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COPD Diagnosis and Management/The Role of the Breathe Service

Tom Walton – Clinical Team Leader

With all of us in mind.

Objectives

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- Discuss diagnosis and management of COPD
- Discuss how to help your patient's self manage effectively.
- Breathe service update

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The stats

Barnsley

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- Barnsley is ranked 43rd most deprived local authority in England. 1/3rd of Barnsley neighbourhoods are among the 20% most deprived areas in England (ONS 2024)
- Life expectancy for men 76.5 (England 79.1), for women 80.5 (83)
- Health life expectancy at birth for men 55.9 (62.6) years, for women 60.1 (63.1) years
- Under 75's mortality from respiratory disease is 10% higher in Barnsley than the national average, with 47.8 per 100,000 men, and 37.4 per 100,000 women. Preventable deaths are 27.6 per 100,000.
- 15.7% of the population of Barnsley are smokers compared to 12% for England (ONS 2024). Highest in 25-34 age group

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Why is it important?

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- COPD is a preventable disease.
- Avoidable death due to respiratory disease is 7 times higher in the most deprived areas of England compared to the least deprived. Related to smoking, air pollution, poor housing, occupational hazards, variation in healthcare quality and access.
- Hospital admissions due to respiratory conditions are a major factor in winter pressures faced by the NHS.

(Public Health England, 2019)

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Responsibility of healthcare professionals

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- understanding the risk factors and exposures that increase risk of respiratory illness, and providing advice to patients to reduce or avoid these exposures
- understanding the populations at risk, and the symptoms and signs of respiratory illness, in order to detect and diagnose these conditions early
- implementing best practice guidelines around the diagnosis and management of people with respiratory conditions
- referring patients for specialist services where appropriate, such as smoking cessation services and pulmonary rehabilitation
- providing personalised care to support individuals manage and live with their condition while maintaining high quality of life
- promoting uptake of the flu and pneumonia vaccinations among eligible groups

(Public Health England 2022)

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Case Study

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- John, 66 years old.
- Smoker- since late teens (5-16 years old) - 20 per day.
- Coal miner from age of 18 - 10 years on coal face. Worked in a warehouse since. Struggling with work for past 6 months due to shortness of breath.
- Noticed progressive breathlessness in last 2 years.
- Frequent coughs/cold particularly in winter.
- Productive cough, worse in the morning.
- Wheezy on mobilising into clinic room.

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Definition

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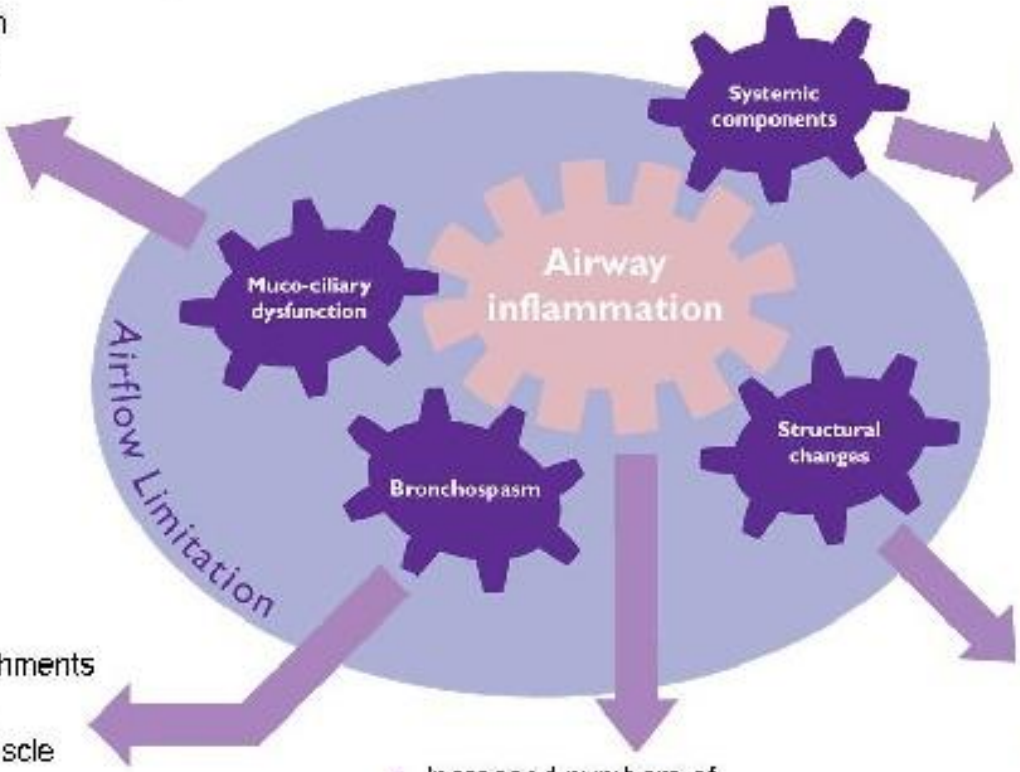
COPD as a heterogeneous lung condition characterized by chronic respiratory symptoms (dyspnea, cough, expectoration and/or exacerbations) due to abnormalities of the airways (bronchitis, bronchiolitis) and/or alveoli (emphysema) that cause persistent, often progressive, airflow obstruction. (GOLD 2025)

•**Chronic obstructive pulmonary disease (COPD)** is a common, treatable (but not curable), and largely preventable lung condition.

- It is characterised by persistent respiratory symptoms (such as breathlessness, cough, and sputum) and airflow obstruction (usually progressive and not fully reversible).
- Airflow obstruction results from chronic inflammation caused by exposure to noxious particles or gases (usually tobacco smoke but also from environmental and occupational exposures).(NICE 2025)

Pathophysiological features of COPD

- Mucus hypersecretion
- Reduced mucociliary transport
- Mucosal damage



- Poor nutritional status
- Reduced BMI
- Impaired skeletal muscle
  - weakness
  - wasting

- Loss of alveolar attachments
- Loss of elastic recoil
- Increased smooth muscle contraction

- Increased numbers of inflammatory cells/activation
- Elevated inflammatory mediators: IL-8, TNF-α, LTB-4 and oxidants
- Protease/anti-protease imbalance

- Goblet cell hyperplasia/ metaplasia
- Mucous gland hypertrophy
- Increased smooth muscle mass
- Airway fibrosis
- Alveolar destruction

IL = interleukin
LTB-4 = leukotriene B4
TNF-α = tumour necrosis factor- α

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Clinical Indicators for Considering a Diagnosis of COPD

Figure 2.1

Consider the diagnosis of COPD, and perform spirometry, if any of these clinical indicators are present:
(these indicators are not diagnostic themselves, but the presence of multiple key indicators increases the probability of the presence of COPD; in any case, spirometry is required to establish a diagnosis of COPD)

Dyspnea that is	Progressive over time Worse with exercise Persistent
Recurrent wheeze	
Chronic cough	May be intermittent and may be non-productive
Recurrent lower respiratory tract infections	
History of risk factors	Tobacco smoke (including popular local preparations) Smoke from home cooking and heating fuels Occupational dusts, vapors, fumes, gases and other chemicals Host factors (e.g., genetic factors, developmental abnormalities, low birthweight, prematurity, childhood respiratory infections etc.)

Differential Diagnosis of COPD

Figure 2.3

Diagnosis	Suggestive Features
COPD	Symptoms slowly progressive History of tobacco smoking or other risk factors
Asthma	Variable airflow obstruction Symptoms vary widely from day to day Symptoms worse at night/early morning Allergy, rhinitis, and/or eczema also present Often occurs in children Family history of asthma
Congestive heart failure	Chest X-ray shows dilated heart, pulmonary edema Pulmonary function tests indicate volume restriction, not airflow obstruction
Bronchiectasis	Large volumes of purulent sputum Commonly associated with bacterial infection Chest X-ray/HRCT shows bronchial dilation
Tuberculosis	Onset at all ages Chest X-ray shows lung infiltrate Microbiological confirmation High local prevalence of tuberculosis
Obliterative bronchiolitis	Can occur in children Seen after lung or bone marrow transplantation HRCT on expiration shows hypodense areas
Diffuse panbronchiolitis	Predominantly seen in patients of Asian descent Most patients are male and nonsmokers Almost all have chronic sinusitis Chest X-ray & HRCT show diffuse small centrilobular nodular opacities & hyperinflation

These features tend to be characteristic of the respective diseases, but are not mandatory. For example, a person who has never smoked may develop COPD (especially in LMICs where other risk factors may be more important than cigarette smoking).

Diagnosis

Spirometry

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Patients who present with at least one symptom, have a risk factor of COPD and are over the age of 35 should have a post bronchodilator spirometry (NICE 2018).

- If FEV1/FVC ratio < 0.7 (70%) & below patients LLN & FEV1 < 80% then a diagnosis of COPD can be confirmed. (ARTP 2023)

- If FEV1/FVC ratio < 0.7 (70%) but FEV1 > 80% a diagnosis of COPD can still be made if symptoms are present (NICE 2018).

N.B. Consider the age of the patient when interpreting spirometry results.

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Back to John

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- FEV1/ FVC Ratio is 45%- LLN 67%- Thoughts?
- FEV1- 1.81 litres (50% predicted) - LLN is 2.78L
- FVC- 4.01 litres (90% predicted)- LLN is 3.47L
- Negative reversibility.
- Technically acceptable and reproducible.

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Other points to consider

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COPD is confirmed in the context of **an appropriate clinical history, relevant exposure, and evidence of airflow limitation** on post-bronchodilator spirometry **(FEV1/FVC <0.7).**

When to consider asthma in someone with suspected COPD

- Marked symptom variability (day-to-day and/or diurnal)
- Dramatic response to bronchodilators (>200mls & 15% increase) **(note COPD patients can also exhibit significant reversibility).**
- Dramatic response to oral corticosteroids (symptoms and/or lung function)
- People can have both asthma and COPD features and should be treated with single inhaler triple therapy with the approach tailored to the dominant condition.

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Management

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Fundamentals

- Smoking Cessation
- Pulmonary Rehab
- Vaccination
- Inhaler technique
- Self management plan

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Smoking cessation: Who benefits?

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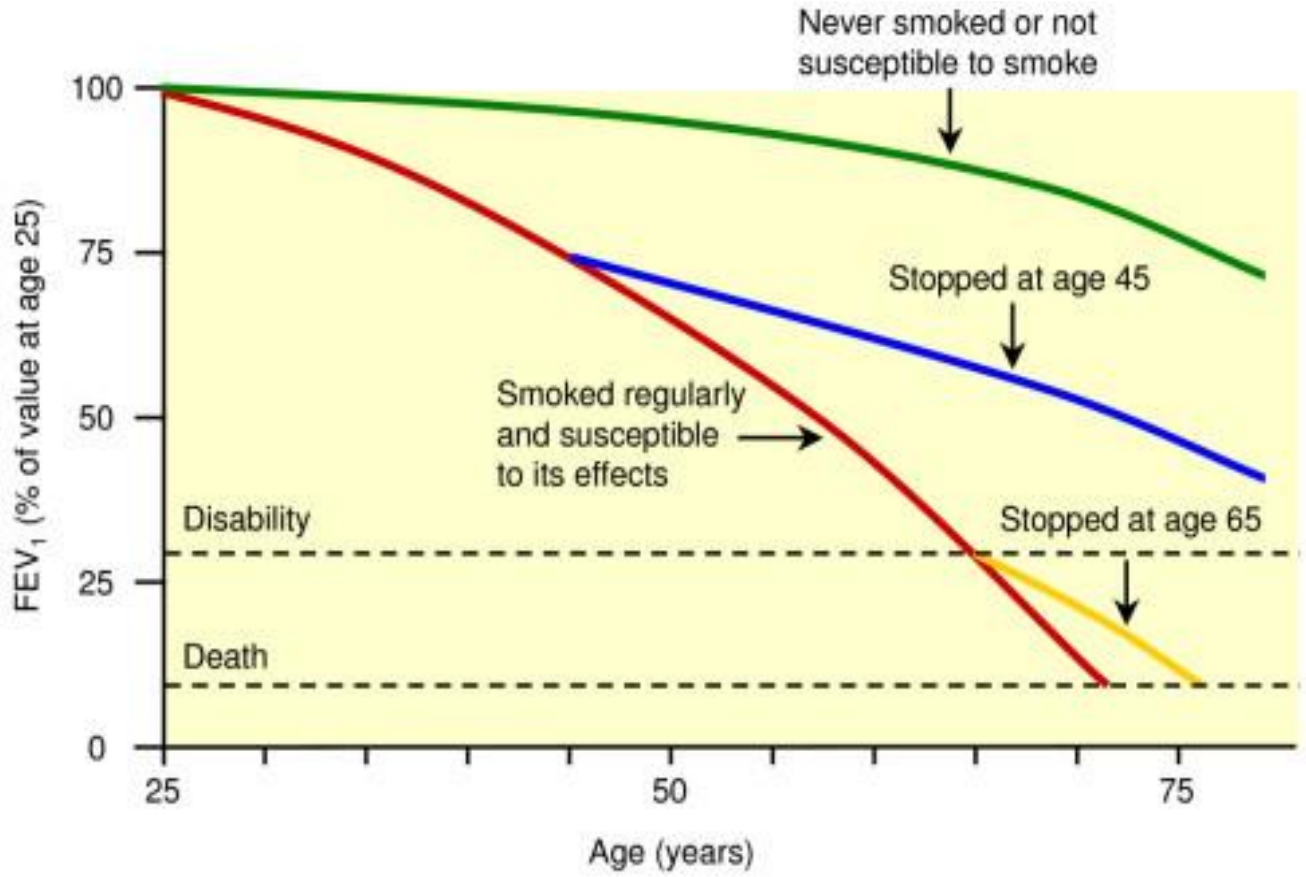

Natural history of lung function decline in smokers and nonsmokers. British Medical Journal, 1977.

20 minutes
Blood pressure and pulse rate return to normal.

8 hours
Nicotine and carbon monoxide levels in blood **reduce by half**, oxygen levels return to normal.

24 hours
Carbon monoxide will be **eliminated from the body**. Lungs start to clear out mucus and other smoking debris.

48 hours
There is no nicotine in the body. Ability to taste and smell is greatly improved.

72 hours
Breathing becomes easier. Bronchial tubes begin to relax and **energy levels increase**.

2-12 weeks
Your circulation improves.

3-9 months
Coughs, wheezing and breathing problems improve as **lung function increases by up to 10%**.

5 years
Risk of heart attacks **falls to about half** compared to a person who is still smoking.

10 years
Risk of lung cancer falls to **half that of a smoker**. Risk of heart attack falls to **the same as someone who has never smoked**.

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Benefits of Smoking Cessation

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Pulmonary Rehab

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- A multidisciplinary program that helps improve the quality of life for with people with respiratory conditions.
- Holistic treatment not just about exercise
- Educates patients on how to manage their condition e.g. inhaler technique and how to manage acute exacerbations
- Program lasts for 6-8 weeks 2 sessions per week.

Venues

Saint Helen's Church Community Hall
Thurnscoe

The Rockingham Centre
Hoyland

Penistone Leisure Centre

Barnsley (Long Term Exercise) Heart Support Group
The Old Bakery
Royston

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Pulmonary Rehab

The stats

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- Estimated that only 15% of people suitable for PR are referred
- If PR was delivered to all patients currently eligible, it's expected that we could:
  - Reduce exacerbations by 13%
  - Free up 150,924 GP appointments
  - Save 106,532 hospital bed days
  - Reduce hospital admissions by 26,633

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Pulmonary Rehab

The benefits

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- Helps patients manage their symptoms
- Improves exercise tolerance
- Helps patients deal with and reduce anxiety
- Improves emotional wellbeing
- Promotes healthy eating
- Reduces risk of exacerbations and patients are less likely to be admitted to hospital
- Reduces mortality

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Importance of inhaler technique

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- Inhaled therapies are only effective if the patient can use the device.
- Poor technique is common; it is estimated that only 15% of patients use MDI's correctly
- Healthcare professionals (HCP's) also have poor technique: a study in 2018 involving doctors' nurses and pharmacists identified that only 19% of HCP's were able to correctly use a DPI and only 10% were able to correctly use pMDI.

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Common problems

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- Not breathing out first
- Not holding the breath after taking inhaler
- Not priming the device properly
- Not shaking the inhaler (if required)
- Not holding the inhaler in the upright position (where recommended)
- Inhaling too early or inhaling too late
- Not leaving enough time between doses
- Actuation against teeth, lips or tongue
- Stopping inhalation immediately after firing
- Not using correct inspiratory effort (firm/forceful and deep for dry powder device (DPI) and gentle and deep for pMDI/mist/spacer)
- Inhalation through nose whilst and after actuation
- Failing to form a good seal around the mouthpiece

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Vaccinations

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- GOLD (2024) recommends that patients get vaccinated against flu, covid, and pneumonia.
- RSV vaccine should be offered to people aged 75-79.
- Helps prevent infections and reduces the risk of acute exacerbations.
- Reduces the risk of severe infection and complications
- Cheap and cost effective.
- Can have side effects such as low grade pyrexia, aches and fatigue, pain redness and swelling at the injection site.

Do I feel worse than usual?

Symptoms may include:

Getting more out of breath

Getting more out of breath despite taking my reliever medication

Increased sputum. Change in colour: dark yellow, green

Increased chesty cough

Continue or increase my inhaler or nebuliser treatment

Start my rescue pack drugs (steroids)

Start my rescue pack drugs (steroids and antibiotics)

Keep calm and do my breathing exercises

I must remember...

Contact my nurse or doctor or the community respiratory team

If symptoms are severe, call 999

If you use your rescue pack drugs, tell your doctor or nurse as soon as you can so that you can replace them.

top tips

for managing a flare-up

- Eat healthy foods little and often, rather than having big meals.
- Use controlled breathing techniques (see page 28).
- If you produce more sputum than usual, try using chest clearing techniques to get rid of it (see page 31).
- Try some techniques to help you to relax and relieve anxiety.
- Drink plenty of fluid – little and often is best.
- Change your plans to give yourself more time and pace yourself – plan in times to have a rest!

Remember:

- If you cough up blood during a flare-up – or when you feel well – contact your GP as soon as you can.
- Let your health care professional know when you begin taking medication for a flare-up, so that you can get more rescue medication.
- If you have more than two flare-ups a year that require your rescue drugs, get a review with your GP or nurse.

When you are well:

Make sure you know

- How far you can walk before you are out of breath.
- How much sputum you produce daily.
- What colour your sputum is.
- How your breathing is at rest and when you are doing something.
- What makes your breathing worse - avoid triggers like cigarette smoke, but don't avoid activity when you are well as getting a bit breathless will help make you fitter.
- How well you sleep, including the number of pillows.
- How to use your inhalers, and what they are for.
- What to do if your symptoms get worse.

Lifestyle tips

- Stop smoking and avoid smoky areas.
- Keep active every day and ask your nurse or doctor about pulmonary rehabilitation.
- Ask your nurse or doctor for information about healthy eating.
- Drink plenty of fluids.
- Plan ahead and allow time to do things.
- Be sure to wrap up if it is cold outside.

Your reliever is:

_____

_____

_____

_____

_____

Other inhalers:

_____

_____

_____

_____

_____

Signs of becoming unwell:

- Increased breathlessness – not able to do as much as usual OR taking much longer to recover.
- Change in sputum colour from normal for you, to yellow, green or brown.
- Increase in the amount of sputum.

If you have two or more of the above signs of becoming unwell or have blood in your sputum:

- Continue your usual medication including your inhalers.
- Increase your reliever to:

_____

You may require antibiotics and/or steroids. If you have a rescue pack please refer to your rescue pack flare up plan or speak to your COPD specialist nurse/ GP Practice.

Other advice

- Allow more time for rest in the day.
- Drink extra fluids.
- Eat small amounts regularly.

Additional information specifically for you (for example if you have been given additional medication to keep at home):

_____

_____

_____

_____

_____

_____

_____

Severe symptoms:

The following symptoms need urgent medical attention:

- Too breathless to speak in sentences.
- Feel drowsy
- Not able to eat or drink.
- You have a high fever.
- Coughing up blood or blood in sputum.
- Your symptoms get worse after starting your rescue medication OR you are no better after two days of taking your rescue medication.

Contact your GP immediately for an urgent review.

_____

This includes out of hours as they will redirect you.

If you are short of breath at rest, feeling agitated, afraid or drowsy you need to sit down and try to stay calm. Panicking will make your breathing worse.

Call 999 if you experience any of the following:

- Confusion
- Severe central chest pain
- Feel exceptionally drowsy
- Symptoms come on rapidly
- Blue lips, fingers or toes

Take ☐ puffs of _____

Use a large volume spacer if you have one while you are waiting for an ambulance.

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Other considerations

- Assess and modify exacerbation risk.
- Assess and modify cardiovascular risk.
- Assess and maintain bone health.
- Assess and maintain mental health.
- Assess symptom burden using validated tools- such as MRC/CAT.
- Measure BMI and offer dietary advice if BMI is less than 20 or above 30.

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Treatment

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Management of stable COPD

Confirm 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 co-morbidities

Check inhaler technique and compliance with particular device using In-check DIAL at annual review. If a patient is unable to use a particular device satisfactorily, then an alternative device should be sought.
Use COPD assessment tool (CAT) to assess the clinical response at baseline and when changing treatment. These treatments and plans should be revisited at every review

Start inhaled therapy only if:

- All the above interventions have been offered (if appropriate) and
- Inhaled therapies are needed to relieve breathlessness or exercise limitation.
- People have been trained to use inhalers and can demonstrate satisfactory inhaler technique

Offer SABA or SAMA (to use if needed)
SABA should continue through all stages of symptoms
(Salbutamol MDI 100mcg 2 puffs PRN = £1.50/device)
(Ipratropium MDI 20mcg 2 puffs PRN or QDS = £5.56/device)

Patient is limited by symptoms or has exacerbations despite treatment

No asthmatic features or features suggesting steroid responsiveness [a]

Offer LABA + LAMA (£390/pa) Options in Inhaler Table

Choice of combination preparation should be driven by patient choice, device acceptability and consideration of carbon footprint

Patient still limited by symptoms

Consider 3-month trial of **LAMA + LABA + ICS [b,c] (£534/pa) (Trimbow, Trelegy or Trixeo)** In a combination inhaler

If no improvement, revert to LABA+LAMA

Patient has 1 severe or 2 moderate exacerbations within a year

Consider

Asthmatic features or features suggesting steroid responsiveness [a]

Consider LABA + ICS [b] (£246-£360/pa) Options in Inhaler table

Choice of combination preparation should be driven by patient choice, device acceptability and consideration of carbon footprint

Patient still limited by symptoms or has 1 severe or 2 moderate exacerbations within a year

Offer

LAMA + LABA + ICS [b,c] (as a combination inhaler) Options include:

- **Trimbow** (Beclometasone 87mcg, Formoterol 5mcg, Glycopyrronium 9 mcg) **(£534/pa)**
- **Trelegy** (Fluticasone furoate 92 mcg, Vilanterol 22 mcg, Umeclidinium 65 mcg) **(£534/pa)**
- **Trixeo** (Budesonide 160mcg, Formoterol 5mcg, Glycopyrronium 9mcg) **(£534/pa)**

Explore further options if still limited by breathlessness or subject to frequent exacerbations - review diagnosis and consider referring to local COPD clinic.

[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 400ml) 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

Local expert opinion suggests a plasma eosinophil >0.3 x 10^9/l is suggestive of asthmatic phenotype

NICE recommends for patients using long-acting bronchodilators outside of the current recommendations and whose symptoms are under control, have the option to continue treatment until both, they and their clinician/ healthcare professional agree it is appropriate to change.

Date Approved: October 2020 (APC 14th October 2020) MA APC 10th November 2021, MA June 2022, MA July 2023 Review Date: October 2023

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Step 1

Assess risk and likelihood of response to ICS

Step 2

Assess and teach inhaler technique and start treatment with an appropriate device.

Low
- Eos < 0.3x10⁹/L **OR**
- Absence of features indicating high risk and ICS response

LABA-LAMA (dual bronchodilation)

Bevespi Aerosphere ® 7.2/5 2 puffs BD | Spiolto Respimat 2.5/2.5 2 puffs OD | Ultibro Breezhaler 85/43 1 puffs OD | Anoro Ellipta 55/22 1 puff OD

Plus PRN Salbutamol (Salamol pMDI ® or Salbutamol Easyhaler)

Exacerbations and Eos ≥ 0.3x10⁹/L*

High
- Blood Eos ≥ 0.3x10⁹/L **AND**
- 2 or more 'chest infections' treated in the community **OR** 1 or more hospitalisation with a COPD exacerbation in the past year
- Evidence of co-morbid asthma

LABA-LAMA-ICS (single inhaler triple therapy/SITT)

Trixeo Aerosphere ® 5/7.2/160 2 puffs BD | Trimbow pMDI ® 87/5/9 2 puffs BD | Trimbow Nexthaler 88/5/9 2 puffs BD | Trelegy Ellipta 92/55/22 1 puff OD

Plus PRN Salbutamol (Salamol pMDI ® or Salbutamol Easyhaler)

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Back to John

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- John, 56 years old.
- Smoker - since late teens (15-16 years old) - 20 per day.
- Coal miner- 10 years on coal face. Worked in a warehouse since. Struggling with work for past 6 months due to shortness of breath.
- Noticed progressive breathlessness in last 2 years.
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- FEV1/ FVC Ratio is 45%- LLN 67% - Thoughts?
- FEV1- 1.81 litres (50% predicted) - LLN is 2.78L
- FVC- 4.01 litres (90% predicted) - LLN is 3.47L
- Negative reversibility.
- Technically acceptable and reproducible.
- eMRC is 3 (MRC- 4)
- CAT Score is 18
- Eosinophil count 0.2

- **WHAT IS YOUR INITIAL MANAGEMENT OF JOHN?**

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Step 3

Assess response and optimise treatment

Reassess after every exacerbation, clinic change or at annual review.

Consider referral to Breathe if despite optimization of all aspects of general management, symptoms remain uncontrolled.

Optimise General Management
AND

- Teach non-pharmacological breathlessness management
- Hand-held fan
- Breathing square
- Pacing and positions for recovery
- Consider low-dose opiates if distressing breathlessness persists
- Modified Release Morphine Sulphate 5-10mg BD
- Consider Mucolytics (Carbocisteine 750mg TDS or NACSYS 600mg daily if difficulty expectorating sputum for 3-month trial, if ineffective stop.

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Breathe Community Respiratory Service

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Who Are We?

- We are a team of respiratory nurses integrated into the six neighbourhoods in Barnsley
- 1 Clinical team Leader
- 1 Lead respiratory nurse
- 2 respiratory nurses in each neighbourhood delivering nurse clinics and home assessments in their areas
- Respiratory consultant delivering two respiratory clinic sessions per week
- Access to respiratory physio.
- Independent nurse prescribers, or working towards

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Who is it for?

- Patients over the age of 18, who live in the Barnsley area or who are registered with a Barnsley ICB GP practice.
- Diagnosed with a long-term respiratory condition- COPD, asthma, bronchiectasis, interstitial lung disease.

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Who is it not for?

- Patients with ventilatory disorders alone, i.e OSA/OHS
- ARI without background respiratory disease
- Referring for pulmonary rehabilitation, this is a separate service
- Heart failure alone, except for oxygen assessment.

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Services offered

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- Exacerbation support service-LRTI, pneumonia, exacerbation of chronic respiratory disease,
- Home oxygen assessment –LTOT, AOT, POT, SBOT.
- Supported discharge and admission avoidance, working in partnership with virtual ward and YAS/ED.
- FeNO testing.
- Long term nebuliser assessment
- Enduring support.

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Response times

Crisis (Within 2 hours) - At risk of hospital admission and requires assessment because of:

- A diagnosed condition, e.g. chest infection
- Is experiencing a deterioration/exacerbation of a long-term condition (excluding asthma)
- Has become unable to manage at home due to recent hospital discharge
- Patients with a sudden deterioration of terminal condition e.g. EOL,
- Patients with a combination of above factors, along with social/cognitive/memory problems that may require a place of safety, whilst investigations can be taken to confirm or exclude a physical condition (step up bed via RCB)

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Response times

Urgent (Within 24 hours) - At risk of deterioration to crisis point because of:

- Experiencing an exacerbation of a long-term condition that is normally stable (excluding asthma). They may have been seen by HCP and given acute treatment but need further monitoring.
- Deteriorating terminal condition
- Currently safe to remain at home

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Response times

Routine (Within 72 hours)

- Not acutely unwell but struggling with day-to-day management of their condition despite optimisation
- Patients who have not fully responded to initial exacerbation management treatment who remain symptomatic but not unwell or unstable enough to require a visit within 24 hours.
- Deteriorating terminal condition
- Currently safe to remain at home

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Response Times

Planned intervention (Within 7 days)

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- As per routine, but also
- Nurse led clinics

Response Times

Provision of Pro-active care (7 days +

- As per routine/ planned, but also
- Consultant clinics
- Oxygen assessments

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Exacerbation Support

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- For patients at risk of hospital admission and requires assessment/treatment because of an exacerbation of diagnosed lung condition with or without infection.
- Respiratory nurse will visit patient at home within 2 hours and carry out full assessment which includes baseline observations, assessment of clinical symptoms, chest exam and CRP POCT.
- Non-medical prescribers will prescribe acute treatment, if necessary, which can also include short term nebulised Salbutamol if needed.
- Will be reviewed on regular basis at home according to clinic need.
- Before discharge from service, patient is provided with education about self-management of condition including techniques to manage breathlessness, assessment and education of effective inhaler techniques, self-management plans, vaccination advice, onward referral to stop smoking services and pulmonary rehabilitation.
- Patient is encouraged to self-refer back to service in the event for future exacerbation support/ assessment/ treatment.

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Referral Process

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- E-mail referral proforma to RightCareBarnsleyIntegratedSPA@swyt.nhs.uk
- Electronic referral (SystmOnepractices)

GOOD REFERRALS:

- What is the concern?
- What are you asking for?
- What have you done so far?

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Other issues

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Rescue packs

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- Rescue packs are both over and under used
- Patients who frequently exacerbate (more than 2 per year) are most likely to benefit.
- Patients need to be able to recognise the signs of an exacerbation
- On optimised treatment
- Able to understand the information provided
- They need education alongside rescue packs – how to recognise exacerbations, risks and benefits, safety netting.
- Should be given alongside self management plans
- Should never be on repeat prescription and should be reviewed after commencing.

- Prednisolone 30 mg once daily for 5-7 days

• Empiric antibiotic (or based on last sputum result):
o Amoxicillin 500 mg three times daily for 5 days or
o Doxycycline 200 mg first day then 100 mg daily for total 5-7 day course or
o Clarithromycin 500 mg twice daily for 5 days

With **all of us** in mind.

Long term nebulised therapy

Yes or No?

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- There is no compelling evidence that nebulised Salbutamol is superior to the same drug delivered via a spacer with MDI device.
- Side effects that include arrhythmias, tachyphylaxis (rapidly diminishing response to successive doses of a drug, rendering it less effective).
- Failure to call help in an emergency.

<u>BREATHE criteria for consideration of long term nebulisers</u>

- FEV1 less than 40% predicted
- 4 or more exacerbations in last 12 months that have required referral to BREATHE or hospital admission
- Will not be considered in smokers

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Oxygen

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Types of oxygen therapy used in COPD

- *Long Term Oxygen Therapy (LTOT)*

LTOT is indicated for people with COPD who have persistent hypoxia when stable. LTOT aims to improve long-term prognosis and requires >15 hours use per day to provide the desired benefit.

- *Ambulatory Oxygen Therapy (AOT)*

AOT may be indicated for people where LTOT is not indicated but have been shown on formal exercise testing to desaturate on exertion and benefit from AOT.

- *Palliative Oxygen Therapy (POT)*

POT can be trailed for people receiving end-of-life care that have refractory breathlessness and hypoxia and have not responded to opioids and non-pharmacological measures.

There is no indication for short burst oxygen therapy for the management of COPD.

Oxygen therapy should only be offered following formal assessment of eligibility and safety.

Oxygen therapy cannot be offered to current smokers.

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When to consider Oxygen therapy in the management of COPD

- SpO2 <92% on air,
- FEV 1 <30% predicted
- Raised JVP
- Polycythaemia or PAH
- Co-morbid HF with ankle oedema

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Obligations of referrers when referring for oxygen assessment

- Should have quality-assured clinical diagnosis and be medically optimised
- Pulse oximetry should be undertaken to determine whether the individual is hypoxaemic
- If diagnosis unclear or significant co-morbidities that may contribute to breathlessness or hypoxaemia, they should be referred to the appropriate specialist physician,
- Potential hypercapnic respiratory failure should also be reviewed by physician,
- Patients whose SpO2 is borderline may need further ax if breathless on exertion or when sleep disordered breathing is a possibility
- Patients current smoking status should be assessed.

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Palliative Care

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- Poorly recognised in respiratory conditions

- A 2017 systematic review of 37 studies, which assessed discussions about end-of-life and palliative care between healthcare professionals and patients with COPD, described low frequency and poor quality of palliative care conversations. These often occurred at an advanced stage of illness, and in respiratory wards and intensive care units rather than in the community.

- Study published in European respiratory journal highlighted that only 1 in 5 patients dying from COPD received palliative care. Nearly half received it in the last 6 months and a third in the last month of their life.

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How to identify if a COPD patient is in the last 12 months of life

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Table 1: COPD characteristics associated with increased mortality[16–18]

Age ≥70 years
Physical dependence (needs help with three activities of daily living)
Poor quality of life
Low BMI
The presence of co-morbidities
FEV_1 ≤30%
mMRC dyspnoea scale ≥3
BODE ≥7
BODEX ≥7

COPD=chronic obstructive pulmonary disease; BMI=body mass index; FEV_1=forced expiratory volume in 1 second; mMRC=modified Medical Research Council; BODE=body mass index, obstruction, dyspnoea, and 6 minutes walking test; BODEX=body mass index, obstruction, dyspnoea, and severe exacerbations

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Palliative care

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COPD Severity: BODEx Index

Body mass index, airflow Obstruction; Dyspnea, and Exacerbations (BODEx) index:

Variable	Points on BODEx			
	0	1	2	3
FEV1 (% predicted)†	≥65	50-64	36-49	≤35
Exacerbations	None	1-2	≥3	-
MMRC Dyspnea Scale‡	0-1	2	3	4
Body Mass Index§	>21	≤21		

COPD Control defines a BODEx of:

- **≤4** points as **mild/moderate** COPD
- **≥5** points as **severe/very severe** COPD

Palliative care cont…

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- Conversations should be taken place at an earlier stage.
- Discussions should be offered routinely
- Patients need to understand their disease and its progression
- Open discussions can expel fears of anxiety and fear
- Discussions should be revolved around patients wishes re: hospital admission, preferred place of death, ventilation and resuscitation.

“Hope for and expect the best, and prepare for the worst”

Preferred Priorities of Care Document

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