CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
TREATMENT GUIDELINES

DIAGNOSIS IS CONFIRMED USING POST BRONCHODILATOR SPIROMETRY
RATIO (FEV₁/FVC x 100) <70%

<table>
<thead>
<tr>
<th>FEV₁ % Predicted</th>
<th>NICE 2010</th>
<th>GOLD 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥80% (+symptoms)</td>
<td>MILD</td>
<td>1</td>
</tr>
<tr>
<td>50-79%</td>
<td>MODERATE</td>
<td>2</td>
</tr>
<tr>
<td>30-49%</td>
<td>SEVERE</td>
<td>3</td>
</tr>
<tr>
<td>&lt;30%</td>
<td>VERY SEVERE</td>
<td>4</td>
</tr>
</tbody>
</table>

A FULL CLINICAL HISTORY IS OF PARAMOUNT IMPORTANCE

- 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.
- 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 – see local guidance including FRAX score.
- 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.
- Steam Inhalation can prove beneficial.

Bronchodilators are the cornerstone of treatment for patients with COPD

<table>
<thead>
<tr>
<th></th>
<th>Low Risk Less Symptoms</th>
<th>Low Risk More Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>High Risk Less Symptoms</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>High Risk More Symptoms</td>
<td></td>
</tr>
</tbody>
</table>
INHALED THERAPY Adapted from GOLD 2015 (A B C D)

- Always Check Compliance & Inhaler technique
- Assess Breathlessness using MRC and CAT score
- Prescribe by Brand

**INTERMITTENT BREATHLESSNESS AND/OR EXERCISE LIMITED**

**Short Acting Bronchodilators**

- SABA
  - or
- SAMA

**BREATHLESSNESS and/or one exacerbation**

**Long Acting Bronchodilators**

- LAMA
  - (STOP SAMA)
  - or
- LABA
  - or
- LAMA/LABA in a combination inhaler (STOP LAMA or LABA IN SEPARATE INHALERS)

**BREATHLESSNESS with 2 or more EXACERBATIONS**

**FEV1> 50% Predicted**

**Long Acting Bronchodilators in a Combination Inhaler**

- LAMA/LABA in a combination Inhaler

**FEV1<50% Predicted**

**Inhaled Corticosteroids**

- LABA/ICS in a combination Inhaler - (STOP LABA IN SEPARATE INHALER)
  - or
- LABA/ICS in a combination Inhaler plus a LAMA - (STOP LABA IN SEPARATE INHALER)
  - or
- LAMA/LABA in a combination Inhaler - (STOP LAMA OR LABA IN SEPARATE INHALERS)

*When prescribing ICS for patients with COPD assess history of pneumonia and smoking status*
Mucolytic Therapy

Consider in people with a chronic productive cough and continue use if symptoms improve.
Do not routinely use to prevent exacerbations.
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 - 7 days
• Administer antibiotics in accordance with local guidelines
  (Hyperlink to Antibiotic Guidelines)

Oxygen Therapy

• Assess the need for oxygen therapy
• Oxygen saturations less than 93% breathing air
• Refer as per local guidelines
  (Hyperlink to Oxygen Therapy)

ORAL THERAPY (Hyperlink to Osteoporosis Guidelines)

Corticosteroids

• Maintenance use of oral corticosteroid therapy in COPD is not normally recommended
• Some people with advanced COPD may need maintenance oral corticosteroids if treatment cannot be stopped after an exacerbation. Keep the dose as low as possible, monitor for osteoporosis and offer prophylaxis.

Theophylline - Prescribe by brand.

• Offer only after trials of short- and long-acting bronchodilators or to people who cannot use inhaled therapy.
• Theophylline can be used in combination with beta2 agonists and muscarinic antagonists.
• Take care when prescribing to older people because of pharmacokinetics, comorbidities and interactions with other medications.
• Reduce Theophylline dose if macrolide or fluroquinolone antibiotics (or other drugs known to interact) are prescribed to treat an exacerbation.
ALWAYS OFFER PATIENTS ADVICE ON

• Smoking cessation
• Pulmonary rehabilitation
• Anxiety & depression
• Exercise
• Dietary advice

KEY

COPD  Chronic Obstructive Pulmonary Disease
SABA  Short Acting $\text{B}_2$ Agonist
SAMA  Short Acting Muscarinic Antagonist
LABA  Long Acting Beta$_2$ Agonist
LAMA  Long Acting Muscarinic Antagonist
ICS   Inhaled Corticosteroid
FEV$_1$  Forced Expiratory Volume in the first second
GOLD Global Initiative for Chronic Obstructive Lung Disease
NICE The National Institute for Health and Care Excellence
CAT   COPD Assessment Tool
MRC  Medical Research Council Breathlessness Score
# COPD Inhaled Treatment - RECOMMENDED FIRST LINE

## PRESCRIBE BY BRAND

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>SABA</th>
<th>LAMA</th>
<th>LABA</th>
<th>ICS</th>
<th>Dosing Regime</th>
<th>TDD ICS</th>
<th>TDD BDP Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short Acting Bronchodilators</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventolin MDI 100mcgs</td>
<td>Salbutamol</td>
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<td></td>
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<tr>
<td>Salamol Easibreathe MDI 100mcgs</td>
<td>Salbutamol</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Bricanyl Turbohaler 500mcgs</td>
<td>Terbutaline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salbutamol Easyhaler 100mcgs</td>
<td>Salbutamol</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Long Acting Bronchodilators</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eklira Genuair 322mcgs</td>
<td>Acildinium Bromide</td>
<td></td>
<td></td>
<td></td>
<td>1 puff twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiriva Handihaler 18mcgs</td>
<td>Tiotropium</td>
<td></td>
<td></td>
<td></td>
<td>1 puff once daily</td>
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</tr>
<tr>
<td>Formoterol EasyHaler 12mcgs</td>
<td>Formoterol</td>
<td></td>
<td></td>
<td></td>
<td>1 puff twice daily</td>
<td></td>
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</tr>
<tr>
<td>Duaklir Genuair 340/12 mcgs</td>
<td>Acildinium Bromide</td>
<td>Formoterol</td>
<td></td>
<td></td>
<td>1 puff twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhaled Corticosteroids</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Symbicort Turbohaler 400/12mcgs</td>
<td>Formoterol</td>
<td>Budesonide</td>
<td></td>
<td></td>
<td>1 puff twice daily</td>
<td>800mcgs 800mcgs</td>
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</tr>
<tr>
<td>*Symbicort MDI 200/6 mcgs</td>
<td>Formoterol</td>
<td>Budesonide</td>
<td></td>
<td></td>
<td>2 puffs twice daily</td>
<td>800mcgs 800mcgs</td>
<td></td>
</tr>
<tr>
<td><strong>Fostair NextHaler 100/6 mcgs</strong></td>
<td>Formoterol</td>
<td>Beclometasone ExtraFine</td>
<td></td>
<td></td>
<td>2 puffs twice daily</td>
<td>400mcgs 1000mcgs</td>
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</tr>
<tr>
<td><strong>Fostair MDI 100/6 mcgs</strong></td>
<td>Formoterol</td>
<td>Beclometasone ExtraFine</td>
<td></td>
<td></td>
<td>2 puffs twice daily</td>
<td>400mcgs 1000mcgs</td>
<td></td>
</tr>
</tbody>
</table>

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* Symbicort is licensed in COPD FEV₁ < 70% predicted

** Fostair is licensed in COPD FEV₁ < 50% predicted

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**Definitions**

- **TDD** Total Daily Dose
- **BDP** Beclometasone
- **ICS** Inhaled Corticosteroid
- **LABA** Long Acting Beta2 Agonist
- **LAMA** Long Acting Muscarinic Antagonist
- **SAMA** Short Acting Muscarinic Antagonist
- **SABA** Short Acting Beta2 Antagonist
- **mcgs** micrograms
- **MDI** Metered Dose Inhaler

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**COPD Treatment Guidelines V9**

**NICE 2010  GOLD 2015**
### Other Inhaled Treatment on the Formulary - SECOND LINE

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>SABA</th>
<th>LAMA</th>
<th>LABA</th>
<th>ICS</th>
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<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Seebri Breezhaler 44mcgs</td>
<td></td>
<td>Glycopyrronium Bromide</td>
<td></td>
<td></td>
<td>1 puff once daily</td>
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</tr>
<tr>
<td>Onbrez Breezhaler 150 &amp; 300 mcgs</td>
<td></td>
<td></td>
<td>Indacaterol</td>
<td></td>
<td>1 puff once daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serevent Accuhaler 50mcgs</td>
<td></td>
<td></td>
<td>Salmeterol</td>
<td></td>
<td>1 puff twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serevent MDI 25mcgs</td>
<td></td>
<td></td>
<td>Salmeterol</td>
<td></td>
<td>2 puffs twice daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhaled Corticosteroids in a combination inhaler (ICS+LABA)</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Seretide Accuhaler 500/50 mcgs</td>
<td>Existng Patients Only</td>
<td>Salmeterol</td>
<td>Fluticasone Propionate</td>
<td>1 puff twice daily</td>
<td>1000mcgs</td>
<td>2000mcgs</td>
<td></td>
</tr>
<tr>
<td>Relvar Ellipta 92/22 mcgs</td>
<td>Consultation Initiation Only</td>
<td>Vilanterol</td>
<td>Fluticasone Furoate</td>
<td>1 puff once daily</td>
<td>92mcgs</td>
<td>??</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
- **SABA** Short Acting Beta2 Antagonist
- **LAMA** Long Acting Muscarinic Antagonist
- **LABA** Long Acting Beta2 Agonist
- **ICS** Inhaled Corticosteroid
- **TDD** Total Daily Dose
- **BDP** Beclometasone
- **MDI** Metered Dose Inhaler
- **mcgs** micrograms