Management of Chronic Obstructive Pulmonary Disease (COPD)

Diagnosis
Consider the diagnosis of COPD in smokers or ex-smokers over the age of 35 with any of the following symptoms: exertional breathlessness, chronic cough, regular sputum production, frequent winter ‘bronchitis’ or wheeze.

If COPD is suspected confirm airways obstruction with post-bronchodilator spirometry (FEV₁/FVC ratio < 0.7). At diagnosis perform CXR to exclude other diagnoses, FBC to exclude anaemia or polycythaemia, record BMI and discuss smoking cessation. If no diagnostic doubt consider inhaled therapy (see below). Refer to specialist care if diagnosis is in doubt.

Smoking Cessation
All patients who smoke should be encouraged to stop and offered help to do so at every opportunity. Stopping smoking at any age reduces the rate of FEV₁ decline in patients with COPD. To access smoking cessation services within the Coastal West Sussex go to www.westsussexwellbeing.org.uk

Inhaled Therapy
Choice of inhaled therapy requires an assessment of severity (including symptoms, FEV₁ % predicted and exacerbation risk). Use the figure below to select a GOLD (Global Initiative for Chronic Obstructive Lung Disease) COPD severity group (A, B, C or D). If needed, the mMRC, MRC and COPD Assessment Tool (CAT) scoring tables are reproduced on page 3 of this guideline.

Prescribing Tips
Short acting bronchodilators – SABA PRN use for all symptomatic patients
Long acting Muscarinic Antagonists (LAMA) – First line maintenance bronchodilator
LAMA/LABA Fixed dose combinations – for SYMPTOMATIC patients not controlled by LAMA alone
ICS/LABA – consider in patients at high risk of EXACERBATION with FEV₁ <50% predicted
Choice of drug depends on device suitability and dosing regime. Check inhaler technique and compliance prior to changes in medication.

For further advice on correct use of inhalers including videos demonstrating the correct use of each type of inhaler go to www.asthma.org.uk/advice/inhalers/medicines-treatments/using-inhalers/
Short acting bronchodilators

Short acting β2 agonist (SABA) – Salbutamol MDI 100mcg (Ventolin Evohaler) 2 puffs PRN.

Short acting muscarinic antagonist (SAMA) - Ipratropium MDI 20mcg 2 puffs PRN.

If technique poor add spacer device - Volumatic or Aerochamber

Long acting muscarinic antagonist (LAMA):

- **Incruse Elipta** (Umeclidinium) 55mcg one puff OD (£27/month) – 1st line
- **Eklira Genuair** (Acclidinium) 322mcg BD (£28/month)
- **Spiriva Handihaler** (Tiotropium) – 1 puff OD (£33.50/month)
- **Spiriva Respimat** (Tiotropium) 2.5mcg 2 puffs OD (£23/month) - choice in patients unable to use dry powder inhalers (DPIs)
- **Seebri Breezhaler** (glycopyrronium) 44mg – 1 puff OD

**Long acting muscarinic antagonist / Long acting β2 agonist Fixed dose combination (LABA / LAMA)**

- **Anoro Elipta** (Umeclidinium / Vilanterol) 55/22mcg one puff OD (£32.50 / month) – 1st line
- **Duaklir Genuair** (Acclidinium / Formoterol) 340/12 mcg one puff BD (£32.50 /month)
- **Spiolto Respimat** (Tiotropium / Olodaterol) 2.5/ 2.5mcg two puffs OD (£32.50 /month) - choice in patients unable to use DPIs
- **Ultibro Breezhaler** (Glycopyrronium / indacaterol) 85/43 mcg one OD (£32.50 /month)

**Combination inhaled corticosteroid plus long acting β2 agonist (ICS / LABA)**

- **Relvar Ellipta** (Fluticasone furoate/ Vilanterol) 92/22mcg one puff OD (£22/month) – 1st line
- **Fostair Nexthaler** (Beclometasone/Formoterol) 100mcg 2 puffs BD (£29/month)
- **Fostair Aerosol Inhalation** (Beclometasone/Formoterol) 100mcg 2 puffs BD via spacer (£29 /month) - choice if unable to use DPIs
- **Symbicort** 400 Turbohaler (Budesonide/Formeterol) 400mcg one puff BD (£38 /month)
- **Seretide Accuhaler** 500 mcg one puff BD (£41 /month)

Theophylline

Consider if remains symptomatic despite, or intolerant of, inhaled therapy. Prescribe by brand name. Care in prescribing in the elderly and smokers due to altered pharmacokinetics, comorbidities and interactions. Reduce dose if macrolide or fluoroquinolone antibiotics are prescribed.

Mucolytics

Consider a trial of carbocisteine 750mg TDS for 1-2 weeks in patients with productive cough. Continue only if symptoms improve at 1.5g daily in divided doses. Do not routinely prescribe to reduce exacerbations.

Oral Corticosteroids

Maintenance use is not normally recommended. Patients with advanced COPD may require maintenance therapy if corticosteroids cannot be successfully withdrawn following exacerbation.

Osteoporosis prophylaxis

Patients treated with long-term oral corticosteroid therapy (intended for longer than 3 months) or frequent short courses of prednisolone should be monitored for the development of osteoporosis and given appropriate prophylaxis. Patients over the age of 65 should be started on prophylactic treatment, without monitoring. Refer to local osteoporosis guidelines.

Nebulisers

In most cases bronchodilator therapy is best administered using a hand-held inhaler device (including a spacer device if appropriate). Patients with distressing or disabling breathlessness despite maximal therapy should be considered for nebuliser therapy. Secondary care assessment is advised before consideration of nebulised therapy.

Vaccination

Pneumococcal vaccination and annual influenza vaccination should be offered to all COPD patients.

Pulmonary Rehabilitation

Pulmonary rehabilitation significantly increases exercise capacity, reduces dyspnoea and improves health related quality of life in COPD. Consider referral in all motivated patients post admission for exacerbation of COPD plus outpatients on optimum drug therapy with activities of daily living limited by breathlessness (normally mMRC grade 2 or higher) or decreasing exercise tolerance.

Palliative Care in End Stage COPD

Opioids should be used when appropriate for the palliation of breathlessness in end-stage COPD unresponsive to other medical therapy. Consider the use of benzodiazepines, tricyclic antidepressants and oxygen. Refer to palliative care teams via the End of Life Hub (ECHO) 01903 254789 option 3.

Nutrition

Consider dietetic advice if the BMI is high or low. If BMI is below 20 give nutritional supplements and encourage exercise to augment the effects of supplementation. Pay attention to weight changes in older patients (especially >3kg).
COPD Community Respiratory Service

<table>
<thead>
<tr>
<th>COPD Community Respiratory Service</th>
<th>Adur, Arun and Worthing localities</th>
<th>Chanctonbury locality</th>
<th>Chichester and Regis localities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen review service</td>
<td>Referral via OneCall - Telephone: 01293 228311 Fax: 01293 600399</td>
<td>Referral via OneCall - Telephone: 01293 228311 Fax: 01293 600399</td>
<td>No service available</td>
</tr>
<tr>
<td>Pulmonary rehabilitation</td>
<td>Referral via OneCall - Telephone: 01293 228311 Fax: 01293 600399</td>
<td>No service available</td>
<td>Referral via OneCall - Telephone: 01293 228311 Fax: 01293 600399</td>
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British Lung Foundation Breathe Easy Support Groups
Patient Education and peer support. Direct patients to www.blf.org.uk/breatheeasy

Outpatient Management of COPD Exacerbation

An exacerbation is a sustained worsening of the patient’s symptoms beyond normal day-to-day variation, and is acute in onset.

Commonly reported symptoms are worsening breathlessness, cough, increased sputum production and change in sputum colour.

**Treatment:** Increase frequency of bronchodilator use. Give **Prednisolone 30mg OD for 5-7 days** in patients with significant dyspnoea. Give oral antibiotics if history of purulent or increased volume of sputum. 1st line treatment **Amoxicillin 500mg TDS for 5 days** for patients at low risk of penicillin resistance. Due to local penicillin resistance patterns, patients with frequent infective or severe exacerbations should be treated with **Co-amoxiclav 625mg TDS for 5 days**. Routine sputum culture is not recommended but should be considered in patients failing treatment or if there is a previous history of a resistant organism.

Referral for Specialist Advice

Referral for secondary care specialist advice, investigation or treatment may be appropriate at any stage of disease.

Referral should be considered if: diagnostic uncertainty, suspected severe disease, cor pulmonale, bullous lung disease, rapid decline in FEV1, consideration of lung volume reduction surgery or lung transplantation, dysfunctional breathing, onset of symptoms under the age of 40 or a family history of alpha-1 antitrypsin deficiency, frequent exacerbations, haemoptysis, symptoms disproportionate to degree of airflow obstruction, and before consideration of LTOT, long term nebuliser therapy or oral corticosteroid therapy.

Symptom Assessment Tools

**mMRC Score**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description 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>

**COPD Assessment Tool (CAT)**

<table>
<thead>
<tr>
<th>Description of Breathlessness</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I never cough</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>I have no phlegm (mucus) in my chest at all</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>My chest does not feel tight at all</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>When I walk up a hill or one flight of stairs I am not breathless</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>I am not limited doing any activities at home</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>I am confident leaving my home despite my lung condition</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>I sleep soundly</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>I have lots of energy</td>
<td>0 1 2 3 4 5</td>
</tr>
</tbody>
</table>

**COPD Assessment Test and CAT logo is a trademark of the GlaxoSmithKline group of companies.© 2009 GlaxoSmithKline.**

Based on the Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2017.