equivalent per day** • Clenil Modulite 250mcg/inhalation 4 puffs BD or Qvar 100mcg/inhalation 4 puffs BD (if patient has not responded to LABA at step 3). Alternative device (only if patient can't use MDI): Qvar Easi-Breathe 100mcg/inhalation 4 puffs BD (breath actuated inhaler) • Symbicort (budesonide/formoterol) 400/12 Turbohaler 2 puffs BD. If patient can't use/tolerate Symbicort Turbohaler, consider Seretide (fluticasone/salmeterol) 500 Accuhaler 1 puff BD. • Or, additional therapy 6 week sequential therapeutic trial of one or more of: montelukast 10mg ON or Uniphyllin Continus (theophylline) 200mg BD (adjust according to theophylline levels)
Step 5 **Continuous or frequent use of oral steroids**	• Use daily steroid tablet in lowest dose providing adequate control • Maintain high dose ICS at 2000mcg BDP equivalent per day • Consider other treatments to minimise the use of steroid tablets • Refer patient for specialist care

Reference: BTS/SIGN guidelines 'British Guideline on the Management of Asthma May 2008, January 2012 revision