

Chronic Obstructive Pulmonary Disease (COPD)

Norfolk and Waveney Primary Care Guideline

Based on NICE NG 115 July 19 ², GOLD 2024¹, PCRS⁶, 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."*

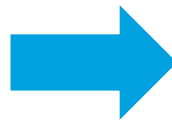
Goals of treatment for stable COPD (GOLD 2024)

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

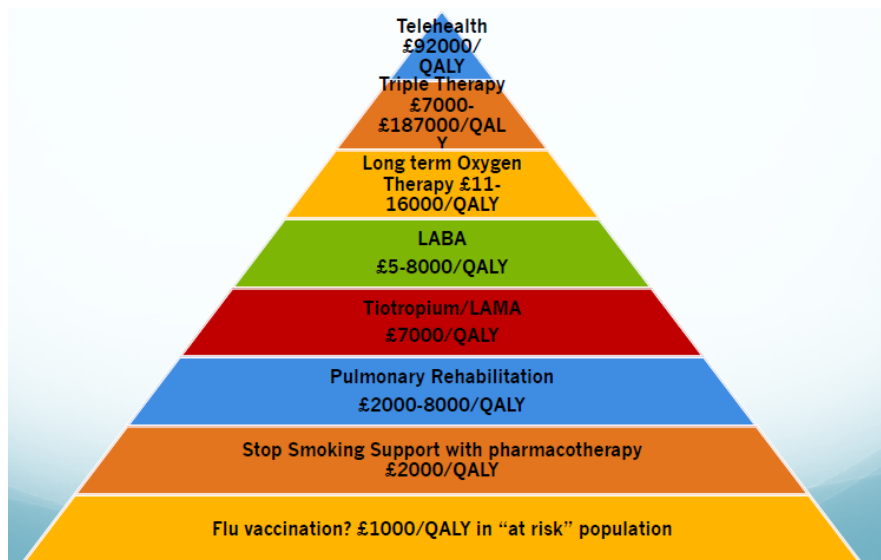
Vaccinations

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 (alpha¹ –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 FEV₁ over time, at least 400ml) / diurnal variation in PEF, at least 20%, eosinophils^β > 0.3x10⁹, 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.

βBlood 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 FEV₁ / FVC < 0.7
NB fixed cut off of <0.7 may lead to over-diagnosis in the elderly and under-diagnosis in younger subjects³

Assessment of airflow limitation

(via spirometry result)

For prognosis & assessing exacerbation risk

FEV₁ 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>

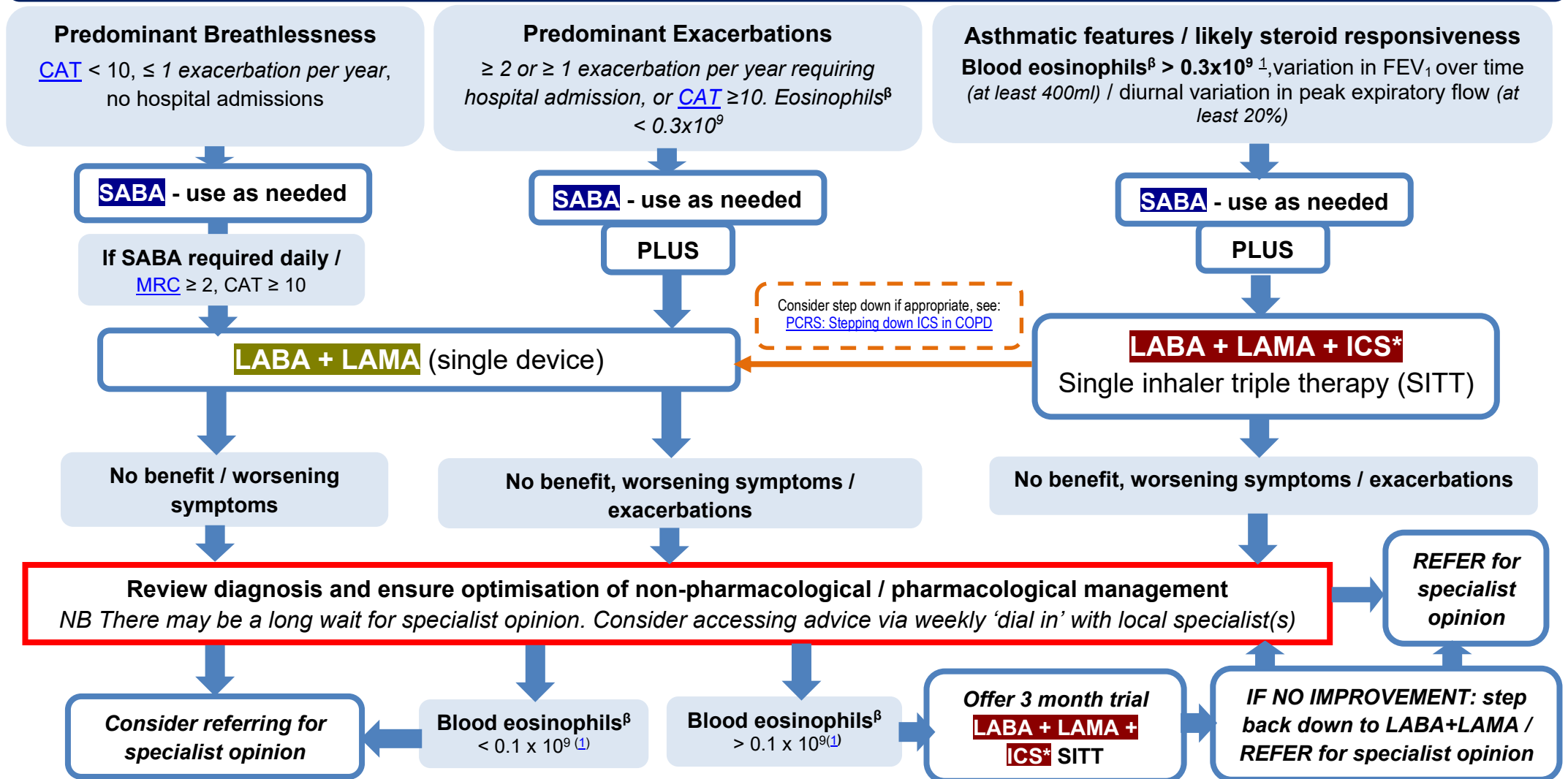
*** Pulmonary Rehabilitation - Norfolk ([Norfolk Community Health & Care NHS](#)), GYW [Pulmonary Rehabilitation Service \(BOC\) \(East Coast\)](#)

Norfolk and Waveney COPD Pharmacological Management

Newly diagnosed confirmed by spirometry ^{1,2,6} & local specialist opinion



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



^βBlood 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 – inhalers⁵

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
Acridinium / 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**

pMDI**



#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

**Spacers

Use p MDIs with spacers to improve drug delivery

[KM Bulletin 18 Spacers](#) [MIMs online inhaler table](#) [Rightbreathe.com](#)

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*)

COPD: Management of Exacerbations and Good Housekeeping Tips

[NICE NG 115²](#) , [NICE CKS COPD³](#) & 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 4.8			
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, <i>in patients with repeated infections consider longer course guided by sensitivities</i> Co-amoxiclav: Increased risk of c.difficile . Risk factors include: <ul style="list-style-type: none"> • 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
 Pulmonary Rehabilitation
 Referral to Pulmonary Rehabilitation
 COPD Self-Management Plan given

Issue of COPD rescue pack
 Smoking cessation advice
 Referral to smoking cessation
 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 \(March 2024\)](#)