Primary Care Management of COPD

Document history:

Version	Date	Main Changes/Comments
1	17/9/21	Changes to guidance as per NICE NG115 in consultation with primary, secondary and community respiratory specialists.
2	21/9/21	Alterations made as per comments from Dr Banik
3	24/9/21	Alterations made as per comments from A. Scott (Resp nurse consultant) EKHFT
4	8/10/21	Alterations made as per comments from Virgincare respiratory nurses.
5	26/10/21	Comments as per JFG
6	29/10/21	Comments as per IRDN
7	6/12/21	Comments Dr Baghai-Ravary EKHFT
8	1/4/24	Review and update of guidance as per GOLD 2023/24
9	15/5/24	Alterations as per comments from Helen Ramsey and Louise Robertson
10	30/5/24	Alterations as per comments from Ana Ionita
11	27/6/24	Alterations as agreed by Dr Baghai-Ravary
12	18/09/24	Alterations as agreed by reps at engagement session 03/09/2024
13	08/01/25	Alterations as per comments made by HCP Clinical Advisers(when to contact 999, steroid card use, chest x-ray referral) (Dr Reza Mehr-Ghorbani, Dr Min Ven Teo & Dr Purnima Sharma)

Symptoms of COPD and differential diagnosis

COPD is characterised by chronic dyspnoea and/or chronic cough, with 30% of patients having excess sputum production. Symptoms vary from day to day and are characterised by:

Dyspnoea that is: • **Progressive over time** • **Is worse with exercise.** • **Persistent**	**Risk factors:** • **Smoking** • **Occupational hazards** • **Low birthweight or premature birth** • **Childhood respiratory infections**
Chronic cough that: • **Maybe intermittent** • **Maybe unproductive**	

Differential diagnosis:

Chronic cough and breathlessness	**Asthma**	• **Variable airflow obstruction** • **Symptoms worse at night/early morning** • **Family history** • **Other allergic symptoms**
	Bronchiectasis	• **Large volumes of sputum** • **Purulent sputum** • **Chest X-ray shows bronchial dilation**
	Heart Failure	• **Chest X-ray shows dilated heart and pulmonary oedema.** • **No airway obstruction on pulmonary tests**
Chronic cough	• **Allergic Rhinitis** • **Postnasal drip** • **Gastro-intestinal reflux** • **Reaction to medication (for example ACE inhibitors)**	

Diagnosing COPD

When **diagnosing COPD** use the MRC scale to gauge the degree of breathlessness. Undertake **spirometry** to confirm diagnosis (FEV1/FVC ratio < lower limit of normal (LLN) will confirm diagnosis). Consider a diagnosis of COPD in younger people who have symptoms of COPD, even when their FEV1/FVC ratio is above LLN**. At the time of diagnosis also complete: a chest X-ray, and FBC and BMI. Consider eosinophil levels and history of eosinophil levels, which will guide future steroid responsiveness.**

mMRC/MRC dyspnoea scale (CHOOSE ONE ONLY)		
mMRC Grade 0	MRC Grade 1	I am not troubled by breathlessness except on strenuous exercise
mMRC Grade 1	MRC Grade 2	I get short of breath when hurrying on the level or walking up a slight hill.
mMRC Grade 2	MRC Grade 3	I walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking on my own pace on the level.
mMRC Grade 3	MRC Grade 4	I stop for breath after walking about 100 metres or after a few minutes on the level.
mMRC Grade 4	MRC Grade 5	I am too breathless to leave the house, or I am breathless when dressing or undressing.

Diagnosis of COPD confirmed by FEV1/FVC < LLN		
GOLD 1	Mild	FEV1 ≥ 80% predicted
GOLD 2	Moderate	50% ≤ FEV1 < 80% predicted
GOLD 3	Severe	30% ≤ FEV1 < 50% predicted
GOLD 4	Very Severe	FEV1 ≤ 30%

Early detection

Patients at high risk of developing COPD should be considered for diagnostic screening using spirometry. These include patients with early life disadvantage (maternal smoking, low birth weight and preterm birth), a >20 pack year smoking history and recurrent chest infections.

OPTIMAL MANAGEMENT

- Offer treatment and support or refer to stop smoking

([One You smokefree | Kent Community Health NHS Foundation Trust (kentcht.nhs.uk)](#)and [Stop smoking support | Medway Council](#))

- Offer pneumococcal and influenza vaccinations, covid vaccination and RSV vaccinations
- Offer pulmonary rehabilitation if MRC is 3 or above or MRC 2 AND Breathlessness
- Co-develop a personalised self-management plan for exacerbations using rescue pack (if eligible)
- Optimise treatment for comorbidities (including mental health)
- **Complete physical observation of patient and offer inhaler technique review at every consultation**

DIGITAL SOLUTIONS TO SUPPORT SELF MANAGEMENT

- **My mhealth COPD app- COPD respiratory rehabilitation and Self-Management.**

Benefits of App Include:

▪ self-directed care planning ▪ assessment & diagnostics ▪ virtual pulmonary rehab

BREATHING AND MUCUS CLEARANCE

- **Provide all patients newly diagnosed with COPD with resource to assist in self -management** Living_with_COPD_A5_Bk9_V5_digital.pdf (shopify.com)
- **Discuss breathing techniques** How can I manage my breathlessness? | Asthma + Lung UK (asthmaandlung.org.uk) (Relaxed breathing, rectangle breathing, Blow as you go, Pursed lip breathing **Appendix 1**)
- **Discuss mucus clearance methods and provide resource link or print for patient** Active cycle of breathing technique | Kent Community Health NHS Foundation Trust (kentcht.nhs.uk)

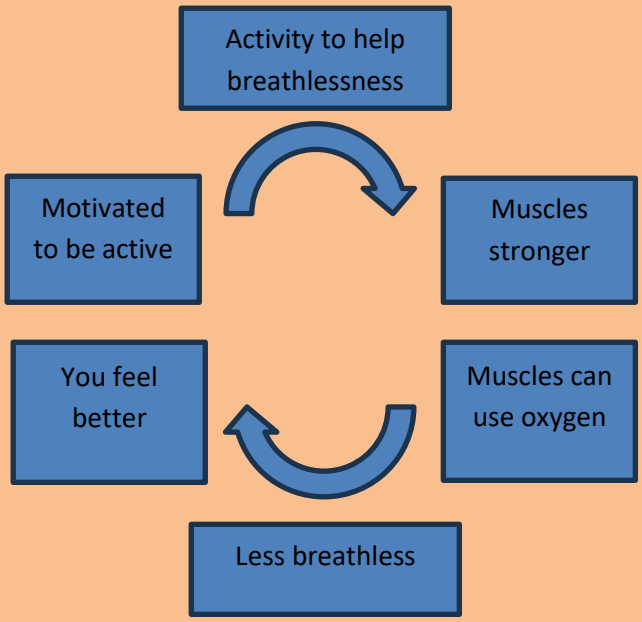
Staying Active

Patients with moderate to severe COPD are often apprehensive of household activities, due to fear of breathlessness. Keeping active will reduce disease progress.

Encourage patients to stay active by:

- Planning their day and pacing themselves.
- Break tasks down into small activities.
- Use a towelling robe after showering, as they will use less energy than drying with a towel.
- Hold a battery fan 6 inches from the face to reduce breathlessness.
- Put items you need in easy reach.
- Keep clothes loose and wear clothes and shoes that are easy to take on and off.
- Use a wheeled chair to rest between activity.
- Do not be afraid to ask for help.
- If normal tasks become too difficult, seek medical advice. Treatment plan may need to be intensified.

Positive Activity Cycle



DEPRESSION AND ANXIETY

- Depression and anxiety are frequent and important co-morbidities in COPD.
- Simple anxiety management techniques and breathing control should be advised.
- Severe anxiety and depression require treatment in the form of counselling and medication to limit the impact on breathlessness and mobility.
- Consider referral to a **social prescriber** to improve general wellbeing and physical activity.
- Consider referral to CBT following completion of anxiety and depression assessment tools Talking therapies in Kent and Medway | We Listen (kmtalkingtherapies.co.uk)

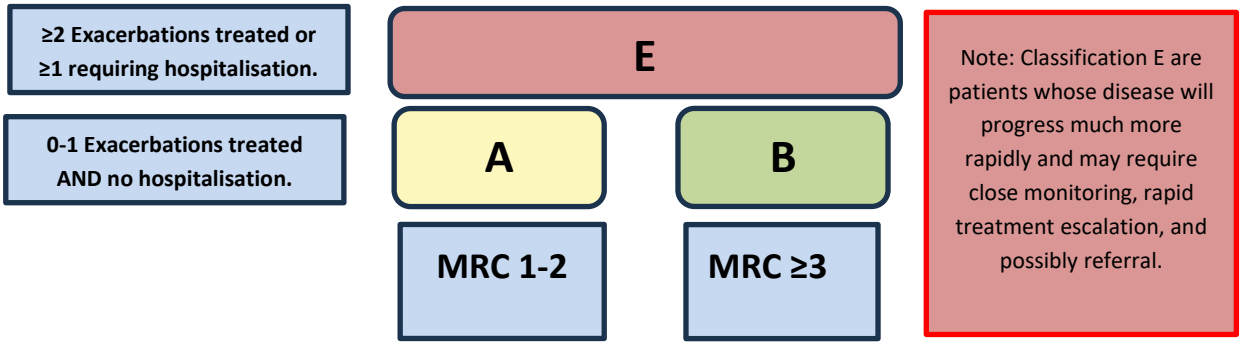
NUTRITION

- 1 in 5 patients in primary care, with COPD are at risk of malnutrition.
- Normal BMI is 20-25, and should be assessed at diagnosis of COPD, and ideally annually.

Refer people for dietetic advice if they have a BMI that is abnormal (high or low) or changing over time.

Treating COPD

The GOLD classification has changed to only 3 sub-sections, A, B and E, to simplify patient classification.



TREATMENT CONSIDERATIONS

- Remember the importance of considering a history of asthma. Gather a full medical history and examine historical eosinophil counts (from a full blood count FBC).
- **Any patient with a history of exacerbation (2 in the community or 1 hospitalised within last year), should be considered for:**
  LABA/ LAMA/ICS therapy, if eosinophils >0.3 x 10^9/L
  LABA/LAMA, if eosinophils <0.3 X 10^9/L: If still exacerbating, consider LABA/LAMA/ICS
- **LABA/ICS is no longer deemed suitable for the treatment of COPD**
- If symptoms persist, in spite of concordance with initial inhaled therapy, patients with an eosinophil count of 0.1-0.3 x 10^9/L CAN now be considered for **a 3-month trial of triple therapy**. If no improvement is seen treatment should be **de-escalated to LABA/LAMA** and referral considered to rule out differential diagnosis.
- Patients who require long term high dose inhaled corticosteroids and those who require repeated courses of oral corticosteroids will need to be issued with a steroid treatment card and a steroid emergency card

INHALER CHOICES

THIS IS NOT INTENDED TO REPLACE ALL POTENTIAL FORMULARY AND SECONDARY CARE INHALER CHOICES, BUT TO SHARE BEST PRACTICE WHEN CONSIDERING PATIENTS JOURNEY THROUGH INHALER PATHWAY.

When considering the most appropriate inhaler for a patient we need to consider several things:

- Patient's inspiratory flow- Dry Powder inhalers require greater respiratory effort, and this may not always be appropriate as disease progresses. Use In-check dial to assess and guide choice.
- Patient's ability to use the inhaler- Concordance with inhaled therapy is paramount to reduction in flare-ups and disease progression. Select an inhaler for which there is a similar inhaler device further along the pathway and ensure inhaler technique is rechecked at each review. If inspiratory flow reduces due to disease progression, ensure full inhaler training is provided again when switching from a DPI to an MDI. Full inhaler guidance is available at https://www.rightbreathe.com/
- Always prescribe by brand.
- SABA device should be matched to other inhalers (e.g. DPI to DPI) to ensure continuity and device adherence
- Where possible prescribe a DPI. MDIs have a high carbon footprint, and inhalers count for 3% of the NHS total carbon footprint.
- Encourage recycling of used and unwanted inhalers. Where a full recycling scheme is not available, encourage return to a pharmacy for incineration.
- If using an MDI remind patients that inhalers contain "overage", and an inhaler could be empty of therapeutic dose. Try to use MDI with a dose counter where possible.

Inhalers for COPD with breathlessness AND 0-1 treated exacerbations treated per year (none hospitalised)

Guidance page II of II

Consider Inspiratory flow, using **In-check dial**, to ensure appropriate choice of inhaler. It is important to consider the carbon footprint of inhalers. If supplying an MDI ensure the patient is also prescribed a **spacer**. **(The list of inhalers in this guidance is intended as a guide for new diagnosis. A full list of inhalers is available on the individual formularies across KMICB ***)**

Dry Powder Inhaler (DPI):	**Metered Dose Inhaler (MDI) and Soft Mist Inhalers (SMI)**
Requires HIGHER inspiratory Flow, Technique: Steady/forceful and deep	Requires LOWER inspiratory Flow, Technique: Slow and Deep

COPD- GOLD CLASSIFICATION A

MRC Grade 1

i.e. **short of breath only on strenous exertion**

Bronchodilatiors

Group A patients should be offered bronchodilator treatment based on its effect on breathlessness.

This can be either a short- or a long-acting bronchodilator.

DPI			MDI	
Ventolin Accuhaler® 1 puffs PRN (SABA)	Salbutamol Easyhaler (SABA)	Formoterol Easyhaler (LABA) 1-2 Puffs BD	Salamol® (SABA) 1-2 puffs PRN	Salmeterol (LABA) 2 inhalations BD

Inhalers for COPD with breathlessness AND 0-1 moderate exacerbations treated per year (none hospitalised)

Guidance page II of II

Consider Inspiratory flow, using **In-check dial**, to ensure appropriate choice of inhaler. It is important to consider the carbon footprint of inhalers. If supplying an MDI ensure the patient is also prescribed a **spacer**. **(The list of inhalers in this guidance is intended as a guide for new diagnosis. A full list of inhalers is available on the individual formularies across KMICB ***)**

Dry Powder Inhaler (DPI):	**Metered Dose Inhaler (MDI) and Soft Mist Inhalers (SMI)**
Requires HIGHER inspiratory Flow, Technique: Steady/forceful and deep	Requires LOWER inspiratory Flow, Technique: Slow and Deep

COPD- GOLD CLASSIFICATION B		
MRC Grade ≥2 i.e. short of breath when hurrying on the level or walking up a slight hill.		
LABA + LAMA with SABA prn		
DPI	SMI	MDI
Anoro Elipta® 1 inhalation each day (same time of day) 	Spiolto Respimat® 2 puffs once a day 	Bevespi Aerosphere® 2 puffs twice a day

Inhalers for COPD with >2 treated exacerbation OR 1 hospitalised exacerbation in 12 months

Consider Inspiratory flow, using **In-check dial**, to ensure appropriate choice of inhaler. It is important to consider the carbon footprint of inhalers. If supplying an MDI ensure the patient is also prescribed a **spacer**. **(The list of inhalers in this guidance is intended as a guide for new diagnosis. A full list of inhalers are available on the individual formularies across KMICB ***)**

Dry Powder Inhaler (DPI):	**Metered Dose Inhaler (MDI) and Soft Mist Inhalers (SMI)**
Requires HIGHER inspiratory Flow, Technique: Steady/forceful and deep	Requires LOWER inspiratory Flow, Technique: Slow and Deep

COPD- GOLD CLASSIFICATION E						
Blood eosinophils **<0.3 x 10^9/L** in last 12 months			Blood eosinophils **≥0.3 x 10^9/L** or higher in last 12 months			
LABA/LAMA, and SABA prn -see previous page			LABA/LAMA/ICS, and SABA prn -see previous page			
DPI	SMI	MDI	DPI		MDI	
Anoro Elipta® 1 inhalation each day (at the same time of day)	Spiolto Respimat® 2 puffs once	Bevespi Aerosphere® 2 puffs twice a day	Trelegy Elipta® 1 puff each day (at the same time each day)	Trimbow® 88/5/9 2 inhalations twice a day	Trimbow® 87/5/9 2 puffs twice a day	Trixeo Aerosphere® 2 puffs twice a day

If the patient is <u>still exacerbating despite concordance with LABA/LAMA AND blood eosinophils are at least 0.1 x 10^9/L (in last 12 months)</u> OR if there is a history of asthma, escalate to LABA/LAMA/ICS.

Once escalated to LABA/LAMA/ICS therapy and <u>patient is still exacerbating despite good concordance</u>, consider switching to an alternative LABA/LAMA/ICS therapy, and if no improvement refer to secondary care

Primary Care Management of COPD

MONITORING AND FOLLOW UP

- Review symptoms including dyspnoea.
- Ensure all patients have a self-management plan. (Appendix 5)
- Review exacerbation risk and number of flare ups in the last 12 months.
- Consider need for COPD rescue pack (COPD Rescue pack guidance available on individual HCP formularies. Please visit local formularies via link DGS, Medway and Swale West Kent, East Kent)
- Assess inhaler technique and adherence (signpost patient to https://www.rightbreathe.com/)
- Discuss concerns, issues and side effects.
- Adjust therapy including de-prescribing, switching device or inhaler molecule of same drug class or adding to therapy.
- Consider referral for Pulmonary Rehab (PR) if MRC is 3 and above OR MRC 2 AND Breathless.
- If symptoms are not controlled by current treatment consider treatment escalation or pro-BNP and ECG to rule out alternative diagnosis.

MANAGEMENT OF OTHER CO-MORBIDITIES

Consider:

- **CVD screening** (BNP, BP, Echocardiogram, lipid profile) even in the absence of cardiovascular symptoms given high co-existence of cardiac and pulmonary diseases.
- **Consider urgent Chest X-Ray *within 2 weeks*** for patients with rapid worsening of COPD symptoms, multiple exacerbations or any red flag symptoms.
- **Bone Protection:** review risk of Osteoporosis and consider bone density scan and bone protection.

PULMONARY REHABILITATION

- DGS and EK: KCHFT
  Whitstable and Tankerton Hospital 01227 594657 kchft.pulmonaryrehab@nhs.net
- Medway: MCH 0300 1233444 medch.respiratory@nhs.net
- Swale: HCRG 0300 2470400 vcl.dgss-ccc@nhs.net
- West Kent: MTW 01622 227583 mtw-tr.ICP-RESP@nhs.net

OTHER PHARMACOLOGICAL THERAPIES

- **The list of inhalers in this guidance is intended as a guide for new diagnosis and is not exhaustive. A full list of inhalers are available on the individual formularies across KMCCG ***(https://www.medwayswaleformulary.co.uk/, https://www.formularywkccgmtw.co.uk/, https://www.eastkentformulary.nhs.uk/ and https://www.dgsdvhformulary.nhs.uk/)**
- **Mucolytics** – These can be beneficial for some patients to improve mucus clearance**. Acetylcysteine 600mg effervescent tablets, one each day, is KMICB preferred option**. **NOTE:** these are not suitable for patients on a confirmed restricted sodium diet**. It is important to monitor efficacy and review within 3 months to assess benefit. If no benefit seen- STOP**
- **Oral Antibiotics** – For patients with frequent exacerbations **Azithromycin three times a week** may be added to therapy. **This should be initiated in secondary care**.
  If referring for Azithromycin, please include up to date ECG, Liver function test and sputum culture to speed referral process.
- **Phosphodiesterase-**4-inhibitors- **Roflumilast** is an add-on to bronchodilator therapy and is an option for treating severe COPD. **This should be initiated in secondary care. Not currently used widely in KMICB secondary care due to side effect profile.**
- **Oxygen-** Long term oxygen therapy (>15 hours per day has been shown to improve survival for those with severe hypoxia. Refer to community services for assessment if ≤92% when stable and at least 8 weeks post-exacerbation)

Specialist services: Community Respiratory Team or Secondary Care
<u>Community Services available to patients:</u>(Dependent on local area) ***Contact Community Respiratory teams to find out what services are available locally***. • Pulmonary rehabilitation • Oxygen assessment • Dietician referral • Community COPD service (depends on location)   o Might include acute flare service • Palliative care for end-of-life planning and care • Local COPD MDTs (where available)
<u>Consider Secondary Care referral if:</u> • Suspected lung cancer – 2ww • Suspected bronchiectasis • Rapid deterioration • Under 40 and/or FH alpha-1 AT deficiency • Emphysema that might benefit from LVRS • Frequent exacerbator despite optimised treatment • Possible candidate for lung transplantation • Poorly controlled asthma/COPD 'overlap' • Chronic respiratory failure/ Cor pulmonale/ Right heart failure

MANAGEMENT OF END-STAGE COPD

Prediction of life expectancy in "End-Stage COPD" can be difficult to define. Indications that can increase mortality risk are:

- More frequent exacerbations, particularly those requiring hospitalisation.
- Other co-morbidities, particularly cardiovascular or malignancy.
- Low BMI
- Poor lung function recorded by spirometry.

The management of patients who are defined as "End-Stage COPD" should focus on relieving symptoms and improving quality of life. This can be achieved by:

- Ensuring all patients have an "Advanced Care Plan" including discussions regarding resuscitation status if appropriate.
- Support from community respiratory teams and local palliative care teams.
- Early referral to local palliative care team
- Sharing non-pharmacological methods to reduce breathlessness such as breathing techniques and room ventilation.
- Providing emotional and psychological support for the patient and their families.
- Pharmacological support for anxiety and breathlessness.
- Assessing the need for oxygen.
- Assessing the need for nutritional support, following advice from local dieticians.

It is imperative that any patient who is defined to be "End-Stage" has this clearly defined in clinical records and this status should be reviewed at each annual review AND following any change in their symptoms or new exacerbation. Where opioids are being prescribed to assist with breathlessness it is important to review on-going need and effective dose regularly, and to counsel patients of the over-reliance on opioid medication and any that withdrawal should be managed carefully.

References

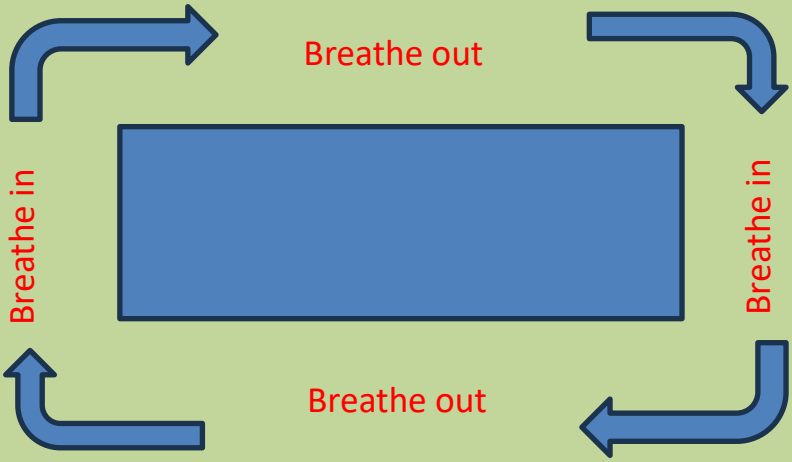
1. Chronic Obstructive Pulmonary Disease Management in over 16's: Diagnosis and Management. NICE NG11 **https://www.nice.org.uk/guidance/ng115/chapter/Recommendations#managing-stable-copd**
2. Symptoms suggestive of lung and pleural cancers. NICE CKS February 2021. **https://cks.nice.org.uk/topics/lung-pleural-cancers-recognition-referral/diagnosis/symptoms-suggestive-of-lung-pleural-cancers/**
3. Costs of switching to low global warming potential inhalers. An economic and carbon footprint analysis of NHS prescription data in England. Alexander J K Wilkinson, Rory Braggins, Ingeborg Steinbach, James Smith. BMJ Open Volume 9 Issue 10. https://bmjopen.bmj.com/content/9/10/e028763
4. NICE encourages use of greener inhalers. https://www.nice.org.uk/news/article/nice-encourages-use-of-greener-asthma-inhalers
5. GOLD pocket guide to diagnosis, management and prevention of COPD. 2023 report. 2023 GOLD Report - Global Initiative for Chronic Obstructive Lung Disease - GOLD (goldcopd.org)
6. Chronic Obstructive Pulmonary Disease Rescue Pack guidance for primary healthcare professionals: individual formularies (https://www.medwayswaleformulary.co.uk/media/1345/km-copd-rescue-pack-guidance-final-v-4.pdf , https://www.dgsdvhformulary.nhs.uk/media/1071/km-copd-rescue-pack-guidance-final-v-4.pdf , **https://www.eastkentformulary.nhs.uk/media/1656/km-copd-rescue-pack-guidance-final-v-4.pdf**, **https://www.formularywkccgmtw.co.uk/therapeutic-sections/respiratory-system/airways-disease-obstructive/**)
7. How can I manage my breathlessness? | Asthma + Lung UK (asthmaandlung.org.uk)
8. Diagnosis and Treatment of Early Chronic Obstructive Lung Disease (COPD) - PMC (nih.gov)
9. Opioids for breathlessness: a narrative review | BMJ Supportive & Palliative Care

Appendix 1- Breathing techniques

Relaxed breathing

1. Put one hand on your chest and the other on your stomach.
2. Close your eyes.
3. Slowly breathe in through your nose, with your mouth closed.
4. Count for as long as you can up to five.
5. The air will reach low into your lungs if you're relaxed, and your tummy will move out with your hand.
6. The hand on your chest should hardly move.
7. Breathe out through your nose, and your tummy will fall gently.
8. Gradually try to breathe more slowly. Your out breath should take longer than your in breath.

Rectangle breathing



Blow as you go

1. Breathe in before you make the effort. For example, before lifting a heavy bag.
2. Breathe out while you are making the effort. For example, while lifting the heavy bag.

Pursed lip breathing

1. Breathe in gently through your nose.
2. Purse your lips as if you are about to blow out a candle.
3. Breathe out with your lips in this pursed position. Imagine you are blowing out a candle or whistling when you breathe.
4. Blow out for as long as is comfortable.
5. Do not empty your lungs completely.

Appendix 2- Self-Management of Flare-ups Guide

Patient name	
Date of birth	
Date of issue:	
Practice Tel No. (to inform practice on use of rescue pack)	

If you have COPD you are at risk of getting exacerbations/flare up or chest infections when your symptoms get worse. Your COPD rescue medicines are a supply of standby medications to start if this happens before you are able to see your GP.

It is important to recognise the symptoms early as good treatment taken early can help you get better quicker and reduce further damage to your lungs. Always follow the directions on your medication.

WHEN YOU ARE WELL

KNOW

- How much you can do each day
- How your breathing is at rest and during activity
- What makes your breathing worse
- How much you cough and if you produce sputum, what colour is your sputum
- How often you use your reliever (blue inhaler)

LIFESTYLE TIPS

- Eat a balanced diet
- Stop smoking, avoid triggers
- Keep active, exercise as much as you can
- Take your medicines as prescribed
- Avoid running out of medication
- Ensure you have an annual review with your GP

WARNING SIGNS OF EXACERBATION

SIGNS	WHAT TO DO	IF NO RESPONSE AFTER 48HRS
• Breathlessness – more breathless than usual that interferes with daily activities • Increased volume of sputum (phlegm), is thicker or stickier than normal or it has changed colour to yellow or green	• Monitor your symptoms closely • Rest – allow more time for rest • Drink extra fluids and eat regular meals • Increase use of reliever inhaler to 2-4puffs every 4-6hours for 24hours	• For breathlessness: start rescue medication – oral prednisolone • For change in sputum: start rescue medication – antibiotics • For both symptoms: start prednisolone and antibiotics **Contact your GP surgery if you have used your rescue medication**

SEVERE SYMPTOMS

SIGNS	WHAT TO DO
• Very short of breath with NO response to reliever inhaler • Chest pain • High fever (above 38°C) • Feel agitated, panic or fear • Confusion or drowsiness • You develop any other symptoms of concern	**contact 111 or 999**

If you are using your rescue medication:
Continue with your usual medication and contact your GP surgery to book for a post-exacerbation review