

Management of Asthma in Clinical Practice

Each patient should start therapy at the step most appropriate to his/her symptoms and move up and down the treatment ladder according to symptoms. Review treatment every 3 months; if control has been achieved, a stepwise reduction may be possible (Section 4.3 of Prescribing and Cost Guidance - Asthma).

Step 1

Inhaled short-acting beta₂ agonist (SABA) as required.

Mild intermittent asthma

Step 2

Add inhaled corticosteroid (ICS). Titrate dose to severity of disease.

Regular controller therapy

Step 3

Add long-acting beta₂ agonist (LABA) or increase ICS (continue LABA if good response or stop LABA if no response and add oral LTRA*/sustained release(SR) theophylline† to ICS

Initial add-on therapy

Step 4

Consider increasing ICS to maximum dose with LABA (if response to LABA observed). Stop LABA if no benefit. Consider addition of LTRA/SR theophylline † or tiotropium (respiat®)‡

Persistent poor control

Step 5

Maintain high dose ICS ± daily low dose oral corticosteroid. Consider adding tiotropium (respiat®) ‡ Specialist care

Continuous/frequent use of corticosteroids

Increasing severity of disease

* LTRA: Leukotriene receptor antagonist
‡ Tiotropium (Respiat® soft mist inhaler) is indicated as add on therapy in ADULTS ONLY with a history of exacerbations
† For children 6-11 years, theophylline is not recommended and preferred step 3 is medium dose ICS

Practice points



- Where a patient requires two puffs of SABA twice weekly, a regular ICS is indicated.
- A patient's ability to use an inhaler correctly is a crucial consideration when prescribing an inhaler device:
 - ✓ Most patients can be taught to use a pressurised metered dose inhaler (pMDI)
 - ✓ A spacer device should be used when a patient has difficulty using a pMDI or a breath-actuated MDI may be useful.
 - ✓ Dry powder inhalers (DPIs) are useful for those unable to use a pMDI. However, inspiratory flow rate must be sufficient to enable lung deposition.
 - ✓ Patients **must be trained** on how to use their device; inhaler technique should be **assessed regularly** (checklists for inhaler technique review are available on www.asthma.ie)
- It is good practice to use one inhaler device type per patient, i.e. a pMDI or DPI for both reliever and maintenance therapy. This avoids the need to train the patient in more than one device type and reduces confusion. Having more than one device type in use or switching between devices can lead to incorrect dosing, adverse effects and drug wastage.
- Seretide® Diskus is not licensed at a dose of two puffs twice daily; the correct dose is one puff twice daily.



Inhalers for the Treatment of Asthma – Summary of Costs

Drug and device	Device Cost €	Cost per actuation €
Short-acting beta₂ agonists (SABA)		
Salbutamol		
Salamol® CFC-free inhaler (pMDI) 100mcg	2.96	0.01
Salbutamol® CFC-free inhaler (pMDI) 100mcg	3.00	0.02
Gerivent® CFC-free inhaler (pMDI) 100mcg	2.95	0.01
Ventamol® CFC-free inhaler (pMDI) 100mcg	2.95	0.01
Salbul® Inhaler (pMDI) 100mcg	3.01	0.02
Ventolin® Evohaler (pMDI) 100mcg	3.20	0.02
Salamol® Easi-breathe CFC-free (BA MDI) 100mcg	7.95	0.04
Novolizer® Salbutamol (BA DPI) 100mcg	8.90	0.04
Ventolin Diskus® (DPI) 200mcg	4.48	0.07
Terbutaline		
Bricanyl® Turbohaler (DPI) 500mcg	5.94	0.06
Short-acting muscarinic antagonists (SAMA)		
Ipratropium		
Atrovent® CFC-free inhaler (pMDI) 20mcg	2.67	0.01
Inhaled corticosteroids (ICS)		
Beclometasone		
Beclazone® CFC-free inhaler (pMDI) 50mcg	5.36	0.03
Beclazone Easi-breathe® CFC-free inhaler (BA MDI) 50mcg	5.58	0.03
Becotide® Evohaler (pMDI) 50mcg	3.05	0.02
QVAR® Inhaler/Autohaler (pMDI) 50mcg *	10.86	0.05
Beclazone® CFC-free inhaler (pMDI) 100mcg	10.45	0.05
Beclazone Easi-breathe® CFC-free inhaler (BA MDI) 100mcg	10.86	0.05
Becotide® Evohaler (pMDI) 100mcg	12.18	0.06
QVAR® Inhaler/Autohaler (pMDI) 100mcg *	23.24	0.12
Beclazone® CFC-free inhaler (pMDI) 200mcg	21.09	0.11
Beclazone Easi-breathe® CFC-free inhaler (BA MDI) 200mcg	21.09	0.11
Beclazone® CFC-free inhaler (pMDI) 250mcg	22.35	0.11
Beclazone Easi-breathe® CFC-free inhaler (BA MDI) 250mcg	23.24	0.12
Becotide® Evohaler (pMDI) 250mcg	15.58	0.08
Budesonide		
Pulmicort® Turbohaler (DPI) 100mcg	16.24	0.08
Pulmicort® Turbohaler (DPI) 200mcg	12.71	0.13
Novolizer® Budesonide (DPI) 200mcg	20.00	0.20
Pulmicort® Turbohaler (DPI) 400mcg	13.41	0.27
Novolizer® Budesonide (DPI) 400mcg	20.00	0.40
Ciclesonide		
Alvesco® (pMDI) 80mcg	17.73	0.30
Alvesco® (pMDI) 160mcg	21.60	0.36
Fluticasone		
Flixotide® Evohaler (pMDI) 50mcg	8.85	0.07
Flixotide® Diskus (DPI) 50mcg	5.64	0.09
Flixotide® Diskus (DPI) 100mcg	9.01	0.15
Flixotide® Evohaler (pMDI) 125mcg (120 dose)	18.65	0.16

*The recommended total daily dose of beclometasone dipropionate extrafine aerosol from Qvar is lower than that for current beclometasone dipropionate CFC product and should be adjusted to the individual patient.

▼ Medicinal product subject to additional monitoring by the European Medicines Agency
BA MDI – Breath-actuated metered dose inhaler; pMDI – Pressurised metered dose inhaler; DPI – Dry powder inhaler; SMI – Soft mist inhaler

Drug and device (continued)	Device Cost €	Cost per actuation €	
Inhaled corticosteroids (ICS) - Fluticasone (continued)			
Flixotide® Evohaler (pMDI) 125mcg (60 dose)	9.33	0.16	
Flixotide® Evohaler (pMDI) 250mcg (120 dose)	32.82	0.27	
Flixotide® Evohaler (pMDI) 250mcg (60 dose)	16.41	0.27	
Flixotide Diskus (DPI) 250mcg	17.95	0.30	
Flixotide® Diskus (DPI) 500mcg	30.84	0.51	
Mometasone			
Asmanex® Twisthaler (DPI) 200mcg (60 dose)	20.58	0.34	
Asmanex® Twisthaler (DPI) 200mcg (30 dose)	15.57	0.52	
Asmanex® Twisthaler (DPI) 400mcg (60 dose)	35.99	0.60	
Asmanex® Twisthaler (DPI) 400mcg (30 dose)	22.44	0.75	
Long-acting beta₂ agonists (LABA) (No role for LABA monotherapy in asthma)			
Formoterol			
Oxis® Turbohaler (DPI) 6mcg	16.55	0.28	
Oxis® Turbohaler (DPI) 12mcg	20.11	0.34	
Foradil® Aerolizer (DPI) 12mcg	23.09	0.38	
Salmeterol			
Salmeterol Neolab® (pMDI) 25mcg	26.37	0.22	
Serevent® Evohaler (pMDI) 25mcg	28.57	0.24	
Serevent® Diskus (DPI) 50mcg	25.49	0.42	
Long-acting muscarinic antagonist (LAMA) (Adults only as add on therapy)			
Spiriva Respimat® (trotropium) (SMI) 2.5mcg (60 dose, two daily)	37.38	0.62 (x2)	
Combined inhaled corticosteroid (ICS) and long-acting beta₂ agonist (LABA)			
Budesonide/Formoterol			
Buformix Easyhaler (DPI) 80mcg/4.5mcg	31.86	0.27	EQUIVALENT DOSES
Symbicort® Turbohaler (DPI) 100mcg/6mcg	38.97	0.32	
Buformix® Easyhaler (DPI) 160mcg/4.5mcg	31.86	0.27	EQUIVALENT DOSES
DuoResp Spiromax (DPI) 160mcg/4.5mcg	37.58	0.31	
Symbicort® Turbohaler (DPI) 200mcg/6mcg	40.85	0.34	EQUIVALENT DOSES
Buformix® Easyhaler (DPI) 320mcg/9mcg	31.86	0.53	
DuoResp Spiromax (DPI) 320mcg/9mcg	36.85	0.61	
Symbicort® Turbohaler (DPI) 400mcg/12mcg	38.98	0.65	
Fluticasone propionate/Formoterol			
Flutiform® (pMDI) 50mcg/5mcg	26.43	0.22	
Flutiform® (pMDI) 125mcg/5mcg	36.49	0.30	
Flutiform® (pMDI) 250mcg/10mcg	54.51	0.45	
Fluticasone propionate/Salmeterol			
Seretide® Evohaler (pMDI) 50mcg/25mcg	25.06	0.21	
Seretide® Diskus (DPI) 100mcg/50mcg	25.50	0.43	
Seretide® Evohaler (pMDI) 125mcg/25mcg	36.42	0.30	
Seretide® Evohaler (pMDI) 250mcg/25mcg	50.67	0.42	
AirFluSal Forspiro (DPI) 250mcg/50mcg	31.67	0.53	EQUIVALENT DOSES
Seretide® Diskus (DPI) 250mcg/50mcg	34.54	0.58	
AirFluSal Forspiro 500mcg/50mcg	41.41	0.69	EQUIVALENT DOSES
Seretide® Diskus (DPI) 500mcg/50mcg	45.12	0.75	
Fluticasone furoate/Vilanterol			
Relvar® Ellipta ▼(DPI) 92mcg/22mcg	34.45	1.15	
Relvar® Ellipta ▼(DPI) 184mcg/22mcg	39.95	1.33	

Costs listed reflect the reimbursed price. Private/DPS patients pay significantly more than the reimbursed price. Cost per day will vary depending on the inhaler, the dose and frequency prescribed (refer to SmPC for licensed doses for each inhaler)