COPD INHALER TREATMENT GUIDELINES

NHS Black Country Integrated Care Board

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Prescribe by brand

INTERMITTENT BREATHLESSNESS AND/OR EXERCISE LIMITED

SHORT ACTING BRONCHODILATORS **SABA** OR SAMA

- Flu & Pneumonia Vaccination
- Smoking cessation
- Pulmonary rehabilitation
- Anxiety & depression
- Exercise
- Dietary advice
- Compliance & Inhaler technique
- Use a spacer with an MDI

AGAINST use of ICS	CONSIDER use of ICS	STRONG SUPPORT for ICS
• No history of Exacerbations • Repeated pneumonia events • Blood eosinophils <100 cells/µl • History mycobacterial infection	• One moderate exacerbation of COPD **and** Blood eosinophils ≥100 to < 300 cells/µ	• History of, or concomitant, asthma • History of hospitalisation(s) for exacerbation(s) of COPD • ≥ 2 moderate exacerbations of COPD per year • Blood eosinophils ≥300 cells/µl
LABA / LAMA in a combination inhaler	**ICS / LABA** in a combination inhaler or **LABA / LAMA** in a combination inhaler	**ICS / LABA** in a combination inhaler
		ICS / LABA / LAMA in a combination inhaler

Follow Up Treatment

1. IF RESPONSE TO INITIAL TREATMENT IS APPROPRIATE - MAINTAIN IT
2. IF NOT, ASSESS - ADJUST - REVIEW
   - Consider switching inhaler device or molecules
   - Investigate (and treat) other causes of breathlessness

CARBON FOOTPRINT

- HFC in MDIs contribute much more to the NHS carbon footprint than DPIs BUT patient preference and inspiratory flow MUST be considered before offering DPIs

SHORT ACTING BRONCHODILATORS

SABA Short Acting $Beta_2$ Agonists

DPI's		MDI's	
			
Bricanyl Turbohaler 500 micrograms One puff as required **Terbutaline**	**Salbutamol Easyhaler** 100 micrograms Two puffs as required **or** 200 micrograms One puffs as required **Salbutamol**	**Salamol MDI** 100 micrograms Two puffs as required **Salbutamol**	**Salamol Easi-Breathe MDI** 100 micrograms Two puffs as required **Salbutamol**

LONG ACTING BRONCHODILATORS

Prescribe by brand

LAMA / LABA in a combination inhaler

DPI's		MDI's	
			
Anoro Ellipta 55/22 One puff once daily **Umeclidinium / Vilanterol**	*Duaklir Genuair 340/12* One puff twice daily **Aclidinium / Formoterol**	*Spiolto Respimat 2.5/2.5* Two puffs once daily **Tiotropium / Olodaterol**	*Bevespi Aero 7.2/5* Two puffs twice daily **Glycopyrronium / Formoterol**

REMEMBER: When you start a **LABA+LAMA** combination inhaler Then **STOP LABA** or **LAMA** in separate inhalers

INHALED CORTICOSTEROIDS (ICS) in a combination Inhaler

Prescribe by brand

ICS / LABA in a combination inhaler

DPI's		MDI's
		
Relvar Ellipta 92/22 One puff once daily **Fluticasone Furoate / Vilanterol** Licensed if FEV_1 < 70%	*Fostair Nexthaler 100/6* Two puffs twice daily **Beclometasone / Formoterol** Licensed if FEV_1 < 50%	*Fostair MDI 100/6* Two puffs twice daily **Beclometasone / Formoterol** Licensed if FEV_1 < 50%

ICS / LABA /LAMA in a combination inhaler

DPI's		MDI's	
			
Trelegy Ellipta 92/55/22 One puff once daily **Fluticasone Furoate / Umeclidinium / Vilanterol**	*Trimbow Nexthaler 88/5/9* Two puffs twice daily **Beclometasone / Formoterol / Glycopyrronium**	*Trixeo Aerosphere 5/7.2/160* Two puffs twice daily **Budesonide / Formoterol / Glycopyrronium**	*Trimbow MDI 87/5/9* Two puffs twice daily **Beclometasone / Formoterol / Glycopyrronium**

REMEMBER: when you start a **(ICS+LABA)** or **(ICS+LABA+LAMA)** in a combination inhaler then **STOP LABA** & / or **LAMA** separate inhaler

(see local formulary) **SPACER DEVICES** *(TO BE USED WITH MDIs ONLY)*

Aerochamber Flow-Vu Youth | Aerochamber Flow-Vu Standard | Aerochamber Flow-Vu Small Mask | Aerochamber Flow-Vu Large Mask | Volumatic +/- Mask

KEY

SABA	- Short Acting $Beta_2$ Agonist	**MDI**	- Metered Dose Inhaler	**MRC**	- Medical Research Council Breathlessness Score
LABA	- Long Acting $Beta_2$ Agonist	**EOS**	- Blood Eosinophil Count	**CAT**	- COPD Assessment Test
LAMA	- Long Acting Muscarinic Antagonist	**SMI**	- Soft Mist Inhaler	**HFC**	- Hydrofluorocarbon
ICS	- Inhaled Corticosteroids	**DPI**	- Dry Powder Inhaler	**SF**	- Sugar Free

Healthier Futures Black Country Integrated Care Board
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Based on COPD Treatment Guidelines.

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COPD

NHS Black Country Integrated Care Board

CHRONIC OBSTRUCTIVE PULMONARY DISEASE GUIDELINES

- Choose a drug based on the person's symptomatic response and preference, the drug's side effects, potential to reduce exacerbations and cost.
- Do not use oral corticosteroid reversibility tests to identify patients who will benefit from inhaled corticosteroids.
- Green agenda - consider the carbon footprint of the inhalers
- Be aware of the potential risk of developing side effects (including non-fatal pneumonia) in people with COPD treated with inhaled corticosteroids and be prepared to discuss with the patients – consider osteoporosis risk.
- Ensure all patients have a personal management plan.
- Smoking cessation is the only intervention that reduces the decline of lung function in COPD. Encourage all patients to stop smoking.
- Encourage all patients to exercise. If the MRC is ≥3, or the patient considers themselves functionally disabled, refer to Pulmonary Rehabilitation.
- **A FULL CLINICAL HISTORY IS OF PARAMOUNT IMPORTANCE**

INHALED THERAPY

See front page

Mucolytic Therapy

- Consider in people with a chronic productive cough and continue use if symptoms improve. Do not routinely use to prevent exacerbations.

NACSYS/Aceteff (Acetylcysteine) 600mg effervescent SF tablet – to be considered where once-daily treatment is deemed more suitable.

Carbocisteine capsules or oral liquid: 750mg three times a day for 4 weeks (capsules 375mg: Liquid 250mg/5mls)

(If no benefit stop treatment).

If beneficial continue with 750mg twice a day .

Management of Acute Exacerbations

- Increase frequency of short acting Bronchodilators use & consider giving via a nebuliser
- Prednisolone 30mg once daily for 5 days
- Administer antibiotics in accordance with local guidelines

See next page

https://bit.ly/3ctpnJj

Oxygen Therapy

- Assess the need for oxygen therapy
- Oxygen saturations 92% or less breathing air
- Refer as per local guidelines

Reference:
BTS 2015 home oxygen guidelines

https://bit.ly/3IWdg3L

ORAL THERAPY

Corticosteroids

- Maintenance use of oral corticosteroid therapy in COPD is not normally recommended

Theophylline

- Offer only after trials of short and long-acting bronchodilators or to people who cannot use inhaled therapy. **Prescribe by brand.**
- Theophylline can be used in combination with beta$_2$ agonists and muscarinic antagonists.
- Take care when prescribing to older people because of pharmacokinetics, comorbidities and interactions with other medications.
- Theophylline levels to be checked 5 days after starting treatment and then every 6-12 months
- Reduce Theophylline dose if macrolide or fluroquinolone antibiotics (or other drugs known to interact) are prescribed to treat an exacerbation.

COPD

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TREATMENT OF EXACERBATIONS IN COPD

Exacerbations of Chronic Obstructive Pulmonary Disease (COPD) are important events in the management of COPD because they negatively impact health status, rates of hospitalisation and readmission, and disease progression. COPD exacerbations are complex events usually associated with increased airway inflammation, increased mucus production and marked air trapping. These changes contribute to increased breathlessness that is the key symptom of an exacerbation.

COPD exacerbations are defined as an acute worsening of respiratory symptoms that result in additional therapy

They are classified as

- Mild – treated with short acting bronchodilators only, SABDs
- Moderate – treated with SABDs plus antibiotics and/or oral corticosteroids
- Severe exacerbations – requires hospitalisation. May also be associated with acute respiratory failure

COPD patients need to receive education about the importance of understanding exacerbation symptoms and when to seek professional advice.

The goals of treatment for COPD are to minimise the negative impact of the current exacerbation and prevent the development of subsequent events. Long term prognosis following hospitalisation for COPD exacerbation is poor, with a 5 year mortality rate of 50%.

Bronchodilators

It is recommended that Short acting inhaled B2 agonists (SABAs) are the initial bronchodilators for acute treatment of a COPD exacerbation.

Salbutamol 100mcgs 2 -10 puffs every 4 hours (if using a metered dose inhaler (MDI) a spacer is recommended) OR one puff every one hour for two or three doses and then every 2-4 hours based on patients response

Glucocorticoids

Studies indicate that systemic glucocorticoids in COPD exacerbations shorten recovery time and improve FEV1. They also improve oxygenation. However you need to assess the risk benefit factor

Prednisolone 30mg for 5 days

Antibiotics

Antibiotics should be considered for patients with exacerbations of COPD who have three cardinal symptoms: increase in breathlessness, sputum volume, and sputum purulence; have two of the cardinal symptoms, if increased purulence of sputum is one of the two symptoms

Doxycycline 200mg stat 100mg once daily for 5 days

If Doxycycline contraindicated then Clarithromycin 500mg twice a day for 5 days
OR
Amoxicillin 500mg three times a day for 5 days (if patient does not have penicillin allergy)

Improvement in breathlessness and sputum purulence suggest clinical success

Self-Management

Patients at risk of having an exacerbation of COPD should be given a self-management plan that encourages them to respond promptly to the symptoms of an exacerbation

When a patient starts treatment for an exacerbation of COPD they should contact the surgery to inform them and reorder there prescription. Further advice and referral if required should be offered by the surgery or relevant Health Care Professional

Osteoporosis

Consider to prescribing to people who are taking high doses of oral corticosteroids (more than or equivalent to prednisolone 7.5mg daily for 3 months or longer)

https://bit.ly/3oheFIT

Post Exacerbation Review

Education

Review Treatment

Smoking Cessation

Inhaler technique

Compliance

Pulmonary Rehabilitation

Vaccinations

Future Planning

INFORMATION & RESOURCES

COPD Assesment Test

How is your COPD?
Take the COPD Assessment Test™ (CAT)

This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

For each itembelow,place amark (✗) in the box that best describes you currently. **Be sure to only select one response.**

example:

I am very happy 0 ✗ 2 3 4 5 I am very sad

			SCORE
	0 1 2 3 4 5	I cough all the time	
I have no phlegm (mucus in my chest at all	0 1 2 3 4 5	My chest is completely full of phlegm (mucus)	
My chest does not feel tight at all	0 1 2 3 4 5	My chest feels very tight	
When I walk up a hill or one flight of stairs I am not breathless	0 1 2 3 4 5	When I walk up a hill or one flight of stairs I am very breathless	
I am not limited doing any activities at home	0 1 2 3 4 5	I am very limited doing activities at home	
I am confident leaving my home despite my lung condition	0 1 2 3 4 5	I am not at all confident leaving my home because of my lung condition	
I sleep soundly	0 1 2 3 4 5	I don't sleep soundly because ofmy lung condition	
I have lots of energy	0 1 2 3 4 5	I have no energy at all	

TOTAL SCORE

Greener Inhaler Toolkit for GP Practices

https://bit.ly/3xE23Qh

Useful Links

NHS Delivering a net zero

https://www.england.nhs.uk/greenernhs/a-net-zero-nhs

Asthma & Lung UK website

https://www.blf.org.uk/support-for-you/asthma

Asthma & Lung UK Inhaler videos

https://www.asthma.org.uk/advice/inhaler-videos

Breathlessness Pathway

Right Breathe

www.rightbreathe.com

Medical Research Council (MRC) Dyspnoea Scale & modified MRC(mMRC)

mMRC	MRC	Degree of breathlessness related to activities
0	1	Not troubled by breathlessness except on strenuous exercise
1	2	Short of breath when hurrying or walking up a slight hill
2	3	Walks slower than contemporaries on level ground because of breathlessness, or has to stop for breath when walking at own pace
3	4	Stops for breath after walking about 100 metres or after a few minutes on level ground
4	5	Too breathless to leave the house, or breathless when dressing or undressing