Wirral COPD Guidelines

Encourage Smoking Cessation and vaccination for all patients and refer to Pulmonary Rehabilitation if functionally limited by breathlessness

Step 1: Breathlessness and Exercise Limitation

SABA (may be continued at all steps)
- 1st line: Salbutamol 100mcg, 2 puffs when needed for breathlessness
- 2nd line: Terbutaline 500mcg, 1 puff when needed for breathlessness

SAMA
- Ipratropium 20mcg, 2 puffs up to four times a day

Step 2: Exacerbations or Persistent Breathlessness

LABA (Usually use if LAMA not tolerated)
- 1st line: Formoterol
  - Easyhaler® (DPI), 12mcg/dose, 1 puff twice a day
- 2nd line: Salmeterol
  - Serevent Accuhaler® (DPI) 50mcg/dose, 1 puff twice a day
  - Salmeterol (MDI) 25mcg/dose, 2 puffs twice a day
- 3rd line: Indacaterol
  - Onbrez Breezhaler® (DPI) 150mcg/dose, 1 puff daily
  - (300mcg/dose, 1 puff daily can be used if some benefit but still symptomatic)

LAMA (Stop SAMA). Offer LAMA 1st over LABA
- 1st line: Tiotropium
  - Spiriva Handihaler® (DPI), 18mcg/dose, 1 puff daily
  - NB: Prescribe device only on first issue and annually
  - Spiriva Respimat® (MDI), 2.5mcg/dose, 2 puffs daily
- 2nd line: Glycopyrronium
  - Seebri Breezhaler® (DPI), 44mcg/dose, 1 puff daily
  - (equivalent to 55mcg Glycopyrronium Bromide)
- 3rd line: Aclidinium
  - Eklira Genuair® (DPI), 322mcg/dose, 1 puff twice a day
  - (equivalent to 375mcg Aclidinium Bromide)

LABA + ICS combination inhaler (Stop LABA)
- 1st line options:
  - DuoResp Spiromax® (DPI)
    - Budesonide/Formoterol 320/9, 1 puff twice a day
  - Fostair® (MDI)
    - Beclometasone/Formoterol 6/100, 2 puffs twice a day
- 2nd line options:
  - Symbicort Turbohaler (DPI), Budesonide/Formoterol 400/12, 1 puff twice a day
  - Seretide Accuhaler® (DPI), Fluticasone/Salmeterol 500/50, 1 puff twice a day

Key
- SABA: Short-acting beta2 agonist.
- SAMA: Short-acting muscarinic antagonist
- LABA: Long acting beta2 agonist
- LAMA: Long acting muscarinic antagonist
- ICS: Inhaled corticosteroid
- DPI: Dry Powder Inhaler
- MDI: Metered Dose Inhaler

Persistent Breathlessness: Irrespective of FEV1, add a second long acting bronchodilator of a different class (i.e. add LABA to patients on LAMA, or add LAMA to patients on LABA or LABA+ICS

Persistent Exacerbations: If FEV1 < 50%: Use a LABA+ICS plus LAMA. If FEV1 ≥ 50%: Consider a LABA+ICS plus LAMA although evidence is limited.

Wirral COPD inhaled drug therapy guideline V2  Approved by MCGT December 2014 (Minor update July 2015)
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Management of COPD

Smoking Cessation
- Encourage and support patients to stop smoking at every opportunity. This is the only intervention that slows disease progression.¹
- Tailor the choice of therapy to patients' preference.
- Encourage patient to attend local smoking cessation service.

Pulmonary Rehabilitation
- Pulmonary rehabilitation should be offered to all patients with a Medical Research Council scale (MRC) 3 or above, and any patients with an MRC of 2 who are functionally disabled by breathlessness.
- Patients hospitalised for acute exacerbation should be offered pulmonary rehabilitation at hospital discharge to commence within 1 month of discharge.

Vaccinations²
- Influenza vaccination should be encouraged and offered annually.
- Pneumococcal vaccination should be encouraged and offered once in a lifetime.

Inhaler Technique & Concordance
- Check patients' technique with each device prescribed regularly. Poor technique could be the cause of poor control.
- Adherence checks need to be carried out when reviewing unstable patients prior to altering therapy. Investigate cause for poor adherence prior to change. If due to side effects consider technique and then trial of a different product.
- All patients should have their inspiratory flow checked with the in-check dial before prescribing inhalers and at each review. The acceptable range for DPIs is between 30 and 90l/min however at the lower range this may not be sufficient to get the full dose consistently or during exacerbations. In these cases an MDI and spacer may be a more suitable option.
- Review all changes in therapy after 4 weeks of change to determine benefit of therapy.

Spacer Device³
- Advise the patient that a single actuation should be inhaled and if indicated a further actuation should then be administered.
- The spacer device should be cleaned with water and washing up liquid and allowed to drip dry, no more than once a month.
- Spacer devices should be changed at least annually.

Short Acting Inhaled Bronchodilators (SABA/SAMA)¹
- NICE¹ recommend changing patients who use SAMA (ipratropium) regularly (four times/day) onto a LAMA.
- Consider patients’ usage of their SABA (salbutamol or terbutaline). Some patients may require multiple doses of their SABA each day (> 2 puffs four times each day) as part of their stable optimal therapy management, therefore consider the need for two devices each month as per patient need.

Nebulised therapy⁴
- There is little, if any, evidence that nebulised bronchodilators have any advantages over inhaled bronchodilators in maintenance therapy of COPD.
- Respiratory Specialist advice should be sought if considering nebulised therapy as part of maintenance therapy.
- Continue nebuliser treatment only if there is an objective improvement in symptoms, daily living activities, exercise capacity or lung function.
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Long Acting Inhaled Anti-muscarinic Agents
- Caution: New arrhythmias, recent myocardial infarction.

Tiotropium
- First Line LAMA, due to current evidence and volume of supportive evidence
- Inform patient it is not quick acting, lasts 24hours.
- Spriva Handihaler® device should only be used when initiating and annually.
- Further supply should be capsules only. Foil to be peeled back, not popped.
- TICOSPIR study³ has shown no increased CV risk with Respimat® device, resolving any previous concerns.
- Spriva® Respimat® requires priming with the active drug prior to use.
- Tiotropium should be used with caution when patients' Creatinine Clearance < 50ml/min.⁵

Glycopyronium
- Clinical trials have shown this is equivalent to tiotropium in dyspnoea and health status over a 52 week study⁶.
- Seebri breezhaler® works as quickly as salbutamol, but lasts for 24 hours.
- Loaded with a capsule (foil to be peeled back, not popped).
- Glycopyronium should be used with caution when patients Creatinine Clearance <30ml/min.⁵

Aciclizinium
- 24 week clinical trial has shown that aclizinium has similar effect to tiotropium on FEV1, exacerbation rate, dyspnoea and health status⁶.
- Elkira Genuair is a preloaded, twice daily device, with colour display to indicate dose taken (Green to Red).
- Aciclinizium can be used in severe renal impairment (no renal restrictions).

Combination Long Acting Beta Agonist and Inhaled Corticosteroid LABA/ICS
- Fostair (beclomethasone/formoterol) is the only licensed product in an MDI.
- DuoResp® Spirimox® 320/9mcg is a dry powder device of budesonide/formoterol, and has been shown to be equivalent in delivery to Symbicort 400/12mcg, therefore all clinical trials for Symbicort can be used as the evidence base.
- Inhaled corticosteroid use with patients COPD is associated with an increased risk of serious pneumonia. A recent NICE Medicine Evidence Commentary discusses the evidence behind this risk⁶.
- Advise the patient to rinse their mouth out after using any inhaler containing an ICS.
- Seretide 250/25 Evohaler® is NOT licensed in COPD and should not be used.

Mucolytic therapy
- Consider in patients with a chronic productive cough. Continue only if patient has found symptom improvement⁷.
- Advise patient to step dose up and down as per difficulty in sputum production.
- Carbocisteine is the mucolytic of choice on Wirral due to fewer side effects and being more cost effective. Ideally use capsules rather than liquid (cost saving).
- Initiate with Carbocisteine 375mg capsules two capsules TDS for 4 weeks, tailor dose as per sputum production, usually one two capsules’s BD. If no improvement, discontinue.
- Some patients may only require mucolytic therapy at the time of an exacerbation.
- Mucolytic therapy is not routinely recommended for exacerbation prevention⁷.
- See Mucolytics – criteria for use for information on when to use carbocisteine.

References
3. www.medicines.org.uk/emc (viewed 12/02/14)
7. NICE Medicine Evidence Commentary. COPD: further evidence on the risk of pneumonia with inhaled fluconosine or budesonide. June 2014.
8. www.evidence.nhs.uk/choices/Choices/View/0/128478aef1c819f24b50a0f23f80429af.ReturnFile?%2Fsearch%3F%3Dfluconosine%2Fpneumonia
9. www.nhs.uk (last viewed 19/01/14)

Oxygen
- Pulse oximetry is recommended as part of routine COPD reviews.
- Oxygen saturation < 92% should be considered (with other risk factors) for further Oxygen Assessment (refer to specialist oxygen services at the COPD and Oxygen Centre at Albert Lodge).
- All patients on Long Term Oxygen Therapy (LTOT) should be under the specialist oxygen service.

Theophylline
- Consider the addition of theophylline MR 200mg – 400mg twice daily (as Uniphyllin® tablets) if the patient is still symptomatic with breathlessness after the addition of both short and long acting bronchodilator or if patient cannot use inhalers effectively⁷.
- Titrate (after checking levels) as per response/side effects.
- Inform the patient of potential side effects (nausea, vomiting, tachycardia) which may indicate high/toxic blood levels.
- Theophylline levels should be done 4-6hours after oral dose, patient should be on therapy for > 5 days⁷.

Rescue Therapy
- As supported in NICE¹, a reserve course of formulary choice antibiotics and oral corticosteroids (prednisolone 30mg for 7-14 days) should be given to patients who have had 2 or more exacerbations or 1 hospital admission in the last 12 months to help patients ‘self manage’ their condition when they are acutely unwell. For guidance on oral corticosteroids please refer to BNFi section 6.3.2.
- These should be issued with the Self-Management Plan explaining when to start therapy and what action to take. Patients should be followed up 2 weeks after an exacerbation and at this time another rescue prescription could be given.

Oral Corticosteroid (Maintenance Dose)
- Use of oral corticosteroid therapy is not routinely recommended⁷.
- This should be initiated under specialist advice only.
- Consider long term side effects on gastrointestinal system and risk of osteoporosis.

Prophylactic Antibiotics
- Initiated by respiratory specialist only in certain clinical scenarios such as patients with end stage COPD with repeated infected exacerbations - can then be continued by primary care.

Leukotriene Receptor Antagonists (Montelukast & Zafirlukast)
- Not licensed in COPD⁷, no evidence for use in COPD.

Roflumilast
- No patients should be started on this, by either primary or secondary care.