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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Severity of breathlessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I only get breathless with strenuous exercise.</td>
</tr>
<tr>
<td>1</td>
<td>I get short of breath when hurrying on level ground or walking up a slight hill.</td>
</tr>
<tr>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>3</td>
<td>I stop for breath after walking about 100 yards or after a few minutes on level ground.</td>
</tr>
<tr>
<td>4</td>
<td>I am too breathless to leave the house or I am breathless when dressing.</td>
</tr>
</tbody>
</table>

### Exacerbation

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

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

**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**

4. BTS/SCCP Medicines Management Team (2016): Guidelines for use and stepping down of carbocisteine – Version 1.0
<table>
<thead>
<tr>
<th>SABA</th>
<th>SAMA</th>
<th>LAMA</th>
<th>[LAMA + LABA]</th>
<th>[ICS + LABA]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salbutamol, MDI, 100mcg/metered inhalation, 1-2 dose(s) PRN</td>
<td>Atrovent® (ipratropium bromide), MDI, 20mcg/metered inhalation, 1-2 dose(s) PRN</td>
<td>Spiriva® Respimat® (tiotropium), solution for inhalation, 2.5mcg/metered inhalation, 2 doses OD</td>
<td>Duaklir®Genuair® (aclidinium, formoterol fumarate dihydrate), DPI, 340mcg, 12mcg/inhalation (delivered dose), 1 dose BD</td>
<td>Symbicort® (budesonide, formoterol fumarate), MDI, 200mg, 6mcg/metered inhalation, 2 doses BD [800mcg]</td>
</tr>
<tr>
<td>Easyhaler® salbutamol, DPI, 100mcg/metered inhalation, 1-2 dose(s) PRN</td>
<td></td>
<td>Braltus® (tiotropium), DPI, 13mcg/capsule (+ Zonda® inhaler) 1 capsule OD</td>
<td>Spiolto® Respimat® (tiotropium, olodaterol), inhalation solution, 2.5mcg, 2.5mcg/inhalation (delivered dose), 2 doses OD</td>
<td>Fostair® (beclometasone dipropionate, formoterol fumarate), MDI, 100mcg, 6mcg/metered inhalation, 2 doses BD [1000mcg]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seebri® Breezhaler® (glycopyrronium), DPI, 50mcg/hard capsule, 1 capsule OD</td>
<td>Ultibro®Breezhaler® (indacaterol, glycopyrronium), DPI, 85mcg, 43mcg/hard capsule (delivered dose), 1 capsule OD</td>
<td>Fostair® NEXThaler® (beclometasone dipropionate, formoterol fumarate), DPI, 100mcg, 6mcg/inhalation, 2 doses BD [1000mcg]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eklira® Genuair® (aclidinium), DPI, 322 mcg/inhalation (delivered dose), 1 dose BD</td>
<td></td>
<td>DuoResp® Spiromax® (budesonide, formoterol fumarate), DPI, 320mcg, 9mcg/inhalation (delivered dose), 1 dose BD [800mcg]</td>
</tr>
</tbody>
</table>

Prices correct at February 2017

**Carboceistine**

- Carboceistine 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.

**ICS equivalence to beclometasone dipropionate (BDP)**

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

**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)

**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

**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