• 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.

INTERMITTENT BREATHLESSNESS AND/OR EXERCISE LIMITED

SHORT ACTING BRONCHODILATORS SABA OR SAMA

PERSISTENT BREATHLESSNESS

LABA

LAMA

LABA + LAMA

(Add ICS)

WORSENING SYMPTOMS

PERSISTENT BREATHLESSNESS with EXACERBATIONS

FEV₁ ≥ 50%

FEV₁ < 50%

LABA

LAMA

ICS+LABA** in a combination inhaler**

(Add ICS)

(Add ICS + LABA)

(Add LAMA)

(ICS+LABA**) + LAMA in a combination inhaler**

ADDITIONAL THERAPY

• Theophylline - see overleaf
• Mucolytic Therapy - see overleaf
• Nebulisers - see overleaf

Key to Terms:

SABA: short acting beta2 agonist
SAMA: short acting muscarinic antagonist
FEV₁: Forced expiratory volume in 1 second
LABA: long acting beta2 agonist
LAMA: long acting muscarinic antagonist
ICS: inhaled corticosteroid
MDI: metered dose inhaler

** Consider LABA + LAMA if ICS is declined or not tolerated
DELIVERY SYSTEMS

INHALERS
- Hand-held devices are usually best, with a spacer if appropriate
- If a person cannot use a particular device, try another
- Teach technique before prescribing and check regularly

SPACERS
- Ensure the spacer is compatible with the inhaler
- Individuals should make single actuations of the inhaler into the spacer, and inhale as soon as possible, repeating as needed. Tidal breathing is as effective as single breaths
- Do not clean spacer more than once a month. Clean with water and washing-up liquid and allow to air dry

NEBULISERS
- Consider a nebuliser for people with distressing or disabling breathlessness despite maximum therapy with inhalers
- Assess the individual and/or carer’s ability to use the nebuliser before prescribing and arrange appropriate support and maintenance of the equipment
- Allow the patient to choose either a face mask or mouth piece where possible
- Consider nebuliser treatment only if there is an improvement in symptoms, daily living activities, exercise capacity or lung function

ORAL THERAPY

Corticosteroids (See Osteoporosis Guidelines)
- 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
- Offer only after trials of short- and long-acting bronchodilators or to people who cannot use inhaled therapy. Prescribe by brand.
- Theophylline can be used in combination with beta2 agonists and muscarinic antagonists.
- Take care when prescribing to older people because of pharmacokinetics, co morbidities and interactions with other medications.
- Reduce Theophylline dose if macrolide or fluoroquinolone antibiotics (or other drugs known to interact) are prescribed to treat an exacerbation.

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
Steam Inhalation can prove beneficial

Management of Acute Exacerbations (See Antibiotic Guidelines)
- Increase frequency of Bronchodilator use & consider giving via a nebuliser
- Prednisolone 30mg once daily for at least 7 days
- Antibiotics 5-7 days: 1st line Doxycycline 200mg stat then 100mg daily. If Doxycycline is contraindicated then use Clarithromycin 500mg twice daily.

Oxygen Therapy Assess the need for oxygen therapy:
- Oxygen saturations less than 93% breathing air

Reference: NICE clinical guideline 101
### SHORT ACTING BRONCHODILATORS

| SABA: Salbutamol 100 micrograms | Two puffs as required |
| SAMA: Ipratropium 20 micrograms | Two puffs as required |

### LONG ACTING BRONCHODILATORS

<p>| Onbrez Breezhaler 150 or 300 micrograms | One puff once a day INDACATEROL |
| Formoterol Easyhaler 12 micrograms | One puff twice daily |
| Salmeterol Accuhaler 50 micrograms | One puff twice daily |
| Salmeterol MDI 25 micrograms | Two puffs twice daily |</p>
<table>
<thead>
<tr>
<th><strong>LONG ACTING BRONCHODILATORS</strong></th>
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<tbody>
<tr>
<td><strong>LAMA</strong> - <strong>LONG ACTING MUSCARINIC ANTAGONIST</strong></td>
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<tr>
<td><strong>Spiriva Handihaler 18 micrograms</strong></td>
<td><strong>Eklira Genuair 322 micrograms</strong></td>
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<tr>
<td>Inhale one capsule once daily</td>
<td>One puff twice daily</td>
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<tr>
<td><strong>TIOTROPium</strong></td>
<td><strong>ACLIDINIUM BROMIDE</strong></td>
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**REMEMBER:** If you start a LAMA then STOP SAMA

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<thead>
<tr>
<th><strong>LONG ACTING BRONCHODILATORS</strong></th>
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<tbody>
<tr>
<td><strong>LAMA + LABA</strong></td>
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<tr>
<td><strong>Duaklir Genuair 340/12</strong></td>
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<tr>
<td>One puff twice daily</td>
<td><strong>ACLIDINIUM / FORMOTEROL</strong></td>
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**REMEMBER:** If you start a LAMA then STOP SAMA

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<tr>
<th><strong>COMBINATION INHALERS</strong></th>
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<tr>
<td>Inhaled Corticosteroids plus Long Acting Beta, Agonists ICS + LABA</td>
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<tr>
<td><strong>Fostair MDI 100/6</strong></td>
<td><strong>Symbicort Turbohaler 400/12</strong></td>
</tr>
<tr>
<td>Two puffs twice a day</td>
<td>One puff twice daily</td>
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<tr>
<td><strong>BECLOMETASONE &amp; FORMOTEROL</strong></td>
<td><strong>BUDESONIDE &amp; FORMOTEROL</strong></td>
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**RESPIRATORY CONSULTANT ONLY INITIATION**
**Relvar Ellipta 92/22**
One puff once a day
**FLUTICASONE FURUATE / VILANTEROL**

**FOR EXISTING PATIENTS ONLY**
**Seretide 500 Accuhaler**
One puff twice daily
**FLUTICASONE & SALMETEROL**

**REMEMBER:** If you start a COMBINATION INHALER then STOP LABA