Guideline for the Management of COPD in Adults

Key principles

- Encourage smoking cessation and offer help
- Review patients with mild or moderate COPD at least once a year and those with very severe COPD at least twice a year
- Before initiating a new drug therapy:
  - Check and ensure concordance with existing therapies
  - Ensure correct device technique
  - Check that the patient has stopped smoking
- Be aware of the potential risk of developing side effects (including non-fatal pneumonia) in patients treated with inhaled corticosteroids (ICS) and be prepared to discuss this with them
- Anti-tussive therapy (e.g. codeine linctus, BP and pholcodine linctus, BF) should not be used in the management of stable COPD

Pulmonary rehabilitation

This is a multidisciplinary programme that is individually tailored
- It is for all patients with a grade ≥2 on the modified Medical Research Council (mMRC) dyspnoea scale. And/or those who have had hospital admission or admission avoidance in the last year for an acute COPD exacerbation
- Patients should be made aware of the benefits and the commitment required
- Refer to the COPD team, Suffolk Community Healthcare (SCC) based on the inclusion criteria listed in the document available via this link: http://www.suffolkcommunityhealthcare.com/Portals/2/copd.pdf

Self-management

Patients at risk of having an exacerbation should be given a course of antibiotic and corticosteroid tablets to keep at home and be encouraged to respond promptly by:
- Starting oral corticosteroid therapy if their increased breathlessness interferes with activities of daily living
- Starting antibiotic therapy if their sputum is purulent
- Adjusting their bronchodilator therapy to control their symptoms

Oral corticosteroids

- Acute use - Prednisolone 30mg to 40mg daily for 7 days. Maintenance use is not normally recommended

Specialist advice

Referral to specialist may be appropriate at all stages of the disease and not solely in the most severely affected patients. Criteria for referral include:
- Frequent infections or haemoptysis
- Bullous lung disease or rapid decline in FEV
- Dysfunctional breathing
- Diagnostic uncertainty or second opinion request

Oxygen

- Patients who are not hypoxic do not benefit from oxygen
- Patients who are hypoxic with oxygen saturations of <90% when stable should be considered for long term oxygen
- Refer to the COPD team, SCC for home oxygen assessment - http://www.suffolkcommunityhealthcare.com/Portals/2/copd.pdf

Oral mucolytic therapy

- Consider for chronic productive cough and continue if there is symptomatic improvement
- Do not routinely use to prevent exacerbations in people with stable COPD

Oral slow-release theophylline

- Consider only after a trial of inhaled therapy, or if patient unable to use inhaled therapy, as there is a need to monitor plasma levels and interactions

Nebulisers

- Consider in patients with distressing or disabling breathlessness despite maximal therapy using inhalers
- Consider only after assessment of the patient’s and/or carer’s ability to use
- Only continue following assessment and confirmation that one or more of the following occur:
  - Reduction in symptoms
  - Improvement in lung function
  - Increase in exercise capacity
  - Improvement in daily living

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 |
| (x mcg) | Beclometasone dipropionate equivalent of ICS daily dose |
| PRN | When required |
| OD | Once daily |
| BD | Twice daily |
| TDS | Three times daily |
| QDS | Four times daily |
| MD | Metered dose inhaler |
| BAI | Breath actuated inhaler |
| DPI | Dry powder inhaler |
| FEV | Forced expiratory volume in 1 second |

Prices correct as at December 2015

References:
1. National Institute for Health and Clinical Excellence (2010). Chronic Obstructive Pulmonary Disease (COPD) CG103

Version 1, February 2016. Review Date February 2017
Management of COPD in Adults

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>I get short of breath when walking up a level flight of stairs or walking at my usual pace with others.</td>
</tr>
<tr>
<td>3</td>
<td>I get short of breath when walking at my usual pace 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>

### Treatment options

#### Inhaled therapy device options - a cost comparator

<table>
<thead>
<tr>
<th>SABA</th>
<th>SAMA</th>
<th>LAMA</th>
<th>LABA</th>
<th>[LAMA + ICS]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventolin® Euphoval® (salbutamol), MDI, 100mcg/dose</td>
<td>SABA</td>
<td>LAMA + LABA</td>
<td>[LAMA + ICS] + LAMA</td>
<td></td>
</tr>
<tr>
<td>Airomir® (salbutamol), MDI, 100mcg/dose</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA</td>
<td>[ICS + LABA] OR LAMA</td>
<td></td>
</tr>
<tr>
<td>Easyhaler® (salbutamol), DPI, 100mcg/dose</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA + SABA</td>
<td>[ICS + LABA] + LAMA</td>
<td></td>
</tr>
<tr>
<td>Airomir® Autohaler® (salbutamol), BAI, 100mcg/dose</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA</td>
<td>[ICS + LABA] OR LAMA</td>
<td></td>
</tr>
<tr>
<td>Salamol® Easi-Breathe® (salbutamol), BAI, 100mcg/dose</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA</td>
<td>[ICS + LABA] OR LAMA</td>
<td></td>
</tr>
<tr>
<td>Ventolin® Accuhaler® (salbutamol), DPI, 100mcg/dose</td>
<td>SABA</td>
<td>LAMA + LABA</td>
<td>[ICS + LABA] + LAMA</td>
<td></td>
</tr>
<tr>
<td>Bricanyl® Turbohaler® (terbutaline sulphate), DPI, 500mcg/dose</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA</td>
<td>[ICS + LABA] OR LAMA</td>
<td></td>
</tr>
<tr>
<td>Bricanyl® Nebules® (salbutamol), nebuliser solution, 2.5mg/2.5ml</td>
<td>SABA OR SAMA</td>
<td>LAMA OR LABA</td>
<td>[ICS + LABA] OR LAMA</td>
<td></td>
</tr>
<tr>
<td>Bricanyl® Respules® (terbutaline sulphate)</td>
<td>SABA</td>
<td>LAMA + LABA</td>
<td>[ICS + LABA] + LAMA</td>
<td></td>
</tr>
</tbody>
</table>

#### Key to spacer devices

- **a** - AeroChamber Plus® standard device with mouth piece (£6.31) with mask (£8.02)
- **b** - Volumatic® standard device with mouth piece (£7.81)

#### Colour code cost

<table>
<thead>
<tr>
<th>Cost</th>
<th>£0.00-£4.99</th>
<th>£5.00+</th>
</tr>
</thead>
<tbody>
<tr>
<td>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. Keys to required (PRN) devices i.e. SABA cost per 200 doses.</td>
<td>£0.00-£4.99</td>
<td>£5.00+</td>
</tr>
</tbody>
</table>

#### Key to spacer devices

- * Specialists at West Suffolk Foundation Trust do not support the use of nebulisers over MDIs, BAI and DPIs.

#### 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. Keys to required (PRN) devices i.e. SABA cost per 200 doses.

### 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
- Change in frequency of sputum
- Change in sputum volume
- Change in sputum consistency
- Change in sputum temperature
- Change in sputum odour

The change in these symptoms may necessitate a change in medication.

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

- 92mcg fluticasone furoate (Relvar® Ellipta®) = 500mcg fluticasone propionate = 1000mcg BDP
- 100mcg beclometasone dipropionate (Fostar®NEXThaler®) = 250mcg BDP
- 400mcg budesonide (Durol® Spiromax®) = 600mcg BDP
- 500mcg fluticasone propionate (Airflu® Forspiro®) = 1000mcg BDP

### Corticosteroid safety card

- Corticosteroid safety card required
- Corticosteroid safety card recommended

### 3

[36x910]