### Monitored initiation of treatment with low-dose ICS

Clenil Modulite® 100 MDI + spacer 2 puffs bd or Easyhaler® Beclometasone 200 DPI 1 puff bd or

**Reliever inhaler:**
- Salbutamol 100mcg MDI + spacer 2 puffs prn or
- Easyhaler® Salbutamol 100mcg 2 puffs prn

### Regular preventer low dose ICS (less than or equal to 400micrograms BDP equivalent)

Clenil Modulite® 100 MDI + spacer 2 puffs bd or Qvar® 50 MDI+spacer 2 puffs bd or Easyhaler® Beclometasone® 200 DPI 1 puff bd or Qvar Easi-Breathe® 50 inhaler 2 puffs bd

**If asthma is uncontrolled a LTRA can be trialed as first line add on therapy to ICS (particularly if atopy or allergic component) Review effectiveness / tolerability in 4-6 weeks. Withdraw if ineffective NICE Asthma Guidance Nov 2017**

### Initial add-on therapy

**Add inhaled LABA to low dose ICS (with or without LTRA) use a combination inhaler**

*For example:*
- Fostair® 100/6 MDI + spacer 1 puff bd or
- Fostair Nexthaler® 100/6 DPI 1 puff bd

**See overleaf for alternative formulary choices**

**Patients poorly controlled with low dose* ICS/ LABA, may benefit from single inhaler maintenance and reliever therapy (MART). Discussion with patient should inform which option to take. Provide MART action plan. Review after 6-8 weeks or earlier if additional dose regularly used more than once daily. MART licence: Fostair® 100/6 (up to 8 puffs/day), Duoresp® 160/4.5, Symbicort® 200/6, Fobumix® 160/4.5 (up to 12 puffs daily).**

### Additional add-on therapies

*No response to LABA stop LABA and consider increased dose of ICS to medium dose - If benefit from LABA but control still inadequate-continue LABA increase ICS to medium dose (medium dose is 400microgram to 800microgram BDP equivalent)*

- Fostair® 100/6 MDI + spacer 2 puffs bd or
- Fostair Nexthaler® 100/6 2 puffs bd
- Control still inadequate consider trial of other therapy – LTRA** Montelukast 10mg at night, LAMA Spiriva Respimat® 2.5mcg 2 puffs od Review after 6-8 weeks withdraw if ineffective (consider exacerbation history)

**NB LTRA may have already been trialed as per NICE at earlier stage**

### High-dose therapies

*Consider trials of increasing ICS up to high dose (more than 800 micrograms BDP equivalent)*

- Addition of a fourth drug, eg LAMA, LTRA, SR theophylline

**Fostair® 200/6 MDI + spacer 2 puffs bd**

**Fostair Nexthaler® 200/6 2 puffs bd**

**Refer patient for specialist care**

### Reliever therapy

**Patients not using MART: SABA as required at each step – review patients using SABA inhalers three times per week or more using MART: Increase dose of MART inhaler according to action plan, which should be individualised to each patient**

### References
1. [https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/](https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/)
2. [https://www.nice.org.uk/guidance/ng8](https://www.nice.org.uk/guidance/ng8)

### Key BDP Beclometasone Dipropionate

**SABA short acting beta 2 agonist**

**ICS inhaled corticosteroid**

**LABA long acting beta-2 agonist**

**LAMA long acting muscarinic antagonist**

**LTRA leukotriene receptor antagonist**

**MDI metered dose inhaler**

**DPI dry powder inhaler**

**Prescribe inhalers by brand name only**

### Before Stepping Up

**Check:**
- diagnosis,
- adherence to current medication and inhaler technique,
- trigger factors including rhinitis, reflux disease smoking, occupation

**Consider stepping treatment up if the patient:**
- is using SABA 3 times per week or more
- is waking one night per week with asthma

### Stepping Down

**Check:**
- Aim for minimum dose which provides good control
- Consider reduction every 3 months, decreasing the dose by approximately 25-50% each time
- Dose reduction should be slow, patients deteriorate at different rates
- Review patient 4 weeks after stepping down.
- Consider further reduction after 3 months
- Step back up during the 3 months if symptoms develop

### Aims of Treatment

- No daytime symptoms
- No night time awakening due to asthma
- No need for rescue medication
- No asthma attacks
- No limitations on activity including exercise
- Normal lung function (in practical terms FEV1 and/or PEF >80% of best)
- Minimal side effects from medication

### Diagnosis and Assessment

**Code as “suspected asthma” (I 170) until diagnosis is confirmed**

### Evaluation

- Assess symptoms
- Measure lung function
- Check inhaler technique and adherence

### Adjust dose

**Update personal asthma action plan**

### Move up and down as appropriate

- If not on MART therapy use SABA as required - consider moving up if using three doses a week or more.
### Patient Review: Monitoring, Recording and Personal Asthma Action Plan

Monitor the following by routine clinical review at least annually. Review at 4 weeks following change in medicine. Consider stepdown when stable for 3 months.

- symptomatic asthma control
- lung function assessed by spirometry or PEF
- asthma attacks, oral corticosteroid use, time off work
- inhaler technique and adherence
- bronchodilator reliance
- SABA use-review if using 3 doses per week or more
- smoking cessation

- Smoke Free Life Berkshire [here](https://www.smokefreelife berkshire.org.uk/)
- One You Surrey [here](https://www.oneway surrey.nhs.uk/)
- Offer a personalised asthma action plan
- Use validated tools for monitoring eg [Asthma Control Test](https://www.nice.org.uk/guidance/ng8)

### Personal Asthma Action Plan

**Resources at Asthma UK**

Patients to have an agreed personal action plan; they should know how to increase medication and when to seek medical assistance. [add link MART plan]

#### Increasing ICS Treatment Within a Self-Management Programme [NICE Asthma Guideline 2017](https://www.nice.org.uk/guidance/ng8)

Within a personal action plan, offer increased dose of ICS for 7 days to adults using an ICS in a single inhaler (including those on MART regime) when asthma control deteriorates. Clearly outline in the asthma action plan how and when to do this, and what to do if symptoms do not improve. When increasing ICS treatment:
- consider quadrupling the regular ICS dose
- do not exceed the maximum licensed daily dose.

### Inhaler Choice

- Prescribe inhalers only after the patient has received training in the use of the device and can demonstrate satisfactory technique. If the patient is unable to use a device an alternative should be found.
- spacer device with MDI improves lung deposition; this can result in improved therapeutic effect and reduction in side effects. Aerochamber Flow Vu Plus® has anti-static properties further improving lung deposition.
- Written information on inhaler devices and spacers should be provided to patients. [here](https://www.asthma uk.org/)
- Video training resources are available at [Asthma UK](https://www.asthma uk.org/)

### Inhaled Corticosteroids

Prolonged high dose ICS >1000 mcg BDP per day can result in systemic side effects such as adrenal suppression, osteoporosis, increased risk of pneumonia and diabetes. For most patients escalation to high doses produces little additional benefit with higher risk of side effects. Using an MDI and spacer can optimise drug delivery and reduce side-effects.

#### High Dose ICS Safety cards

High dose ICS safety cards for patients and guidance for health care professionals, information can be obtained via your CCG medicines management team

**ICS Dose Equivalents (Formulary Choices)**

<table>
<thead>
<tr>
<th>ICS</th>
<th>Dose (in micrograms)</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
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<td>4 puffs bd</td>
</tr>
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<td>200</td>
<td>4 puffs bd</td>
</tr>
</tbody>
</table>

### Management of Acute Asthma outside hospital

**BTS Asthma Guideline 2016**

- Give controlled supplementary oxygen to all hypoxic patients with acute severe asthma titrated to maintain a SpO2 level of 94–98%. Do not delay administration of oxygen in the absence of pulse oximetry but commence monitoring of SpO2 as soon as it becomes available.
- Give high dose SABA (2-10 puffs of salbutamol 100mcg/puff (repeated at 10-20 minute intervals delivered via a spacer. Start with 2 puffs , assess often)
- In severe asthma poorly responsive to initial bolus dose of SABA, consider continuous nebulisation.
- Give steroids in adequate doses. Continue prednisolone 40-50mg daily for at least 5 days or until recovery.
- Monitor vital signs including sats and peak flow.
- Routine antibiotics are not recommended.
- Admit patient with any feature of a life threatening or near fatal attack or any feature of a severe attack persisting after initial treatment.
- Follow patient up on completion of steroid course within one week of asthma attack or hospital discharge.
- Keep patients who have had near fatal or difficult asthma under specialist supervision indefinitely, with follow up for at least a year after admission.

### Community Pharmacy New Medicines Service (NMS)

Patients newly prescribed an inhaler can have two appointments with the pharmacist in a private consultation area. The first appointment is 7-14 days after starting the new medicine; the second is between 14 and 21 days later. GP/nurse can refer patient or pharmacist can identify patient as suitable for the service when they dispense the prescription. [Patient leaflet and information](https://www.nice.org.uk/guidance/ng8)

### Nebulisers

MDI + spacer is at least as good as nebuliser for treating mild/moderate asthma exacerbations. Nebulisers are not standard care in asthma and should only be prescribed on specialist respiratory team recommendation.

### Influenza vaccine

is indicated in asthmatic patients requiring repeated use of systemic or inhaled steroids. [Pneumococcal vaccine](https://www.nice.org.uk/guidance/ng8) is not indicated unless patient is having frequent oral corticosteroids [The Green Book](https://www.nice.org.uk/guidance/ng8)