

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## Single Combined Inhaler / Maintenance and Reliever Therapy (MART) Guideline Option

Dry Powder Inhaler (DPI) Options HIGH inspiratory Flow – More than 30 L / min Technique: Quick and Fast	Metered Dose Inhaler (MDI) Options LOW inspiratory Flow – Less than 30 L / min Technique: Long and Slow
Controller and Reliever	Controller and Reliever
<b>Step 1:</b>	
<p style="text-align: center;"><b>As-Needed Low Dose ICS-LABA</b></p> <p>Fostair NEXThaler® 100/6 microgram ** 1 puff PRN (MAXIMUM 8 puffs in 24 hours)</p> <p><b>OR</b></p> <p>Symbicort Turbohaler® 100/6 microgram 1 puff PRN (TOTAL of 8<sup>1</sup> puffs in 24 hours)</p>  	<p style="text-align: center;"><b>As-Needed Low Dose ICS-LABA</b></p> <p>Fostair® MDI 100/6 microgram* 1 puff PRN (TOTAL of 8 puffs in 24 hours) <i>(Please note only 3 month expiry date once open, if DPI can be used please consider as longer expiry)</i></p> 
<b>Step 2: Move to this step when using 'As -needed low dose ICS-LABA' 3 times a week or more</b>	
<p style="text-align: center;"><b>Low Dose ICS-LABA</b></p> <p>Fostair NEXThaler® 100/6 microgram** 1 puff BD <b>PLUS</b> 1 puff PRN (TOTAL of 8 puffs in 24 hours)</p> <p><b>OR</b></p> <p>Symbicort Turbohaler® 200/6 microgram 1 puffs BD <b>PLUS</b> 1 puff PRN (TOTAL of 8<sup>1</sup> puffs in 24 hours)</p>  	<p style="text-align: center;"><b>Low Dose ICS-LABA</b></p> <p>Fostair® MDI 100/6 microgram* 1 puff BD <b>PLUS</b> 1 puff PRN (TOTAL of 8 puffs in 24 hours)</p> 
<p><b>Additional therapy that may be tried before moving up to Step 3:</b> Montelukast 10mg Tablet – 1 ON</p>	
<b>Step 3: Move to this step if symptoms still present most days despite regular use of treatment</b>	
<p style="text-align: center;"><b>Medium Dose ICS-LABA</b></p> <p>Fostair NEXThaler® 100/6 microgram** 2 puffs BD <b>PLUS</b> 1 - 2 puffs PRN (TOTAL of 8 puffs in 24 hours)</p> <p><b>OR</b></p> <p>Symbicort Turbohaler® 200/6 microgram 2 puffs BD <b>PLUS</b> 1 puff PRN (TOTAL of 8<sup>1</sup> puffs in 24 hours)</p>  	<p style="text-align: center;"><b>Medium ICS-LABA</b></p> <p>Fostair® MDI 100/6 microgram* 2 puffs BD <b>PLUS</b> 1 - 2 puffs PRN (TOTAL of 8 puffs in 24 hours)</p> 
<p><b>Additional therapy that may be tried before moving up to Step 4:</b> First line: Tiotropium 2.5mcg Respimat – 2puffs OD Second Line: Aminophylline 225mg MR Tablet – 1 BD (initial dose)</p>	
<b>Step 4: REFERRAL TO SECONDARY CARE IS REQUIRED WHEN A PATIENT REACHES THIS STEP</b>	
<p style="text-align: center;"><b>High Dose ICS-LABA</b></p> <p>Fostair NEXThaler® 200/6 microgram** 2 puffs BD <b>OR</b></p> <p>Symbicort Turbohaler® 400/12 micrograms 2 puffs BD</p> <p><b>RELIEVER: One of the following relievers should be prescribed alongside the high-dose ICS-LABA</b></p> <p>Easyhaler® Salbutamol 100 microgram 1 – 2 puffs PRN up to QDS</p> <p><b>OR</b></p> <p>Bricanyl Turbohaler® 500 microgram 1 puff PRN up to QDS</p>    	<p style="text-align: center;"><b>High Dose ICS-LABA</b></p> <p>Fostair® MDI 200/6 microgram* 2 puffs BD</p> <p><b>RELIEVER:</b></p> <p>Salamol® 100microgram MDI 1 – 2 puffs PRN up to QDS</p>  
<p><sup>1</sup>Symbicort usually max. 8 puffs daily; up to 12 puffs daily for a limited time but medical assessment should be considered (BNF).</p> <p><b>NB At stages 2-4 ICS doses should be reviewed and stepped down once control has been achieved and maintained for three months</b></p>	
<p style="text-align: center;"><b>Inhaler Name</b></p> <p>*Fostair MDI</p> <p>**Fostair NEXThaler</p>	<p style="text-align: center;"><b>Shelf Life of Product Once Opened</b></p> <p>3 months</p> <p>6 months</p>

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## Traditional Separate Regular Maintenance Therapy with ‘When required’ Reliever Option

Dry Powder Inhaler (DPI) Options HIGH inspiratory Flow – More than 30 L / min Technique: Quick and Fast		Metered Dose Inhaler (MDI) Options LOW inspiratory Flow – Less than 30 L / min Technique: Long and Slow	
Controller	Reliever	Controller	Reliever
<b>Step 1:</b>			
<p><b>Low Dose ICS</b></p> <p>Budesonide Turbohaler® 100 microgram 2 puffs BD</p> <p><b>OR</b></p> <p>Easyhaler® Beclomethasone 200 microgram 1 puff BD</p> 	<p><b>As-Needed SABA</b></p> <p>Easyhaler® Salbutamol 100 microgram 1 – 2 puffs QDS PRN</p> <p><b>OR</b></p> <p>Bricanyl Turbohaler® 500 microgram 1 puff QDS PRN</p> 	<p><b>Low Dose ICS</b></p> <p>Clenil Modulite® MDI 200microgram 1 puff BD</p> <p><b>OR</b></p> <p>Alvesco® MDI 80 microgram 2 puffs OD</p> 	<p><b>As-Needed SABA</b></p> <p>Salamol® MDI 100 microgram 1-2 puffs QDS PRN</p> 
<b>Step 2:</b>			
<p><b>Low Dose ICS-LABA</b></p> <p>Fostair NEXThaler® ** 100/6 microgram 1 puff BD</p> <p><b>OR</b></p> <p>Symbicort Turbohaler 200/6 micrograms 1 puff BD</p> 	<p><b>As-Needed SABA</b></p> <p>Easyhaler® Salbutamol 100 microgram 1 – 2 puffs QDS PRN</p> <p><b>OR</b></p> <p>Bricanyl Turbohaler® 500 microgram 1 puff QDS PRN</p> 	<p><b>Low Dose ICS-LABA</b></p> <p>Fostair® MDI 100/6 microgram* 1 puff BD</p> <p><b>OR</b></p> <p>Combisal® MDI 50/25 microgram 2 puffs BD</p> 	<p><b>As-Needed SABA</b></p> <p>Salamol® MDI 100 microgram 1-2 puffs QDS PRN</p> 
<p><b>Additional therapy that may be tried before moving up to Step 3:</b> Montelukast 10mg Tablet – 1 ON</p>			
<b>Step 3:</b>			
<p><b>Medium ICS-LABA</b></p> <p>Fostair NEXThaler® ** 100/6 microgram 2 puffs BD</p> <p><b>OR</b></p> <p>Symbicort Turbohaler® 200/6 micrograms 2 puffs BD</p> <p><b>OR</b></p> <p>Relvar Ellipta® 92/22 microgram 1puff OD</p> 	<p><b>As-Needed SABA</b></p> <p>Easyhaler® Salbutamol 100 microgram 1 – 2 puffs QDS PRN</p> <p><b>OR</b></p> <p>Bricanyl Turbohaler® 500 microgram 1 puff QDS PRN</p> 	<p><b>Medium Dose ICS-LABA</b></p> <p>Fostair® MDI 100/6 microgram* 2 puffs BD</p> <p><b>OR</b></p> <p>AirFluSal® MDI 125/25 microgram 2 puffs BD</p> 	<p><b>As-Needed SABA</b></p> <p>Salamol® MDI 100 microgram 1-2 puffs QDS PRN</p> 
<p><b>Additional therapy that may be tried before moving up to Step 4:</b> First line: Tiotropium 2.5mcg Respimat – 2puffs OD Second Line: Aminophylline 225mg MR Tablet – 1 BD (initial dose)</p>			
<b>Step 4: REFERRAL TO SECONDARY CARE IS REQUIRED WHEN A PATIENT REACHES THIS STEP</b>			
<p><b>High Dose ICS-LABA</b></p> <p>Fostair NEXThaler® ** 200/6 microgram 2 puffs BD</p> <p><b>OR</b></p> <p>Symbicort Turbohaler® 400/6 micrograms 2 puffs BD</p> <p><b>OR</b></p> <p>Relvar Ellipta® 184/22 microgram 1puff OD</p> 	<p><b>As-Needed SABA</b></p> <p>Easyhaler® Salbutamol 100 microgram 1 – 2 puffs QDS PRN</p> <p><b>OR</b></p> <p>Bricanyl Turbohaler® 500 microgram 1 puff QDS PRN</p> 	<p><b>High Dose ICS-LABA</b></p> <p>Fostair® MDI 200/6 microgram* 2 puffs BD</p> <p><b>OR</b></p> <p>AirFluSal® MDI 250/25 microgram 2 puffs BD</p> 	<p><b>As-Needed SABA</b></p> <p>Salamol® MDI 100 microgram 1-2 puffs QDS PRN</p> 

**NB** At stages 2-4 ICS doses should be reviewed and stepped down once control has been achieved and maintained for three months

**Consider changing to the ‘Maintenance and Reliever Therapy (MART) Guideline Option’ especially if adherence is suspected or known to be poor**

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## The ‘Single Combined Inhaler / Maintenance and Reliever Therapy (MART) Guideline Option’ Table

The use of a single fixed-dose combination inhaler as required (Step 1) or maintenance and reliever therapy (MART)(Step 2-3) will suit some individuals. The regime is simple to use, and avoids the risk of beta2-agonists being used without concomitant ICS. It relies on the rapid onset of reliever effect with formoterol and by including a dose of inhaled corticosteroid ensures that, as the need for a reliever increases, the dose of preventer medication is also increased.

Maintenance and reliever therapy may also lower the overall dose of ICS needed to prevent asthma attacks.

If this management option is introduced the total regular dose of daily ICS should not be decreased. Patients taking rescue doses of their combination inhaler once a day or more on a regular basis should have their treatment reviewed. Careful education of patients about the specific issues around this management strategy is required.

This option is based around the [GINA 2019 guidelines](#). A general principle of these guidelines is that, for safety, the international guidelines no longer recommend SABA alone for treatment of asthma. This is because ICS-containing controller treatments, either as-needed or regular, reduce the risk of serious exacerbations and improve symptom control. Conversely in three large RCTs, patients with mild symptoms prescribed as-required fixed-dose ICS/LABA tend to achieve equivalent control with only 17-25% of the cumulative ICS exposure.

**To ensure patients use their fixed dose LABA/ICS inhaler as reliever it is important to withdraw salbutamol in anyone prescribed Fostair or Symbicort (except the minority of patients on step 4 treatment).** [A small number of patients might receive salbutamol alone for exercise induced bronchoconstriction or with infrequent short-lived wheeze only, though for most patients, exercise-induced asthma is an expression of poorly controlled asthma and regular treatment including inhaled corticosteroids should be reviewed, and ICS have been shown to give protection against exercise induced asthma, whilst LABAs and montelukast provide more prolonged protection than salbutamol. (BTS 2019 guidelines)]

## The ‘Regular Maintenance Therapy with ‘When required’ Reliever Option’ Table

This option follows the current British Thoracic Society (BTS) 2019 guidelines.

Consider changing to the ‘Maintenance and Reliever Therapy (MART) Guideline Option’ especially if adherence is suspected or known to be poor.

### Add-on Therapies:

Therapy	Dosage	Notes
<b>LTRA:</b> Montelukast 10mg Tablet	1 ON	May provide: <ul style="list-style-type: none"> <li>- Improvement in lung function</li> <li>- A decrease in asthma attacks</li> <li>- An improvement in symptoms.</li> <li>- Useful in patients with night-time symptoms and sports related asthma.</li> <li>- Prescribers should be alert for neuropsychiatric reactions in patients taking montelukast and carefully consider the benefits and risks of continuing treatment if they occur – MHRA September 2019</li> </ul>
<b>LAMA:</b> Tiotropium 2.5microgram Respimat	2 puffs OD	The addition of a LAMA may provide: <ul style="list-style-type: none"> <li>- fewer asthma exacerbations</li> <li>- improved lung function</li> <li>- some benefits relating to asthma control.</li> </ul>
<b>Xanthine:</b> Aminophylline 225mg MR Tablet ( <i>Phyllocontin Continus is the formulary choice of Xanthine</i> )	Initially 1 BD	TDM: A 6-hour post dose level should be taken after: <ul style="list-style-type: none"> <li>- the first 5 days of treatment</li> <li>- 5 days after a change in dose</li> <li>- 5 days after an additional medication added into a patients’ medication regimen that can change the levels of serum aminophylline</li> </ul> Be aware of common side effects.

**If a trial of an add-on treatment is ineffective, stop the drug**

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## ICS Equivalence for Adults Aged 17 Years and Over:

		Low Dose	Moderate Dose	High Dose
<b>Beclometasone dipropionate Containing Inhalers</b>				
	Standard particle CFC-free Inhalers	400 microgram per day in 2 divided doses	600 - 1,000 micrograms per day in 2 divided doses	1,200 – 2,000 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Clenil Modulite® MDI 200microgram 1 puff BD 	Not recommended as single agent therapy	Not recommended as single agent therapy
	Extra-Fine Particle CFC-free Inhalers	200 micrograms per day in 2 divided doses	400 micrograms per day in 2 divided doses	800 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Fostair® MDI 100/6 microgram* 1 puff BD 	Fostair® MDI 100/6 microgram* 2 puffs BD 	Fostair® MDI 200/6 microgram* 2 puffs BD 
	Dry Powder Inhalers	400 microgram per day in 2 divided doses	600 - 1,000 micrograms per day in 2 divided doses	1,200 – 2,000 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Easyhaler® Beclomethasone 200 microgram 1 puff BD 	Not recommended as single agent therapy	Not recommended as single agent therapy
	Extra-Fine Particle Dry Powder Inhalers	200 micrograms per day in 2 divided doses	400 micrograms per day in 2 divided doses	800 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Fostair NEXThaler® 100/6 microgram 1 puff BD 	Fostair NEXThaler® 100/6 microgram 2 puffs BD 	Fostair NEXThaler® 200/6 microgram 2 puffs BD 
<b>Budesonide Containing Inhalers</b>				
	Dry Powder Inhalers	400 micrograms per day in 2 divided doses	800 micrograms per day in 2 divided doses	1,600 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Budesonide Turbohaler® 100 microgram 2 puffs BD  <b>OR</b> Symbicort Turbohaler 200/6 micrograms 1 puff BD 	Symbicort Turbohaler® 200/6 micrograms 2 puffs BD 	Symbicort Turbohaler® 400/6 micrograms 2 puffs BD 
<b>Ciclesonide Containing Inhalers</b>				
	Metered-dose Inhaler	160 micrograms per day as a single dose	320 micrograms per day in a single or 2 divided doses	640 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Alvesco® MDI 80 microgram 2 puffs OD 	Available with separate LABA inhaler but consider ICS/LABA alternative device	Available with separate LABA inhaler but consider ICS/LABA alternative device
<b>Fluticasone propionate Containing Inhalers</b>				
	Metered-dose Inhalers	200 micrograms per day in 2 divided doses	500 micrograms per day in 2 divided doses	1,000 micrograms per day in 2 divided doses
Inhalers Used in New Guidelines		Combisal® MDI 50/25 microgram 2 puffs BD 	AirFluSal® MDI 125/25 microgram 2 puffs BD 	AirFluSal® MDI 250/25 microgram 2 puffs BD 
<b>Fluticasone furoate Containing Inhalers</b>				
	Dry Powder Inhaler	-	100 micrograms as a single daily dose	200 micrograms as a single daily dose
Inhalers Used in New Guidelines		N/A	Relvar Ellipta® 92/22 microgram 1puff OD 	Relvar Ellipta® 184/22 microgram 1puff OD 
<b>NOTES:</b>				
<b>High doses (shaded boxes) should only be used after referring the patient to specialist secondary care – BTS 2019</b>				

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## Importance of Inhaler Technique:

Teaching inhaler technique improves the correct usage of inhalers. Inhalers should only be prescribed after patients have received training in the use of the device and have demonstrated satisfactory technique.

There is no evidence to dictate an order in which devices should be trialled in patients. In the absence of evidence, the most important points to consider are patient preference and local cost. Other considerations include:

- Using the In-Check device to help determine the best inhaler device for a patient using their inspiratory flow as a guide. Note that a small proportion of patients may have insufficient inspiratory capacity to effectively use an MDI.
- The choice of device may be determined by the choice of drug.
- The risk of oral candidiasis may be reduced by using ciclesonide.
- If the patient is unable to use a device satisfactorily an alternative should be found.
- The patient should have their ability to use the prescribed inhaler device (particularly for any change in device) assessed by a competent healthcare professional.
- The medication needs to be titrated against clinical response to ensure optimum efficacy.
- Inhaler technique must be reassessed as part of a structured clinical review.
- Generic prescribing of inhalers should be avoided as this might lead to people with asthma being given an unfamiliar inhaler device which they are not able to use properly.
- Prescribing mixed inhaler types may cause confusion and lead to increased errors in use. Using the same type of device to deliver preventer and reliever treatments may improve outcomes.
- Helpful training videos are available online or on a free mobile App e.g. [www.rightbreathe.com](http://www.rightbreathe.com) or [Asthma UK](http://AsthmaUK.org)

## Use of Spacers:

Every patient using an MDI should have a spacer to administer their maintenance medication. Due to the low particle velocities and for convenience away from home, reliever doses of Fostair® can be taken without a spacer.

Patients should be made aware that:

- The drug should be administered by a single actuation of the metered dose inhaler into the spacer, followed by inhalation – Subsequent doses may be repeated at 30 second intervals.
- There should be minimal delay between MDI actuation and inhalation.
- Tidal breathing is as effective as single breaths.
- Spacers should be cleaned monthly rather than weekly as per manufacturer's recommendations or performance is adversely affected. They should be washed in detergent and allowed to dry in air. The mouthpiece should be wiped clean of detergent before use.
- Drug delivery via a spacer may vary significantly due to static.
- Plastic spacers should be replaced at least every 12 months but some may need changing at 6 months.

## Personalised Asthma Action Plans:

Written Personalised Asthma Action Plans (PAAPs) are crucial components of effective self-management education. The features of PAAPs associated with beneficial outcomes include:

- specific advice about recognising loss of asthma control, assessed by symptoms or peak flows or both.
- actions, summarised as two or three action points, to take if asthma deteriorates, including seeking emergency help or starting oral steroids (which may include provision of an emergency course of steroid tablets).

All people with asthma (and/or their parents or carers) should be offered self-management education, which should include a written personalised asthma action plan and be supported by regular professional review.

In adults, written personalised asthma action plans may be based on symptoms and/or peak flows

## Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

The Asthma UK personalised asthma action plans include both symptoms and peak-flow levels at which action should be taken (available at [www.asthma.org.uk/advice/manage-your-asthma/action-plans](http://www.asthma.org.uk/advice/manage-your-asthma/action-plans)).

### When to refer to Secondary Care:

- 4 or more courses of oral prednisolone in past 12 months
- Diagnostic uncertainty
- Suspected occupational asthma
- Severe / life threatening asthma attack
- Inadequately controlled at step 3
- 12 or more SABAs required in 12 months

### Indicators of other diagnoses:

- Prominent systemic features
- Unexpected clinical findings
- Persistent non-variable breathlessness
- Chronic sputum production
- Unexplained restrictive spirometry
- Chest X-ray shadowing
- Marked eosinophilia

### Inhalers and Their Carbon Footprint:

There is growing awareness and concerns from patients and clinicians, regarding the carbon footprint of MDIs. The latest BTS guidelines 2019 state:

*Metered dose inhalers contain propellants which are liquefied, compressed gases used as a driving force and an energy source for atomisation of the drug. Chlorofluorocarbons (CFCs), which were used originally, are potent greenhouse gases and ozone-depleting substances, and were phased out under the Montreal Protocol. They have been replaced by two hydrofluoroalkane (HFA) propellants identified as having a high global-warming potential. As a result of this change, MDIs currently contribute an estimated 3.5% of the carbon footprint of the NHS in the UK. The UK has a high proportion of MDI use (70%) compared with the rest of Europe (< 50%).*

*Prescribers, pharmacists and patients should be aware that there are significant differences in the global-warming potential of different MDIs and that inhalers with low global-warming potential*

*DPIs - should be used when they are likely to be equally effective.*

Appendix 1 - Reducing environmental impact of inhalers – can be used as a guide to reducing the use of MDIs and can help when answering questions posed by patients regarding this topic.

# Maintenance Management of Asthma – Inhaled and Oral Therapies (adults)

## Appendix 1: Reducing environmental impact of inhalers

What to do	How to do it	Impact
Improve asthma control	Review treatment and encourage regular preventer treatment by every means possible	Fewer symptoms and reduced use of salbutamol metered dose inhalers (MDIs) which contain potent greenhouse gases
Improve COPD control and reduce use of SABA reliever inhalers	Prioritise smoking cessation, exercise promotion and pulmonary rehabilitation, flu immunisation. Finally add in regular long acting bronchodilators.	These preventive interventions are proven to be more cost-effective treatments than inhalers. Regular long acting bronchodilators should be the mainstay of drug treatment in COPD.
Promote effective self-management	Written personal action plans	Better disease control and quicker response to exacerbations
Ensure all inhalers are used with correct technique for greater effectiveness	Know how to assess this and teach it. Encourage use of online video tutorials	Reduced waste, more effective use of inhalers
Consider changing MDI treatments to DPIs for regular therapy.	Ensure this is clinically appropriate and acceptable to the patient. Matching the inhaler to the patient's abilities and preferences can improve technique and compliance.	Typical MDIs have a carbon footprint of ~20kgCO <sub>2</sub> e each. DPIs and Respimat devices are less than 1kgCO <sub>2</sub> e each
Make optimal use of spacers to increase clinical effectiveness of MDIs where these are used	Encourage all patient using MDIs to use spacers when at home	Increases lung deposition and reduces oral deposition of drug
Prescribe MDIs so as to minimise propellant quantity	Salamol inhaler contains half as much propellant as Ventolin inhaler for equivalent dosage.  Beclometasone 200mcg one puff twice daily uses half as much propellant as Beclometasone 100mcg two puffs twice daily	Halves the carbon footprint.  One Ventolin inhaler has a carbon footprint of 28kgCO <sub>2</sub> e per inhaler. (equivalent to a journey of 180 miles in an average car)
Prioritise HFA134a inhalers over HFA227ea inhalers	HFA134a is 1,300 times more potent than CO <sub>2</sub> but HFA227ea is 3,320 times more potent. Most inhalers use HFA134a, but Flutiform and Symbicort MDI contain HFA227ea. (NB Symbicort turbohaler is a DPI and contains no propellant)	Switching Flutiform or Symbicort MDI to another MDI such as Fostair saves ~20kgCO <sub>2</sub> e per inhaler
Offer patients at risk of exacerbations an MDI and spacer emergency treatment pack for self-management of exacerbations, especially if using DPIs for regular treatment	Provide emergency treatment packs with clear simple pictorial instructions for their use.	Patient can access effective therapy even during exacerbations when inspiratory flow rates drop.
Ensure MDIs are not discarded before they are empty	Ensure patients know how many doses their MDI contains when new, especially if the inhaler lacks a dose counter	Recycling studies show that many MDIs are discarded when still half full.
Promote responsible disposal of inhalers	Encourage patients to return used inhalers to local pharmacies, or ideally to a pharmacy where they can be recycled. Check <a href="http://www.pharmacyfinder.completethecycle.eu">www.pharmacyfinder.completethecycle.eu</a> for your nearest pharmacy	Inhalers returned in medical waste are incinerated. Thermal degradation converts the HFAs into products with far lower greenhouse effect. Recycling captures the HFAs for re-use in refrigeration or air conditioning, and reduces plastic and aluminium waste.