COPD is diagnosed in the presence of characteristic symptoms (cough, shortness of breath) and confirmed by post bronchodilator spirometry (absolute AND % predicted). Do CXR, FBC, BMI.

Then start treatment: SABA pm OR SAMA (e.g. ipratropium) pm (SABA may continue at all stages)

If patient continues to have persistent symptoms (i.e. symptoms which interfere with everyday activities &/or recent exacerbation of COPD), move to next step according to their FEV1 as below:

### FEV1 ≥ 50%. Non exacerbated:
(No history of hospitalisation & 0-1 home-treated exacerbation per year)

1.) LAMA or LABA (provide equivalent bronchodilation):
Better evidence for prevention of exacerbations by LAMA than LABA alone but caution advised in using LAMA if cardiac arrhythmia (excluding chronic AF) and NYHA class III/IV heart failure.

2.) LAMA + LABA combination inhaler.
It is recognised that this deviates from the NICE COPD guidance (2010), where a LABA/ICS is the preferred option ahead of a LAMA+LABA.

3.) If the patient deteriorates and they move to the “frequent exacerbator” category, it is recommended that the patient steps up to triple therapy (LABA/ICS + LAMA).

### FEV1 < 50%: Frequent exacerbators
(2 or more exacerbations/year)

1.) ICS/LABA (or LAMA)
If remain breathless or further exacerbations: 2.) Triple therapy (LABA/ICS + LAMA)

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**INHALER OPTIONS [ALWAYS PRESCRIBE INHALERS BY BRAND NAME]**

<table>
<thead>
<tr>
<th>DPI (breathing technique: hard fast &amp; deep)</th>
<th>pMDI (breathing technique: slow, gentle &amp; long)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SABA</strong> (All pts)</td>
<td></td>
</tr>
<tr>
<td>Salbutamol EASYHALER 100mcg 2 puffs PRN</td>
<td>Salbutamol (VENTOLIN) EVOHALER 100mcg 2 puffs PRN VIA AEROCAMBER</td>
</tr>
<tr>
<td>Terbutaline (BRCanyl) TURBOHALER 0.5mg 1 puff PRN</td>
<td></td>
</tr>
<tr>
<td><strong>LAMA</strong></td>
<td></td>
</tr>
<tr>
<td>Tiotropium (SPIRIVA) HANDIHALER 18mcg od</td>
<td>Tiotropium (SPIRIVA) RESPIMAT 2.5mcg 2 puffs od</td>
</tr>
<tr>
<td>Aclidinium bromide ▼ (EKURA) GENUAI 322mg 1 puff bd (use if eGFR &lt;30ml/min. Useful for pts with manual dexterity problems)</td>
<td></td>
</tr>
<tr>
<td>Umeclidinium ▼ (INCRUSE) ELLIPTA 55mcg 1 puff od (Only to be used for triple therapy when used with Relvar.)</td>
<td></td>
</tr>
<tr>
<td><strong>LABA</strong></td>
<td></td>
</tr>
<tr>
<td>Formoterol (OXIS) TURBOHALER 12mcg bd</td>
<td>Olodaterol ▼ (STRIVERDI) RESPIMAT 2.5mcg 2 puffs od</td>
</tr>
<tr>
<td>Formoterol EASYHALER 12mcg bd</td>
<td></td>
</tr>
<tr>
<td>Salmeterol (SEREVENT) ACCUHALER 50mcg bd</td>
<td></td>
</tr>
<tr>
<td><strong>LAMA/LABA</strong></td>
<td></td>
</tr>
<tr>
<td>Umeclidinium/Vilanterol ▼ (ANORO) ELLIPTA 55/22 od</td>
<td>Tiotropium/olodaterol (SPIOLTO) RESPIMAT 2.5mcg</td>
</tr>
<tr>
<td>Aclidinium/Formoterol ▼ (DUAKLIR) GENUAI 322/12 bd</td>
<td></td>
</tr>
<tr>
<td><strong>ICS/LABA</strong></td>
<td></td>
</tr>
<tr>
<td>Budesonide/Formoterol (DUORESP) SPIROMAX 320/9 bd</td>
<td>Beclometasone/Formoterol (FOSTAIR) MDI 100/6 2 puffs bd VIA AEROCAMBER. Steroid card not required.</td>
</tr>
<tr>
<td>Budesonide/Formoterol (SYMBICORT) TURBOHALER 400/12 bd</td>
<td></td>
</tr>
<tr>
<td>Fluticasone/Vilanterol ▼ (RELVAR) ELLIPTA 92/22 od</td>
<td></td>
</tr>
<tr>
<td>SABA = Short acting β2 agonist SAMA = Short acting muscarinic antagonist LABA = Long acting β2 agonist LAMA = Long acting muscarinic antagonist ICS = Inhaled corticosteroid</td>
<td></td>
</tr>
<tr>
<td>Fluticasone/ Salmeterol (SERETIDE) ACCUHALER 60/500 bd</td>
<td></td>
</tr>
</tbody>
</table>

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**ICS + LABA + LAMA**
Triple therapy is delivered via an ICS/LABA plus a LAMA device, preferably using the same inhaler devices. There are no single agent ICS devices that are licensed for the treatment of COPD.

Therefore if a patient was e.g. on the LABA/LAMA inhaler Anoro▼they need to be changed to the following inhalers to step up to triple therapy:

<table>
<thead>
<tr>
<th>LABA/ICS</th>
<th>LAMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relvar Ellipta ▼ (Fluticasone fur + vilanterol)</td>
<td>Incruse Ellipta ▼ (Umeclidinium)</td>
</tr>
</tbody>
</table>

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Be aware of the potential risk of developing side effects including non-fatal pneumonia in people treated with ICS- consider their use only in frequent exacerbators (i.e. ≥ 2 exacerbations/yr). Discuss these risks with the patient. Also consider their effect on bone health and the glaucoma risk.
Guidelines for the Pharmacological Management of Chronic Obstructive Pulmonary Disease (COPD) in Primary Care

If still symptomatic or if there is diagnostic uncertainty at any stage REFER

- Meanwhile, consider increasing short-acting bronchodilators &/or palliative treatment with low dose oral morphine 5mg/2.5ml up to 4 hry (ask for specialist advice if necessary)
- Consider pulmonary rehabilitation
- Consider referral for oxygen assessment
- Consider palliative care issues, is a community DNAR order needed?
- Fan therapy

Acute exacerbations

- Increase frequency of short acting bronchodilator MDI e.g. Salbutamol (or Ipratropium if not on a LAMA) via a spacer
- SABAs can be as effectively delivered via an inhaler and a spacer as by a nebuliser. Given this, patients rarely require nebuliser equipment at home.
- Prednisolone tablets 30mg each morning, in most patients a 7 day treatment course would suffice. Maintenance use not normally recommended. Usually there is no role for long-term oral steroids in COPD.

Purulent sputum production:

- If antibiotics are being considered in an acute exacerbation, please refer to page 31 of the primary care antibiotic guidance: https://prescribing.wiltshireccg.nhs.uk/prescribing-guidance-by-bnf-chapter/infections
- Prophylactic antibiotics should not be prescribed unless advised by a respiratory consultant. Such patients should be reviewed regularly

Follow up

- Lower risk patients (no/few exacerbations in the past year, few symptoms and FEV-1 >50%), review annually. For patients at higher risk (2 or more exacerbations in the past year, FEV-1 <30%, MRC>=3), review every 6 months.
- Reviews to include spirometry
- Ensure recall date is highlighted to patient and coded on system
- Review compliance and assess inhaler technique

General Information

1. Lifestyle Advice

- Smoking Cessation:
  - The most important and cost-effective intervention is smoking cessation
  - Ensure smoking cessation advice or referral to smoking cessation service is offered at every opportunity
  - Stopping smoking at any age decreases the rate of FEV-1 decline in patients with COPD
  - If the patient is on aminophylline/theophylline the dose may need reducing by about ¼ to ½ one week after stopping smoking
  - Ensure levels monitored regularly until stable
  - See http://www.wiltshirestopsmoking.co.uk/ for further information for Wiltshire patients.
  - See http://www.sirona-cic.org.uk/services/stop-smoking-support/ for BaNES patients.
  - The Swindon Stop Smoking Service is free and helps thousands of people to quit for good. Find out more by calling freephone 0800 389 2229, 01793 465513, text 07881 281797 or email besmokefree@seqol.org
- Diet:
  - Ensure dietary advice is offered to patients if BMI is less than 20 as low BMIs are a predictor of poor outcome
  - Pay attention to weight changes in older patients (especially >3kg)
  - Screen for risk of malnutrition using the MUST tool and consider nutritional support if appropriate. See Food First patient leaflet and A guide to managing requests for oral nutrition supplements
- Exercise: Promote gentle exercise

2. Immunisation

- Influenza annually
- Pneumococcal as per Green Book schedule (DoH)

3. Co-morbidities

- Remember the common co-morbidities associated with COPD e.g. cardiac, lung cancer, muscle wasting, osteoporosis, anaemia, anxiety & depression as well as the differential diagnosis.
- Screen for anxiety and depression and offer treatment
- Consider the patient’s bone health if they are on high-strength inhaled corticosteroids. If the patient has been on systemic corticosteroid therapy lasting longer than 3 months, consider a bisphosphonate (Alendronate first-line) with calcium and vitamin D
Guidelines for the Pharmacological Management of Chronic Obstructive Pulmonary Disease (COPD) in Primary Care

Clinical Commissioning Group

4. Pulmonary Rehabilitation

- May be of benefit to patients who find themselves disabled by COPD if MRC Dyspnoea scale is 3 or above (though some patients who score lower than this may be suitable)
- Is not suitable for patients who are unable to walk, have unstable angina or have had a recent MI or have impaired cognition
- Tailored to individual needs and include physical training, disease education, nutritional, psychological and behavioural intervention
- For South Wiltshire patients, see: http://www.icid.salisbury.nhs.uk/ClinicalManagement/Respiratory/Pages/IndexPage.aspx (LEEP service)
- For West & North Wiltshire patients, use NEW & WWYKD COPD referral form on the medicines management website: https://prescribing.wiltshireccg.nhs.uk/prescribing-guidance-by-bnf-chapter/respiratory

5. Oxygen Therapy

- Referral for Long Term Oxygen treatment (LTOT)
  - The need for oxygen therapy should be assessed in:
    - Patients with oxygen saturation ≤ 92% breathing air, in a stable state and all patients with severe airflow obstruction (FEV₁ < 30% predicted)
    - Patients presenting with cyanosis or peripheral oedema or polycythemia or raised JVP
  - LTOT is indicated in patients who:
    - Have PaO₂ < 7.3kPa when stable or a PaO₂ between 7.3kPa and 8.0kPa and one of the following: secondary polycythemia, nocturnal hypoxaemia (oxygen saturation of arterial blood (Sa O₂) < 90% for more than 30% of the time), peripheral oedema or pulmonary hypertension
    - To gain maximum clinical benefits from LTOT the patient should not be smoking. LTOT should be ordered for a minimum of 15hrs a day and up to 24 hours may be of additinal benefit.
  - Contacts for oxygen referrals:
    - See Wiltshire website for appropriate referral forms: https://prescribing.wiltshireccg.nhs.uk/prescribing-guidance-by-bnf-chapter/respiratory
    - For BaNES patients: http://www.sirona-cic.org.uk/services/breathing-problems/
    - For Swindon patients: Brenda Robinson 01793 646432
    - For South Wilts patients: Please write a referral letter to the respiratory department at SFT.

6. Assess treatment using questions such as the following:

- Has the treatment made a difference to you?
- Is your breathing easier in any way?
- Can you do some things that you could not do before or do the same things faster?
- Are you less breathless then before when doing things?
- Also record MRC dyspnoea scale (see below)

Acute Exacerbations: Are there any features to suggest hospital admission?

- Severe breathlessness
- Cyanosis
- Acute confusion
- Poor-deteriorating general condition
- Significant co morbidity e.g. CVD, diabetes

- Rapid onset of breathlessness O2 sat <90%
- Worsening level of conciousness
- Worsening peripheral oedema
- Unable to cope at home/ lives alone

Patients with excessive, viscous mucous

- For symptom control use as a trial and stop if no benefit:
  - Try 2 Carbocisteine 375mg capsules TDS for 4 weeks. Mucolytic therapy should be stopped after a 4 week trial if ther eis no benefit. Reduce to 2 capsules BD, as condition improves
  - Review 3 months after initiation and regularly thereafter - Stop if no symptomatic benefit
  - DO NOT use to prevent exacerbations (long term use)

MRC Dyspnoea Scale

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<th>Grade</th>
<th>Degree of breathlessness related to activities</th>
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</tr>
<tr>
<td></td>
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Guidelines for the Pharmacological Management of Chronic Obstructive Pulmonary Disease (COPD) in Primary Care

When to refer to secondary care for expert opinion

- FEV1 40% or less (moderate/severe COPD)
- Onset of cor pulmonale
- Assessment for surgery: Bullous lung disease
- Frequent infections or increase of frequency of infections e.g. greater than 3 per year
- Rapid decline in FEV1
- COPD in a patient less than 40 years or FH of alfa 1 antitrypsin deficiency
- For palliative care
- Uncontrolled severe COPD
- Haemoptysis
- Symptoms don’t match lung function tests

Resources for patients

- Self management advice in the form of a written plan should be given to patients regarding how to respond to the symptoms of exacerbations.
- Sputum cards
- See the local community pharmacist for a Medication Usage Review
- British Lung Foundation Breatheasy groups: http://www.blf.org.uk

Further information on COPD

- NICE COPD guidance (June 2010): http://guidance.nice.org.uk/CG101
- BTS guidance: https://www.brit-thoracic.org.uk/clinical-information/copd/
- COPD assessment test on-line: http://www.catestonline.co.uk/

COPD Matrons

- North Wiltshire: Angela Hunn ☎️ 07920 543615
- West Wiltshire: Jane Lindsay ☎️ 07825 115879
- South Wiltshire: Lisa Miller ☎️ 07789 505234
- IMPACT team for BaNES: http://www.sirona-cic.org.uk/services/breathing-problems/
- Swindon CCG: Victoria Lane ☎️ 01793 646431