Primary Care Medicines Management of Asthma in Adults and Adolescents over 12 years **Surrey CCGs Prescribing Clinical Network**

- **Step up Step down: Aim to achieve early control, step up treatment as necessary and down when control is good.**
- Start treatment at step most appropriate to initial severity
- Titrate to the lowest dose at which control is maintained.
- Review patients using one or more short acting ß2 agonist (SABA) devices monthly or using SABA or symptomatic three times weekly or more.
- Prescribe inhalers by brand name.
- Treatment is as per British Thoracic Society Guidelines https://www.brit-thoracic.org.uk/guidelines-and-quality-standards/asthma-guideline

Updated November 15

Step 1- Inhaled Short Acting ß2 Agonist (SABA) as required

Short term reliever therapy

MDI + spacer: Salbutamol MDI 2 puffs prn

Dry Powder Inhaler (DPI): Easyhaler Salbutamol® 100 2 puffs prn

Prescribing Inhalers

- Prescribe inhalers only after patients have received training on the use of the device and have demonstrated satisfactory technique.
- If the patient is unable to use a device, support them to find a suitable alternative.

- Achieve early control and maintain by stepping up treatment as necessary.
- Step down when control is good.
- Titrate to the lowest dose at which control is maintained.

Step 2- Add Inhaled Corticosteroid (ICS) 200-800mcg BDP/day*

Start at a dose appropriate to the initial severity.

Recommended starting dose 400mcg BDP equivalent per day*

MDI+ spacer: Clenil Modulite® 100 MDI 2 puffs bd *or*
Qvar® 50 MDI 2 puffs bd

Dry Powder Inhaler (DPI): Easyhaler Beclometasone® 200 1 puff bd *or*
Qvar Easi-Breathe® 50 2 puffs bd

See Appendix 1 for BDP equivalent and licensing information for inhalers

Stepping up advice

Before starting new therapy check diagnosis,compliance with current medication and inhaler technique. Eliminate trigger factors including rhinitis. Consider adding ICS if the patient:

- has had asthma attacks in the last 2 years
- is using a SABA or is symptomatic 3 times weekly or more
- is waking one night per week with asthma

- **LABA should only be started if a patient is already on an ICS.**
- Leukotrienes can be useful in exercise induced asthma or if there is an allergic component.
- Review therapeutic range and dose of theophyllines.
- **If there is no response to add on treatment discontinue following therapeutic review**.

Step 3 - Add Inhaled Long Acting ß2 Agonist (LABA) to ICS 400mcg-800mcg BDP/day*

LABA should be added before going above 400mcg BDP equivalent /day

See Appendices 1and 2 for choice of combination long acting ß2 agonist /inhaled corticosteroid inhalers, licensing information and dosing

Prescribe the most cost effective inhaler providing the patient has demonstrated satisfactory technique.

Good response to LABA: ► **continue LABA**

Benefit from LABA, but control still inadequate: ‣ **continue LABA and increase ICS dose to 800mcg BDP equiv/day**

No response to LABA: ‣ **stop LABA and increase ICS dose to 800mcg BDP equiv/day**.

*Control still inadequate, institute trial of other therapies (***review** after 4 weeks*)* **:**

‣ **i) Montelukast 10mg nocte *or* ii) Uniphyllin® 200mg bd**

Step down when control is good.

- Dose reduction should be slow to avoid deterioration.
- Consider reduction every 3 months, decreasing the dose by approximately 25-50% each time.

See overleaf for more information on stepping down

Step 4- Consider trial of Increasing ICS to 2000mcg BDP equivalent /day (use spacer with high dose ICS)

High Dose ICS Safety Card required for doses > 1000micrograms BDP equivalent (see overleaf)

See Appendices 1 and 2 for choice of combination LABA/ICSinhalers ,licensing information and dosing.

Prescribe the most cost effective inhaler providing the patient has demonstrated satisfactory technique.

Control still inadequate, add in trial of fourth drug (review at 4 weekly intervals):

‣ **i) Montelukast 10mg nocte *or* ii) Uniphyllin® 200mg**

If still stable after 3 months: ‣ **Consider stepping down ICS**

If on high dose ICS for more than 6 months: ‣ **Consider referral to a specialist**

Step 5: Referral to a specialist if further treatment is necessary eg long term oral steroids, IgE assessment or dysfuntional breathing assessment

Medicines Management of Asthma in Adults and Adolescents over 12 years Review November 2017

Diagnosis

- ❑ Assess as per BTS/SIGN guideline https://www.brit-thoracic.org.uk/guidelines-and-quality-standards/asthma-guideline.
- ❑ BTS/SIGN recommends assigning a low, intermediate or high probability of asthma on the basis of clinical features, peak flow and spirometry. If diagnosis is unclear refer for specialist opinion

Aims of Treatment

Complete control is defined as:

- ❑ 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 funtion (in practical terms FEV_1 and/or PEF >80% or best)
- ❑ Minimal side effects from medication

NB: Patients may wish to balance the aims of treatment against the potential side effects or inconvenience of taking medication for perfect control.

Patient Review

- ❑ Monitor by routine clinical review at least annually.
- ❑ Review at 4 weeks following change in medication.
- ❑ Consider step down when stable for 3 months.
- ❑ **Reassess inhaler technique as part of review**
- ❑ **Offer personalised self management plan**

Resources at www.asthma.org.uk

- ❑ **Use validated tools for monitoring:**

►**Asthma Control Test - link**

►**Royal College of Physicians 3 questions:**

1. Have you difficulty sleeping due to asthma symptoms?
2. Have you had asthma symptoms during the day?
3. Has your asthma interfered with your usual activities?

Nebulisers

pMDI + spacer is at least as good as nebuliser for treating mild or moderate exacerbations of asthma . Nebulisers are not standard care in asthma and should only be prescribed on Respiratory Care Team recommendation .

- ❑ **Influenza vaccine** is indicated in asthmatic patients requiring repeated use of systematic or inhaled steroids.
- ❑ **Pneumococcal vaccine** is not indicated unless patient is having frequent oral corticosteroids (see "**Green Book**")

Stepping Down

- ❑ When deciding which drug to step down first and at what rate, the severity of asthma, the side effects of the treatment, time on current dose, the beneficial effect achieved, and the patient's preference should all be taken into account.
- ❑ Maintain at the lowest possible dose of inhaled steroid.
- ❑ Dose reduction should be slow, patients deteriorate at different rates.
- ❑ Consider reduction every 3 months, decreasing the dose by approximately 25-50% each time.
- ❑ Review patient 4 weeks after stepping down.Consider further reduction after 3 months.
- ❑ Step patients back up if symptoms develop during the 3 month period.

Inhaled Corticosteroids: Safety Issues

- ❑ The benefits of ICS outweigh the risks when used in clinically effective doses.
- ❑ 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 delivery and reduce local side-effects.
- ❑ Wash spacer monthly and replace yearly.

High Dose ICS Safety cards

High dose ICS safety cards and accompanying guidance for their use by health care professionals are recommended for use. These can be obtained via your CCG medicines management team. Information is also available on the Prescribing Advisory Database (PAD)

Beclometasone Dipropionate (BDP) - MHRA/CHM advice (July 2008)

- ❑ Beclometasone dipropionate CFC-free pressurised metered-dose inhalers (*Qvar*® and *Clenil Modulite*®) are **not** interchangeable and should be prescribed by brand name; *Qvar*® has extra-fine particles, is more potent than traditional beclometasone dipropionate CFC-containing inhalers, and is approximately twice as potent as *Clenil Modulite*®;
- ❑ *Fostair*® is a combination beclometasone dipropionate and formoterol fumarate CFC-free pressurised metered-dose inhaler; *Fostair*® has extra-fine particles and is more potent than traditional beclometasone dipropionate CFC-free inhalers.

Management of Acute Asthma outside hospital

https://www.brit-thoracic.org.uk/guidelines-and-quality-standards/asthma-guideline

(P.83 clinical features,assesment and management)

- ❑ Patients should have an agreed written action plan; they should know how to increase their medication and when to seek medical assistance.
- ❑ Outside hospital give high dose ß2 agonist (2-10 puffs of salbutamol 100mcg/puff, repeated at 10-20 minute intervals delivered via a spacer)
- ❑ In severe asthma poorly responsive to initial bolus dose of β2 agonist, consider continuous nebulisation .
- ❑ Give steroids in adequate doses.Continue prednisolone (non ec) 40-50mg daily for at least 5 daysor until recovery.
- ❑ Monitor vital signs including sats , 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.
- ❑ Keep patients who have had near fatal or brittle asthma under specialist supervision indefinitely,with follow up for at least a year after admission.

National Review of Asthma Deaths 2014

This review into the circumstances surrounding asthma deaths resulted in key recommendations for changes to improve asthma care including:

- ❑ Review of patients using more than 12 SABA inhalers in the previous 12 months
- ❑ LABAs should only be prescribed with an inhaled corticosteroid in a single combination inhaler.
- ❑ All patients should have written guidance in the form of a personal asthma action plans (PAAP)
- ❑ Non-adherence with preventer inhaled corticosteroid should be monitored
- ❑ Assessment of inhaler technique should be made at annual review

Maintenance and Reliever Therapy (MART)

Duoresp Spiromax®, Fostair® ,and Symbicort® at doses as detailed in SPC *can be used as rescue medication instead of SABA in addition to regular use as preventer at Step 3,in adults over 18 years. Review if rescue dose is used more than once daily on a regular basis.Patients who can self manage will need education before using these devices as relievers. *https://www.medicines.org.uk/emc/

Appendix 1: Surrey CCG s Medicines Management of Asthma in Adults and Adolescents over 12 years November 2015

Prescribing Clinical Network: Summary of Inhaler Devices for Asthma

For PCN prescribing decisions: http://pad.res360.net/

For Summary of Product Characteristics of all drugs/devices: https://www.medicines.org.uk/emc/

Surrey PCN CCGs- Medicines Management of Asthma in Adults and Children over 12 years	**Inhaler Type (Use spacer* with MDI)** ***MDI- metered dose inhaler DPI-Dry powder inhaler BA-Breath actuated***	**Beclometasone Dipropionate Equivalent (400 micrograms)**	**Licensed Age**	**Licensed Dosage** ***Refer to Surrey CCGs guideline and Appendix 2 for dosing as per British Guideline on the Management of Asthma BTS/SIGN October 14 (MART is maintenance and reliever Therapy)***
SABA (Short Acting Beta 2 agonists)				
Salbutamol MDI	MDI	N/A	Adult and child from 1 month	1-2 puffs up to 4 times daily
Ventolin® MDI	MDI	N/A	Adult and child from 1 month	1-2 puffs up to 4 times daily
Easyhaler® Salbutamol	DPI	N/A	Adult and child from 5 years	1-2 puffs up to 4 times daily
ICS (Inhaled Corticosteroids) **Steroid card recommended for ICS dose 800-1000micrograms (see guideline for reference)** **Steroid cards required for ICS doses >1000 micrograms**				
Clenil Modulite® 50,100,200,250 *Qvar® and Clenil® are not interchangeable and should be prescribed by brand name.*	MDI	400 microgram	50 and100-Adult and child from 2 years 200 and 250- Adult and child over 12years	1-2 puffs up to 4 times daily
Qvar 50,100 *Qvar® and Clenil® are not interchangeable and should be prescribed by brand name.*	MDI	200 micrograms	Adult and child over 12 years	1-2 puffs up to 4 times daily
Qvar Easi-Breathe® 50,100 *Qvar® and Clenil® are not interchangeable and should be prescribed by brand name.*	BA	200 micrograms	Adult and child over 12 years	1-2 puffs up to 4 times daily
Easyhaler® Beclometasone	DPI	400 micrograms	Adult over 18 years	1-2 puffs up to 4 times daily
ICS/LABA (ICS /Long Acting Beta 2 Agonist)				
Duoresp Spiromax® 160/4.5, 320/9 (Budesonide/Formoterol) (*strength expressed as delivered dose, equivalent to 200/6 and 400/12 metered dose)* *Prescribe budesonide /formoterol inhalers by brand name to avoid confusion.*	DPI	320 micrograms (delivered dose)	Adult over 18 years	Asthma 1-2 puffs twice daily **MART Licence** 1 puff twice daily and PRN to max 8 puffs/ day. (give steroid card to patient for higher strengths)
Flutiform® MDI 50/5, 125/5, 250/10 **(**Fluticasone propionate /Formoterol)	MDI	200 micrograms	50/5 and 125/5 - Adult and adolescents over 12 years	1-2 puffs twice daily

Delivered dose is slightly less than metered dose. Once the foil packaging is open the in-use shelf life is 3 months.			250/10 – Adult over 18 years	(give steroid card to patient for higher strengths)
Fostair® MDI 100/6, 200/6 **(***Beclometasone/ Formoterol)extra fine particle size* *Prior to dispensing Fostair® MDI is stored in the refrigerator (2-8oC). To be kept at room temperature for one hour before using. After dispensing Fostair®MDI can be kept at room temperature (below 25 °C) for 5 months.*	MDI	200 micrograms is equivalent to 500 micrograms BDP.	Adults over 18 years	1-2 puffs twice daily **MART Licence** 1 puff twice daily and PRN to max 8 puffs/day
Fostair NEXThaler® 100/6, 200/6 (Beclometasone/Formoterol) extrafine particle size	DPI	200 micrograms is equivalent to 500 micrograms BDP.	Adults over 18 years	1-2 puffs twice daily
Seretide Evohaler® 50/25, 125/25, 250/25 **(**Fluticasone propionate /Salmeterol)	MDI	200 micrograms	Adult and child over 5 years Adult and child over 12years	2 puffs twice daily (give steroid card to patients with higher strengths)
Seretide Accuhaler® 100/50, 250/50, 500/50 (Fluticasone propionate/Salmeterol)	DPI	200 micrograms	100- Adult and child over 4 years 250 and 500 -Adult and child over 12 years	1 puff twice daily (give steroid card to patients with higher strengths)
Symbicort Turbohaler® 100/6, 200/6, 400/12 (Budesonide/Formoterol)	DPI	400 micrograms	100-Adult and child over 6 years 200 and 400 -Adult and child over 12 years	100/6 and 200/6 1-2 puffs twice daily **MART licence** 1 puff PRN max 6 puffs at a time and 8-12 puffs daily 400/12 (give steroid card to patients with higher strengths)
Sirdupla® 125/25, 250/25 (Fluticasone propionate /Salmeterol) Equivalent to Seretide Evohaler® **Note: not available as lower strength product**	MDI	200 micrograms	Adult over 18 years	2 puffs twice daily (give steroid card to patient for higher strengths)

*Spacers: Volumatic®, Aerochamber Plus®, Space Chamber Plus® and Space Chamber Plus Compact®

Appendix 2: Surrey CCGs Primary Care Management of Asthma in Adults and Adolescents over 12 years

Inhaled Corticosteroid (ICS) / Long Acting Beta 2 agonist (LABA) combination choices and dosing. **November 2015**

Step up treatment as necessary and down when control is good. Titrate to the lowest dose at which control is maintained.

Step 3(a): Add LABA before going above 400mcg BDP equivalent/day:
***Starting* Dose 400mcg BDP equivalent/day*.**

MDI + spacer (Starting Dose):
Fostair® 100/6 1 puff bd
(£14.66) or
Flutiform® 50/5 2 puffs bd
(£18) or
Seretide Evohaler® 50/25 2 puffs bd
(£18)

Dry Powder Inhaler (DPI):
Fostair Nexthaler® 100/6 1 puff bd
(£14.66) or
Duoresp Spiromax® 160/4.5 1 puff bd
(£14.98) or
Seretide Accuhaler® 100/50 1 puff bd
(£18.00) or
Symbicort Turbohaler® 200/6 1 puff bd
(19.00)

Step 3(b): Response of LABA but control still suboptimal increase ICS dose to 800mcg BDP equivalent*/day:

MDI + spacer:
Fostair® 100/6 2 puffs bd
(£29.32) or
Flutiform®125/5 MDI 2 puffs bd
(£29.26) or
Sirdupla® 125/25 2 puffs bd
(£26.25) or
Seretide Evohaler® 125/25 2 puffs bd
(£35.00)

Dry Powder Inhaler (DPI):
Fostair Nexthaler® 100/6 2 puffs bd
(£29.32) or
Duoresp Spiromax® 160/4.5 2 puffs bd
(£29.97) or
Seretide Accuhaler® 250/50 1 puff bd
(£35.00) or
Symbicort Turbohaler® 200/6 2 puffs bd
(£38.00)

Step 4: Consider trial of increasing ICS to 2000mcg BDP equivalent*/day:
High Dose ICS Safety Card required for doses >1000mcg BDP equivalent/day
MDI + spacer:
Fostair® 200/6 2 puffs bd
(£29.32) or
Flutiform® 250/10 MDI 2 puffs bd
(£45.56) or
Sirdupla® 250 2 puffs bd
(£44.61) or
Seretide Evohaler® 250 2 puffs bd
(£59.48)

Dry Powder Inhaler (DPI):
Fostair Nexthaler® 200/6 2 puffs bd
(£29.32)
Duoresp Spiromax® 320 /9 2 puffs bd
(£59.94) or
Seretide Accuhaler® 500/50 1 puff bd
(£42.00) or
Symbicort Turbohaler® 400/12 2 puffs bd
(£76.00)

*Beclometasone Dipropionate equivalent. See Appendix 1 for information on specific equivalences. Doses recommended above are nearest available equivalent to stated BDP dose for each drug/device.

Costings from MIMS November 2015

For licensing and further product information see Appendix 1 and SPCs https://www.medicines.org.uk/emc/