

Stable COPD Treatment Guidelines

Diagnosing COPD

Diagnosis of COPD should be considered if

- **Age** over 35 years
- **Exposure:** Tobacco >10 pack years smoking history, cannabis or smoking other drugs
- **Symptoms:**
 - exertional breathlessness
 - chronic cough
 - regular sputum production
 - frequent winter 'bronchitis'
 - wheeze

(Consider asthma component also: see below)

Exclude other causes of breathlessness

- **Physical examination** (heart failure, obesity)
- **Chest X-Ray** (lung cancer, TB)
- **Consider serial peak flow** if history suggests asthma
- **Bloods** (FBC, CRP, U&E's, TFT, BNP)

Consider bronchiectasis if producing large amounts of sputum daily, frequent infections or basal crackles (may also indicate pulmonary fibrosis).

Refer to Responsible Respiratory Prescribing Group bronchiectasis diagnosis and management guidelines.

Perform case finding spirometry: if abnormal or shows obstruction, do post spirometry bronchodilator (see below)

Spirometry should be carried out by a healthcare professional competent in its performance.

Airflow obstruction is defined as: FEV₁/FVC ratio is <0.7

NB Obesity reduces FVC so airway obstruction may be masked in presence of raised BMI

Diagnose asthma when:

- serial peak flow measurements show at least 20% diurnal or day-to-day variability **or**
 - spirometry returns back to normal after treatment
 - > 400ml response to bronchodilators
 - refer to BTS Asthma guidance
- READ CODE as ASTHMA H33**
SNOMED CT code 195967001

Diagnose COPD when:

- symptoms in keeping with diagnosis
 - patient has proven airways obstruction **and**
 - there is a < 400ml response to bronchodilators
 - Clinician has excluded asthma
- READ CODE as COPDH3**
SNOMED CT code 13645005

NB Patients can have Asthma and COPD

Asthmatic features/features suggesting steroid responsiveness include any of:

- any previous secure diagnosis of asthma or atopy
- a higher blood eosinophil count
- substantial variation in FEV₁ over time (> 200 - 400 ml)
- Substantial diurnal variation in peak expiratory flow (> 20%).

Use both Asthma and COPD READ CODE H33 AND H3
SNOMED CT code 195967001 and 13645005

Other considerations:

- If under age of 50 measure alpha-1 anti-trypsin and consider passive smoke exposure; cigarettes, tobacco, shisha, cannabis, other smoked drugs.
- Older people without typical symptoms of COPD where the FEV₁/FVC ratio is <0.7

Determine and EMIS Read code disease severity (see table below)

Start appropriate treatment (see flowchart overleaf)

Reassess diagnosis in view of response to treatment

Bronchodilator reversibility: Spirometry should be measured before and after an adequate dose of inhaled bronchodilator (either nebulised salbutamol 2.5 mg or high dose inhaled salbutamol 4 puffs x 100 micrograms via a spacer device). Reversibility testing is used to exclude asthma, not diagnose COPD.

Pulse oximetry: Measure oxygen saturations (SaO₂) using a reliable oximeter (eg ChoiceMMed MD300-D Finger Pulse Oximeter MD300C26) or similar in any patient with acute or worsening breathlessness to identify new or worsening respiratory failure, the need or not for admission, and to assess the need for referral for Long Term Oxygen Therapy (criteria for referral: SaO₂ < 92% on air in stable patient with severe disease (FEV₁ < 50%) or new ankle swelling) who is ex- or non-smoker. During acute exacerbations, if using oxygen therapy, aim for target saturation range of not higher than 88-92%.

| MRC Breathlessness Scale | Code | Grading of airflow obstruction | | | |
|--|-----------------------------------|---|------------------------------|-----------------------|--------------------------------------|
| | | Post-bronchodilator FEV ₁ /FVC ratio | FEV ₁ % predicted | Post-bronchodilator | Code |
| 5 Too breathless to leave house, or breathless when dressing or undressing | READ 173L SNOMED CT 1485150018 | <0.7 | ≥ 80% | Stage 1 - Mild* | READ H36 SNOMED CT 457168017 |
| 4 Stops for breath after walking about 100m or after a few minutes on level ground | READ 173K SNOMED CT 1485149018 | <0.7 | 50-79% | Stage 2 - Moderate | READ H37 SNOMED CT 457169013 |
| 3 Walks slower than contemporaries on level ground because of breathlessness, or has to stop for breath when walking at own pace | READ 173J SNOMED CT 1485148014 | <0.7 | 30-49% | Stage 3 - Severe | READ H38 SNOMED CT 457171013 |
| 2 Short of breath when hurrying or walking up a slight hill | READ 173I SNOMED CT 1485147016 | <0.7 | <29% | Stage 4 - Very Severe | READ H39 SNOMED CT 51680100000112 |
| 1 Not troubled by breathlessness except on strenuous exertion | READ 173H SNOMED CT 1485144011 | | | | |

*Symptoms should be present to diagnose COPD in people with mild airway obstruction

Referral indications for Respiratory Specialist Team review include:

- Disease onset at < 40 years old
- Family history of alpha 1 antitrypsin deficiency
- Consideration of lung volume reduction procedures
- Diagnostic uncertainty
- New symptoms not explained by COPD e.g. haemoptysis
- 'Milder' patients with declining FEV₁ despite optimised treatment
- Frequent exacerbations (e.g. 4 or more/year)
- Two or more hospital admissions in the last year and not known to a supporting respiratory team
- Breathlessness disproportionate to airway obstruction
- Disabling and or frightening breathlessness
- Consideration of trial of nebulised bronchodilator
- New or worsening respiratory failure
- Onset of cor pulmonale/new ankle oedema
- Assessment for Long Term Oxygen Therapy (SpO₂ < 92%) NB only eligible if Carbon Monoxide (CO) reading confirms ex-smoker for at least 3 months
- Rapidly progressive or advanced disease using prognostic indicators: FEV₁, smoking status, breathlessness (MRC scale), exercise capacity & symptom burden, chronic hypoxia, low BMI, admissions & exacerbations - frequency & severity, multi-morbidity & frailty
- Consideration of non-invasive ventilation and management of chronic respiratory failure
- Identified need for advanced care planning conversations
- Concern about prolonged oral steroid/high dose inhaled steroid >800micrograms BDP equivalent use or adrenal insufficiency

Chronic obstructive pulmonary disease in over 16s: non-pharmacological management and use of inhaled therapies

Confirmed diagnosis of COPD

Fundamentals of COPD care:

- Offer treatment and support to **stop smoking**
- Offer **pneumococcal** and **influenza vaccinations**
- Offer **pulmonary rehabilitation** if indicated
- Co-develop a personalised **self-management plan**
- Optimise treatment for **comorbidities**

These treatments and plans should be revisited at every review

Start **inhaled therapies** only if:

- all the above interventions have been offered (if appropriate), and
- inhaled therapies are needed to relieve breathlessness and exercise limitation, and
- people have been trained to use inhalers and can demonstrate satisfactory technique

Review medication and assess inhaler technique and adherence regularly for all inhaled therapies

Offer SABA or SAMA to use as needed

If the person is limited by symptoms or has exacerbations despite treatment:

No asthmatic features or features suggesting steroid responsiveness^a

Offer LABA + LAMA

Person has day-to-day symptoms that adversely impact quality of life

Consider 3-month trial of LABA + LAMA + ICS^{b,c}

If no improvement, revert to LABA + LAMA

Person has 1 severe or 2 moderate exacerbations within a year

Consider LABA + LAMA + ICS^{b,c}

Asthmatic features or features suggesting steroid responsiveness^a

Consider LABA + ICS^b

Person has day-to-day symptoms that adversely impact quality of life, or has 1 severe or 2 moderate exacerbations within a year

Offer LABA + LAMA + ICS^{b,c}

Explore further treatment options if still limited by breathlessness or subject to frequent exacerbations (see guideline for more details)

^a Asthmatic features/features suggesting steroid responsiveness in this context include any previous secure diagnosis of asthma or atopy, a higher blood eosinophil count, substantial variation in FEV1 over time (at least 400 ml) or substantial diurnal variation in peak expiratory flow (at least 20%).

^b Be aware of an increased risk of side effects (including pneumonia) in people who take ICS.

^c Document in clinical records the reason for continuing ICS treatment.

Reference: NICE Recommendations on non-pharmacological management of COPD and use of inhaled therapies in people over 16. Click [here](#) for further information





Stable COPD Treatment Guidelines

| | |
|---|---|
| <p>Offer high value interventions in COPD care:</p> <ul style="list-style-type: none"> Treatment and ongoing support for tobacco dependence Pneumococcal and annual influenza vaccinations Pulmonary rehabilitation (if not contraindicated) Co-developed personalised self-management plan Optimise treatment for comorbidities <p>Revisit and enable these interventions at each review at least annually and before each step up</p> | <p>Start inhaled therapies if:</p> <ul style="list-style-type: none"> High value interventions have been offered and Inhaled therapies are needed to relieve breathlessness and/or exercise limitation, and Principles and choices in inhaled therapy and devices discussed with patient and Patient has been trained to use specific devices and can demonstrate satisfactory technique <p>Review inhaler technique and adherence regularly</p> |
|---|---|

Offer SABA or SAMA (as MDI with Spacer) to be used if needed for breathlessness

| SABA | SAMA | Spacer Device | |
|---|---|---|--|
| <p>Salbutamol 100mcg MDI 2 puffs QDS / PRN via Spacer</p>  | <p>Ipratropium bromide 20mcg MDI 2 puffs QDS / PRN via Spacer</p>  | <p>AeroChamber Plus</p>  | <p>Volumatic</p>  |

If the patient is limited by symptoms i.e. breathlessness or has exacerbations despite treatment



| | | | |
|--|---|--|--|
| NO asthmatic features / features suggesting steroid responsiveness | | Asthmatic features / features suggesting steroid responsiveness | |
| Offer LABA & LAMA as a combination inhaler | | Consider LABA & ICS as a combination inhaler | |
| Option 1 (DPI) | Option 2 (fine mist inhaler) | Option 1 (MDI) | Option 2 (DPI) |
| <p>Anoro[®] Ellipta[®] (Umeclidinium 55mcg / Vilanterol 22mcg) 1 puff OD & Continue PRN Salbutamol</p>  | <p>Spolto[®] Respimat[®] (Tiotropium 2.5mcg / Olodaterol 2.5mcg) 2 puffs OD & Continue PRN Salbutamol</p>  | <p>Fostair[®] 100/6 MDI (Beclometasone 100 mcg / Formoterol 6 mcg) 2 puffs BD via Spacer & Continue PRN Salbutamol</p>  | <p>Relvar[®] Ellipta[®] (Fluticasone furoate 92mcg / Vilanterol 22mcg) 1 puff OD & Continue PRN Salbutamol</p>  |

| | | |
|--|--|--|
| Ongoing symptoms i.e. breathlessness adversely impacting quality of life | Patient has 1 severe or 2 moderate exacerbations within a year | Ongoing symptoms i.e. breathlessness adversely impacting quality of life or has 1 severe or 2 moderate exacerbations within a year |
|--|--|--|

| | | |
|---|---|--|
| Consider 3 month trial* of "Triple Therapy" – LAMA & LABA & ICS | Consider "Triple Therapy" – LAMA & LABA & ICS | Offer "Triple Therapy" – LAMA & LABA & ICS |
|---|---|--|

"TRIPLE THERAPY" Inhaler options
For COPD or COPD with asthma not needing high dose ICS

Choice based on selecting same inhaler device patient already using

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|--|--|
| <p>Trelegy[®] Ellipta[®] (Fluticasone Furoate 92mcg / Umeclidinium 55mcg / Vilanterol 22mcg) 1 puff OD</p>  | <p>Trimbow[®] MDI (Beclometasone 87mcg / Formoterol 5mcg / Glycopyrronium 9mcg) 2 puffs BD via Spacer</p>  |
|--|--|

* Initial prescriber of triple therapy should arrange for further review at 3 months. If no improvement in breathlessness should revert to LABA & LAMA; triple therapy prescription to only be continued if patient describes improvement in breathlessness.

Explore further treatment options if still limited by breathlessness or subject to frequent exacerbations

| | | | |
|------|------------------------------------|------|-----------------------------------|
| SABA | Short acting beta agonist | LABA | Long acting beta agonist |
| SAMA | Short acting muscarinic antagonist | LAMA | Long acting muscarinic antagonist |
| MDI | Metered dose inhaler | DPI | Dry powder inhaler |
| ICS | Inhaled corticosteroid | mcg | Microgram |

Stable COPD Treatment Guidelines

Tobacco dependence: Identify and treat at every review. CODE Smoking status in EMIS.

Ask about current and past tobacco, cannabis, other smoked drugs, shisha, passive smoking (and vaping/e-cigarettes).

Provide brief quit smoking advice yourself - [National Centre for Smoking Cessation and Training](#)

- Measure CO routinely at every review of a current or recently quit smoker. Assess patient motivation to quit.
- Offer full range of **COMBINATION** nicotine replacement therapies (NRT) and / or varenicline by trained HCP in line with local guidance and referral to quit smoking services for behavioural and psychological support. Ensure follow-up of tobacco dependence treatment arranged.
- Useful resources are : [London Clinical Senate - Helping Smokers Quit](#) and [PCRS Tobacco Dependency Guide](#)
- **Stop Smoking Services:** [HARINGEY](#) at [One You Haringey](#) or 020 8885 9095. [CAMDEN](#) AND [ISLINGTON](#) at [Breathe](#) (via breathe.team@nhs.net or 020 36332609).

Perform Spirometry; if post bronchodilator spirometry: FEV₁/FVC < 0.7 diagnosis consistent with COPD, asthma or both. Check pre and post bronchodilator spirometry or PEFr diary is asthma component suspected. Review patients with mild & moderate COPD on spirometry (FEV₁ < 80%) once a year and severe COPD (FEV₁ < 50% twice a year)

Calculate BMI as raised BMI may mask obstructive spirometry but obesity is also a common contributing cause of breathlessness.

- If BMI > 30, excessive sleepiness and/or low O₂ saturation measure venous bicarbonate & consider referral for respiratory assessment +/- sleep studies.
- Discuss and address concerns and impact of raised BMI and low BMI as for all patients.

Ask if their breathlessness is frightening: identify and address anxiety / depression if present. Recommend pulmonary rehab.

Few patients derive benefit from nebulised bronchodilator but they may have a role in patients unable to coordinate with handheld inhalers. Patients should not be asked to buy compressors themselves. Nebules should only be prescribed following assessment, and compressor provision, by a respiratory team with on-going patient support and compressor servicing.

- Offer pneumococcal and annual influenza vaccination and promote influenza vaccination for health care providers and carers to protect patients.

Consider Comorbidity: assess for co-existing ischaemic heart disease, heart failure, diabetes and osteoporosis risk and treat as appropriate. COPD is not a contraindication to β₂ blockers and β₂ blockers should be prescribed in COPD as for any patient according to cardiac or other indications.

Self-Management: offer personalised information on COPD e.g. "First steps to living with COPD" or a Care plan, BLF website - [BLF - COPD information](#) as part of developing a care plan.

- Explore and develop patient confidence in self-management, including appropriateness of exacerbation pack.
- Signpost to local patient support groups e.g. Breathe Easy - [Breathe Easy support groups](#)

Offer personalised physical activity advice to all patients e.g. Long-term exercise groups, singing, dance groups.

Pulmonary Rehabilitation: the "Breathe Better Do More" programme

Explain, offer and refer to pulmonary rehabilitation (PR) every patient with breathlessness MRC ≥3 (or hospital admission for COPD or frequent exacerbations irrespective of MRC score, provided COPD diagnosis confirmed)

Useful Pulmonary Rehabilitation resource is a 2 minute film: [Pulmonary rehabilitation](#)

Refer to [HARINGEY](#) or [ISLINGTON](#) ([CORE Team](#) via [email](#) or 0207 288 5474). [CAMDEN](#) (CNWL team via [email](#) or 020 3317 5355)

Acute Exacerbation of COPD (AECOPD) Treatment Guidelines

Educate patients regarding symptoms of exacerbation, how to distinguish from 'bad days' and what action to take early for pro active treatment.

Exacerbations are associated with: ↑ breathlessness ↑ sputum purulence ↑ sputum volume ↑ cough

All patients need a jointly agreed personalised action plan on how to respond quickly to symptoms of exacerbations.

NB not every deterioration in symptoms is an exacerbation requiring antibiotics and steroids, as there are other causes of worsening COPD.

Treat exacerbations with:

- Increasing frequency of bronchodilator use
- Oral prednisolone plain (non-enteric coated) 5mg tablets. Prescribe 30mg OM for 5 days unless contraindicated
- If purulent sputum – consider 5 day course of oral antibiotics (amoxicillin 500mg TDS for 5 days or doxycycline 200mg on day 1 then 100mg OD for 4 further days or clarithromycin 500mg BD for 5 days) or alternative choice antibiotic if patient at higher risk of treatment failure e.g. co-amoxiclav 625mg TDS [NICE COPD acute microbial prescribing guidance 2018](#)

Letting a healthcare professional know if they are unwell and being seen as soon as possible

Exacerbation prescriber tips:

- Establish understanding of, and confidence in, managing exacerbations before prescribing an 'exacerbation pack'.
- An 'exacerbation pack' is a course of corticosteroid tablets and antibiotics for a patient to keep at home. Instructions for use include contacting a healthcare professional if a pack is used or if their symptoms do not improve within 24 hours of starting the treatment.
- All patients should be reviewed in the practice after an exacerbation so as to log and read code the episode and discuss next steps e.g. association with tobacco smoking, PR referral, review of oxygen saturation and medication and need for respiratory review.
- Review the need for and use of this exacerbation medication regularly.
- Do not issue 'exacerbation packs' as a repeat prescription; use the **acute** prescription section.
- An exacerbation pack is not always appropriate e.g. where a patient has cognitive impairment; communication is made more difficult by language barriers and any other situation where you do not feel confident that instructions have been understood.
- If a second exacerbation pack is used within 8 weeks consider:
 - sending sputum sample for MC & S (microscopy, culture, and sensitivity) **and**
 - an alternative first choice antibiotic (from a different class of doxycycline, amoxicillin, clarithromycin)

Patients having more than 3 courses of prednisolone / 12 months need review to minimise cumulative dose, risk of adrenal insufficiency and risk of osteoporosis.

Inhaled therapy prescribing tips

- Need to review diagnosis and assess symptoms, exacerbation rate and presence of asthmatic features, or not, to determine appropriate inhaled therapy.
- Explore inhaler knowledge, beliefs and use, including patient preference of device, before prescribing inhaled therapy.
- Only step-up inhaled therapy prescriptions after (re)addressing tobacco dependence and following review and optimisation of current technique and pattern of inhaler use.
- The choice of inhaler device should be a shared decision based on patient preference and willingness and ability to use a particular device
- **PRESCRIBE INHALERS BY BRAND NAME and DEVICE except non-breath actuated salbutamol pMDI**
- MDIs (apart from salbutamol) should always be used with a spacer. Spacers should be replaced every 12 months.
- Patients should not be switched between inhaler devices unnecessarily and without appropriate counselling.
- Ensure adequate inhaler technique with device(s) chosen including inspiratory flow above minimum needed and review regularly.
- Patients who might benefit from further support to optimise inhaler use and technique can also be referred to their community pharmacy.
- **Consider stepping-down as actively as stepping-up:**
- Inhaled therapy may be less helpful in individuals where emphysema, rather than airway obstruction, is the dominant cause of breathlessness.
- Withdrawal of ICS may be indicated for some patients with COPD with **NO** Asthmatic features (See [NICE evidence commentary](#) and [PCRS Stepping Down guide](#) for more information).
- Some patients admitted to hospital with community acquired pneumonia may have their ICS stopped and risk/benefits of ICS should be assessed before restarting for each patient.
- ICS, as a single inhaler, should not be used in COPD. ICS should only be started, or restarted, in patients with COPD who meet the NICE 2019 criteria.