

Guidance to support the stepwise review of combination inhaled corticosteroid therapy for adults (≥ 18 yrs) in asthma

Important Complete asthma control needs to be achieved for at least 12 weeks before attempting to step patients down ¹. The decision to step-down/ up therapy should be jointly made between the clinician and the patient. Table 1 defines the levels of asthma control. When stepping patients down/ up or switching therapy, prescribers should keep device changes to a minimum and consider the cost and beclometasone dipropionate (BDP) equivalence of different inhaler devices ^{1,2}. Table 2 shows the cost comparison between different inhaler types used in asthma. Table 3 demonstrates the variation in BDP equivalence across different corticosteroids.

Key principles:

- The BTS/SIGN guidance ¹ on the stepwise management of asthma should be used to treat patients at the step most appropriate to the initial severity of their asthma
- When reviewing asthma therapy, compliance, inhaler technique and trigger factors should be checked by practitioners
- Inhaled corticosteroids (ICS) are safe and effective for most patients with asthma, although the risk of systemic side effects is greater when higher doses are used. The dose of ICS should be titrated to the lowest dose at which effective asthma control is maintained ³
- If asthma is controlled with a combination ICS/long-acting beta2 agonist (LABA) inhaler, the preferred approach is to reduce the ICS by approximately 25-50% whilst continuing the LABA at the same dose. ^{1,2}
- The decision to use a combination device or the two agents in separate devices should be made on an individual basis, taking into consideration therapeutic need and the likelihood of treatment adherence ⁴
- If control is maintained after stepping-down, further reductions in the ICS should be attempted until a low dose is reached, when the LABA may be stopped ²
- **Appendix 1** contains a copy of the Asthma UK patient self-management plan which should be completed for all patients with asthma. [Click here to obtain an editable electronic copy of the Asthma UK patient self-management plan](#) (link)

Table 1: LEVELS OF ASTHMA CONTROL ²

Assessment of current clinical control (preferably over 4 weeks)			
Characteristic	Completely Controlled	Partly Controlled	Uncontrolled
Daytime symptoms	None (twice or less/week)	>Twice/week	Three or more features of partly controlled asthma
Limitation on activities	None	Any	
Nocturnal symptoms/awakening	None	Any	
Need for reliever/rescue treatment	None (twice or less/week)	>Twice/week	
Lung function (PEF or FEV ₁)	Normal	<80% predicted or personal best (if known)	

BTS/SIGN Summary of stepwise asthma management in adults ¹ (reproduced)

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.

Move down to find and maintain lowest controlling step (left-pointing arrow)

Move up to improve control as needed (right-pointing arrow)

Inhaled short-acting β_2 agonist as required

Step 1
Mild intermittent

Add inhaled steroid 200-800mcg/day*

400mcg is an appropriate starting dose for many patients

Start at dose of inhaled steroid appropriate to severity of disease

Step 2
Regular preventer therapy

- Add inhaled long-acting β_2 agonist (LABA)**
- Assess control of asthma:**
 - Good response to LABA** - continue LABA
 - Benefit from LABA but control still inadequate** - continue LABA and increase inhaled steroid dose to 800 mcg/day* (if not already on this dose)
 - No response to LABA** - stop LABA and increase inhaled steroid to 800 mcg/day*. If control still inadequate, institute trial of other therapies, leukotriene receptor antagonist or SR theophylline

Step 3
Initial add-on therapy

Consider trials of:

- increasing inhaled steroid up to 2000 mcg/day*
- addition of a fourth drug e.g. leukotriene receptor antagonist, SR theophylline, β_2 agonist tablet

Step 4
Persistent poor control

Use daily steroid tablet in lowest dose providing adequate control

Maintain high dose inhaled steroid at 2000 mcg/day*

Consider other treatments to minimise the use of steroid tablets

Refer patient for specialist care

Step 5
Continuous or frequent use of oral steroids

* BDP or equivalent

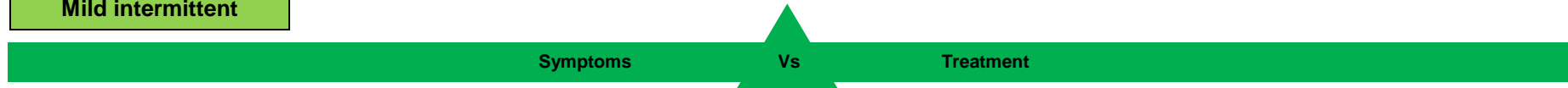


Table 2 Cost comparisons for inhalers used in asthma (30 day costs (without a spacer) Sept 13 Drug Tariff)

Most
Cost-
Effective



Least
Cost-
Effective

Step 1	Step 2	Step 3	Step 4	Step 5
		LABA can be added to an inhaled steroid either in a combination or as a separate device. Where a LABA is added separately **Easyhaler [®] Formoterol (D) is 1 st line		
Salbutamol Inhaler (M) 100mcg 2 puffs prn £0.45 **Easyhaler [®] Salbutamol (D) 100mcg 2 puffs prn £0.99 Salbutamol Accuhaler [®] (D) 200mcg 1 puff prn £1.50 Salbutamol Autohaler [®] (B) 100mcg 2 puffs prn £1.89 Terbutaline Turbohaler [®] (D) 500mcg 1 puff prn £2.08	400-500mcg BDP equiv./day: **Clenil Modulite [®] Inhaler (M) 100mcg 2 puffs bd £4.45 **Easyhaler [®] Beclometasone (D) 200mcg 1 puff bd £4.48 **Qvar Easi-Breathe [®] (B) 50mcg 2 puffs bd £4.65 **Qvar [®] Inhaler (M) 50mcg 2 puffs bd £4.72 **Easyhaler [®] Budesonide (D) 200mcg 1 puff bd £5.31 Fluticasone 50 Evohaler [®] (M) 2 puffs bd £5.44 Budesonide Turbohaler [®] (D) 200mcg 1 puff bd £7.11 Fluticasone 100 Accuhaler [®] (D) 1 puff bd £8.93	400-500mcg BDP equiv./day: Flutiform [®] 125/5 Inhaler (M) 1 puff bd £14.63 Fostair 100/6 Inhaler (M) 1 puff bd £14.66 Flutiform 50/5 Inhaler (M) 2 puffs bd £18.00 Seretide [®] 100 Accuhaler [®] (D) 1 puff bd £18.00 Seretide [®] 50 Evohaler [®] (M) 2 puffs bd £18.00 Symbicort 200/6 Turbohaler [®] (D) 1 puff bd £19.00 Symbicort 100/6 Turbohaler [®] (D) 2 puffs bd £33.00 800mcg BDP equiv./day: Symbicort 200/6 Turbohaler [®] (D) 2 puffs bd £38.00 Symbicort 400/6 Turbohaler [®] (D) 1 puff bd £38.00	1000mcg BDP equiv./day: Flutiform [®] 250/10 Inhaler (M) 1 puff bd £22.78 Flutiform [®] 125/5 Inhaler (M) 2 puffs bd £29.26 Fostair 100/6 inhaler (M) 2 puffs bd £29.32 Seretide [®] 250 Accuhaler [®] (D) 1 puff bd £35.00 Seretide [®] 125 Evohaler [®] (M) 2 puffs bd £35.00 1600mcg BDP equiv./day: Symbicort [®] 400/6 Turbohaler [®] (D) 2 puffs bd £76.00	2000mcg BDP equiv./day: Seretide [®] 500 Accuhaler [®] (D) 1 puff bd £40.92 Flutiform [®] 250/10 Inhaler (M) 2 puffs bd £45.56 Seretide [®] 250 Evohaler [®] (M) 2 puffs bd £59.48 Adding in daily steroid tablet and maintaining patient at 2000mcg BDP equiv./day takes patient to Step 5
(M) – Metered Dose Inhaler (Use with a suitable spacer device) (D) – Dry Powder Inhaler; (B) – Breath Actuated ** Must be prescribed by brand	Ciclesonide or mometasone may be prescribed if first-line treatments are unsuccessful. Refer to BNF for doses	Maintenance and Reliever Therapy Fostair MART [®] 100/6 Inhaler (M) 1 puff bd + 1 puff prn (max. 8 puffs/day) £21.99 Symbicort SMART [®] 200/6 Turbohaler [®] (D) 1-2 puffs bd + 1 puff prn (max. 8 puffs/day) £28.50/ £47.50 (≠ Prices based upon standard dose + 1 extra puff/day)		
		SMART[®]/MART[®] can be considered for patients with: <ul style="list-style-type: none"> Inadequate asthma control and a frequent need of reliever medication Asthma exacerbations in the past requiring medical intervention Patients must have received education on the use of the inhaler as maintenance and reliever therapy and clinicians must be confident patients understand how to use it appropriately. Patients should be advised to always have their inhaler available for rescue use. Patients requiring frequent use of rescue inhalations daily should be advised to return to the GP practice for reassessment. Practices should monitor the number of prescriptions requested and any dose-related adverse effects.		

Table 3: Variations in BDP equivalence ⁵				Beclometasone dipropionate (BDP) equivalent daily dose
Inhaled Corticosteroid	Brand	Type of inhaler	Dose	
Beclometasone	Clenil [®]	Metered dose Inhaler	100mcg 2 puffs twice a day	400mcg
	Easyhaler [®]	Dry Powder Inhaler	200mcg 1 puff twice a day	400mcg
	Qvar [®]	Metered dose Inhaler	50mcg 2 puffs twice a day	400mcg
	**Fostair [®]	Metered dose Inhaler	100mcg 1 puffs twice a day	500mcg
Budesonide	Easyhaler [®]	Dry Powder Inhaler	200mcg 1 puff twice a day	400mcg
	Pulmicort [®]	Dry Powder Inhaler	200mcg 1 puff twice a day	400mcg
	**Symbicort [®]	Dry Powder Inhaler	200mcg 1 puff twice a day	400mcg
Fluticasone	Flixotide [®]	Dry Powder Inhaler	100mcg 1 puff twice a day	400mcg
	**Flutiform [®]	Metered dose Inhaler	125mcg 1 puff twice a day	500mcg
	**Seretide [®]	Metered dose Inhaler	125mcg 1 puff twice a day	500mcg

** These products are inhaled corticosteroid and long-acting β_2 agonist (LABA) combination inhalers

NB. The dose equivalences for ciclesonide and mometasone are not well established

References

1. British Thoracic Society. Scottish Intercollegiate Guidelines Network. British Guideline on the Management of Asthma. Revised January 2012. <http://www.brit-thoracic.org.uk/Portals/0/Guidelines/AsthmaGuidelines/sign101%20Jan%202012.pdf>
2. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention. 2012 update http://www.ginasthma.org/local/uploads/files/GINA_Report_March13.pdf
3. NPC MeReC Bulletin 2008;Vol. 19 no.2
4. National Institute for Health and Clinical Excellence. Inhaled corticosteroids for the treatment of chronic asthma in adults and in children aged 12 years and over. NICE technology appraisal guidance 138. 2008 Mar. <http://www.nice.org.uk/TA138>
5. Adapted from MeReC Bulletin 2008;13(2) & BTS/SIGN Asthma Guidance 2012

Acknowledgement to Jenny Gibbs, Medicines Management Team, Bristol CCG for baseline layout

Instructions: How to step patients down

Ascertain whether the patient has achieved complete asthma control for at least 3 months (see Table 1 on page 1).

Yes

No

Step the patient down

1. Using table 2 (page 3), identify the combination inhaler and dose the patient is currently being prescribed. Identify which step (2-5) this product and dose represents
2. Consider using the most appropriate cost effective product when stepping down patients (see table 2)
3. Refer to pages 6 to 9 when stepping down using the same combination products
4. It may be more cost effective to change products during step down. If appropriate, prescribe the dose suitable to that step and ensure that the patient is shown how to use any potentially new device

Note for patients at steps 4 & 5: If the patient is prescribed add-on therapies (e.g. montelukast, oral prednisolone) consider reducing/stopping these one by one before attempting to reduce

Review the patient in 3 months[♦]

Has the patient achieved complete asthma control in the last 3 months (see Table 1)?

([♦]If you previously stepped the patient up to cover the hay fever season and wish to step them down again, review the patient in 1 month rather than 3 months).

Yes

Step the patient down again and repeat cycle

Do not step the patient down

1. Check inhaler technique
2. Check exposure to trigger factors
3. Check adherence to therapy and consider any issues which may affect compliance

If these have been excluded, step-up therapy

Clinicians should consider:

Patients achieve complete asthma control at different rates. Clinicians should have a discussion with the patient to decide whether to trial the current therapy for longer or to step-up again.

Suggested discussion points with patient:

1. Are there any factors affecting adherence to therapy e.g. polypharmacy, social reasons or beliefs?
2. Are there any issues affecting compliance e.g. dexterity?
3. Is the patient exposed to trigger factors e.g. smoking, pets, pollen or stress?
4. Are there any lifestyle points to consider where asthma stability is crucial e.g. impending exam
5. How long did it take the patient to achieve complete asthma control last time?
6. What would be the potential consequences of an exacerbation and does the patient know what to do if this occurs?
7. What would the patient prefer to do?
8. Ensure the patient has an up to date self-management plan

Action:

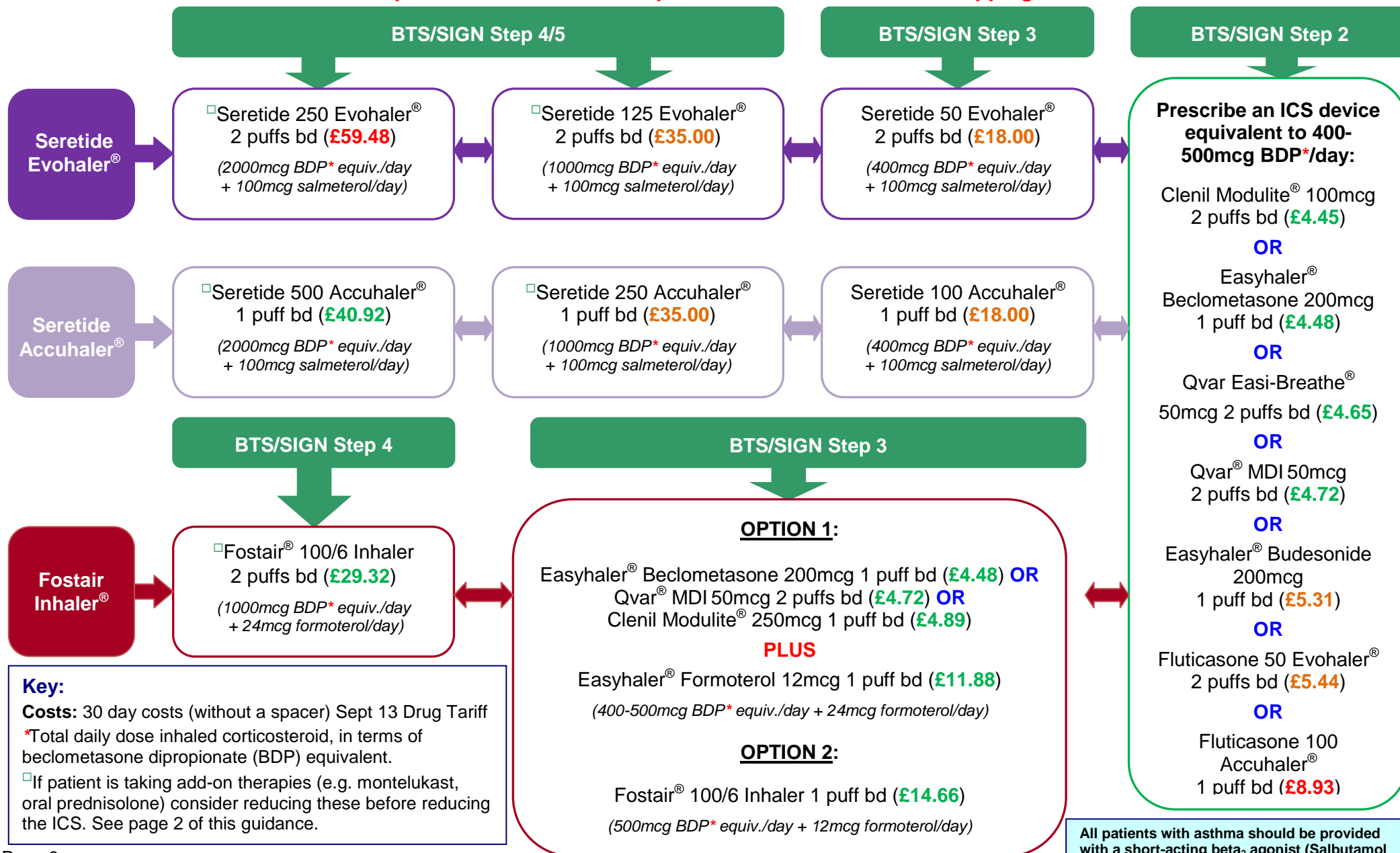
Clinicians should use their professional judgement to decide whether to continue trialling the current therapy, or to step-up again. If continuing on the current therapy for longer, the clinician should advise the patient to monitor their symptoms and short-acting bronchodilator use, and review the patient again in 1 month. Patients should be advised to follow their self-management plan if their symptoms become problematic within this time.

Refer to a specialist if necessary.

Asthma guide for Seretide[®] and Fostair[®] (devised from BTS guidance and the relevant Summary of Product Characteristics)

Note: all doses are for asthma maintenance therapy, not asthma maintenance and reliever therapy (e.g. not the MART[®] regime)

Ensure patient has achieved complete asthma control before stepping down



Key:

Costs: 30 day costs (without a spacer) Sept 13 Drug Tariff

*Total daily dose inhaled corticosteroid, in terms of beclometasone dipropionate (BDP) equivalent.

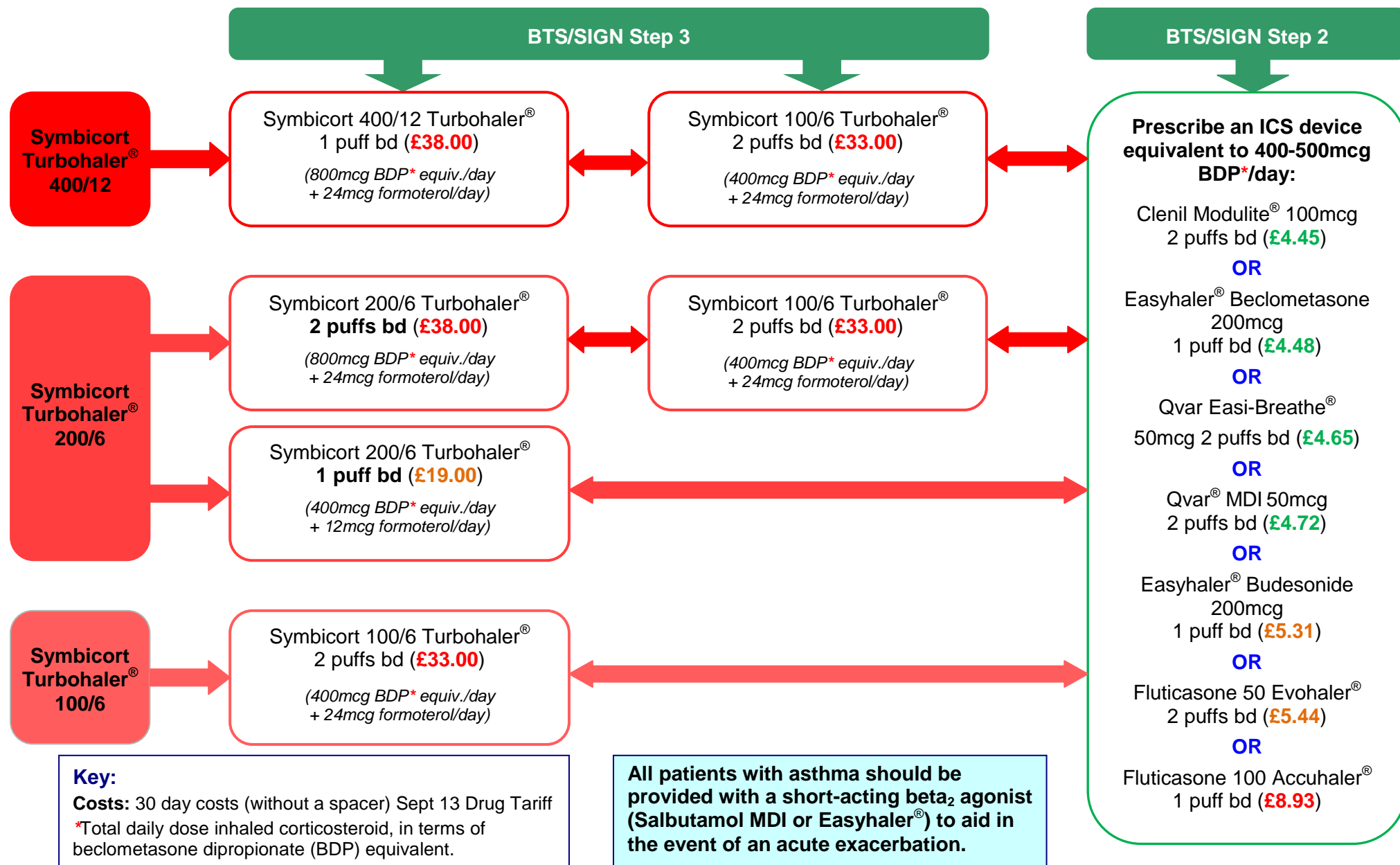
□ If patient is taking add-on therapies (e.g. montelukast, oral prednisolone) consider reducing these before reducing the ICS. See page 2 of this guidance.

All patients with asthma should be provided with a short-acting beta₂ agonist (Salbutamol MDI or Easyhaler[®]) to aid in the event of an acute exacerbation.

Asthma guide for Symbicort Turbohaler® (devised from BTS guidance and the relevant Summary of Product Characteristics)

Note: all doses are for asthma maintenance therapy, not asthma maintenance and reliever therapy (e.g. not the SMART® regime)

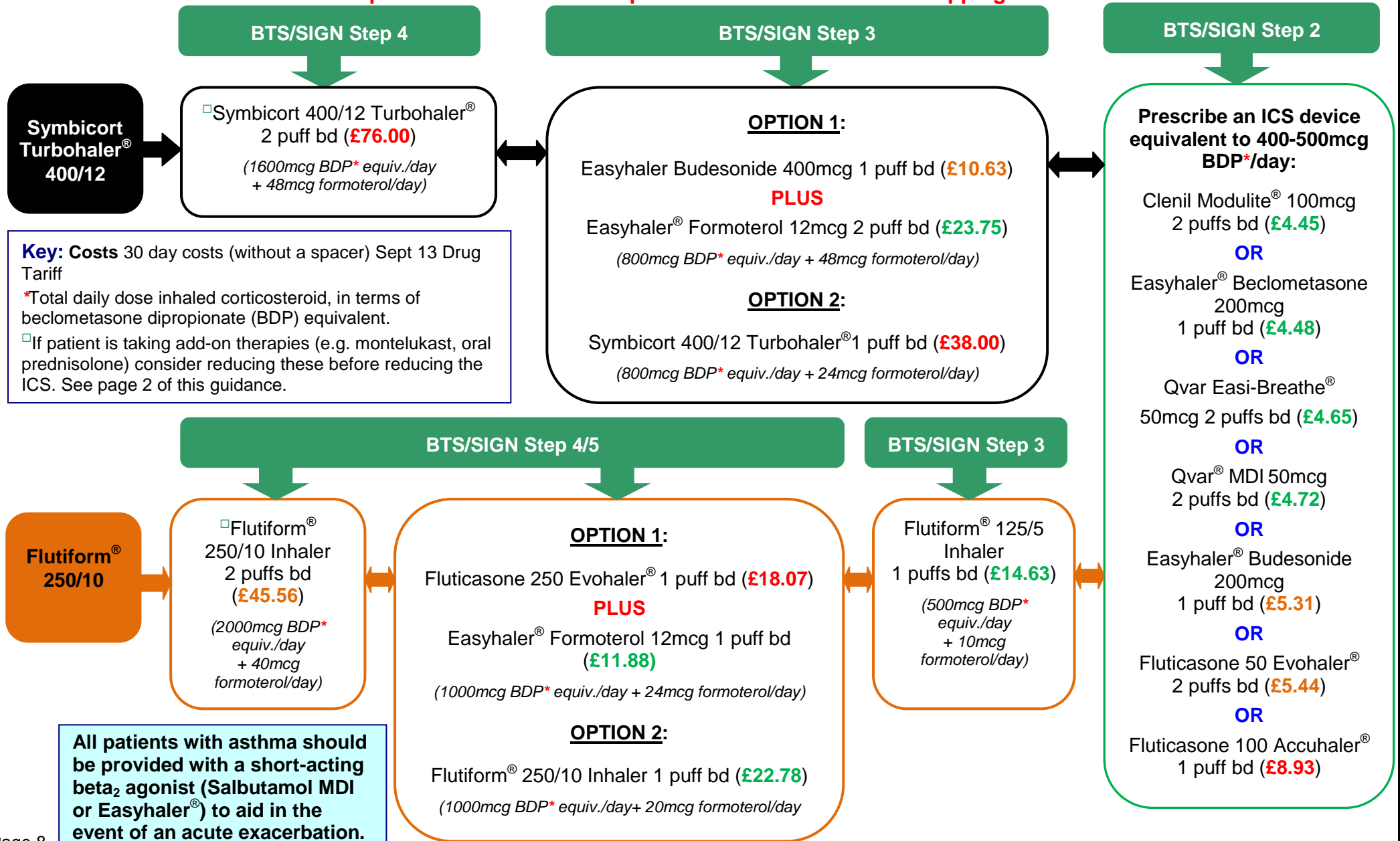
Ensure patient has achieved complete asthma control before stepping down



Asthma guide for high dose Symbicort® and Flutiform® (devised from BTS guidance and the relevant Summary of Product Characteristics)

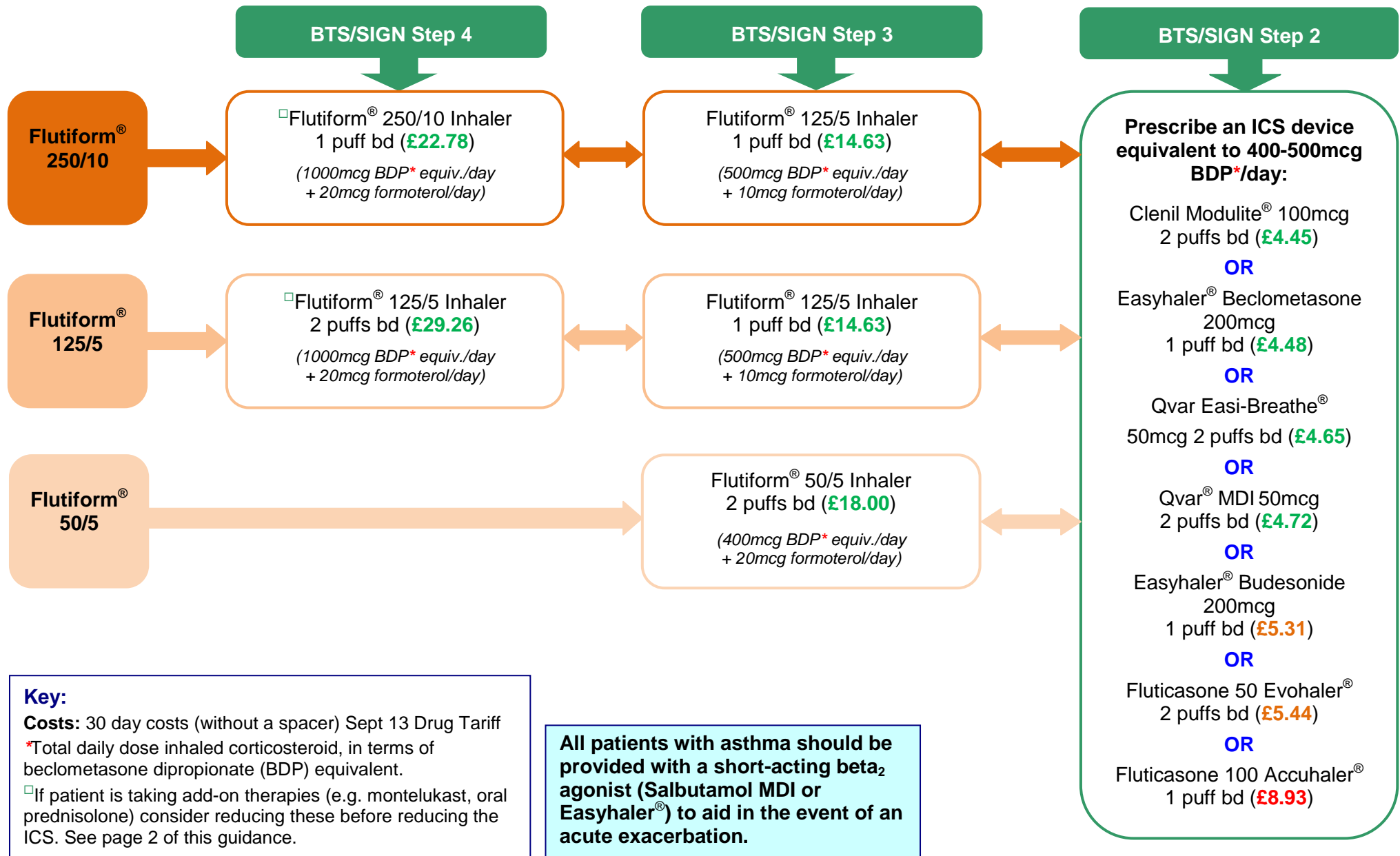
Note: all doses are for asthma maintenance therapy, not asthma maintenance and reliever therapy (e.g. not the SMART® regime)

Ensure patient has achieved complete asthma control before stepping down



Asthma guide for Flutiform® (devised from BTS guidance and the relevant Summary of Product Characteristics)

Ensure patient has achieved complete asthma control before stepping down



Key:

Costs: 30 day costs (without a spacer) Sept 13 Drug Tariff

*Total daily dose inhaled corticosteroid, in terms of beclometasone dipropionate (BDP) equivalent.


□ If patient is taking add-on therapies (e.g. montelukast, oral prednisolone) consider reducing these before reducing the ICS. See page 2 of this guidance.

All patients with asthma should be provided with a short-acting beta₂ agonist (Salbutamol MDI or Easyhaler®) to aid in the event of an acute exacerbation.

Asthma UK Patient Self-Management Plan

your asthma action plan

If you use an asthma action plan you are **four times less likely** to have an asthma attack that requires emergency hospital treatment.






Name Date

asthma with you every breath of the way

Complete this with your **asthma nurse or GP.**

- The Asthma UK patient self-management plan should be completed for all patients with asthma
- Copies of the Asthma UK patient self-management plan can be ordered by emailing info@asthma.org.uk or calling Asthma UK's Supporter Care Team on 0800 121 62 55
- [Click here to obtain an editable electronic copy of the Asthma UK patient self-management plan](#) (link)
- The editable electronic copy of the Asthma UK patient self-management plan is available on each CCG's prescribing guidance webpage:
 - [Barking and Dagenham](#) (link) [Havering](#) (link) [Redbridge](#) (link)

 This is what I need to do to stay on top of my asthma:	 My asthma is getting worse if I notice any of these:	 I am having an asthma attack if any of these happen:
<p>My personal best peak flow is: <input type="text"/></p> <p>My preventer inhaler <input type="text"/> (insert name/colour)</p> <p>I need to take my preventer inhaler every day even when I feel well.</p> <p>I take <input type="text"/> puff(s) in the morning and <input type="text"/> puff(s) at night.</p> <p>My reliever inhaler <input type="text"/> (insert name/colour)</p> <p>I take my reliever inhaler only if I need to.</p> <p>I take <input type="text"/> puff(s) of my reliever inhaler if any of these things happen:</p> <ul style="list-style-type: none"> • I'm wheezing • My chest feels tight • I'm finding it hard to breathe • I'm coughing <p>Other medicines I take for my asthma every day:</p> <input type="text"/> <p>Contact number for GP/specialist asthma nurse:</p> <input type="text"/>	<ul style="list-style-type: none"> • My symptoms are coming back (wheeze, tightness in my chest, feeling breathless, cough) • I am waking up at night • My symptoms are interfering with my usual day-to-day activities (eg at work, exercise) • I am using my reliever inhaler <input type="text"/> times a week or more • My peak flow drops to below <input type="text"/> <p>This is what I can do straight away to get on top of my asthma:</p> <p>1 If I haven't been using my preventer inhaler, start using it regularly again or:</p> <p>Increase my preventer inhaler dose to <input type="text"/> until my symptoms have gone and my peak flow is back to normal.</p> <p>Take my reliever inhaler as needed (up to <input type="text"/> puffs every four hours).</p> <p>If I don't improve within 48 hours make an appointment to see my GP or asthma nurse.</p> <p>2 If I have been given prednisolone tablets (steroid tablets) to keep at home:</p> <p>Take <input type="text"/> mg of prednisolone tablets (which is <input type="text"/> x 5mg) immediately and again every morning for <input type="text"/> days or until I am fully better.</p> <p>Call my GP today and let them know I have started taking steroids and make an appointment to be seen within 24 hours.</p>	<ul style="list-style-type: none"> • My reliever inhaler is not helping or I need it more than every <input type="text"/> hours • I find it difficult to walk or talk • I find it difficult to breathe • I'm wheezing a lot or I have a very tight chest or I'm coughing a lot • My peak flow is below <input type="text"/> <p>THIS IS AN EMERGENCY TAKE ACTION NOW</p> <ol style="list-style-type: none"> 1 Take two puffs of my reliever inhaler (one puff at a time) 2 Sit up and try to take slow, steady breaths 3 If I don't start to feel better, take two puffs of my reliever inhaler (one puff at a time) every two minutes. I can take up to ten puffs 4 If I don't feel better I should call 999 straight away. If an ambulance doesn't arrive within ten minutes, and I'm still not feeling better, then I should repeat Step 3 5 Even if I feel better after this I should see my GP or asthma nurse for advice the same day 6 If I have rescue prednisolone tablets, take 40mg (8 x 5mg) altogether <p>Please note this asthma attack information is not designed for people who use the Symbicort SMART regime. If you use Symbicort SMART please speak to your GP or asthma nurse about this.</p>
<p>i When you have good control over your asthma you should have no symptoms. If you have hay fever or a food allergy it's even more important to have good control of your asthma.</p>		