Medicines Management of Asthma
Guidelines for Primary Care

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Medicines Management of Asthma in Adults and Children over 12 Years

- Offer patients self-management education that focuses on individual needs and reinforce with a written personalised action plan
- Remind patients to have the seasonal flu vaccination annually and pneumococcal vaccine (according to national guidance)
- Offer smoking cessation advice to all asthmatic patients who smoke

The table below contains examples of most commonly used or preferred inhaler devices at standard BNF doses. Choice will vary for each patient.

### Start treatment at the Step most appropriate to the initial severity

**Step 1**
- **Mild Intermittent Asthma**
  - Occasional use of inhaled short acting β₂ agonist (SABA)
  - Continue with short acting β₂ agonist PRN in all Steps

**Step 2**
- **Mild Persistent Asthma**
  - 400mcg/day Beclometasone Dipropionate (BDP) or Budesonide is an appropriate starting dose for most patients.
  - Note: QVAR is twice the potency of Clnil Modulite®. Caution with doses

**Step 3**
- **Moderate Asthma**
  - Institute trial of leukotriene receptor antagonist or theophylline
  - Note: Both regimens are licensed for use

**Check inhaler technique and compliance. Move to Step 2 if reliever needed three times a week or more or nocturnal symptoms once a week or symptomatic three times a week or more or if exacerbation in the last 2 years**

**SABA + ICS**

<table>
<thead>
<tr>
<th>Step</th>
<th>Initial</th>
<th>Add-on therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td><strong>Mild Intermittent Asthma</strong></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td><strong>Mild Persistent Asthma</strong></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td><strong>Moderate Persistent Asthma</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Metered Dose Inhaler (MDI) CFC Free + Spacer device recommended**

| Step 1 | **Mild Intermittent Asthma** | 
| Step 2 | **Mild Persistent Asthma** | 
| Step 3 | **Moderate Persistent Asthma** | 

**Check inhaler technique and compliance. Move to Step 3 if asthma continues to be poorly controlled**

**Key to products in Step 3 below:**
- **PRESCRIBE BY BRAND NAME**
- **Fostair** = Beclometasone & Formoterol
- **Flutiform** = Fluticasone & Formoterol
- **Sirdupla** = Fluticasone & Salmeterol (bio-eq of seretide)
- **Seretide** = Fluticasone & Salmeterol
- **Relvar** = Fluticasone furoate & vilanterol

**Dry powder inhaler (DPI)** [Easi-breath or breath-actuated]

| Step 1 | **Mild Intermittent Asthma** | 
| Step 2 | **Mild Persistent Asthma** | 
| Step 3 | **Moderate Persistent Asthma** | 

**SABA + ICS + LABA** combination inhaler

| Step 3 | **Moderate Persistent Asthma** | 
| Initial Add-on therapy | Combination inhalers are recommended:
  - to guarantee that the LABA is not taken without inhaled steroid
  - to improve compliance
  - as they are more cost effective than separate inhalers

**Issue initially as acute script and review after 4 weeks to assess control**

**Symbicort® SMART or Fostair MART regime can be a treatment option for selected adult patients at Step 3 who are poorly controlled.**

**Note:** Both regimes are licensed for use >18 years of age

If control still inadequate:
- Institute trial of leukotriene receptor antagonist or theophylline (monitor levels - see Fact sheet). **Review after 6 weeks**

**Prescribe the dose of inhaled corticosteroid**

**1st Line Options:**
- Flutiform® 50 inhaler - 2 puffs BD
- Flutiform® 125 inhaler - 2 puffs BD
- Fostair® (Over 18yrs only) 1-2 puffs BD (max 4 puffs daily)

**2nd Line Options:**
- Seretide® 50 Evohaler - 2 puffs BD
- Sirdupla 125 Evohaler – 2 puffs BD
- Seretide® 125 Evohaler - 2 puffs BD

**Maintenance & Reliever therapy:**
- **Fostair® MART regime (Over 18yrs only)**
  - 1 puff BD and 1 puff prn (max 8 puffs daily)

**Dry powder inhaler (DPI)** [Easi-breath or breath-actuated]

| Step 1 | **Mild Intermittent Asthma** | 
| Step 2 | **Mild Persistent Asthma** | 
| Step 3 | **Moderate Persistent Asthma** | 

**1st Line Options:**
- Fostair Nexhaler 100/6 - 1-2 puffs BD
- DuoResp Spiromax 160/4.5mcg - 1 puff BD

**2nd Line Options:**
- Symbicort® Turbohaler 200/6 - 1-2 puffs BD
- Seretide® 100 Accuhaler - 1 puff BD
- Seretide® 250 Accuhaler - 1 puff BD

**3rd Line:**
- **Relvar Ellipta 92/22** - 1 puff OD

**Maintenance & Reliever therapy:**
- DuoResp Spiromax 160/4.5mcg 1 (or 2) puff BD plus 1 puff PRN (max 6 puffs a day)
- Symbicort® Turbohaler 200/6 1 (or 2) puff BD plus 1 puff PRN (max 8 puffs a day)

| Step 1 | **Mild Intermittent Asthma** | 
| Step 2 | **Mild Persistent Asthma** | 
| Step 3 | **Moderate Persistent Asthma** | 

**Step 3**
- **Moderate Persistent Asthma**
  - Initial Add-on therapy
### Step 4: Persistent Poor Control

Consider a 6-week trial of the following:
- High dose ICS (800-2000mcg/day BDP or equivalent divided in BD dosing)
- Leukotriene receptor antagonist – montelukast 10mg at night **£2.52**
- Theophylline (prescribe by brand name and monitor theophylline levels)
- Oral β2 agonist (adults only). Caution in patients already on long-acting β2 agonists

**Secondary Care Initiation:**
Tiotropium (Spiriva) Respimat 2.5mcg inhalation solution 2 puffs OD **£23.00**

The patient will have 1 follow-up appointment at the hospital to assess response and then be transferred to the GP thereafter for continuation.

### Step 5: Use of oral steroids

Use of oral steroids in lowest dose providing adequate control
Maintain high dose ICS and consider other treatments to minimise use of oral steroids.
Monitor if long term use – see Fact sheet.

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### Check inhaler technique and compliance. Move to Step 4 if control is still poor

**SABA + [ICS + LABA] + Additional therapy**

**Metered Dose Inhaler (MDI) CFC Free + Spacer device recommended**

If using with a spacer,

1st Line:
- Flutiform® 250 inhaler (over 18 only): 2 puffs BD **£45.56**

2nd Line Options:
- Sirdupla 250 Evohaler: 2 puffs BD **£44.61**
- Seretide® 250 Evohaler: 2 puffs BD **£59.48**

**Dry powder inhaler (DPI)**

[Easi-breath or breath-actuated]

1st Line Options:
- DuoResp Spiromax 320/9mcg: 1 puff BD **£29.97** OR
- Symbicort® 400/12 Turbohaler: 1-2 puffs BD **£38.00**

2nd Line:
- Seretide® 500 Accuhaler: 1 puff BD **£40.92**

3rd Line:
- Relvar Ellipta 184/22: 1 puff OD **£38.87**

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**Check inhaler technique and compliance. Refer to specialist**
Medicines Management of Asthma in Children (5-12 Years)1

- Reconsider diagnosis if response to treatment is unexpectedly poor
- Periodically revisit the diagnosis as a proportion will ‘grow out’ of their asthma
- Monitor growth (height and weight centile) of children with asthma on an annual basis
- Offer patients self-management education that focuses on individual needs and reinforce with a written personalised action plan
- Recall patients to have the seasonal flu vaccination annually and pneumococcal vaccine (according to national guidance)

The table below contains examples of most commonly used or preferred inhaler devices at standard BNF2 doses. Choice will vary for each patient.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Mild Intermittent Asthma</th>
<th>Start treatment at the Step most appropriate to the initial severity</th>
<th>Metered Dose Inhaler (MDI) CFC-Free + Spacer device (+mask if required) recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Occasional use of inhaled short acting β₂ agonist (SABA)</td>
<td>Salbutamol 100mcg 2 puffs PRN (up to QDS) £1.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continue with short acting β₂ agonist PRN in all Steps</td>
<td></td>
</tr>
</tbody>
</table>

Check inhaler technique and compliance.

Move to Step 2 if reliever needed three times a week or more or nocturnal symptoms once a week or symptomatic three times a week or more or if exacerbation in the last 2 years

SABA + ICS

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Mild Persistent Asthma</th>
<th>Start dose of inhaled corticosteroid (ICS) appropriate to severity of asthma. Use regularly.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>200mcg/day Beclometasone Dipropionate (BDP) as Clenil Modulite® or Budesonide is an appropriate starting dose for most patients.</td>
</tr>
</tbody>
</table>

Check inhaler technique and compliance. Move to Step 3 if asthma continues to be poorly controlled

SABA + [ICS + LABA] combination inhaler

| Step 3 | Moderate Persistent Asthma | Combination inhalers are recommended:
- to guarantee that the LABA is not taken without inhaled steroid
- to improve inhaler adherence
- as they are more cost effective than separate inhalers |
|--------|----------------------------|-----------------------------------------------------------------------------------------------|
|        | Initial Add-on therapy    | Issue initially as acute script and review after 4 weeks to assess control

If control still inadequate:

Institute trial of leukotriene receptor antagonist. Review after 6 weeks

Montelukast Chewable Tablets: 5 yrs old - 4mg
>5 yrs old – 5mg at night

|        | Seretide® 50mcg Evohaler 2 puffs BD (Fluticasone and Salmeterol) | £18.00 |
|        | Seretide® 100mcg Accuhaler 1 puff BD (Fluticasone and Salmeterol) | £18.00 |
|        | Symbicort® 100/6 Turbohaler (Budesonide and Formoterol) (From 6 years) | £33.00 |

1-2 puffs BD

Every 3 months, consider Step Up and Step Down according to control.

Step 4 Persistent Poor Control

Specialist referral required because the use of combination inhalers at higher steroid doses is unlicensed. (Doses of inhaled steroid up to 800mcg/day BDP or equivalent)

Always REFER to Respiratory Paediatrician

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Use of oral steroids</th>
<th>Step 4 plus daily oral steroids. Bone mineral density should be monitored in children &gt;5 who are on long term steroid tablets (&gt; 3 months) or requiring frequent courses of steroid tablets (3-4 per year)</th>
</tr>
</thead>
</table>
Medicines Management of Asthma in Children (Under 5 Years)¹

- For under 1s and also those with difficult or uncertain diagnosis refer to a paediatrician
- Reconsider diagnosis if response to treatment is unexpectedly poor
- Revisit the diagnosis periodically as a proportion will ‘grow out’ of their asthma
- Monitor growth (height and weight centile) of children with asthma on an annual basis.
- Ensure patients have the seasonal flu vaccination annually and pneumococcal vaccine (according to national guidance)
- Easi-breath or Breath-actuated and Dry Powder inhaler devices are **UNSUITABLE** for this age group

The table below contains examples of most commonly used or preferred inhaler devices at **standard BNF²** doses. Choice will vary for each patient.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Occasional use of inhaled short acting β₂ agonist (SABA) not more than once daily. Continue with short acting β₂ agonist PRN in all Steps.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>Start dose of inhaled corticosteroid (ICS) appropriate to severity of asthma. Check inhaler technique and adherence to treatment. Is it really asthma? If ICS cannot be used, consider leukotriene receptor antagonist (LTRA) Montelukast 4mg granules (over 6 months) (£4.54) or Chewable tablet 4mg at night (£1.82)</td>
</tr>
<tr>
<td>Step 3</td>
<td>Child 2 - 5 years: Inhaled short acting β₂ agonist + ICS + LTRA Child below 2 years: Referral to Respiratory Paediatrician Montelukast 4mg granules (over 6 months) (£4.54) or Chewable tablet 4mg at night (£1.82) Review in one month If no/poor response • Reconsider diagnosis • Consider referral to Respiratory Paediatrician</td>
</tr>
<tr>
<td>Step 4</td>
<td>Refer to Respiratory Paediatrician</td>
</tr>
</tbody>
</table>

### Metered Dose Inhaler (MDI)
Always use Spacer device + mask

- Salbutamol 100mcg 2 puffs PRN (up to QDS) £1.50
- Clenil Modulite® 50mcg 2 puffs BD £3.70
- Fluticasone 50mcg 2 puffs BD (£5.44 (licensed for 4 years and over))
### Medicines Management of Acute Exacerbation

| Adults and Children Over 12 Years | **Salbutamol** 100mcg (MDI) 2-10 puffs as needed, with a spacer device, and repeat at 10-20 minute intervals or via oxygen driven nebuliser (if available) salbutamol 5mg and repeat at 20-30 minute intervals if necessary.  
Monitor response for 15-30 minutes. If response is poor or a relapse occurs in 3-4 hours, send immediately to hospital.  
**Prednisolone** 40-50mgs daily, in the morning, for at least 5 days or until recovery.  
Note: 12-18yrs old - if not recovered after 5 days, consider referring to secondary care  
Majority of acute asthma attacks are triggered by viral infection. Routine prescription of antibiotics is not indicated for acute asthma.  
Antibiotics may be prescribed if the patient is pyrexial, has productive sputum and shows signs of chest infection.  
Provide an action plan.  
The patient should be informed to contact the GP if there is no improvement after **48 hours**.  
If the patient attended A&E or was admitted to hospital, a follow up within 48 hours after being discharged should be arranged at the GP Practice.  
If complex hospital admission or ITU admission occurs, patients should also be reviewed by a respiratory specialist within 1 month of the exacerbation. |  |
|---|---|---|
| **Children 5 - 12 Years** | **Salbutamol** 100mcg (MDI) 2-10 puffs as needed, with a spacer device, and repeat at 10-20 minute intervals or via oxygen driven nebuliser (if available) salbutamol **2.5-5mg** and repeat at 20-30 minute intervals if necessary.  
Monitor response for 15-30 minutes. If response is poor or a relapse occurs in 3-4 hours, send immediately to hospital.  
**Soluble Prednisolone**, 1-2mg/ kg/ day, max 40 mg/day for 3 days, single daily dose to be taken in the morning  
Majority of acute asthma attacks are triggered by viral infection. Routine prescription of antibiotics is not indicated for acute asthma.  
Antibiotics may be prescribed if the patient is pyrexial, has productive sputum and shows signs of chest infection.  
Provide an action plan.  
The patient should be informed to contact the GP if there is no improvement after **24 hours**.  
If the patient attended A&E or was admitted to hospital, a follow up within 48 hours after being discharged should be arranged at the GP Practice.  
If complex hospital admission or ITU admission occurs, patients should also be reviewed by a respiratory specialist within 1 month of the exacerbation. |  |
| **Children Under 5 Years** | **Salbutamol** 100mcg (MDI) up to10 puffs as needed, with a spacer device, and repeat at 10-20 minute intervals or via nebuliser (if available) salbutamol **2.5mg** and repeat at 20-30 minute intervals if necessary.  
Monitor response for 15-30 minutes. If response is poor or a relapse occurs in 3-4 hours, send immediately to hospital.  
**Soluble Prednisolone**, 1-2mg/ kg/ day, max 40 mg/day for 3 days, single daily dose to be taken in the morning  
Note: There is limited evidence for use of steroids in children with viral induced wheeze.  
Majority of acute asthma attacks are triggered by viral infection. Routine prescription of antibiotics is not indicated for acute asthma.  
Antibiotics may be prescribed if the patient is pyrexial, has productive sputum and shows signs of chest infection.  
Provide an action plan.  
The patient should be informed to contact the GP if there is no improvement after **24 hours**.  
If the patient attended A&E or was admitted to hospital, a follow up within 48 hours after being discharged should be arranged at the GP Practice.  
If complex hospital admission or ITU admission occurs, patients should also be reviewed by a respiratory specialist within 1 month of the exacerbation. |  |

**References:**
2. BNF 68. September 2014 – March 2015
**FACT SHEET: Medicines Management of Asthma**

**Aim of asthma management is control of the disease. Complete control is defined as**¹:
- No daytime symptoms
- No night time awakening due to asthma and nocturnal cough
- No need for rescue medication
- No exacerbations
- No limitations on activity including exercise
- Normal lung function (FEV₁ and or PEF > 80% predicted or best)
- Minimal side effects from medication

### Key Messages

- **Start at step most appropriate to initial severity**
- **Step treatment up as necessary and step down (by up to 50% for stable patients) when control is good.**
- **Review treatment every 3 months.**
- Before changing therapy check compliance and inhaler technique, [http://www.youtube.com/user/AsthmaUK](http://www.youtube.com/user/AsthmaUK)
- Use Metered Dose Inhaler (MDI) + spacer first-line, especially with children (children <3 years will require a spacer plus a mask). This minimises risk of systemic and local side effects.
- Consider Inhaled Corticosteroids (ICS) if:
  - using inhaled β₂ agonist three times a week or more
  - symptomatic three times a week or more
  - night time symptoms more than once a week
  - asthma exacerbation in the last two years (in children >5 years and adults)
- Use Clenil® MDI + spacer as first line ICS.
- Starting dose of ICS is usually 400mcg beclometasone dipropionate (BDP) per day for adults and 200mcg for children.
- All patients >2 years to receive one dose of pneumococcal vaccine and annual seasonal flu vaccine if taking ICS.
- Patients on high dose ICS should have a **steroid card.**
- Long acting β₂ agonists (LABA) should only be used in conjunction with an ICS. Use a combination inhaler.
- **High dose fluticasone** (>1000mcg/day (adults); ≥400mcg (children)) should only be initiated by a specialist. Beware of systemic side effects.
- Patients should rinse mouth with water after ICS use to minimise side effects.
- Once symptoms are controlled, consider stepping down ICS slowly. To avoid paradoxical bronchospasm reduce up to 50% every 3 months.
- Symbicort SMART® / Fostair MART dosing may be an option for poorly controlled adults at Step 3 (see overleaf for more information).
- All patients should have a self-management action plan (see [www.asthma.org.uk](http://www.asthma.org.uk)).

**Recommended daily doses of ICS delivered by pressurised metered-dose inhaler (pMDI)**⁴:

<table>
<thead>
<tr>
<th>pMDI</th>
<th>Age (years)</th>
<th>Dose of inhaled corticosteroid</th>
<th>Dose of inhaled corticosteroid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low dose</td>
<td>Usual start dose (step 2)</td>
</tr>
<tr>
<td>Clenil Modulite® (beclometasone CFC-free)</td>
<td>&gt; 12</td>
<td>100 micrograms twice daily</td>
<td>200 micrograms twice daily</td>
</tr>
<tr>
<td></td>
<td>5–11</td>
<td>50 micrograms twice daily</td>
<td>100 micrograms twice daily</td>
</tr>
<tr>
<td></td>
<td>&lt; 5</td>
<td>50 micrograms twice daily</td>
<td>100 micrograms twice daily</td>
</tr>
<tr>
<td>Qvar® (beclometasone CFC-free)</td>
<td>&gt; 12</td>
<td>50 micrograms twice daily</td>
<td>100 micrograms twice daily</td>
</tr>
<tr>
<td></td>
<td>&lt; 12</td>
<td>Unlicensed for children under the age of 12</td>
<td></td>
</tr>
<tr>
<td>Fluticasone</td>
<td>&gt; 12</td>
<td>50 micrograms twice daily</td>
<td>100 micrograms twice daily</td>
</tr>
<tr>
<td></td>
<td>&gt; 4</td>
<td>25 micrograms twice daily</td>
<td>50 micrograms twice daily</td>
</tr>
<tr>
<td></td>
<td>&lt; 4</td>
<td>Unlicensed for children &lt; 4 years</td>
<td></td>
</tr>
</tbody>
</table>

**Standard dose** of Beclometasone dipropionate (BDP) is 100-400mcg twice daily (or BDP equivalent) for adults and 100-200mcg twice a day for children under 12³

**High dose** is defined as BDP 400- 1000mcg twice daily for adults and 200-400mcg twice a day for children under 12².
Selection of Devices

- MDI + spacer can provide the highest lung deposition of up to 30%\(^5\).
- Recommend a Haleraid\(^\circledR\) in patients with dexterity problems.
- Breath actuated inhalers and dry powder inhalers require an adequate inspiratory flow. Only use after consideration of technique, efficacy and cost.
- Dry powder inhalers (Turbohaler\(^\circledR\), Diskhaler\(^\circledR\), Easyhaler\(^\circledR\) and Accuhaler\(^\circledR\)) are susceptible to humidity.
- Patients who have persistent difficulties with technique should be referred to a community respiratory nurse specialist.

Other key points

- **Modified release oral theophyllines** (prescribed by brand). Theophylline levels need to be monitored every 6-12 months or more often if toxicity is suspected. Measure trough level immediately pre-dose. Levels should be between 10- 20mg/litre.
- **Leukotriene receptor antagonists** (LTRA) may benefit patients with exercise-induced asthma or concomitant rhinitis. They are less effective in those with severe asthma also on high doses of other drugs\(^1\).
- **Modified release \(\beta_2\) agonist tablets** may be prescribed for children (by a respiratory paediatrician), who cannot manage the inhaled route. This has greater risk of side effects\(^1\).
- Patients on **long term steroid tablets** (> 3 months) or requiring frequent courses of steroid tablets (3-4 per year) will be at risk of systemic side effects\(^1\). **Monitor:**
  - bone mineral density and blood pressure
  - urine or blood sugar and cholesterol; diabetes mellitus and hyperlipidaemia may occur.

If not responding to treatments reconsider diagnosis and consider referral to respiratory specialists.

Committee on Safety of Medicines (CSM) advice in patients receiving ICS\(^1,6,7,8\)

**Monitoring and precautions for children:**

- Review patients regularly (3 monthly)\(^3\) and titrate to lowest effective dose. If asthma not controlled at maximum licensed dose ICS (see BNF) despite addition of other therapies – refer to paediatric specialist.
- Monitor growth (height and weight centile) of children with asthma on an annual basis. Also inform patients of increased susceptibility to infections especially chickenpox.
- Bone mineral density should be monitored in children >5 who are on long term steroid tablets (e.g. > 3 months) or requiring frequent courses of steroid tablets (e.g. 3 - 4 per year)
- Beware of adrenal crisis in patients on high dose ICS with severe illness especially if admission to secondary care is being considered due to severity of illness.
- Assess risks of ICS, taking into account other topical steroid therapy e.g. nasal sprays.

Information on the Safety of LABAs\(^9,10\)

- They should always be used with an ICS.
- ICS should not be stopped when using a LABA.
- They should not be commenced in acutely deteriorating asthma.
- Monitor closely especially for the first 3 months of treatment
- Discontinue if no benefit.
- Step down when control achieved.
- Do not prescribe for the relief of exercise induce asthma symptoms in the absence of a regular ICS (a short acting \(\beta_2\) agonist should be used).
- Salmeterol should not be used to relieve an acute asthma attack; it has a slower onset of action than salbutamol.
Only initiate high dose Fluticasone (adults: >500mcg BD; children (4-16 yrs) >200mcg BD):
- Where additional benefit is expected or demonstrated.
- To enable reduction in oral steroid use.
- After a trial of lower doses.

**Budesonide / Formoterol (Symbicort SMART® dosing -100/6 or 200/6)**
- Symbicort SMART® dosing may be an option for adults poorly controlled at step 3. Do not switch stable patients to this regimen.
- Consider the risks as overuse may lead to use of very high doses of ICS.
- It is not suitable for those who over rely on reliever medication or those who do not identify worsening asthma symptoms.
- Before initiating patient education is required.
- Patients taking rescue SMART® once a day or more should have their treatment reviewed¹. Usual dose 1 puff BD, increased if necessary to 2 puffs BD and 1 puff PRN to a maximum of 6 puffs (max 8 puffs daily).

**Beclometasone / Formoterol (Fostair MART® dosing -100/6)**
- Fostair MART® dosing may be an option for adults poorly controlled at step 3. Do not switch stable patients to this regimen.
- Patients take their daily maintenance dose of Fostair and in addition take Fostair as needed in response to asthma symptoms. Patients should be advised to always have Fostair available for rescue use.
- Patients requiring frequent use of rescue inhalations daily, should be strongly recommended to seek medical advice. Their asthma should be reassessed and their maintenance therapy should be reconsidered.
- Close monitoring for dose-related adverse effects is needed in patients who frequently take several doses of Fostair for rescue use.

**Fostair® Inhaler**
- Fostair is available as a pMDI and a DPI (Nexthaler).
- The pMDI should be stored in the fridge prior to dispensing. Once dispensed it can stay at room temperature for 5 months.
- The Nexthaler should be used within 6 months after first opening the pouch.
- As with all medicines clinicians are encouraged not to prescribe large quantities of inhalers, especially the combination ones, as they are also quite costly.

**Flutiform® Inhaler (Fluticasone / Formoterol)**
- Flutiform contains a faster-acting LABA (formoterol).
- This fixed-dose combination of fluticasone propionate and formoterol fumarate (flutiform inhaler) is indicated in the regular treatment of asthma where the use of a combination product (an inhaled corticosteroid and a long-acting β2 agonist) is appropriate:
  - For patients not adequately controlled with inhaled corticosteroids and ‘as required’ inhaled short-acting β2 agonist.
  - Or
  - For patients already adequately controlled on both an inhaled corticosteroid and a long-acting β2 agonist.
- Flutiform 50 microgram/5 microgram and 125 microgram/5 microgram inhalers are indicated in adults and adolescents aged 12 years and above.
- Flutiform 250 microgram/10 microgram inhaler is indicated in adults only.
Sirdupla Inhaler (Fluticasone propionate / Salmeterol)
- Is a bioequivalent alternative to Seretide Evohaler
- The metered-dose inhaler is available in two strengths; 25/125 and 25/250
- Prescribers should note that only the AeroChamber Plus spacer device should be used with Sirdupla.

*Relvar Ellipta® (Fluticasone furoate / vilanterol)
- Is licensed for the regular treatment of asthma in adults and adolescents aged 12 years and older where use of a combination medicinal product (LABA and ICS) is appropriate, that is patients not adequately controlled with ICS and 'as needed' inhaled short-acting beta₂ agonists.
- For the treatment of asthma, there are 2 strengths of the Relvar Ellipta® combination inhaler:
  - fluticasone furoate 92 micrograms plus vilanterol 22 micrograms
  - fluticasone furoate 184 micrograms plus vilanterol 22 micrograms
- A starting dose of Relvar Ellipta 92/22 micrograms should be considered for adults and adolescents 12 years and over who require a low to mid dose of inhaled corticosteroid in combination with a long-acting beta2-agonist. If patients are inadequately controlled on Relvar Ellipta 92/22 micrograms, the dose can be increased to 184/22 micrograms, which may provide additional improvement in asthma control.
- Fluticasone furoate 92 micrograms once a day is approximately equivalent to fluticasone propionate 250 micrograms twice a day and fluticasone furoate 184 micrograms once a day is approximately equivalent to fluticasone propionate 500 micrograms twice a day.

AirText
Air pollution may provoke acute asthma attacks or aggravate existing chronic asthma. Advise patients to register at www.airtext.info to receive a text message notifying them when air quality is poor.

Note: Ciclesonide is not included in this guideline as it is a non-formulary drug, locally.

References:
3. BNF 68
10. NPC. MeReC Extra no.44. ICS plus LABA not recommended in steroid naive patients with persistent asthma. March 2010
# Wandsworth CCG Recommended Inhalers as per local Guidelines

*This list is not exhaustive*

<table>
<thead>
<tr>
<th>Name</th>
<th>Class</th>
<th>Inhaler Type [Metered Dose Inhaler or Dry Powder Inhaler]</th>
<th>Licensed for Asthma Note: Licensed Age restrictions apply See BNF or SPC</th>
<th>Licensed for COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salbutamol</td>
<td>SABA</td>
<td>MDI &amp; DPI</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Terbutaline</td>
<td>SABA</td>
<td>DPI</td>
<td>✓</td>
<td>☒</td>
</tr>
<tr>
<td>Ipratropium</td>
<td>SAMA</td>
<td>MDI</td>
<td>✓</td>
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</tr>
<tr>
<td>Salmeterol</td>
<td>LABA</td>
<td>MDI &amp; DPI</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Formoterol</td>
<td>LABA</td>
<td>MDI &amp; DPI</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spiriva Respimat (Tiotropium)</td>
<td>LAMA</td>
<td>MDI</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Beclometasone</td>
<td>ICS</td>
<td>MDI &amp; DPI</td>
<td>✓</td>
<td>☒</td>
</tr>
<tr>
<td>Budesonide</td>
<td>ICS</td>
<td>DPI</td>
<td>✓</td>
<td>☒</td>
</tr>
<tr>
<td>Fluticasone</td>
<td>ICS</td>
<td>DPI</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Fostair (Beclometasone/ Formoterol)</td>
<td>ICS + LABA</td>
<td>MDI</td>
<td>✓</td>
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</tr>
<tr>
<td>Fostair NEXThaler (Beclometasone/ Formoterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
<td>✓</td>
<td>☒</td>
</tr>
<tr>
<td>Flutiform (Fluticasone/ Formoterol)</td>
<td>ICS + LABA</td>
<td>MDI</td>
<td>✓</td>
<td>☒</td>
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<tr>
<td>Sirdupla (Fluticasone/ Salmeterol)</td>
<td>ICS + LABA</td>
<td>MDI</td>
<td>✓</td>
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</tr>
<tr>
<td>DuoResp Spiromax (Budesonide/ Formoterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
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<td>✓</td>
</tr>
<tr>
<td>Symbicort Turbohaler (Budesonide/ Formoterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
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<tr>
<td>Seretide Evohaler (Fluticasone Salmeterol)</td>
<td>ICS + LABA</td>
<td>MDI</td>
<td>✓</td>
<td>☒</td>
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<tr>
<td>Seretide Acculhaler 100 , 250 (Fluticasone/ Salmeterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
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<tr>
<td>Seretide Acculhaler 500 only (Fluticasone/ Salmeterol)</td>
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<td>DPI</td>
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<td>✓</td>
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<tr>
<td>Relvar Ellipta 92/22 (Fluticasone/ Vilanterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Relvar Ellipta 184/22 (Fluticasone/ Vilanterol)</td>
<td>ICS + LABA</td>
<td>DPI</td>
<td>✓</td>
<td>☒</td>
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</tbody>
</table>