Health and Social Care in Northern Ireland

NI Medicines Management Formulary

BNF Chapter 3 – Respiratory System (Adult)

Respiratory System

BNF Chapter 3

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3.0 Respiratory System

General advice

- Asthma – useful resources:
  - 'British Guideline on the Management of Asthma' produced by the British Thoracic Society (BTS) and SIGN 2019
  - Global Initiative for Asthma (GINA) 2023
  - NICE NG80 Asthma: diagnosis, monitoring and chronic asthma management, 2017 (*NICE/BTS/SIGN joint guideline for the diagnosis, monitoring and management of chronic asthma is anticipated to be published in July 2024)-*
  - PrescQIPP 'Asthma' bulletin, 2020
- COPD – useful resources:
  - Global Initiative for Chronic Obstructive Lung Disease (GOLD) website 2024
  - PrescQIPP Bulletin 283 COPD 2022
  - NICE Clinical Guideline COPD NG115 2018
- **Choice of device should be considered on basis of ability to use the inhaler, patient-acceptability, carbon footprint and cost. Check medication adherence and inhaler technique before each step up of treatment in asthma and at each review / every opportunity**
- Aim to minimise the range of inhaler types the patient needs to master. Where possible prescribe the same type of inhaler device to deliver preventer and reliever treatments
- It is essential to specify inhaler device, strength and dose. Many inhaler devices including dry powder inhalers and those containing beclometasone (+ /- formoterol) are not suitable for generic prescribing.
- Written personalised action plans as part of self-management education have been shown to improve health outcomes for people with asthma. Personalised asthma action plans are available from Asthma + Lung UK.
- Prescribe inhalers only after patients have been trained in their use and demonstrated satisfactory technique. Asthma + Lung UK have useful videos and information for patients on 'using your inhalers'. RightBreathe provides useful information on all UK licensed inhalers and spacers.
- To reduce the carbon footprint of inhaler prescribing:
  - Optimise asthma and COPD care following national guidelines

- Offer Dry Powder Inhalers (DPIs) or soft mist inhalers as first choice when clinically appropriate
- If Metered Dose Inhalers (MDIs) are needed then choose a brand and regime to minimise carbon footprint –resources to support inhaler choice can be found here
- Ask patients to return all used or unwanted inhalers to community pharmacies for disposal

3.1 Bronchodilators

3.1.1 Adrenoceptor agonists

3.1.1.1 Short-acting beta-2 agonists (SABA) [Asthma and COPD]

Prescribe an inhaler with a lower carbon impact where possible - resources can be found here.

Choice	Drug	Carbon Footprint	Dose Counter
Formulary choices	**Prescribe DPIs by brand name.** Salbutamol DPI e.g. Easyhaler Salbutamol, Salbulin Novolizer, Ventolin Accuhaler - Refer to BNF for products		**D**
	Bricanyl (terbutaline) Turbohaler® DPI 500 micrograms/metered inhalation		**D**
	If a MDI is required		
	Salamol® (MDI) 100micrograms/ metered inhalation (salbutamol)		
	or		
	Salamol Easi-breathe® (breath-actuated MDI) 100micrograms/ metered inhalation (salbutamol)		

D = dose counter present

Symbol	Carbon indicator
	Low Carbon Footprint (<2kg CO2e per inhaler)
	High Carbon Footprint (6-20kg CO2e per inhaler)
	Highest Carbon Footprint (>34kgCO2e per inhaler)

Prescribing Notes

General

- There is virtually no difference in efficacy between salbutamol and terbutaline; currently salbutamol is less expensive and available in a wider range of devices.
- A respiratory disease diagnosis should be made before repeating a supply of SABA inhaler.
- Low carbon prescribing: Offer Dry Powder Inhalers (DPIs) as first choice when clinically appropriate. If an MDI is required chose a

brand with a lower carbon footprint e.g. Salamol® 100 inhaler CFC free (MDI).

- Oral beta-2 agonists have an increased risk of side-effects and should only be prescribed in exceptional cases where inhaled therapies cannot be used. Patients currently prescribed oral beta-2 agonists should be reviewed and a switch to inhaled therapy considered.

Asthma

- Prescribing three or more SABA inhalers per year is associated with an increased risk of severe exacerbations and mortality, and reflects very poorly controlled asthma. Asthma patients prescribed more than 6 SABA inhalers in the previous 12 months should be prioritised for review

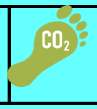
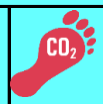
3.1.1.2 Long-acting beta-2 agonists (LABA) [COPD only]

Prescribe an inhaler with a lower carbon impact where possible - resources can be found here.

Choice	Drug	Carbon footprint	Dose counter
NB – For COPD only. In asthma (or in asthma+COPD), LABAs should not be used without ICS. Combination devices should be used			
Formulary choices	**Formoterol DPI**		
	Formoterol Easyhaler® 12micrograms/dose - ***cost effective choice***	CO2	**D**
	If a MDI is required		
	Formoterol fumarate MDI 12micrograms/metered inhalation	CO2	
	Salmeterol DPI		
	Serevent® (salmeterol) 50micrograms/dose Accuhaler DPI	CO2	**D**
	If a MDI is required		
	Salmeterol MDI 25micrograms/metered inhalation	CO2	

D = dose counter present

3.1.2 Antimuscarinic bronchodilators – [COPD]

Choice	Drug	Carbon footprint	Dose counter
Long-acting antimuscarinic bronchodilators	**Tiotropium**		
	Acopair® 18microgram inhalation powder capsules with NeumoHaler® ***Cost effective choice***		capsules with device
	Or		
	Tiogiva® 18microgram inhaltion powder capsules with device ***Cost effective choice***		capsules with device
	Or		
	Spiriva Respimat® softmist inhalation solution 2.5micrograms/dose		**D**
	Aclidinium		
	Eklira Genuair®▼DPI 322micrograms/dose		**D**
	Glycopyrronium		
	Seebri Breezhaler®DPI 44 microgram inhalation powder caps with device		capsules with device
	Umeclidinium		
	Incruse Ellipta®▼ DPI 55micrograms/dose		**D**
Short-acting antimuscarinic bronchodilator	**Ipratropium**		
	Ipratropium bromide MDI 20micrograms/metered inhalation		

D = Dose counter present

Prescribing Notes

- Long-acting antimuscarinic agents (LAMAs) are only licensed for COPD, with the exception of Spiriva Respimat® (tiotropium) which is licensed as an adjunct to inhaled corticosteroids and long-acting beta-2 agonists in patients with asthma who have suffered one or more severe exacerbations in the last year (refer to Specialist Therapies step of the 'British guideline on the management of asthma').

- Short-acting antimuscarinic agents (SAMAs) should be discontinued when long-acting antimuscarinic agents (LAMAs) are initiated.
- LAMAs are not suitable for the relief of acute bronchospasm and must not be given in combination with ipratropium.
- Patients with very severe COPD who are receiving regular home nebulised ipratropium or Combivent® (containing ipratropium and salbutamol) should not be prescribed a LAMA in addition.
- Consider renal function when selecting LAMA- see BNF cautions re use of tiotriopium and glycopyrronium

Cautions

- Antimuscarinic bronchodilators should be used with caution in patients with prostatic hyperplasia, bladder outflow obstruction, and those susceptible to angle-closure glaucoma (see below)
- LAMAs should be used with caution in cardiac disorders. (particularly cardiac rhythm disorders) see newsletter 'LAMAs and Cardiovascular Risk'
- Acute angle-closure glaucoma has been reported with nebulised ipratropium, particularly when given with nebulised salbutamol (and possibly other beta-2 agonists); care is needed to protect the patient's eyes from nebulised drug or from drug powder e.g. administer via mouthpiece.

3.1.3 Theophylline

Choice	Drug
1st choice (Oral)	Uniphyllin Continus® modified release tablets 200mg, 300mg

Prescribing Notes

- Theophylline has a narrow margin between therapeutic and toxic effects and different brands of modified-release theophylline have different bioavailability. **Therefore, the brand to be dispensed must be specified**.
- Before prescribing theophylline consider if a safer, more effective alternative is appropriate. Patients taking theophylline should be reviewed; consider deprescribing and alternative treatments where appropriate.

- There is an increased risk of hypokalaemia when theophylline is given with high doses of beta-2 agonists.
- Theophylline is metabolised in the liver. The plasma theophylline concentration is increased in heart failure, hepatic impairment, viral infections, in the elderly, and by drugs that inhibit its metabolism. The plasma theophylline concentration is decreased in smokers, by alcohol consumption, and by drugs that induce its metabolism.
- Smoking cessation may increase theophylline levels. This is independent of any nicotine replacement therapies that may be prescribed.
- Theophylline levels should be checked mainly to avoid toxicity and to ascertain compliance (very low /absent level). Theophylline dose otherwise should be titrated based on symptom relief. For further details on monitoring see SPS.

3.1.4 Compound bronchodilator preparations

LABA/LAMA combination inhalers [COPD only]

Choice	Drug	Carbon footprint	Dose counter
Formulary Choices	**Aclidinium/formoterol**		
	Duaklir Genuair®▼ DPI 340/12		**D**
	Indacaterol/glycopyrronium		
	Ultibro Breezhaler® DPI 85/43 inhalation powder capsules with device		capsules with device
	Tiotropium/olodaterol		
	Spiolto Respimat® soft mist 2.5/2.5 inhalation solution		**D**
	Umeclidinium/vilanterol		
	Anoro Ellipta ®▼ DPI 55/22		**D**
	If MDI required		
	Glycopyrronium/Formoterol		
	Bevespi Aerosphere 7.2/5 micrograms pressurised inhaltion		**D**

D = Dose counter present

Prescribing Notes

- All LABA/LAMA combination inhalers are less costly than the combined costs of the single inhalers and may be more convenient for patients.

Cautions

Refer to 3.1.2

3.1.5 Inhaler devices, peak flow meters and nebulisers

Prescribing Notes

Inhaler Devices

- Choice of device should be considered on basis of ability to use the inhaler, patient-acceptability, carbon footprint and cost. The number of inhalers and different types of inhaler devices given to a patient should be minimised.
- Good technique is essential in ensuring optimum use - refer to Asthma + Lung UK for inhaler videos demonstrating how to use each type of inhaler. RightBreathe provides useful information on all UK licensed inhalers and spacers.
- On changing from a pressurised metered-dose inhaler (pMDI) to a dry powder inhaler, patients may notice a lack of sensation in the mouth and throat previously associated with each actuation. Coughing may also occur.

Spacers

- Spacer devices remove the need for coordination between actuation of a pMDI and inhalation. Spacer devices are particularly useful for patients with poor inhalation technique, elderly patients, those requiring high doses of inhaled corticosteroids, and for patients prone to candidiasis with inhaled corticosteroids.
- The spacer device used should be compatible with the metered-dose inhaler. Spacer devices should not be regarded as interchangeable; patients should be advised not to switch between spacer devices. Refer to RightBreathe for information on available spacers including compatible inhalers and to Asthma+Lung UK for useful patient information on spacers including how to use and how to look after your spacer.

Peak Flow Meters

- Measurement of peak flow may be of benefit in patients who are unable to detect deterioration in their asthma, and for those with more severe asthma. Refer to BNF for information on available peak flow meters and to Asthma + Lung UK for patient information

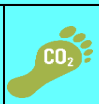
Nebulisers

- Nebulisers are not currently prescribable in general practice (but they are free of VAT); patients should be appropriately assessed before nebulised therapy is deemed appropriate. A spacer should be tried before considering a nebuliser.
- Dealing with requests to purchase nebulisers in community pharmacy:
    - Patients should be advised to only buy or use a nebuliser if it has been recommended by their doctor or specialist **and** their GP practice has agreed to prescribe the nebules.
    - Requests to purchase a nebuliser may indicate poor control or a deterioration of their condition. Consider referral to GP practice for review.
- The use of nebulised therapy in acute exacerbations of asthma is not covered in this formulary
- On very rare occasions nebulised bronchodilators may be required when a patient with severe asthma or COPD is unable to use inhalers. Patients should be appropriately assessed before nebulised therapy is deemed appropriate.
- If using nebulised salbutamol, 2.5mg unit dose vials (UDVs) should generally be used, which can be repeated if required. Side effects such as tachycardia are more common with the 5mg dose, particularly in elderly patients. In emergency situations, 5mg UDVs may be required.

3.2 Corticosteroids

3.2.1 Single agent inhalers [Asthma only]

Prescribe an inhaler with a lower carbon impact where possible - resources can be found here.

Choice	Drug	Carbon footprint	Dose counter
NB – inhaled steroid monotherapy is not licensed in COPD			
Formulary choices	**Prescribe DPIs by brand**		
	Beclometasone DPI		
	Easyhaler® Beclometasone 200micrograms/dose		**D**
	Budesonide DPI		
	Easyhaler® Budesonide 100, 200 or 400 micrograms/dose *Cost effective choice*		**D**
	If a MDI is required		
	Beclometasone		
	Soprobec® 50, 100, 200 or 250 (micrograms/metered inhalation) *Cost effective choice* Or		
	Clenil Modulite® 50,100, 200 or 250 (micrograms/metered inhalation)		**D**

D = Dose counter present

Prescribing Notes

- Offer Dry Powder Inhalers (DPIs) as first choice when clinically appropriate.
- If prescribing a beclometasone MDI, the MHRA recommends prescribing by brand name to ensure the patient receives the correct dose and preparation.
- When considering doses, beclometasone dipropionate (except inhalers with extra-fine particles, Qvar® and Kelhale®) and budesonide are considered equipotent and fluticasone propionate is considered twice as potent

- Spacer devices should be prescribed for patients receiving high dose steroids via MDI.
- A Steroid Emergency Card should be given to patients on high doses of inhaled steroids (more than 1000micrograms/day of beclometasone dipropionate or equivalent). RightBreathe gives inhaler specific advice on whether a steroid safety card is needed. Use of other corticosteroid therapy or concurrent use of drugs which inhibit corticosteroid metabolism should also be taken in to account when assessing systemic risk.
  Community pharmacies and GP practices can order these from pharmacystationeryorders@hscni.net
- The dose should be titrated to the lowest dose at which effective control of asthma is maintained.

3.2.2 Compound ICS/LABA Preparations – [Asthma]

Prescribe an inhaler with a lower carbon impact where possible - resources can be found here.

Choice	Drug	Carbon Footprint	Dose Counter	MART licence
Formulary choices	**Beclometasone/formoterol**			
	Fostair NEXThaler® DPI 100/6, 200/6		**D**	100/6 - Yes 200/6 - No
	If MDI is required Luforbec® MDI *Cost effective choice* 100/6, 200/6		**D**	100/6 - Yes 200/6 - No
	Or Fostair® MDI 100/6, 200/6		**D**	100/6 - Yes 200/6 - No
	Budesonide/formoterol			
	Fobumix® Easyhaler DPI ***Cost effective choice*** 80/4.5, 160/4.5, 320/9 *Doses are therapeutically equivalent to Symbicort Turbohaler 100/6, 200/6 and 400/12*		**D**	80/4.5 - Yes 160/4.5 - Yes 230/9 - No
	Or DuoResp Spiromax® DPI 160/4.5, 320/9 *Doses are therapeutically equivalent to Symbicort Turbohaler 200/6 and 400/12*		**D**	160/4.5 - Yes 320/9 - No
	Or *Symbicort Turbohaler® DPI* *100/6, 200/6, 400/12*		**D**	100/6 - Yes 200/6 Yes 400/12- No 200/6 licensed as reliever in mild
	Fluticasone propionate/salmeterol			
	Fixkoh Airmaster® DPI ***Cost effective choice*** 100/50, 250/50, 500/50		**D**	No
	Or Seretide Accuhaler® DPI 100/50, 250/50, 500/50		**D**	No
	Or **If MDI is required use a cost effective combination** e.g. Combisal® or Avenor®			No
	Fluticasone furoate/ vilanterol			
	Relvar Ellipta® DPI 92/22, 184/22		**D**	No

D = dose counter present

Prescribing Notes

- Specify brand and inhaler device when prescribing to help reduce confusion and ensure patients receive the inhaler they have been trained to use
- Offer Dry Powder Inhalers (DPIs) as first choice when clinically appropriate. If MDIs are needed then chose brand and regime with care to minimise carbon footprint –resources to support choice can be found here.
- Fostair® and Luforbec® contain extra-fine particles of beclometasone dipropionate and are more potent than traditional beclometasone dipropionate CFC-free inhalers. 100 micrograms of beclometasone dipropionate extra-fine is equivalent to 250 micrograms of beclometasone dipropionate in a non-extra-fine formulation. When switching from non-extra-fine formulations the dose should be reduced and adjusted according to response
- Most combination inhalers are taken twice daily so please ensure patients taking Relvar Ellipta®▼ are aware it is a once daily dose to prevent accidental overdose.
- When patients are re-ordering combination inhalers, please ensure that another prescription is due. The compliance ready reckoner indicates how long the inhaler should last.
- Before initiating a new drug therapy practitioners should recheck adherence, inhaler technique and eliminate trigger factors.
- A Steroid Emergency Card should be given to patients on high doses of inhaled steroids (more than 1000micrograms/day of beclometasone dipropionate or equivalent). RightBreathe gives inhaler specific advice on whether a steroid safety card is needed. Use of other corticosteroid therapy or concurrent use of drugs which inhibit corticosteroid metabolism should also be taken in to account when assessing systemic risk.

  Community pharmacies and GP practices can order these from pharmacystationeryorders@hscni.net
- See MHRA guidance on safe use of LABAs.

3.2.3 Compound ICS/LABA Preparations – COPD

Prescribe an inhaler with a lower carbon impact where possible - resources can be found here.

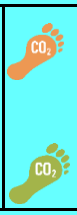
Choice	Drug	Carbon footprint	Dose Counter
Formulary choices (COPD)	**Beclometasone/Formoterol**		
	Fostair NEXThaler® DPI 100/6		**D**
	Or, if an MDI is required Fostair® MDI 100/6		**D**
	Luforbec® MDI *Cost effective choice* 100/6		**D**
	Budesonide/formoterol		
	Fobumix® Easyhaler DPI ***Cost effective choice*** 160/4.5 320/9 *Doses are therapeutically equivalent to Symbicort Turbohaler® 200/6 and 400/12*		**D**
	Or DuoResp Spiromax ® DPI 160/4.5 320/9 *Doses are therapeutically equivalent to Symbicort Turbohaler® 200/6 and 400/12*		**D**
	Or Symbicort Turbohaler® DPI 200/6 400/12		**D**
	Fluticasone furoate/ vilanterol		
	Relvar Ellipta®▼ DPI 92/22 **NB: the 184/22 strength is not licensed for COPD**		**D**

D = dose counter present

Prescribing Notes

- Inhaled corticosteroids (ICS) should only be used in specific circumstances in COPD - refer to NICE NG115 COPD and to the GOLD report for further guidance.
- Specify brand and inhaler device when prescribing to help reduce confusion and ensure patients receive the inhaler they have been trained to use.
- Offer Dry Powder Inhalers (DPIs) as first choice when clinically appropriate. If MDIs are needed then chose brand and regime with care to minimise carbon footprint –resources to support choice can be found here.
- Fostair® and Luforbec® contain extra-fine particles of beclometasone dipropionate and are more potent than traditional beclometasone dipropionate CFC-free inhalers. 100 micrograms of beclometasone dipropionate extra-fine is equivalent to 250 micrograms of beclometasone dipropionate in a non-extra-fine formulation. When switching from non-extra-fine formulations the dose should be reduced and adjusted according to response.
- Most combination inhalers are taken twice daily so please ensure patients taking Relvar Ellipta®▼ are aware it is a **once daily dose** to prevent accidental overdose.
- When patients are re-ordering combination inhalers, please ensure that another prescription is due. The compliance ready reckoner indicates how long the inhaler should last.
- Prescribers should be aware of the potential risk of developing side effects from inhaled corticosteroids (including non-fatal pneumonia and possible increased risk of fractures) in people with COPD and be prepared to discuss with patients.
- A Steroid Emergency Card should be given to patients on high doses of inhaled steroids (more than 1000micrograms/day of beclometasone dipropionate or equivalent). RightBreathe gives inhaler specific advice on whether a steroid safety card is needed. Use of other corticosteroid therapy or concurrent use of drugs which inhibit corticosteroid metabolism should also be taken in to account when assessing systemic risk.
  Community pharmacies and GP practices can order these from pharmacystationeryorders@hscni.net

3.2.4 Triple therapy inhalers [COPD]

Choice	Drug	Carbon Footprint	Dose Counter
Formulary choices (COPD)	**Beclometasone/formoterol/glycopyrronium**		
	Trimbow® MDI 87/5/9 ***NB - only the lower strength 87/5/9 is licensed for use in COPD*** Or Trimbow® NEXThaler DPI 88/5/9		**D** **D**
	Fluticasone furoate/vilanterol/umeclidinium		
	Trelegy® Ellipta DPI 92/55/22		**D**
	Budesonide/formoterol/glycopyrronium		
	Trixeo® Aerosphere MDI 5/7.2/160		**D**

D = dose counter

Prescribing notes

- Triple therapy inhalers may offer a more convenient, cost-effective, lower carbon option for patients requiring triple therapy. **They should only be prescribed where patient meets criteria for triple therapy use** –refer to NICE NG115 COPD and GOLD report for further guidance
- Trimbow® MDI (beclometasone /formoterol /glycopyrronium) is also accepted for use as maintenance treatment of **asthma**, in adults not adequately controlled with a maintenance combination of a long-acting beta-2 agonist and medium dose of inhaled corticosteroid, and who experienced one or more asthma exacerbations in the previous year. For further information see SMC. Please note that both the 172/5/9 and the 87/5/9 strengths of Trimbow® MDI are licensed for asthma but only the lower strength Trimbow 87/5/9® inhaler is licensed for COPD

3.2.5 Systemic Steroids

- Acute attacks of asthma should be treated with short courses of 30mg to 50mg prednisolone daily, reducing once the attack has been controlled. For example, a standard course could be 40mg daily for at least 5 days or until recovery. Usually doses of up to 40mg daily taken for less than 3 weeks can be stopped abruptly

but in certain cases they should be tapered-see BNF for more information. Patients requiring more 3 courses or more in a year should be referred to secondary care

- For an exacerbation of COPD, recommended courses include oral prednisolone 30mg per day for 5 days For information on antibiotic choices in the management of exacerbations of COPD see NI Management of Infections Guidelines for Primary Care.
- If a patient is receiving more than three to four courses of oral steroids per year, they should be given a steroid card and considered for bone protection. Refer to Frax or QFracture
- An additional Steroid Emergency Card for Northern Ireland has been developed in response to the National Patient Safety Alert that was issued in August 2020. The alert highlights the dangers associated with adrenal insufficiency for patients taking corticosteroid medication, and recommends that all eligible patients prescribed (or initiated on) steroids are assessed and where necessary issued with a Steroid Emergency Card. Community pharmacies and GP practices can order these from pharmacystationeryorders@hscni.net
- With regard to gastrointestinal effects, there is no advantage in using enteric coated prednisolone tablets; plain tablets should be used.

3.3.2 Leukotriene receptor antagonists

Choice	Drug
1st choice	Montelukast tablets 10mg

Prescribing Notes

- Leukotriene receptor antagonists (LTRAs) alone are less effective than inhaled corticosteroids alone or inhaled corticosteroids (ICS) plus long-acting beta-2 agonists (LABAs) in the management of asthma. Montelukast has not been shown to be more effective than a standard dose of inhaled corticosteroid, but the leukotriene receptor antagonists appear to have an additive effect.

- LRTAs may be of benefit in exercise-induced asthma and in those with concomitant rhinitis, but they are less effective in those with severe asthma who are also receiving high doses of other drugs.
- If control is still inadequate despite trial of LABA and increasing ICS dose, then a trial of a LTRA may be considered. It should be stopped after 6 weeks if no improvement.
- Montelukast should be taken at bedtime; those patients that experience sleep disturbance will still get a clinical benefit by switching the dose to the morning.

Cautions

- Churg-Strauss syndrome has occurred very rarely in association with the use of leukotriene receptor antagonists; in many of the reported cases the reaction followed the reduction or withdrawal of oral corticosteroid therapy. Prescribers should be alert to the development of eosinophilia, vasculitic rash, worsening pulmonary symptoms, cardiac complications, or peripheral neuropathy.

3.3.3 Phosphodiesterase type-4 inhibitors

Prescribing Notes

- Roflumilast is recommended as an add-on to bronchodilator therapy for treating severe COPD in adults with chronic bronchitis providing certain criteria are met. Roflumilast should only be started by a specialist in respiratory medicine. See NICE TA 461 for further details.
- The MHRA Drug Safety Update January 2013 detailed that there is a risk of suicidal behaviour associated with the use of roflumilast and should be avoided in patients with previous or existing psychiatric symptoms and treatment should be discontinued if new or worsening symptoms are identified. Full details of the bulletin are available here.

3.4 Antihistamines, hyposensitisation and allergic emergencies

Note: nasal sprays are in BNF section 12.2.1 but listed here for information (as chapter 12 not covered by NI Formulary)

3.4.1 Antihistamines

Choice	Drug
Encourage self-care and purchase OTC	
1st choice	Cetirizine tablets 10mg Or Loratadine tablets 10mg

Prescribing Notes

- Encourage self-care and advise patients that antihistamines can be purchased OTC.
- Refer to SPPG hay fever supplement on the management of hay fever in primary care for further information.
- Non-sedating oral antihistamines are a first line option for mild or intermittent symptoms of allergic rhinitis. Antihistamines relieve rhinorrhoea, sneezing, nasal irritation and ocular symptoms but have little effect on nasal congestion. For moderate-to-severe or persistent symptoms refer to 'intranasal corticosteroids' section below
- Oral antihistamines are of some value in the management of urticaria. They are sometimes used at above licensed doses (off-label) under specialist advice.

Cautions

Older Patients – antihistamines

- Older sedating antihistamines e.g. chlorphenamine, promethazine are more liable to cause drowsiness, urinary retention or blurred vision Consideration should be given to the anticholinergic burden, particularly in elderly patients.

3.4.1.1. Intranasal Corticosteroids

Choice	Drug
1st choice	Mometasone 50 micrograms/dose nasal spray (140 dose) or Beclometasone 50micrograms/dose nasal spray (200 dose) ***NB - ensure the 200-dose container is selected as other pack sizes are more expensive***
2nd Choice	Fluticasone furoate 27.5 micrograms/dose nasal spray (120 dose) (Avamys®)

Prescribing Notes

- Many intranasal corticosteroids including beclometasone, mometasone and fluticasone *propionate* can be purchased OTC.
  - Encourage self-care and OTC purchase for seasonal allergic rhinitis.
  - Treatments may be prescribed for long-term conditions (such as perennial rhinitis)
- Intranasal corticosteroids are the treatment of choice for moderate-to-severe or persistent symptoms of allergic rhinitis, or where treatment with an antihistamine is ineffective. They can relieve all symptoms including nasal congestion and should be used regularly during periods of allergen exposure. Aim to start treatment 2 weeks before symptoms are likely to begin. Refer to NICE CKS Allergic Rhinitis for further information.
- Reduce to maintenance dose once symptoms have been controlled
- Check compliance and ensure correct technique is used- how to use nasal spray

3.4.2 Allergen immunotherapy (desensitisation)

- Patients requiring immunotherapy must be referred to a hospital specialist for accurate diagnosis, assessment and treatment.

3.4.3 Allergic emergencies

3.4.3.1 Patient use

Choice	Drug	Dosage
Ensure patient is trained on use of device prescribed		
Formulary choices	EpiPen® Auto-injector 0.3mg (delivering a single dose of adrenaline 300 micrograms)	Dose: (adrenaline for self-administration) 300 micrograms, then 300 micrograms after 5 minutes as required
	Or	
	Jext® 300 micrograms adrenaline autojector (delivering a single dose of adrenaline 300 micrograms)	Dose: (adrenaline for self-administration) 300 micrograms, then 300 micrograms after 5 minutes as required

3.4.3.2 Healthcare professional use

Choice	Drug	Dosage
Formulary choice	Adrenaline 1 in 1000 (1mg/mL) injection (1ml ampoules)	Dose: Intramuscularly, 500 micrograms (0.5ml), using adrenaline 1 in 1000 (1mg/ml) injection, repeat dose after 5 minutes if no response; if life-threatening features persist, further doses can be given every 5 minutes until specialist critical care available, to be injected preferably into the anterolateral aspect of the middle third of the thigh.

Prescribing Notes

- Refer to the Resuscitation Council UK for the Emergency treatment of anaphylactic reactions: Guidelines for healthcare providers
- The Resuscitation Council do not recommend the use of auto-jectors by health care professionals for a number of reasons. Adults should receive 500 micrograms of adrenaline for the management of anaphylaxis. It is good practice to keep adrenaline 1mg in 1ml ampoule(s) for intramuscular use for the treatment of anaphylaxis in an ‘anaphylaxis pack’
- Adrenaline should be given immediately for an acute anaphylactic reaction (laryngeal oedema, bronchospasm and hypotension).

- Patients with known severe allergy should carry, and receive instruction for the use of, prefilled syringes (EpiPen®/Jext®) for self-administration. Adults should usually be prescribed two devices.
- Adrenaline for self-administration should be prescribed by brand name to ensure that the patient gets the device that they have been taught to use.
- MHRA Adrenaline auto-injectors (AAIs): new guidance and resources for safe use (June 2023) provides updated advice on body positioning

3.6 Oxygen

Home Oxygen should be ordered via a HOOF (Home Oxygen Order From) Part A or Part B.

Part A should be completed for orders required before specialist oxygen assessment and for non-specialist or temporary orders.

Part B should be completed for orders required following specialist oxygen assessment or paediatric oxygen assessment.

These forms are a prescription and must be completed by an authorised prescriber only. Any forms completed by a healthcare professional who is not a qualified prescriber or by an unauthorised prescriber will be rejected immediately. Care must be taken to complete the form legibly and supply all the necessary information for BOC to enable supply in a timely fashion. Missing information may result in rejection of the form which will result delays for the patient.

It is essential that any patients requiring long term oxygen or ambulatory oxygen should be directed to the home oxygen service and assessment & review clinic within their local trust.

Further guidance on completion of these forms is detailed fully on the individual form.

Details can be found on the Business Services Organisation website, under Home Oxygen Service

3.7 Mucolytics

Choice	Drug
1st choice (COPD)	Carbocisteine capsules 375mg Or Acetylcysteine 600mg effervescent tablets *Note: acetylcysteine 600mg* ***capsules*** *are very high cost - avoid where possible*

Prescribing Notes

- Mucolytic drug therapy can be considered in COPD patients with a chronic cough productive of sputum
- Mucolytic therapy should be discontinued after 4 weeks if there is no symptomatic improvement (for example, reduction in frequency of cough and sputum production). Do not put mucolytics on repeat prescription before this initial review.
- The evidence that mucolytics can reduce the frequency of exacerbation is of very low quality. NICE NG115 does NOT recommend the use of mucolytics to prevent exacerbations in people with stable COPD.
- Mucolytics should be used with caution in those with a history of peptic ulceration because they may disrupt the gastric mucosal barrier.
- Note other acetylcysteine preparations are **very high cost**: Acetylcysteine 600mg capsules (£101.90 for 30 caps); acetylcysteine 200mg oral powder sachets (£112.50 for 30 sachets) Jan 24 Drug Tariff

3.9 Cough preparations

3.9.1 Cough suppressants

Prescribing Notes

- Patients with acute cough should be advised that most coughs go away on their own within 3 weeks and to see a GP if the cough persists for more than 3 weeks. Refer to nidirect information

- Cough may be a symptom of an underlying disorder (e.g. asthma, COPD, GORD, rhinitis) which should be addressed
- Cough may be a side effect of another drug (e.g. ACE inhibitors), or it can be associated with smoking or environmental pollutants.
- Cough can also have a significant habit component.
- There is little evidence to support the use of cough suppressants in COPD and asthma.
- Cough suppressants are available to purchase over the counter.