

## Pharmacologic Management of COPD in Adults: Quick Summary

This is based on the modified Medical Research Council (mMRC) dyspnoea scale and on the frequency and severity of exacerbations.

### mMRC dyspnoea scale<sup>1</sup>

Grade	Severity of breathlessness
0	I only get breathless with strenuous exercise.
1	I get short of breath when hurrying on level ground or walking up a slight hill.
2	On level ground, I walk slower than people of the same age because of breathlessness, or have to stop for breath when walking at my own pace.
3	I stop for breath after walking about 100 yards or after a few minutes on level ground.
4	I am too breathless to leave the house or I am breathless when dressing.

### Exacerbation<sup>2</sup>

An exacerbation is a sustained worsening of the patient's symptoms from their usual stable state which is beyond normal day-to-day variations, and is acute in onset. Commonly reported symptoms are:

- Worsening breathlessness
- Worsening cough
- Increased sputum production
- Change in sputum colour

**The change in these symptoms may necessitate a change in medication and/or require rescue course of antibiotics +/- steroids.**

### Pharmacologic treatment<sup>1</sup>

GOLD grade	mMRC score	Exacerbation history (past year)	Inhaled therapy options		
			First choice	Alternative choice	
A	0-1	0-1 (not leading to hospital admission or admission avoidance service for exacerbation).	SABA	or SAMA	LAMA
B	≥ 2		LAMA		[LAMA + LABA]
C	0-1	≥ 2 OR ≥ 1 leading to hospital admission or admission avoidance service for exacerbation.	[LAMA + LABA]		[ICS + LABA]
D	≥ 2		[LAMA + LABA]	[ICS + LABA]	+ LAMA

GOLD: Global Initiative for Chronic Obstructive Lung Disease

### Management

- Smoking cessation
- Refer all patients for pulmonary rehabilitation (via the Care Coordination Centre – CCC) **OR** to the respiratory physiotherapist (via WSFT physiotherapy department)
- Flu vaccination and pneumococcal vaccination
- Encourage regular physical activity and good breathing technique

**See overleaf for inhaled therapy device options supported by respiratory specialists at West Suffolk Foundation Trust.**

#### Reference

1. Global Initiative for Chronic Obstructive Lung Disease (2017). Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease – 2017 report
2. National Institute for Health and Clinical Excellence (2010). Chronic Obstructive Pulmonary Disease (COPD) CG101
3. Haymarket Media Group Limited (2017): MIMS. [Online]: Haymarket Media Group Limited. Available: <http://www.mims.co.uk/> [Last accessed 15 February 2017]
4. IESCCG Medicines Management Team (2016). Guidelines for use and stepping down of carbocisteine – Version 1.0
5. BMJ Group and Pharmaceutical Press (2017): *British National Formulary February 2017*. [Online]: BMJ Group and Pharmaceutical Press. Available: <https://www.medicinescomplete.com/mc/bnf/current/> [Last accessed 15 February 2017]
6. British Thoracic Society and Scottish Intercollegiate Guidelines Network (2014). British guideline on the management of asthma – A national clinical guideline

SABA	SAMA	LAMA	[LAMA + LABA]	[ICS + LABA]
<p><b>a,b</b> Salbutamol, MDI, 100mcg/metered inhalation, 1-2 dose(s) PRN</p> <p>Easyhaler® salbutamol, DPI, 100mcg/metered inhalation, 1-2 dose(s) PRN</p>	<p><b>c</b> Atrovent® (ipratropium bromide), MDI, 20mcg/metered inhalation, 1-2 dose(s) PRN</p>	<p>Spiriva® Respimat® (tiotropium), solution for inhalation, 2.5mcg/metered inhalation, 2 doses OD</p> <p>Braltus® (tiotropium), DPI, 13mcg/capsule (+ Zonda® inhaler) 1 capsule OD</p> <p>Seebri® Breezhaler®▼ (glycopyrronium), DPI, 50mcg/hard capsule, 1 capsule OD</p> <p>Eklira® Genuair®▼ (aclidium), DPI, 322 mcg/inhalation (delivered dose), 1 dose BD</p>	<p>Duaklir®Genuair®▼ (aclidinium, formoterol fumarate dihydrate), DPI, 340mcg, 12mcg/inhalation (delivered dose), 1 dose BD</p> <p>Spiolto® Respimat® (tiotropium, olodaterol), inhalation solution, 2.5mcg, 2.5mcg/inhalation (delivered dose), 2 doses OD</p> <p>Ultibro®Breezhaler®▼ (indacaterol, glycopyrronium), DPI, 85mcg, 43mcg/hard capsule (delivered dose), 1 capsule OD</p>	<p>Symbicort® (budesonide, formoterol fumarate), MDI, 200mcg, 6mcg/metered inhalation, 2 doses BD [800mcg]<sup>Ω</sup></p> <p><b>c</b> Fostair® (beclometasone dipropionate, formoterol fumarate), MDI, 100mcg, 6mcg/metered inhalation, 2 doses BD [1000mcg]<sup>Ω</sup></p> <p>Fostair® NEXThaler® (beclometasone dipropionate, formoterol fumarate), DPI, 100mcg, 6mcg/inhalation, 2 doses BD [1000mcg]<sup>Ω</sup></p> <p>DuoResp® Spiromax® (budesonide, formoterol fumarate), DPI, 320mcg, 9mcg/inhalation (delivered dose), 1 dose BD [800mcg]<sup>Ω</sup></p>

Prices correct at February 2017<sup>3</sup>

#### Carbocisteine<sup>4</sup>

- Carbocisteine should be initiated **on trial** to thin mucosal secretions in respiratory tract disorders, characterised by excessive, viscous mucus, including COPD.
- Review patient after 4 weeks
- Stop treatment if no benefit is shown
- Continue if there is symptomatic improvement (for example reduction in frequency of cough and sputum production).
- Mucolytics should not be used routinely to prevent exacerbations in people with stable COPD.
- **The initial dose** is 2.25g daily in divided doses (e.g. TWO capsules three times a day), reducing to 1.5g daily in divided doses (e.g. as ONE capsule four times a day or TWO capsules twice a day) as condition improves.

▼ – Identifies newly licensed medicines that require additional monitoring by the European Medicines Agency

**Ω - Corticosteroid safety card recommended**

#### Key to spacer devices

- a** – AeroChamber Plus® standard device with mouth piece (£4.81)  
**OR** with mask (£8.02)
- b** – Volumatic® standard device with mouth piece (£3.81)

#### ICS equivalence to beclometasone dipropionate (BDP)<sup>5, 6</sup>

- **100mcg** beclometasone dipropionate (Fostair®/Fostair® NEXThaler®) ≡ **250mcg** BDP
- **400mcg** budesonide (DuoResp® Spiromax®/Symbicort®) ≡ **400mcg** BDP

#### Colour coded cost

Devices are listed **in cost order** within the cost bracket and exclude the cost of spacers. Cost is based on **30 days** of regular treatment at the specified dose. **‘When required’ (PRN) devices** i.e. SABA cost per 200 doses.

£0.00 – £4.99

£5.00 – £9.99

£20.00 – £29.99

£30.00 – £39.99

#### Abbreviations

SABA – Short-acting beta agonist  
 [ICS + LABA] – Inhaled corticosteroid + Long-acting beta agonist (in a combination inhaler)  
 [LAMA + LABA] – Long-acting muscarinic antagonist + Long-acting beta agonist (in a combination inhaler)  
 LAMA – Long-acting muscarinic antagonist  
 SAMA – Short-acting muscarinic antagonist  
 [XXmcg] – Beclometasone dipropionate equivalent of ICS daily dose  
 PRN – When required      BD – Twice daily  
 OD – Once daily      MDI – Metered dose inhaler  
 DPI – Dry powder inhaler