Improving lives **together**
Norfolk and Waveney Integrated Care System

Chronic Obstructive Pulmonary Disease (COPD) Norfolk and Waveney Primary Care Guideline

Based on NICE NG 115 July 19 [2] ,GOLD 2024[1], PCRS[6], and local specialist opinion.

Click here to go to 'Pharmacological Management' , also available as separate document, click **here**

In the UK in 2021, 21,701 people died from COPD as the underlying cause[INHALE].
COPD has been reported as affecting around 3 million people in the UK, with 1,151,474 being undiagnosed in England [DHSC, 2024]

Definition of COPD (GOLD 2024)
"COPD is a heterogeneous lung condition characterised by chronic respiratory symptoms (dyspnoea, cough, sputum production and / or exacerbations) due to abnormalities of the airways (bronchitis, bronchiolitis) and / or alveoli (emphysema) that cause persistent, often progressive airflow obstruction."

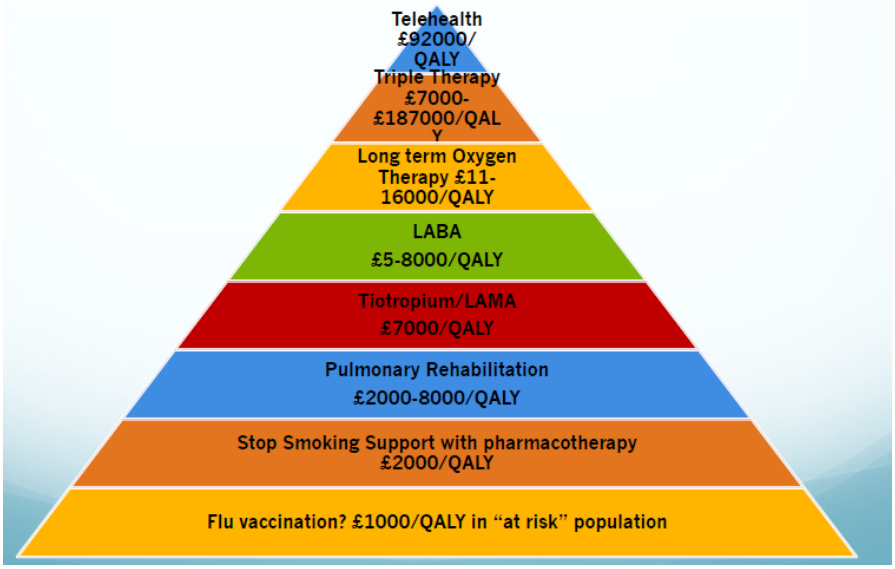
Diagnosis
NICE NG 115 states: *"The diagnosis of chronic obstructive pulmonary disease (COPD) depends on thinking of it as a cause of breathlessness or cough. The diagnosis is suspected on the basis of symptoms and signs and is supported by spirometry."*

Goals of treatment for stable COPD (GOLD 2024)

1. **Reduce symptoms:**
   - Relieve symptoms
   - Improve exercise tolerance
   - Improve health status
2. **Reduce risk:**
   - Prevent disease progression
   - Prevent and treat exacerbations
   - Reduce mortality

Smoking cessation
Encourage exercise
Encourage healthy diet and weight
Refer for pulmonary rehabilitation
Vaccinations
Appropriate Inhaled treatment
Written self- management plan and support

The pyramid of value for COPD interventions:
Estimates of cost per quality adjusted life year gained.
Ref. London Respiratory Network with The London School of Economics



COPD: Diagnosis and Assessment

Age > 35 years + **At least one risk factor:** smoker, ex-smoker, occupational exposure, air pollution, genetics (alpha[1] –antitrypsin deficiency)

Symptoms: typical - exertional dyspnoea, chronic cough, regular sputum, frequent winter bronchitis, wheeze. **Other -** weight loss, exercise intolerance, ankle swelling and fatigue.

Medical History:

Check for asthma - documented reversibility *(variation in FEV_1 over time, at least 400ml) / diurnal variation in PEFR, at least 20%),* eosinophils$^{\beta}$ > $0.3x10^9$, history of rhinitis, atopic eczema, nasal polyps, variable breathlessness, exposure to risk factors, exacerbations, family history, co-morbidities, psychological factors and signs of respiratory failure or right heart failure.

$^{\beta}$Blood eosinophils: measure baseline when patient is feeling well.
Levels may vary if the patient is feeling ill / treatment with **oral** corticosteroids / day to day variation / co-morbidities.
Assess historical records.

Asthma & COPD likely?
See pharmacological management algorithm.
Seek specialist advice if required

Check:

Spirometry *quality assured*.
Chest x-ray, BNP *(to rule out other causes of dyspnoea)***, BMI, FBC, U&Es, HbA1c, pulse oximetry** *(if cyanosis or cor pulmonale),*

COPD Diagnosis is confirmed if post-bronchodilator FEV_1 / FVC <0.7
NB fixed cut off of <0.7 may lead to over-diagnosis in the elderly and under-diagnosis in younger subjects[3]

Assessment of airflow limitation

(via spirometry result)
For prognosis & assessing exacerbation risk

FEV_1 predicted

Stage 1.	**Mild**	**>80%**
Stage 2.	**Moderate**	**50 – 79%**
Stage 3.	**Severe**	**30 – 49%**
Stage 4.	**Very Severe**	**< 30%**

REFER

Check exacerbation history

For prognosis & guiding treatment

Infrequent: 0 – 1 *not leading* to hospital admission, *in last 12 months*
Frequent: ≥ 2 OR ≥ 1 *leading to* hospital admission, *in last 12 months*

Assessment of symptoms and risk of exacerbations

1. Medical Research Council (MRC) Dyspnoea Scale 1-5 (= GOLD mMRC 0-4)
2. COPD assessment test (CAT) www.catestonline.org

For guiding treatment

Significant breathlessness if MRC ≥ 3 and symptom burden if CAT ≥ 10

Follow guidelines overleaf:

1. Management & reducing risk of exacerbations – *for ALL patients*
2. Pharmacological management – *see algorithm*
3. Management of exacerbations & good housekeeping tips

Refer for specialist opinion if: diagnostic doubts, dysfunctional breathing, very severe COPD, excessive cough, age< 40 years, FH alpha-1 antitrypsin deficiency, oxygen assessment *(if pulse oximetry <92%*), cor pulmonale, lung cancer suspected, bullous lung disease, lung volume reduction surgery or transplant, < 50 years of age and degree of symptoms out of kilter with lung impairment. Recurrent infections or exacerbations when on appropriate therapy.

COPD: Management and Reducing Risk of Exacerbations

- **Improve** care planning for early recognition
- **Reduce** unscheduled care in the Practice
- **Reduce** unplanned admissions

SIX KEY AREAS

ONE
Immunisation

- **Annual** flu vaccine
- **Annual COVID** vaccine
- **'One off'** pneumonia vaccine
- **'One off'** RSV vaccine *(age 75 - 80yrs only)*

TWO
Lifestyle Advice

- Active support to **quit smoking***
- **Eat well and keep a healthy weight****
- **Exercise****

THREE
Assessment and Encouragement for Pulmonary Rehabilitation***
Also consider nearest
A+LUK Support Group

- **If Symptomatic breathlessness**
- ≥ 1 admission in last 12 months
- A & E attendance
- post exacerbation / admission and after 12 months

FOUR
Self-management Education and Support
COPD Self-Management
Action Plan [A+LUK], Norfolk and Waveney self-management plan and Information [A+LUK]

- Written self-management plan / COPD app *e.g. myCOPD*
- Rescue medication, ***if appropriate***
  See COPD Rescue Packs: Quick Ref. Guide
- Exacerbation risk reduction
- Contact details for key clinicians

FIVE
Optimal Guideline Based Therapy
(see overleaf)

- Review inhaler technique
- Education and training
- Consider alternative devices / spacers *(if appropriate)*

SIX
Very severe COPD - Supportive Care

- Review for housebound patients
- Referral to specialist services / virtual ward / weekly dial in
- Social services /carer assessment
- Benefits
- Oxygen assessment *(if appropriate)*

***** **Smokefree Norfolk https://smokefreenorfolk.co.uk/ Waveney: https://feelgoodsuffolk.co.uk/stop-smoking/**
**** Asthma + Lung UK support resources https://www.asthmaandlung.org.uk**
***** Pulmonary Rehabilitation - Norfolk (Norfolk Community Health & Care NHS), GYW Pulmonary Rehabilitation Service (BOC) (East Coast)**

Norfolk and Waveney COPD Pharmacological Management

Newly diagnosed confirmed by spirometry [1,2,6], & local specialist opinion

Improving lives together
Norfolk and Waveney Integrated Care System

Review *(at least annually):* **stop smoking, lifestyle, vaccinations, pulmonary rehabilitation, co-morbidities, inhaler technique, self-management plan.**

Predominant Breathlessness

CAT < 10, ≤ *1 exacerbation per year*, no hospital admissions

SABA - use as needed

If SABA required daily / MRC ≥ 2, CAT ≥ 10

LABA + LAMA (single device)

No benefit / worsening symptoms

Predominant Exacerbations

≥ 2 or ≥ 1 exacerbation per year requiring hospital admission, or CAT ≥10. Eosinophils[β] < 0.3x10[9]

SABA - use as needed

PLUS

LABA + LAMA (single device)

No benefit, worsening symptoms / exacerbations

Asthmatic features / likely steroid responsiveness

Blood eosinophils[β] > 0.3x10[9] [1],variation in FEV_1 over time *(at least 400ml)* / diurnal variation in peak expiratory flow *(at least 20%)*

SABA - use as needed

PLUS

LABA + LAMA + ICS*
Single inhaler triple therapy (SITT)

No benefit, worsening symptoms / exacerbations

Consider step down if appropriate, see: PCRS: Stepping down ICS in COPD

Review diagnosis and ensure optimisation of non-pharmacological / pharmacological management
NB There may be a long wait for specialist opinion. Consider accessing advice via weekly 'dial in' with local specialist(s)

REFER for specialist opinion

Consider referring for specialist opinion

Blood eosinophils[β] < 0.1 x 10^9 (1)

Blood eosinophils[β] > 0.1 x 10^9 (1)

Offer 3 month trial **LABA + LAMA + ICS* SITT**

IF NO IMPROVEMENT: step back down to LABA+LAMA / REFER for specialist opinion

[β]**Blood eosinophils**: Baseline when patient is well. Levels may vary if the patient is feeling ill / treatment with oral corticosteroids / day to day variation / co-morbidities. Assess historical records.

SABA: Short Acting Beta Agonist **LABA:** Long Acting Beta Agonist **LAMA:** Long Acting Muscarinic Antagonist **ICS:** Inhaled Corticosteroid

COPD: Pharmacological Management – inhalers[5]

See Norfolk and Waveney NetFormulary & COPD inhaler types & devices for other inhalers licensed for COPD if those listed below are not appropriate

Consider the Global Warming Potential of *overall management* i.e. aim to reduce / prevent exacerbations and hospital visits , as well as considering inhaler type and adherence (avoid waste). Also see Greener Respiratory Healthcare [PCRS]. Dry Powder Inhaler (**DPI**), Soft Mist Inhaler (**SMI**), pressurised Metered Dose Inhaler (**pMDI**)

SABAs

DPI

Easyhaler® salbutamol
100mcg two doses as required
200mcg one dose as required

Ventolin Accuhaler® 200mcg
(salbutamol)
One dose as required

pMDI**

Salamol® cfc free 100mcg
(salbutamol) **two** puffs as required

LAMA + LABA

DPI

#Anoro Ellipta® 55 / 22mcg
Umeclidinium / vilanterol: **one** dose **once** daily

Duaklir Genuair® 340 / 12mcg
Aclidinium / formoterol: **one** dose **twice** a day

Ultibro Breezhaler® 85 / 43mcg
Glycopyrronium / indacaterol: **one** dose **once** daily

SMI

Spiolto Respimat® 2.5 / 2.5mcg
Tiotropium / olodaterol: **two** puffs **once** daily

p MDI**

#Bevespi Aerosphere® 7.2 / 5mcg
Glycopyrronium / formoterol: **two** puffs **twice** a day

ICS* + LABA + LAMA

DPI

#Trelegy Ellipta® 92 / 22 / 55mcg
fluticasone ***furoate*** / vilanterol / umeclidinium: **one** dose **once** daily

Trimbow® NEXThaler 88 / 5 / 9 mcg
extra-fine beclomethasone / formoterol / glycopyrronium: **two** doses **twice** a day

pMDI**

Trimbow® 87 / 5 / 9 mcg
extra-fine beclomethasone / formoterol / glycopyrronium: **two** puffs **twice** a day

#Trixeo Aerosphere 160 / 5 / 9mcg
budesonide / formoterol / glycopyrronium: **two** puffs **twice** a day

Mucolytics. *Consider:* if chronic sputum producing cough. Trial as acute treatment dose for 4 weeks. **If no improvement: STOP**.
If effective: continue with maintenance dose. *Consider using in winter months only*. **Mucolytics do not prevent exacerbations but *may* help to reduce the number**

***Inhaled Corticosteroids** Long term side effects:

- Osteoporosis – *consider fracture risk*.
- Diabetes
- Cataracts
- Non-fatal pneumonia – small, *but real,* increased risk

 # Device consistency preferred when stepping up / down between LAMA / LABA *(all £32.50)* **and ICS / LABA / LABA** *(all £44.50)*

Inhalers

- Most suitable device for the patient
- Consistency of device type
- Check technique *at each review*.
- Before changing treatment *always* check adherence.
- Prescribe by brand to reduce risk of dispensing different devices

LAMAs: cautions
High CV risk, recent MI / arrhythmias, unstable CHD / hospitalisation for heart failure. Angle closure glaucoma. Prostatic hyperplasia. Bladder outflow obstruction. Moderate to severe renal impairment *(increased plasma levels)*

****Spacers**
Use p MDIs with spacers to improve drug delivery
KM Bulletin 18 Spacers MIMs online inhaler table Rightbreathe.com

COPD: Management of Exacerbations and Good Housekeeping Tips

NICE NG 115[2] , NICE CKS COPD[3] & local specialist opinion

What is an acute exacerbation of COPD?

- An exacerbation is a sustained acute onset worsening of the person's symptoms from their usual stable state, which goes beyond their normal day-to-day variations.
- Commonly reported symptoms include:
  - Worsening breathlessness, cough, increased sputum production and change in sputum colour**.**
  - The change in these symptoms often necessitates a change in medication.

Assessing an acute exacerbation: physical signs of a severe exacerbation,

- Acute confusion
- Marked reduction in activities of daily living
- Marked dyspnoea and tachypnoea, pursed-lip breathing, use of accessory muscles at rest.
- New-onset cyanosis or peripheral oedema.
- Measure the person's temperature and examine the chest.
- **Check pulse oximetry and consider the need for hospital admission / management via virtual ward**
- Do not send sputum samples for culture routinely

Self-management plan: provide a structured written action plan

Action Plan [A+LUK], Norfolk and Waveney self-management plan and Information [A+LUK])

- How to recognise when COPD is getting worse
- **How to increase use of SABA** and, if no response who to contact and when

Rescue pack See COPD Rescue Packs: Quick Ref. Guide *If patient has one, provide written information:*

- To start oral corticosteroid if they have a significant increase in breathlessness interferes with activities of daily living
- To start antibiotics if sputum becomes discoloured or increases in volume, or clinical signs of pneumonia
- Who to contact if they start treatment, or are uncertain about whether to start treatment

Follow up:

- **During acute episode** depends on clinical judgment and severity of illness
- **Once clinically stable**: e.g. 6 weeks after onset of exacerbation
- Optimise medication and check inhaler technique to reduce risk of further exacerbations
- **Consider referral /re-referral for pulmonary rehabilitation** *post exacerbation / admission and after 12 months*
- Review self-management plan. *Assess if acute supply of rescue pack is needed?*

Repeated, or single prolonged (post two antibiotic courses), exacerbations:

- Collect **one early morning sputum sample** to test.
- Consider bronchiectasis.

RESCUE PACK (SOS medication) CONTENTS [4, 6] Oral corticosteroid + Antibiotic			
Drug, Form, Strength	**Dose (Adult)**	**Quantity**	**Other information**
Prednisolone 5mg tablets	**30mg** (6 tablets) once daily for 5 days	30	*As per updated NG 115 July 2019*
Amoxicillin 500mg capsules	500mg three time a day for 5 days*	15	*In simple uncomplicated COPD exacerbations 5 days is sufficient, *in patients with repeated infections consider longer course* **guided by sensitivities** **Co-amoxiclav:** Increased risk of ***c.difficile*. Risk factors include:** • *co-morbid disease* • *severe COPD* • *frequent exacerbations, antibiotics in last 3 months*
OR Doxycycline capsules 100mg	200mg stat then 100mg once daily for total 5 days*	6	
OR Clarithromycin 500mg tablets *(or penicillin allergy)*	500mg twice daily for 5 days*	10	
Co-amoxiclav *(only if resistance to other options)*	625mg three times a day for 5 days	15	

Good Housekeeping Tips for Managing COPD in Primary Care

Have a **designated** GP & nurse **lead** for **respiratory** diseases (**DRL**)

The following recommendations include features which may be considered outstanding by CQC

- **New patient opportunistic screening**. LTC clinics on smokers ≥ 35 years with cough or regular chest infections. Consider using a questionnaire. Use handheld spirometer to check lung age.
- **Respiratory Reviews** should *be of sufficient length for a full review. The patient should have a clear understanding of their condition, how to use their medication and their self-management plan.*
- The clinician performing your reviews should be competent e.g. **ideally** have (or be working towards) the **relevant 'Education for Health Diploma',** or at least have completed other relevant training, *for your COPD review to be adequate & safe (PCRS Fit to Care)*
- **Aim to review exacerbations or admissions within 3 weeks** *(ideally 2 following hospital discharge)* by **DRL**, this includes the following: *OOH / A&E / paramedic contacts and admissions / community nurses*
    - set up scanning protocol looking for following words: *COPD, bronchitis, asthma, pneumonia, LRTI in hospital discharges /OOH report /A&E reports / paramedic/community nurse documentation*
    - Discuss referral for pulmonary rehabilitation with the patient
- **Ensure that reception staff are aware** that when patients with a COPD diagnosis present for urgent appointment, *they should have an assessment the same day (which could be via telephone), by a clinician with suitable experience.*
- **Review reliever (blue) inhaler**, flexible dosing is recommended. Ensure directions reflect this as patients may require higher doses during an exacerbation. More than 2 inhalers may be required per month for COPD patients.
- Many patients with COPD do not require inhaled corticosteroids. PCRS: Stepping down ICS in COPD
- **Review self-management plans (SMPs)**
- At every review assess suitability for SOS medication for an exacerbation of COPD as per their SMP, ensure they have been seen by the **DRL** within 3 weeks from onset of exacerbation. **SOS medicines should NOT be on repeat.**
- **Check inhaler technique at EVERY REVIEW**
- Ensure patients collecting inhalers from local pharmacies have inhaler technique checked.
- ***If the patient is a dispensing patient*** ensure that inhaler technique, and reviewing their understanding of the SMP, is part of the Dispensary Review of the Use of Medicines (DRUM)

Useful read code descriptions:

No of COPD exacerbations in the last year	Issue of COPD rescue pack
Pulmonary Rehabilitation	Smoking cessation advice
Referral to Pulmonary Rehabilitation	Referral to smoking cessation
COPD Self-Management Plan given	Admit COPD emergency

References:

1. Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2024
2. NICE NG 115 COPD July 2019
3. NICE CKS COPD Sep 2024
4. 'Guide to Performing Quality Assured Diagnostic Spirometry' 2013
5. Norfolk and Waveney NetFormulary
6. Primary Care Respiratory Society UK (PCRS)
7. N&W Antimicrobial Guidance (March 2024)