Dorset COPD Management Guidelines 2022

Where a patient has features of asthma and COPD, clinical judgment is required when deciding whether to follow the asthma or COPD guideline - generally it is safer to err towards asthma when in doubt

Non-Pharmacological Management

Smoking cessation	Pneumococcal and influenza vaccinations	Pulmonary Rehabilitation	Co-develop a personalised self-management plan	Optimise treatment for comorbidities

Person has day-to-day symptoms or exacerbations that adversely impact quality of life - Assess need for ICS

Does the patient have a history or features of asthma *	Does the patient have suggestive features of steroid responsiveness*?	Has the patient had ≥2 exacerbations requiring treatment with steroids or antibiotics in the community or ≥1 hospitalisation in the last year

YES to <u>ANY</u> of the above	NO to <u>ALL</u> of the above

Inhaler choice

(**Dry Powder** or **Soft Mist devices** are **1st line** where clinically appropriate for environmental reasons)

ICS + LABA + LAMA	LABA+LAMA
	

If history of new infective exacerbations on LABA + LAMA, switch to LABA + LAMA + ICS

If there are side effects relating to one ingredient of a combination inhaler, individual components may be used

Refer to secondary care or discuss at local MDT if still limited by breathlessness or subject to frequent exacerbations despite being optimised

*Asthmatic features suggesting steroid responsiveness in this context include any previous secure diagnosis of asthma or atopy, a higher blood eosinophil count (>0.2 cellsx10^9/l), substantial variation in FEV1 over time (at least 400 ml) or substantial diurnal variation in peak expiratory flow (at least 20%).

Key: **LAMA** Long-Acting Muscarinic Antagonist **LABA** Long Acting β2 Agonist **ICS** Inhaled Corticosteroid **SABA** Short Acting β2 Agonist **SAMA** Short Acting Muscarinic Antagonist

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Diagnosis

Consider the diagnosis of COPD in individuals over the age of 40 with a relevant smoking history or exposure to risk factors of COPD and any of the following:

- exertional breathlessness
- chronic cough or regular sputum production
- frequent winter 'bronchitis' or wheeze

Confirm airway obstruction with post-bronchodilator spirometry if FEV1/FVC ratio <0.7

At diagnosis perform:

- Chest x-ray and ECG to exclude other diagnosis
- FBC to identify anaemia or polycythaemia +/- Alpha 1 antitrypsin blood test (only if aged < 50 or never smoker)
- Assess and record BMI (ensure dietary advice and support if BMI <20 or >30)

At review:

Monitor MRC and CAT score, exacerbation rate and inhaler compliance and technique

Inhaler selection & the environment

Inhalers have a significant carbon footprint. Using these simple steps when prescribing inhalers will help to reduce this – more detailed information may be found here – Dorset Green Prescribing Support Pack

1. **Dry Powder Inhalers (DPIs)** or **Soft Mist Inhalers (SMIs)** should be offered **first line** where clinically appropriate (flagged green below). In-Check devices can assess inspiratory flow
2. Face-to face assessment is advised when switching inhalers to optimise inhaler technique. Optimal COPD management is the key goal.
3. ICS increases **pneumonia risk** – review if recurrent pneumonia
4. **Used or unwanted inhalers to be returned to community pharmacies or dispensaries** for disposal.

Carbon Footprint Key

Low

Medium

High

Offer SABA / SAMA to use as needed

	Inhaler	Image	Dose	Device	Inspiratory Flow and Resistance[1]	Carbon Footprint Assessment[2,3]
Inhaler Choice	**Easyhaler®** 100mcg Salbutamol **1st Line SABA**		1-2 puffs PRN Max 8 puffs/day	**Easyhaler®** Dry Powder Inhaler	Hard/fast inhalation High	
	Bricanyl® 500mcg Terbutaline		1 puff PRN Max 4 puffs daily	**Turbohaler®** Dry Powder Inhaler	Hard/fast inhalation Med High	
	Salamol® 100mcg Salbutamol		1-2 puffs PRN Max 8 puffs daily	Metered-dose inhaler	Slow/long co-ordinated inhalation Low	
	Atrovent® 20mcg Ipratropium		1-2 puffs PRN Max 8 puffs daily	Metered-dose inhaler	Slow/long co-ordinated inhalation Low	

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Inhaler Choice

LABA/LAMA

Inhaler	Image	Dose	Device	Inspiratory Flow and Resistance[1]	Carbon Footprint Assessment[2,3]
Anoro® Umeclidinium/vilanterol (55/22mcg)		1 puff daily	**Ellipta®** Dry powder inhaler	Hard/fast inhalation **Med Low**	
Ultibro® Indacaterol/glycopyrronium (110/50mcg)		1 puff daily	**Breezhaler** Dry powder inhaler	Hard/fast inhalation **Med Low**	
Duaklir® Aclidinium/ formoterol (340/12mcg)		1 puff twice daily	**Genuair®** Dry powder inhaler	Hard/fast inhalation **Medium**	
Spiolto® Tiotropium/olodaterol (5/5mcg) **Prescribe refills for repeat prescriptions + a new device every 6 months**. The patient/carer can load the cartridge themselves otherwise must request to be primed before dispensing		2 puffs one daily	**Respimat®** Soft mist	Slow/long co-ordinated inhalation **Low**	
Bevespi® Glycopyrronium/formoterol (7.2/5mcg) (**2nd line** if **DPI** LABA/LAMA not suitable)		2 puffs twice daily	**Aerosphere®** Metered-dose inhaler	Slow/long co-ordinated inhalation **Low**	

LABA/LAMA/ICS

Inhaler	Image	Dose	Device	Inspiratory Flow and Resistance[1]	Carbon Footprint Assessment[2,3]
Trelegy® Fluticasone/umeclidinium/ vilanterol (92/55/22mcg)		1 puff daily	**Ellipta®** Dry powder inhaler	Hard/fast inhalation **Med Low**	
Trimbow® Beclometasone/formoterol/ Glycopyrronium (88/5/9mcg)		2 puffs twice daily	**NEXThaler®** Dry powder inhaler	Hard/fast inhalation **Med High**	
Trimbow® Beclometasone/formoterol/ glycopyrronium (87/5/9mcg)		2 puffs twice daily	Metered-dose inhaler	Slow/long co-ordinated inhalation **Low**	

References 1. Clement Clarke International Ltd (2019). Inhaler Resistance Range. Online via https://www.haag-streit.com/fileadmin/Clement_Clarke/Inhaler_Technique_Training/In-Check_DIAL_G16/3109306_-_Inhaler_Resistance_Range_card_-_iss7.pdf [Accessed 15 Feb 2022] 2. PrescQipp (2021). Hot topics. Online via https://www.prescqipp.info/our-resources/webkits/hot-topics/ [Accessed 15 Feb 2022]

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Other aspects of long-term management

Smoking cessation – stopping smoking improves prognosis, slows the decline in lung function and reduces exacerbation rates and will prevent other health issues. Signpost patient to livewelldorset.co.uk

Pulmonary Rehab – there is strong evidence for benefit in reducing breathlessness. This may be delivered in classes, at home and via the MyCOPD app. Offer to all patients with MRC3 or worse. Refer via SystmONE template letter and send to ereferrals@dorsetccg.nhs.uk

MyCOPD App - an app that provides online education, self-management advice, symptom reporting and pulmonary rehabilitation.

Sputum clearance – If issues related to sputum viscosity, check fluid intake then consider carbocisteine 750mg TDS. Review after 4 weeks and stop if no benefit. Consider dose reduction to 750mg BD as symptoms improve. Caution if risk of peptic ulceration. Also consider respiratory physiotherapy referral via DAIRs (correct to patient's area)

Comorbidities – COPD patients commonly have complicating conditions e.g. Depression and anxiety (HAD/PHQ9/GAD7 scores) – consider S2W referral, cardiac. Osteoporosis risk should be assessed and treated

Oxygen – Long term oxygen therapy should be used at least 15 hours per day to be effective at improving prognosis – patients with O2 sats ≤92% on air when stable should be referred for assessment. Patients must be on maximally optimised treatment for their condition. Can only be given to patients who have stopped smoking for ≥8 weeks. Ambulatory oxygen improves exercise capacity but must be used **during** exertion. Refer to *DAIRS* to arrange for an oxygen assessment via the systmONE template letter (send to the appropriate DAIRS team)

Nutrition – low BMI gives a poor prognosis in COPD; very high BMI may cause obstructive sleep apnoea and obesity hypoventilation

Home nebulisers – Avoided in asthma but some patients with COPD benefit from having a nebuliser at home – as per pending pathway. Obtained via NRS by referring to District Nurses/ Community Matrons depending on area.

Palliative measures and end of life planning to be considered in severe cases and referral to the community palliative care team

Management of acute exacerbations

Increase use of SABA/SAMA

Oral prednisolone 40mg daily for 5 days (GOLD 2022)

- Consider gastro-protection in patients at risk of peptic ulceration
- Consider gradual withdrawal of corticosteroids **only** if patient has recently received repeat or prolonged courses of corticosteroids.

If purulent sputum and increased dyspnoea or increased sputum volume, consider addition of antibiotics

- First line Amoxicillin 500mg TDS for 5 days or Doxycycline 200mg STAT then 100mg OD for additional 4 days (5 days total)
- Second line, consider clarithromycin or co-amoxiclav
- Consider ciprofloxacin if pseudomonas infection is suspected

- In patients experiencing frequent exacerbations, send sputum for MC&S and consider a concomitant diagnosis of bronchiectasis; prophylactic antibiotics (e.g. azithromycin) or roflumilast can be considered with guidance of secondary care
- **Rescue packs** - Consider a rescue pack for patients with **≥ 2 exacerbations per year** or **≥ 1 hospital admission** who can recognise symptoms and act appropriately on them alongside a written personalised treatment plan. Patients must seek advice on initiation e.g. see HCP within 7 days. DO NOT ADD ON REPEAT PRESCRIPTION.

When to Refer to Secondary Care or local respiratory MDT:

- Diagnostic uncertainty or atypical features (e.g. haemoptysis, weight loss, night sweats, fever, pseudomonas culture in sputum or signs of bronchiectasis or other structural lung disease)
- Disproportionate breathlessness – referral to specialist physio to treat dysfunctional breathing if score >23/ 64. Nijmegen questionnaire here
- Development of peripheral oedema (possible cor pulmonale)
- If ≥ 2 exacerbations per year despite medical optimisation (to consider causes (e.g. bronchiectasis) and prophylactic antibiotics)
- Consideration of lung volume reduction (non-smokers with an FEV ≤ 50%, MRC 3 or worse and otherwise reasonably fit). See NHSE guidance for LVRS)