**STEP 1 - MILD INTERMITTENT ASTHMA**

Inhaled Salbutamol (MDI) 1-2 puffs as required, up to four times a day.

If symptomatic or using β2 agonist 3 times a week or more, waking one night a week or had an exacerbation requiring oral corticosteroids in the last 2 years proceed to next step.

**STEP 2 - REGULAR PREVENTER THERAPIES**

Add Beclometasone: 200 - 800mcg daily Clenil® or 100 - 400mcg daily Qvar®.

Compliance, inhaler technique & elimination of trigger factors, should be checked before any increase in steroid dose or addition of other therapies.

**STEP 3 (a) - ADD ON THERAPY**

Trial of Formoterol 12mcg twice daily for 2 – 4 weeks

(NB. Long acting β2 agonists (LABA) must not be used without concurrent use of an inhaled steroid)

- **Good response** - Combination device may be appropriate, go to 3(b)
- **No response** - Stop Formoterol, continue Beclometasone, go to 4

**STEP 3 (b) - CONSIDER USE OF A COMBINATION INHALER WHERE APPROPRIATE**

First Choice: Fostair® - 100/6 MDI (100mcg Beclometasone / 6mcg Formoterol) Adults over 18. 1-2 puffs twice daily

Second Choice: Symbicort® Turbohaler (Budesonide with Formoterol)

Third Choice: Seretide® Evohaler (Fluticasone with Salmeterol) or Flutiform® (Fluticasone propionate with Formoterol)

If a patient's asthma is poorly controlled, ensure steroid therapy has been optimised and proceed to next step

**STEP 4 - PERSISTENT POOR CONTROL**

Consider trials of:

- Consider referral to specialist.
- Uniphyllin Continus (theophylline MR)
- Up to 2000mcg per day of Clenil or 1000mcg per day of Qvar.
- Addition of montelukast.

**STEP 5 - CONTINUOUS OR FREQUENT USE OF ORAL STEROIDS**

Refer patient for specialist care. Use daily steroid tablet (Prednisolone) in lowest dose giving adequate control.
**Notes**

- All patients should be taught effective technique and regularly assessed by a competent healthcare professional.
- All patients should have a self management plan, including step up and step down advice.
- Good asthma control is based on a clinical assessment of the patient which may include the use of the Royal College of Physicians (RCP) Three Questions(1) and/or the Asthma Control Test™(2). It is usually associated with little or no need for short-acting β2 agonist.

**Inhaler devices**

Choice of inhaler device (for example metered dose inhaler [MDI] or dry powder inhaler [DPI]) should be based on patient preference and assessment of correct use. If the patient is unable to use a device satisfactorily an alternative should be found. The choice of device may be determined by the choice of drug (3).

**Step 1**

Prescribe an inhaled short-acting β2 agonist as short term reliever therapy for all patients with symptomatic asthma. Using short-acting inhaled β2 agonists as required is at least as good as regular (four times daily) administration. Unless individual patients are shown to benefit from regular use of inhaled short-acting β2 agonists then as required use is recommended. Using two or more canisters of β2 agonists per month is a marker of poorly controlled asthma.

**Step 2**

**Use of inhaled steroids**

Inhaled steroids are the most effective preventer drug for adults and children for achieving overall treatment goals. NHS Rotherhams first choice inhaled steroid is Beclometasone.

<table>
<thead>
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<th>Beclometasone</th>
<th>Equivalent dose</th>
<th>&gt; 18 years</th>
<th>&gt; 12 years</th>
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<td>Fostair</td>
<td>200mcg</td>
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<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Which inhaled steroid**

There is little difference in efficacy between the respiratory steroids at equipotent doses. Fluticasone has twice the potency of Beclometasone and Budesonide (4). The relative safety of Mometasone is not fully established.

All steroids have the potential to cause dose related systemic adverse effects, particularly if high doses are used for long periods. Steroid cards should be given if patients are prescribed high doses.

**Fluticasone**

Fluticasone provides equal clinical activity to BDP and Budesonide at half the dosage. Committee on Safety of Medicines summary minutes - 29 September 2002 states that “contrary to previous belief, Fluticasone was not safer than other inhaled steroids.” Also, “although adrenal suppression is a well known adverse reaction to inhaled Fluticasone, it is under-recognised.”

Lipworth (5) showed that Fluticasone shows greater bioactivity for dose related adrenal suppression than Beclometasone or Budesonide (Arch Int Med 1999;159:941-955).

**Step 3a**

**Trial of a long acting beta₂ agonist (LABA) in addition to inhaled steroids**

Trial of long acting beta agonist Formoterol Fumarate for 2 - 4 weeks. LABA’s must not be used without regular respiratory steroids. Formoterol Fumarate was chosen as it effect sets in rapidly (within 1–3 minutes) and is still significant 12 hours after inhalation. There are only limited data available on the pharmacokinetics of salmeterol because of the technical difficulty of assaying the active substance in plasma due to the low plasma concentrations at therapeutic doses achieved after inhaled dosing.
Step 3b
Use of combination inhalers
There is no difference in efficacy in giving inhaled steroid and long-acting β2 agonist in combination or in separate inhalers. However once a patient is on stable therapy, combination inhalers have the advantage of guaranteeing that the long-acting β2 agonist is not taken without inhaled steroid.

Symbicort Turbohaler as maintenance and rescue medication.
In selected adult patients (> 18 yrs) at step 3 who are poorly controlled or in selected adult patients at step 2 (above BDP 400 mcg/day who are poorly controlled), the use of Symbicort as rescue medication instead of a short-acting β2 agonist, in addition to its regular use has been shown to be an effective treatment regimen. When this management option is introduced the total regular dose of daily inhaled corticosteroids should not be decreased. The regular maintenance dose of inhaled steroids may be budesonide 200 mcg twice daily or budesonide 400 mcg twice daily. Patients taking rescue budesonide/formoterol once a day or more should have their treatment reviewed. Careful education of patients about the specific issues around this management strategy is required.

If the patient is atopic and there is some response to the addition of a LABA, but control is still inadequate consider trialling a leukotriene antagonist (Montelukast) before moving to Step 4.

Step 4
Consider referral to specialist.
Increase steroid dose to 2000mcg/day Clenil, (1000mcg QVAR or equivalent) and trial other therapies. If this provides no improvement, then stop additional the drugs which have provided no benefit. A steroid card is needed for those patients on high dose steroid therapy (more than 1500mcg/day BDP or equivalent)

Step 5
Refer to Specialist.

Refs.
3. BTS /SIGN British Guideline on the Management of Asthma revised June 2009