NHS Greater Glasgow and Clyde

CLINICAL GUIDELINE

Chronic Pulmonary Disease (COPD), Primary Care

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Lead Author:	David Johnstone
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Important Note:

The online version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

COPD Primary Care Guideline for Adults

Diagnosis

Suspect a diagnosis of COPD: people over age 35 who have a risk factor (typically smoking history) who present with exertional breathlessness, chronic cough, regular sputum production, recurrent acute bronchitis, wheeze.
At time of COPD diagnosis, consider any **red flag symptoms** that warrant referral via USOC pathway.
Refer to direct access spirometry pathway: patients and referrers will receive an outcome letter containing test results and interpretation, pathway outcome (likely diagnosis for verification by referrer) and recommendations on fundamentals of care. Spirometry results can be influenced by age and inhaled therapies prior to testing and should be interpreted in context. Younger people may not have airflow obstruction with early COPD. In older people, mild airflow obstruction may be within normal limits rather than establishing a diagnosis. Patients who have had previous spirometry (via diagnostic pathway or secondary care attendance) do not require repeat testing unless prior results were normal and clinical presentation has evolved.
Supporting investigations: full blood count to assess for anaemia, eosinophil count for possible asthma and therapy stratification. Arrange **chest x-ray** if no recent imaging in the last 12 months. Consider **CT thorax** if any component of the clinical presentation raises suspicion of lung cancer. Presence of emphysema on CT thorax (if available) supports a diagnosis of COPD.
Alternative diagnoses: consider asthma **or COPD-asthma overlap** in patients who are < 40 years old, are non-smokers, who have wheeze with nocturnal dyspnoea, diurnal variation of dyspnoea, who have elevated eosinophils or who have significant reversibility on spirometry testing. Consider **bronchiectasis** in patients with recurrent bronchitis, persistent purulent sputum or focal chest signs. Consider **pulmonary fibrosis** in patients with dyspnoea, dry cough and crackles on auscultation. Also, consider **heart failure** if peripheral oedema and bilateral crackles.
Initial management pending confirmation of diagnosis: implement fundamentals of care and maintenance inhaled therapy to improve symptoms and reduce risk of exacerbations and cardiovascular events whilst investigations are pending. Review management and consider de-escalation of therapy if subsequent diagnostic testing is negative.

Fundamentals of care

For consideration at every COPD patient review

SMOKING CESSATION	VACCINATIONS	PULMONARY REHABILITATION	PERSONAL SELF-MANAGEMENT PLAN	ASSESS AND OPTIMISE CO-MORBIDITIES

At new diagnosis, unscheduled care contact or annual review: check smoking status, current symptoms - mMRC grade and COPD Assessment Test (CAT) score - exacerbation history (+/- hospital admissions), review inhaler technique and adherence, also current therapy and its impact. Resting pulse oximetry: create **Key Information Summary (KIS)** and include reading here. Optimise management based on fundamentals of care and prescribing recommended inhaler and other therapies.
Smoking cessation: encouraged and signpost to support services.
Vaccinations: ensure vaccinations are up to date. Typical recommendations are pneumococcal (once off), seasonal influenza and COVID-19 vaccines. Green Book should be consulted if required.
Pulmonary rehabilitation: is an individualised multi-disciplinary programme of care for patients with COPD and other lung conditions. Pulmonary rehabilitation improves symptoms, quality of life, exacerbation frequency, exacerbation severity and mortality in patients with COPD. Pulmonary rehabilitation should be recommended to all patients with COPD with mMRC 2 (=MRC 3) or higher. Refer via SCI gateway. Patients attend an initial optimisation review followed by an 8-week programme incorporating graded physical activity, pacing, self-management and optional psychologist input.
Self-management: information should include an explanation of COPD and its symptoms, importance and benefits from the fundamentals of care and optimised regular inhaler therapy, recognition and management of exacerbations. Information to support these discussions is available at asthmalunguk.org.uk, mylungsmylife.org, Chest Heart and Stroke Scotland (traffic lights for self-management).
Comorbidities: cardiovascular risk is elevated in patients with COPD, particularly following exacerbations. Cardiovascular risk should be assessed with ASSIGN2 score and managed as per NHS GG&C guidance.
Obesity, metabolic disease, obstructive sleep apnoea, osteoporosis, anxiety and depression and lung cancer are more common in patients with COPD. These should be actively sought and managed as per guidelines: they influence health status, hospitalisations and mortality, independently of the severity of airflow obstruction.
For patients with BMI > 30 consider **obstructive sleep apnoea syndrome** (OSAS) and NHS GG&C weight management service.
For patients with BMI < 20 or MUST questionnaire positive consider referral to community dietetics.

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Inhaled therapy

should be prescribed by brand

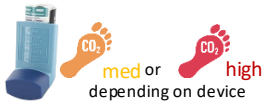
Presenting issue

BREATHLESSNESS	EXACERBATION	ASTHMA OVERLAP
+/- 1 community managed exacerbation	≥ 2 community managed exacerbations or ≥ 1 leading to hospitalisation	(including eosinophils ≥ 0.3 within previous 12 months)
dual bronchodilator LAMA + LABA (+ SABA prn)	**single inhaler triple therapy (SITT)** ICS + LABA + LAMA (+ SABA prn)	**SITT** ICS + LABA + LAMA (+ SABA prn)
(review exacerbation frequency regularly and change to SITT if needed)		

Ongoing symptoms: review the fundamentals of care. If necessary, refer to secondary care.

SABA

Salbutamol Easyhaler® DPI
Salbutamol 100mcg
1-2 doses up to
4 times daily as needed



Salbutamol CFC free pMDI
Salbutamol 100mcg
1-2 doses up to
4 times daily as needed

pMDI Salbutamol is the **ONLY** device that should be prescribed generically

LAMA + LABA

Anoro® Ellipta® DPI
Umeclidinium 55mcg/
Vilanterol 22mcg
1 dose daily

Spiolto® Respimat® SMI
Tiotropium 2.5mcg/
Olodaterol 2.5mcg
2 doses once daily

Bevespi Aerosphere® pMDI
Glycopyrronium 7.2mcg/
Formoterol 5mcg
2 doses twice daily

Carbon footprint data for Global Warming Potential taken from: prescqipp.info

Return *USED inhalers to* ***Community Pharmacy*** *for safe disposal*

ICS + LABA + LAMA (SITT)

Trelegy® Ellipta® DPI
Fluticasone 92mcg/
Vilanterol 22mcg/
Umeclidinium 55mcg
1 dose daily

Trimbow® NEXThaler® DPI
Beclometasone 88mcg/
Formoterol 5mcg/
Glycopyrronium 9mcg
2 doses twice daily

Trimbow® pMDI
Beclometasone 87mcg/
Formoterol 5mcg/
Glycopyrronium 9mcg
2 dose twice daily

Trixeo® Aerosphere® pMDI
Budesonide 160mcg/
Formoterol 5mcg/
Glycopyrronium 7.2mcg
2 doses twice daily

Some patients with COPD may not have the necessary inspiratory effort to use the DPI devices or dexterity for the SMI device. In these instances, trial a pMDI device with a spacer: consider tidal breath.

Key on page 4

Inhaler therapy considerations and inhaler technique:

Inhaler technique and adherence: should be reviewed and corrected before commencing or switching therapy, when there are exacerbations and at follow up reviews, particularly if symptoms are uncontrolled.

Optimised inhaler therapy: improves symptoms and reduces exacerbations, cardiovascular risk, health care resource utilisation and mortality for patients with COPD. Symptoms, mMRC/CAT score and exacerbation history guide inhaler choice. Patients with higher eosinophil counts (recent or prior) are more likely to benefit from inhaled steroid containing combination inhalers.

Dry powder inhalers (DPI): require fast deep inhalation. They are 1st choice if suitable and have reduced environmental impact compared to pMDIs.

Metered dose inhalers (pMDI) and soft mist inhalers (SMI): require steady slow inhalation. Spacer device should always be used (not with SMI), utilising 'tidal breath' technique if there is poor inhalation effort.

Inhaler technique and device demonstration videos are available on asthmaandlung.org.uk

ICS + LABA: combination inhaler alone is no longer recommended for initiation in patients with COPD. Established stable patients with minimal symptoms should continue treatment. Patients with ongoing symptoms or exacerbations should be reviewed to switch to ICS + LABA + LAMA (SITT) or LAMA + LABA (dual bronchodilator) based on clinical features.

ICS + LABA combined with separate LAMA: 'open' triple therapy is more cumbersome for patients with increased likelihood of inhaler technique errors, and it is more expensive and less sustainable. Patients should be opportunistically reviewed with a view to switching to ICS + LABA + LAMA single inhaled triple therapy (SITT).

Other therapies

Mucolytic: 1-month treatment trial is indicated if there is a persistent productive cough with difficulty expectorating. Only continue long-term if there is benefit. NHS GG&C Formulary: mucolytic.

Azithromycin: long-term low dose (typically 500mg three times weekly) is considered in patients with frequent infective exacerbations despite optimised therapy. Secondary care review is indicated to support assessment prior to initiation. Ex and non-smokers are more likely to realise clinically meaningful benefit from azithromycin.

Oral corticosteroids: long-term use of oral corticosteroid therapy in COPD is **not** normally recommended and can lead to other complications e.g. diabetes, and increased risk of developing adrenal suppression. Consider risk of adrenal suppression in patients who have received multiple courses of prednisolone: check early morning (pre-10am) cortisol and seek specialist endocrine advice if necessary. Consider maintaining low dose 5-10mg prednisolone until review if withdrawal is difficult. See also: prednisolone therapy safe withdrawal guidance.

Undertake osteoporotic risk assessment: use QFracture and refer for DEXA scan if indicated. Patients receiving oral corticosteroids or high dose inhaled steroids (> 800mcg beclometasone equivalent per day) should be provided with a steroid treatment card - stockorders.dppas@apsgroup.co.uk. Also, refer to advice for Steroid Emergency Cards which if issued, are to be given **alongside** treatment cards.

De-escalation of inhaled steroids: consider in patients with recurrent pneumonia or oral thrush after review and correction of inhaler technique, particularly if there was an inappropriate initial indication, eosinophils are < 0.1 and there are no asthmatic features. See PCRS tool.

Low dose opiates: immediate-release oral morphine sulfate, 2mg as required up to maximum 6 times per day and/or MST 5mg twice a day may be appropriate in patients with severe COPD to reduce breathlessness, or for cough unresponsive to other medical therapy. See Scottish Palliative Care Guidance on Right Decision Service for more information.

Low dose benzodiazepines: may help manage anxiety or panic associated with severe dyspnoea in patients with severe COPD. See Scottish Palliative Care Guidance on Right Decision Service for more information.

Other considerations requiring secondary care referral:

Home oxygen therapy: indicated in patients with sustained hypoxia following smoking cessation. Oxygen therapy does not improve breathlessness in patients who are not hypoxic.

Home non-invasive ventilation: indicated in patients with chronic hypercapnic respiratory failure and in selected patients with concomitant COPD and OSAS.

Lung volume reduction procedures: considered in patients with severe symptoms who are ex-smokers, are on optimised therapy and have completed pulmonary rehabilitation. Anatomical and physiological parameters determine suitability for interventions.

Key on page 4

Acute exacerbation: community management

Acute exacerbation of COPD is defined as an acute onset of increase in breathlessness, cough and/or sputum production with change in sputum colour, sustained for at least 1 day.
Refer patients to their self-management plan/refer to traffic light system
Step up short acting beta-2 agonist use guided by symptoms.
Encourage rest with active breathing techniques and chest clearance exercises.
Maintain oral intake advise to drink plenty of fluids and eat small amounts regularly.
Consider differential diagnoses including cardiovascular event, pneumonia, pneumothorax, or pulmonary embolism.
If acute exacerbation of COPD symptoms have persisted > 24 hours consider:
For increased breathlessness: prednisolone 30mg/day for 5 days.
For increased sputum or sputum colour change:
Doxycycline 200mg then 100mg daily ***OR*** **Amoxicillin** 500mg 3x daily ***OR*** **Clarithromycin** 500mg 2x daily – each only for 5 days
Consider sputum culture if recurrent infective presentation. Issue 14-day antibiotic course in patients with **bronchiectasis** or with confirmed bacterial colonisation. Check allergies and consider drug-drug interactions. Notably calcium and iron preparations inhibit absorption of doxycycline. Statins should be withheld during clarithromycin prescription.
Consider assessing suitability for rescue pack provision via Community Pharmacy PGD. (relevant PGD at bottom of page)

Multidisciplinary and secondary care input

Pulmonary rehabilitation team: support assessment, optimisation review and supervise classes, providing multi-dimensional education and support during the pulmonary rehabilitation programme.
Respiratory nurse specialist (RNS) team: based in secondary care, undertake proactive optimisation reviews in inpatients, provide early supported discharge service, assess for and supervise home oxygen therapy and input on advanced therapies and anticipatory care planning. The RNS team also support co-management in patients utilising the COPD digital remote monitoring service.
Respiratory physiotherapy: patients are assessed in outpatient clinics to receive targeted interventions, including airway clearance techniques, secretion management, breathing control strategies, and comprehensive management of their respiratory condition and exacerbations. Referrals should be directed to secondary care consultant team where they will be reviewed, triaged, and referred as appropriate.
Community respiratory teams: Glasgow City CRT, Renfrewshire CRT and West Dunbartonshire focused intervention teams support admission avoidance with provision of fundamentals of care, acute exacerbation and advanced management for patients with severe COPD in the community. Follow local criteria for referral.
Secondary care team: consider referral in young patients, if there is diagnostic uncertainty (particularly if symptoms are disproportionate to lung function changes or there is minimal smoking history); if there are symptoms or signs of severe disease (mMRC 3-4, ankle swelling, FEV1 < 30%, SpO2 < 92%); on triple therapy with persistent eosinophilia; if there are frequent exacerbations to assess for bronchiectasis and consider for azithromycin therapy; if pseudomonas is isolated in sputum; for consideration of home oxygen therapy (ex-smokers with SpO2 < 92% at rest); for patients with bullous lung disease on imaging; if considering advanced therapies including nebulised treatment, home NIV or lung volume reduction procedures.
Palliative care involvement: may be indicated for symptom control and other inputs in patients with severe COPD.

Key
• **AAFB:** acid alcohol fast bacteria • **ACEi:** angiotensin-converting enzyme inhibitor • **ASSIGN:** ASsessing cardiovascular risk using SIGN guidelines to assign preventive treatment • **BMI:** body mass index • **CAT:** COPD assessment test • **COPD:** chronic obstructive pulmonary disease • **CRT:** Community Respiratory Team • **CT:** computed tomography • **DPI:** dry powder inhaler • **FEV1:** forced expiratory volume in 1 second • **ICS:** inhaled corticosteroid • **LABA:** long-acting beta2 agonist • **KIS:** key information summary • **LAMA:** long-acting muscarinic antagonist • **MCS:** microscopy culture and sensitivities • **mMRC:** modified Medicines Research Council • **MRC:** Medicines Research Council • **MST:** morphine sulfate tablets • **MUST:** malnutrition universal screening tool • **NIV:** non-invasive ventilation • **OSAS:** obstructive sleep apnoea syndrome • **PCRS:** Primary Care Respiratory Society • **PGD:** patient group direction • **pMDI:** metred dose inhaler • **RNS:** respiratory nurse specialist • **SABA:** short-acting beta2 agonist • **SITT:** Single Inhaled Triple Therapy • **SMI:** soft mist inhaler • **SpO2:** peripheral oxygen saturation • **USOC**: urgent suspicion of cancer