

## Non-Pharmacological Management

Smoking cessation	Vaccinations	Pulmonary Rehabilitation	Co-develop a personalised self-management plan	Optimise treatment for comorbidities
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## Person has day-to-day symptoms or exacerbations that adversely impact quality of life - Assess need for ICS treatment

Does the patient have a history of asthma or asthmatic features *	Does the patient have suggestive features of steroid responsiveness*?	Has the patient had $\geq 2$ exacerbations requiring treatment with steroids or antibiotics in the community or $\geq 1$ hospitalisation in the last year	Does the patient have an eosinophil count $> 0.3 \text{ cells} \times 10^9/\text{L}$ ( $>300\mu\text{L}$ )
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## Decision Points

<b>YES to ANY of the above</b>	<b>NO to ALL of the above</b>
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## Inhaler choice

<b>ICS + LABA + LAMA</b> 	<b>LABA + LAMA</b> 
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If ongoing symptoms or history of new infective exacerbations on LABA + LAMA: 3-month trial of LABA + LAMA + ICS  
 If no improvement, revert back to LABA + LAMA  
 Refer to secondary care if still limited by breathlessness or subject to frequent exacerbations despite optimised care  
 See [COPD ICS step down protocol](#) for safe withdrawal of ICS therapy

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

## Fundamentals of COPD care

This provides important health benefits e.g. smoking cessation reduces disease progression, pulmonary rehabilitation improves quality of life, increasing activity levels improves prognosis.

<b>Treating tobacco dependency</b>	<ul style="list-style-type: none"> <li>Utilise every contact to offer brief interventions for smoking cessation</li> <li>See <a href="#">Smoking Cessation Remedy</a> page for Nicotine Replacement (NRT) guideline and referrals local smoking cessation services</li> <li><a href="#">NHS targeted lung cancer screening</a> is available for all current and ex-smokers aged 55-74</li> </ul>
<b>Vaccinations</b>	<ul style="list-style-type: none"> <li>Annual flu, COVID and RVS vaccines should be offered in line with <a href="#">The Green Book recommendations</a></li> <li>A single dose of pneumococcal vaccine PPV23 should be offered in line with <a href="#">The Green Book recommendations</a></li> </ul>
<b>Pulmonary Rehabilitation</b>	<ul style="list-style-type: none"> <li>There is strong evidence of the benefits of pulmonary rehabilitation at all stages of COPD.</li> <li>The British Lung Foundation has helpful online <a href="#">exercise videos</a></li> <li>Please see <a href="#">Remedy</a> for up-to-date referral pathways and the My MHealth <a href="#">myCOPD App</a> which offers exercises for patients at home</li> </ul>
<b>Increase daily activity</b>	<ul style="list-style-type: none"> <li>Patients should be advised of simple ways to improve functional activity to improve breathlessness and reduce the cycle of deconditioning.</li> <li><a href="#">Exercises to help you feel more energetic   Asthma + Lung UK (asthmaandlung.org.uk)</a></li> </ul>
<b>Inhaler technique</b>	<p>This should be reviewed regularly and always <u>before</u> increasing treatment.</p> <ul style="list-style-type: none"> <li>It is not always possible to utilise same device for all treatments but you should aim to use the same technique and type (MDI/DPI)</li> <li>Add a spacer device for use with MDI</li> <li>Instruction for inhaling via a MDI should be “gentle and deep” and “forceful and deep” for DPIs.</li> <li>Resource: educational videos which show correct technique for each device are available at <a href="#">RightBreathe</a> and on the <a href="#">myCOPD App</a></li> </ul>
<b>Oxygen</b>	<ul style="list-style-type: none"> <li>Patients must be advised to stop smoking. Refer for assessment of long-term oxygen therapy if oxygen sats are <math>\leq 92\%</math> while breathing air and stable or <math>\leq 94\%</math> if peripheral oedema, polycythaemia (haematocrit <math>\geq 55\%</math>) or pulmonary hypertension.</li> <li>Please see <a href="#">Remedy</a> for up-to-date referral pathways.</li> </ul>
<b>Self-management Plan</b>	<ul style="list-style-type: none"> <li>A personalised self-management plan should be developed in conjunction with the patient and can be found here <a href="#">COPD self-management plan – Asthma + Lung UK (asthmaandlung.org.uk)</a></li> </ul>
<b>Consider and treat co-morbid disease</b>	<ul style="list-style-type: none"> <li>Consider screening for anxiety and depression (for example using PHQ-9 &amp; GAD-7). Cognitive behavioural therapy can be useful.</li> <li>Consider <a href="#">osteoporosis risk</a> and bone protection</li> </ul>
<b>Advanced Care Planning</b>	<ul style="list-style-type: none"> <li>Consider conversations about advance care planning and end of life care with referral to specialist teams as appropriate.</li> <li>Consider referral to hospice <a href="#">Fatigue and Breathlessness course</a></li> </ul>

# 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, regular sputum production, frequent winter 'bronchitis' or wheeze

If COPD is suspected (and in the absence of contraindications to spirometry) confirm airway obstruction with post-bronchodilator spirometry. Obstructive deficit 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
- Assess and record BMI (ensure dietary advice and support if BMI <20 or >30)

# Exacerbations Management

Exacerbations are defined as increasing respiratory symptoms requiring escalation of treatment. Diagnose if acute change in symptoms beyond normal day-to-day variation e.g. increased dyspnoea, increasing sputum volume or purulent sputum. The decision to prescribe steroids and antibiotics should ideally be made following a thorough face-to-face assessment (including vital signs and chest examination) with appropriate follow up arranged. Use the factors in [Table 7 on the NICE guideline](#) to assess whether people with COPD need hospital treatment.

## Management

### 1. Increase use of SABA/SAMA

### 2. Oral prednisolone 30 mg daily for 5 days

Consider gastro-protection in patients at risk of gastric ulceration. Also consider issuing an [NHS Steroid Emergency Card](#) if on a triple therapy inhaler too. Consider gradual withdrawal of corticosteroids only if patient has recently received repeat or prolonged courses of corticosteroids.

### 3. 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 4 days or Clarithromycin 500mg BD for 5 days. Stop calcium and iron supplements plus Peptac/Gaviscon for duration of doxycycline.

Do not repeat unless sputum purulent. Second line see [BNSSG Antimicrobial guidelines](#)

If  $\geq 2$  exacerbations per year despite medical optimisation (ensure are on triple therapy) refer to secondary care

In patients experiencing frequent exacerbations consider a concomitant diagnosis of [bronchiectasis](#)

# COPD Rescue Packs

See [COPD Rescue Pack Prescribers Guide](#) for more information on the criteria for issuing a rescue pack appropriately.

A [patient information leaflet](#) must be provided with a rescue pack

# Other medicines considerations

- Consider [Acetylcysteine \(Acepiro®\) 600mg OD](#) effervescent tablet to reduce sputum viscosity if experiencing chronic productive cough. Note, where concomitant use of oral antibiotics is required, separate administration by an interval of at least two hours. Alternatively, consider [carbocysteine 750mg TDS](#). Review after 4 weeks and stop if no benefit. If continued, reduce dose to 750mg BD as symptoms improve. Use with caution if risk of peptic ulceration.
- Long-term use of oral corticosteroid therapy in COPD is not normally recommended
- OTC cough preparations, particularly with anti-tussive properties, should not be used in the management of stable COPD
- Before starting prophylactic antibiotic therapy, consider respiratory specialist input

















# When to refer










- Diagnostic uncertainty
- Suspected asthma or COPD with atypical or additional symptoms or signs (e.g. haemoptysis, weight loss, night sweats, fever or signs of bronchiectasis or other structural lung disease)
- Persistent symptoms and/or exacerbations despite optimal treatment
- Development of complications including pulmonary hypertension and significant blood gas derangement
- Consideration of lung volume reduction (non-smokers with an FEV<sub>1</sub>  $\leq$  50% with non-responsive breathlessness). See [NICE criteria](#)

## Inhaler selection & Environmental Considerations

Inhalers have a significant carbon footprint and make up ~3% of all NHS carbon emissions. Using these simple steps when prescribing inhalers will help reduce the environmental impact:

1. **Dry Powder Inhalers (DPIs)** or **Soft Mist Inhalers (SMIs)** should be offered **first line** where clinically appropriate. The inhalers below are the most cost-effective.
2. Focus on finding the right medication and device for each individual using shared decision making and ensure good inhaler technique. Optimal COPD management is the key goal.
3. Ask patients to **return all used or unwanted inhalers to community pharmacies or dispensaries** for disposal by incineration or re-cycling.
4. Click [here](#) to find out more practical steps to reduce the environmental impact of inhalers including greener product switches. The [Greener Practice guide](#) is also helpful.

Inhaler Choice	LABA/LAMA/ICS					
	Inhaler	Image	Dose	Device	Inspiratory Flow and Resistance <sup>1</sup>	Equivalent CO <sub>2</sub> eq annual car miles <sup>2,3</sup>
	<b>Trelegy®</b> Fluticasone/umeclidinium/ vilanterol		1 puff daily	<b>Ellipta®</b> Dry powder inhaler	Hard/fast inhalation ≈ <b>Med Low</b>	 25 miles
	<b>Trimbow® 87/5/9</b> Beclometasone/formoterol/ glycopyrronium		2 puffs twice daily	<b>NEXThaler®</b> Dry powder inhaler	Hard/fast inhalation ≈ <b>Med High</b>	 39 miles
	<b>Trimbow® 87/5/9 + spacer</b> Beclometasone/formoterol/ glycopyrronium		2 puffs twice daily	Metered-dose inhaler	Slow/long co-ordinated inhalation ~ <b>Low</b>	 624 miles
	<b>Trixeo® + spacer</b> Budesonide/formoterol/ glycopyrronium		2 puffs twice daily	<b>Aerosphere®</b> Metered-dose inhaler	Slow/long co-ordinated inhalation ~ <b>Low</b>	 572 miles
	LABA/LAMA					
	<b>Anoro®</b> Umeclidinium/vilanterol		1 puff daily	<b>Ellipta®</b> Dry powder inhaler	Hard/fast inhalation ≈ <b>Med Low</b>	 25 miles
	<b>Duaklir®</b> Aclidinium/ formoterol		1 puff twice daily	<b>Genuair®</b> Dry powder inhaler	Hard/fast inhalation ≈ <b>Medium</b>	 47 miles
	<b>Spiolto®</b> Tiotropium/olodaterol <b>Prescribe refills for repeat prescriptions + a new device every 6 months.</b> Can request to be primed before dispensing		2 puffs one daily	<b>Respimat®</b> Soft mist	Slow/long co-ordinated inhalation ~ <b>Low</b>	 34 miles
<b>Bevespi® + spacer</b> Glycopyrronium/formoterol		2 puffs twice daily	<b>Aerosphere®</b> Metered-dose inhaler	Slow/long co-ordinated inhalation ~ <b>Low</b>	 625 miles	

Offer SABA PRN					
Inhaler	Image	Dose	Device	Inspiratory Flow and Resistance <sup>1</sup>	Equivalent CO <sub>2</sub> eq annual car miles <sup>2,3</sup>
<b>Easyhaler®</b> 100mcg Salbutamol		1-2 puffs PRN Max 8 puffs/day	<b>Easyhaler®</b> Dry Powder Inhaler	Hard/fast inhalation  <b>High</b>	 27 miles
<b>Bricanyl®</b> 500mcg terbutaline		1 puff PRN Max 4 puffs/day	<b>Turbohaler®</b> Dry Powder Inhaler	Hard/fast inhalation  <b>Med High</b>	 27 miles
<b>Salamol®</b> 100mcg Salbutamol		1-2 puffs PRN Max 8 puffs/day	Metered-dose inhaler	Slow/long co-ordinated inhalation  <b>Low</b>	 70 miles

#### 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](https://www.haag-streit.com/fileadmin/Clement_Clarke/Inhaler_Technique_Training/In-Check_DIAL_G16/3109306_-_Inhaler_Resistance_Range_card_-_iss7.pdf) [Accessed 15 Oct 2024]
2. PrescQipp (2021). Hot topics. Online via <https://www.prescqipp.info/our-resources/webkits/hot-topics/> [Accessed 15 Oct 2024]