

# **Respiratory Inhalers**

Identification Guide Version 2

This booklet has been produced by NHS Greater Glasgow and Clyde together with the following companies, Almirall, AstraZeneca, Boehringer Ingelheim Ltd, Chiesi, GSK, Napp and Novartis as a service to medicine.

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Spacer Devices

# **Examples of High Cost Respiratory Inhaler Devices**

Some inhaler devices are relatively more expensive than others. Examples of some of the higher cost devices are provided below. (Costs from eMIMS May 2013)



Seretide Accuhaler®

250 strength (60 doses) **£35** 500 strength (60 doses) **£40.92** 



Seretide Evohaler®

125 strength (120 doses) **£35** 250 strength (120 doses) **£59.48** 



Symbicort Turbohaler®

200/6 strength (120 doses) £38 400/12 strength (60 doses) £38



Spiriva®

cap pack with HandiHaler® device £34.87
30 cap refill £33.50

NB. For patients on Seretide® 500 micrograms twice daily, the 250 evohaler® is more expensive than the equivalent 500 accuhaler®

# **Recommendations for Inhaler Supply**

### \*\* Important points to consider before issuing or prescribing inhalers \*\*

- Approximately £1.5 million was spent in 2012/13 on inhalers within NHSGGC Acute care. A lot of inhaler wastage occurs across NHSGGC Acute and most would be considered preventable.
- By adhering to the following recommendations, inhaler wastage could be minimised. Patient safety would also be improved by ensuring patients receive the correct inhaler, strength and device during hospital admission.
- Encourage the use of patient's own inhalers.
- Always ask patients if they have their own inhaler(s) before ordering or issuing a new inhaler. If patients have their own inhaler(s), check the expiry date and if it is the current inhaler prescribed by the GP. If they don't have their inhaler, ask if a relative or carer could bring it in at their earliest convenience.
- If a patient is transferred to another ward, ensure inhaler(s) are transferred with the patient. Similarly, if a patient has been transferred from another ward, always check if they have been issued with inhaler(s) prior to transfer.
- Always check what type of inhaler device and strength the patient uses before ordering or issuing a new one. If unsure, discuss with the doctor, clinical pharmacist, or respiratory nurse specialist.
- Ensure the correct device is clearly prescribed on the medicine prescription form (e.g. Accuhaler®, turbohaler®, evohaler®) prior to administration.
- Always check if a patient has an inhaler before documenting code '13' (patient self administration) on the medicine
  prescription form. Do not assume that patients have their own inhalers and they are using them as prescribed.
- When patients are started on inhalers for the first time, inhaler technique should be assessed. Seek advice from pharmacy or respiratory nurse specialist if unsure of the most suitable device.
- \*\* Stop and think before ordering, issuing or prescribing inhalers \*\*

(costs from Ascribe business objects acute database)

# **Respiratory Inhaler Identification**

There are many different inhaler devices available. Examples of the different types of inhaler devices are illustrated to aid identification. Please note however, that different strengths of inhalers may be slightly different colours than those shown. The manufacturer's packaging may also differ from time to time. The following images are for illustrative purposes only. If the patient does not have any of the inhaler devices illustrated, and you are unsure what device the patient normally uses, please speak to a pharmacist or respiratory nurse specialist for further advice.

This booklet is not intended to be a prescribing guide. Although dosage information is provided for some preparations, always refer to the BNF or manufacturer's Summary of Product Characteristics (SPC) for current dosage advice and further information.

The examples of the medicine prescription forms (kardexes) are for illustrative purposes only and do not reflect all doses available for each inhaler preparation.

The Asthma UK website has useful information on how to use spacers and different inhaler devices. Refer to the link below to access videos on inhaler technique:

http://www.asthma.org.uk/knowledge-bank-treatment-and-medicines-using-your-inhalers

# Bronchodilator – short-acting beta, agonist (blue/reliever) Inhalers (SABAs)

### **SALBUTAMOL**



**\*MDI** (aerosol) (brands include Ventolin evohaler®)

Strength: 100 micrograms/ metered inhalation



Salamol Easi-Breathe® (aerosol)

Strength: 100 micrograms/ metered inhalation



Airomir Autohaler® (aerosol)

Strength: 100 micrograms/ metered inhalation

Adult Dose By aerosol inhalation 100-200 micrograms; for persistent symptoms up to 4 times daily. Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form

(\*MDI = metered-dose inhaler)

# Bronchodilator – short-acting beta, agonist (blue/reliever) Inhalers (SABAs)

### **SALBUTAMOL**



Pulvinal® Salbutamol (dry powder)

Strength: 200 micrograms/ metered inhalation^

\*Refer to manufacturer's dosing instructions or BNF for further advice.



Easyhaler®
Salbutamol
(dry powder)

Strengths: 100, 200 micrograms/ metered inhalation^



Asmasal Clickhaler® (dry powder)

Strength: 95 micrograms/ metered inhalation^



Ventolin Accuhaler® (dry powder)

Strength: 200 micrograms/ metered inhalation^



Example of medicine prescription form

# Bronchodilator – short-acting beta, agonist (blue/reliever) Inhalers (SABAs)

### **TERBUTALINE SULPHATE**



Bricanyl Turbohaler® (dry powder)

Strength: 500 micrograms/metered inhalation

Adult Dose

By inhalation of powder

500 micrograms; for persistent symptoms
up to 4 times daily. Refer to manufacturer's
dosing instructions or BNF for further advice.



Example of medicine prescription form

# Long-acting beta<sub>2</sub> agonist Inhalers (LABAs)

### **SALMETEROL**



Serevent Accuhaler® (dry powder)

Strength: 50 micrograms/metered inhalation

Adult Dose

By inhalation of dry powder

50 micrograms twice daily;
up to 100 micrograms twice daily.

Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form



Serevent Diskhaler® (dry powder)

Strength: 50 micrograms/blister



Serevent Evohaler® MDI (aerosol)

Strength: 25 micrograms/ metered inhalation



Neovent® MDI (aerosol)

Strength: 25 micrograms/ metered inhalation

Adult Dose

By aerosol inhalation

50 micrograms twice daily; up to
100 micrograms twice daily.

Refer to manufacturer's dosing
instructions or BNF for further advice.



Example of medicine prescription form

# Long-acting beta<sub>2</sub> agonist Inhalers (LABAs)

### FORMOTEROL FUMARATE



Oxis Turbohaler® (dry powder)

Strengths<sup>^</sup>: 6, 12 micrograms/ metered inhalation

^Refer to manufacturer's dosing instructions or BNF for further advice.



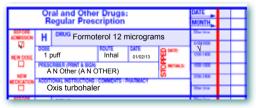
Easyhaler® Formoterol (dry powder)

Strength: 12 micrograms/metered inhalation^



Atimos Modulite<sup>®</sup> (aerosol)

Strength: 12 micrograms/metered inhalation^



Example of medicine prescription form

# Long-acting beta, agonist Inhalers (LABAs)

### **INDACATEROL**



Onbrez Breezhaler®
(inhalation powder, hard capsule)
Strengths: 150, 300 micrograms/metered inhalation

Adult Dose: By inhalation of dry powder 150 micrograms once daily, increased to max. 300 micrograms once daily. Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form

# **Antimuscarinic Bronchodilator Inhalers – short-acting muscarinic antagonists (SAMAs)**

### **IPRATROPIUM BROMIDE**



Adult Dose By aerosol inhalation 20-40 micrograms 3-4 times daily. Refer to manufacturer's dosing instructions or BNF for further advice.

Atrovent® MDI (aerosol)

Strength: 20 micrograms/metered inhalation



Example of medicine prescription form

# **Antimuscarinic Bronchodilator Inhalers – long-acting muscarinic antagonists (LAMAs)**

### **TIOTROPIUM**



**Spiriva®** (inhalation powder, hard capsule for use with HandiHaler® device)

Strength: 18 microgram cap

Adult Dose

By inhalation of powder

18 micrograms once daily.

Refer to manufacturer's
dosing instructions or

BNF for further advice.

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MW	A N Other (A N OTHER)	700.700
MEDICATION	Spiriva Handihaler	Ofer Sine

Example of medicine prescription form

Spiriva Respimat®

Adult dose

By inhalation
5 micrograms (2 puffs)
once daily. Refer to
manufacturer's dosing
instructions or BNF for
further advice.



Example of medicine prescription form

(solution for inhalation) Please note. Spiriva Respimat is currently non-formulary in NHSGGC.

Strength: 2.5 micrograms/ metered inhalation

# **Antimuscarinic Bronchodilator Inhalers – long-acting muscarinic antagonists (LAMAs)**

### **ACLIDINIUM BROMIDE**



Adult Dose

By inhalation of dry powder

1 inhalation twice daily.

Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form

Eklira Genuair® (dry powder)

Strength: 400 micrograms/metered inhalation

Equivalence: each 400 micrograms metered inhalation of aclidinium bromide delivers 375 micrograms of aclidinium bromide which is equivalent to 322 micrograms of aclidinium.

# **Antimuscarinic Bronchodilator Inhalers – long-acting muscarinic antagonists (LAMAs)**

### **GLYCOPYRRONIUM**



Adult Dose
By inhalation of powder
50 micrograms
once daily. Refer to
manufacturer's dosing
instructions or BNF for
further advice.

Seebri Breezhaler® (inhalation powder, hard capsule)

Strength: 50 micrograms cap

Equivalence: each 50 microgram capsule of glycopyrronium delivers 44 micrograms of glycopyrronium



Example of medicine prescription form

### **BECLOMETASONE DIPROPIONATE**

\*\* NOTE: BECLOMETASONE CFC-FREE AEROSOL INHALERS ARE NOT INTERCHANGEABLE AND MUST BE PRESCRIBED BY BRAND NAME \*\*



Adult Dose

By aerosol inhalation

200-400 micrograms twice
daily (up to 1mg twice daily)
Refer to manufacturer's
dosing instructions or BNF for
further advice.

Clenil Modulite® (CFC-free) MDI (aerosol)

Strengths: 50, 100, 200, 250 micrograms/ metered inhalation



Example of medicine prescription form

### **BECLOMETASONE DIPROPIONATE**

\*\* NOTE: BECLOMETASONE CFC-FREE AEROSOL INHALERS ARE NOT INTERCHANGEABLE AND MUST BE PRESCRIBED BY BRAND NAME \*\*



**Qvar**<sup>®</sup> (CFC-free) MDI (aerosol)

Strengths: 50, 100 micrograms/ metered inhalation



Qvar Autohaler® (aerosol)

Strengths: 50, 100 micrograms/ metered inhalation



Qvar Easi-Breathe® (aerosol)

Strengths: 50, 100 micrograms/

Adult Dose *By aerosol inhalation* 50-200 micrograms twice daily (up to 400 micrograms twice daily). Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form

### **BECLOMETASONE DIPROPIONATE**



Pulvinal®

Beclometasone
(dry powder)

Strengths<sup>^</sup>: 100, 200, 400 micrograms/ metered inhalation



Easyhaler®
Beclometasone
(dry powder)

Strength<sup>A</sup>: 200 micrograms/ metered inhalation



Asmabec Clickhaler® (dry powder)

Strengths<sup>A</sup>: 100, 250 micrograms/metered inhalation<sup>A</sup>



Example of medicine prescription form

^Refer to manufacturer's dosing instructions or BNF for further advice.

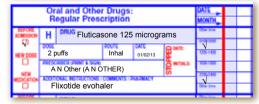
### **FLUTICASONE PROPIONATE**



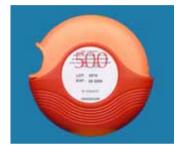
Adult Dose By aerosol inhalation 100-500 micrograms twice daily (up to 1mg twice daily) Refer to manufacturer's dosing instructions or BNF for further advice.

Flixotide Evohaler® MDI (aerosol)

Strengths: 50, 125, 250 micrograms/metered inhalation



Example of medicine prescription form



Adult Dose

By inhalation of dry powder

100-500 micrograms twice

daily (up to 1mg twice daily)

dosing instructions or BNF

Refer to manufacturer's

for further advice.

Flixotide Accuhaler® (dry powder)

Strengths: 50, 100, 250, 500 micrograms/metered inhalation



Example of medicine prescription form

### **BUDESONIDE**



Pulmicort Turbohaler® (dry powder)

Strengths<sup>A</sup>: 100, 200, 400 micrograms/metered inhalation

^Refer to manufacturer's dosing instructions or BNF for further advice.



Easyhaler® budesonide (dry powder)

Strengths<sup>A</sup>: 100, 200, 400 micrograms/ metered inhalation



Budelin novolizer® (dry powder)

Strength: 200 micrograms/metered inhalation^



Example of medicine prescription form

# Compound Preparations (Corticosteroid/ Long-acting beta, agonist)

### FLUTICASONE/SALMETEROL



Seretide Accuhaler® (dry powder)

Strengths^:

100 Accuhaler®

(fluticasone 100 micrograms/salmeterol 50micrograms)

250 Accuhaler®

(fluticasone 250 micrograms/salmeterol 50micrograms)

500 Accuhaler®

(fluticasone 500 micrograms/salmeterol 50micrograms)



'Refer to manufacturer's dosing instructions or BNF for further advice.



Seretide Evohaler® MDI (aerosol)

Strengths^:

50 Evohaler®

(fluticasone 50 micrograms/salmeterol 25micrograms)

125 Evohaler®

(fluticasone 125 micrograms/salmeterol 25micrograms)

250 Evohaler®

(fluticasone 250 micrograms/salmeterol 25micrograms)



Example of medicine prescription form

# Compound Preparations (Corticosteroid/ Long-acting beta<sub>2</sub> agonist)

### **BUDESONIDE/FORMOTEROL**



Symbicort Turbohaler® (dry powder)

# Symbicort Maintenance Therapy Oral and Other Drugs: Regular Prescription H Symbicort 200/6 turbohaler 2 puffs Inhal 5002/13 AN Other (AN OTHER)

Example of medicine prescription form



Example of medicine prescription form

### Strengths^:

100/6 Turbohaler® (budesonide 100 micrograms/formoterol 6micrograms) 200/6 Turbohaler® (budesonide 200 micrograms/formoterol 6micrograms) 400/12 Turbohaler® (budesonide 400 micrograms/formoterol 12micrograms)

^Refer to manufacturer's dosing instructions or BNF for further advice.

# Compound Preparations (Corticosteroid/ Long-acting beta, agonist)

### **BECLOMETASONE/FORMOTEROL**



Fostair® (aerosol)

Strength: 100/6 (belcometasone 100 micrograms/formoterol 6 micrograms)^

^Refer to manufacturer's dosing instructions or BNF for further advice.



Example of medicine prescription form



Example of medicine prescription form

# Compound Preparations (Corticosteroid/ Long-acting beta, agonist)

### FLUTICASONE/FORMOTEROL



Flutiform® (aerosol)

Oral and Other Drugs: Regular Prescription					MONTH_		
BEFORE ACMESSION [7]	H SNUG Flutiform 125/5				Other Strue Gridy GRISS		
NEW DOSE	2 p	ouffs	Inhal	01/02/13	₽ ME	1300-1400	
A N Other (A N OTHER)				200,040			
MEDICATION	N	1DI	NS TOOMEN'S I	HUMBLEY		1	

Example of medicine prescription form

Strengths^: 50/5 (fluticasone 50 micrograms/formoterol 5 micrograms) 125/5 (fluticasone 125 micrograms/formoterol 5 micrograms) 250/10 (fluticasone 250 micrograms/formoterol 10 micrograms)

^Refer to manufacturer's dosing instructions or BNF for further advice.

# **Spacer Devices**

Some patients use spacer devices which remove the need for coordination between actuation of a pressurised metered-dose inhaler (MDI) and inhalation. Spacers reduce the velocity of the aerosol and subsequent impaction on the oropharynx and allow more time for evaporation of the propellant so that a larger proportion of the particles can be inhaled and deposited in the lungs.

Spacers should be cleaned once a month and replaced every 6 to 12 months. It is important to prescribe a spacer device that is compatible with the MDI. Spacer devices should **not** be regarded as interchangeable; patients should be advised not to switch between spacer devices.

### **Volumatic®**



- Large-volume device
- Compatible with all GlaxoSmithKline brand MDIs eg. Ventolin®, Serevent®, Flixotide®, Seretide® and also Clenil Modulite®
- Also available with paediatric facemask

# **Spacer Devices**

### AeroChamber® Plus



- Medium-volume device
- For use with all pressurised (aerosol) inhalers\*
- Available as standard device (blue), child device (yellow), infant device (orange)
- Also available with facemask

### Able Spacer®



- Small-volume device
- For use with all pressurised (aerosol) inhalers\*
- Available with infant (small), child (medium) or adult (large) mask

## A2A Spacer®



- For use with all pressurised (aerosol) inhalers\*
- Available with small or medium mask

### Optichamber®



- For use with all pressurised (aerosol) inhalers\*
- Available with small, medium or large mask

## **Vortex Spacer®**



- Medium-volume device
- For use with all pressurised (aerosol) inhalers\*
- Available with infant, child or adult mask

\*Please check compatibility of all inhaler devices before prescribing. Flutiform® has not been tested with all of the spacers listed on this page.

### Pocket Chamber®



- Small-volume device
- For use with all pressurised (aerosol) inhalers\*
- Available with infant, small, medium or large mask