LET'S TALK ABOUT THE COPD GUIDELINES

GOLD report | NICE quality standard | QOF COPD indicators

Provided as a service to medicine by Teva UK Limited.
For healthcare professionals.
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The aim of this guide is to make sure you have the key practical information you need, on hand when you need it. It’s a condensed version of the guidelines for managing Chronic Obstructive Pulmonary Disease (COPD) in adults and includes checklists, diagnostic procedures, treatment algorithms and evidence-based recommendations for therapeutic options.

As patient consultations are often time pressured, the structure and design have been developed with ease of use, quick reference and accessibility of information in mind.

Sections of the guide are numbered in the same way as the GOLD report, to make it easier for you to find more detailed information if you need to.

**KEY TO CONTENT**

Teva have other materials relating to this subject that you might find helpful, so ask your local rep for more information.

**KEY TAKEOUTS ...**

...that can jog your memory as you flip through the guide, or help you identify/differentiate each section at a glance.
Definition of COPD: Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease that is characterised by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases.

WHAT CAUSES COPD?

Worldwide the most commonly encountered risk factor is tobacco smoking.

Non-smokers may also develop COPD. Outdoor, occupational, and indoor air pollution are other major COPD risk factors.

GLOBAL INITIATIVE FOR CHRONIC OBSTRUCTIVE LUNG DISEASE™ (GOLD)

The GOLD report is a global strategy document for HCPs to implement effective COPD diagnosis, management and prevention – Updated 2017

CHAPTER 1 — DEFINITION AND OVERVIEW

WORLDWIDE THE MOST COMMONLY ENCOUNTERED RISK FACTOR IS TOBACCO SMOKING
COPD risk is related to the total burden of inhaled particles a person encounters over their lifetime, including:

- **Tobacco smoke:** cigarettes, pipe, cigar, as well as passive exposure to tobacco smoke
- **Outdoor air pollution:** contributes to the lungs’ total burden, although appears to have a relatively small effect in causing COPD
- **Occupational exposure:** to dust, chemicals, and fuels
- **Indoor air pollution:** from the burning of biomass fuel (in cooking and heating) in poorly ventilated dwellings

In addition, any factor that affects lung growth during gestation and childhood (low birth weight, respiratory infections, etc.) has the potential to increase an individual’s risk of developing COPD.

A well-documented genetic risk factor for COPD is the severe hereditary deficiency of α-1 antitrypsin. While this α-1 antitrypsin deficiency illustrates the interaction between genes and environmental exposures leading to COPD, it is only relevant to a small part of the world’s population.
Spirometry is required to establish a clinical diagnosis of COPD; the presence of a post-bronchodilator FEV₁/FVC <0.70 confirms the presence of persistent airflow limitation and thus of COPD.

All healthcare workers who care for COPD patients should have access to spirometry.

Additional features in severe disease:
- Fatigue
- Weight loss
- Ankle swelling
Dyspnoea
- Progressive over time
- Characteristically worse with exercise
- Persistent

Chronic cough
- May be intermittent and may be unproductive
- Recurrent wheeze

Chronic sputum production
- Any pattern of chronic sputum production may indicate COPD

Recurrent lower respiratory tract infections

History of exposure to risk factors
- Host factors (e.g. genetic, congenital/developmental abnormalities)
- Tobacco smoke (including popular local preparations)
- Smoke from home cooking and heating fuels
- Occupational dusts, vapours, fumes, gases and other chemicals

Family history of COPD and/or childhood illness
- e.g. low birthweight, childhood respiratory infections
DIFFERENTIAL DIAGNOSIS

A major differential diagnosis of COPD is asthma. In some patients with chronic asthma, a clear distinction from COPD is not possible using current imaging and physiological testing. In these patients, current management is, therefore, similar to that of asthma. Other potential diagnoses are typically more straightforward to distinguish from COPD.

These features tend to be characteristic of the respective diseases, but are not mandatory, e.g., a person who has never smoked may develop COPD (especially in the developing world where other risk factors may be more important than cigarette smoking); asthma may develop in adult and even elderly patients.
### TABLE 2.7 – COPD AND ITS DIFFERENTIAL DIAGNOSES

<table>
<thead>
<tr>
<th>Condition</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| **COPD**                         | • Onset in mid-life  
• Symptoms slowly progress  
• History of tobacco smoking or exposure to other types of smoke |
| **Asthma**                       | • Onset early in life (often in childhood)  
• Symptoms vary widely from day to day  
• Symptoms worse at night/early morning  
• Allergy, rhinitis, and/or eczema also present  
• Family history of asthma  
• Obesity coexistence |
| **Congestive heart failure**     | • CXR shows dilated heart, pulmonary oedema  
• Pulmonary function tests indicate volume restriction, not airflow limitation |
| **Bronchiectasis**               | • Large volumes of purulent sputum  
• Commonly associated with bacterial infection  
• CXR/CT shows bronchial dilation, bronchial wall thickening |
| **Tuberculosis**                 | • Onset all ages  
• CXR shows lung infiltrate  
• Microbiological confirmation  
• High local prevalence of tuberculosis |
| **Obliterative bronchiolitis**   | • Onset at younger age, non-smokers  
• May have history of rheumatoid arthritis or acute fume exposure  
• Seen after lung or bone marrow transplantation  
• CT on expiration shows hypodense areas |
| **Diffuse pan-bronchiolitis**    | • Predominantly seen in patients of Asian descent  
• Most patients are male and non-smokers  
• Almost all have chronic sinusitis  
• CXR and high resolution CT (HRCT) show diffuse small centrilobular nodular opacities and hyperinflation |
ASSESSMENT OF COPD

Goals of COPD assessment: to determine the level of airflow limitation, its impact on the patient’s health status, and the risk of future events (exacerbations, hospital admissions, death) in order to guide therapy.

Aspects of the disease need to be assessed separately:

- Degree of airflow limitation (using spirometry)
- Current nature and magnitude of patient’s symptoms
- Exacerbation history and future risk
- Presence of comorbidities

Assess degree of airflow limitation using spirometry: Spirometry should be performed after the administration of an adequate dose of a short-acting inhaled bronchodilator in order to minimise variability.

TABLE 2.4 – CLASSIFICATION OF SEVERITY OF AIRFLOW LIMITATION IN COPD (BASED ON POST-BRONCHODILATOR FEV₁)

<table>
<thead>
<tr>
<th>In patients with FEV₁/FVC &lt;0.70:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GOLD 1: Mild</td>
<td></td>
<td>FEV₁ ≥80% predicted</td>
</tr>
<tr>
<td>GOLD 2: Moderate</td>
<td></td>
<td>50% ≤FEV₁ &lt;80% predicted</td>
</tr>
<tr>
<td>GOLD 3: Severe</td>
<td></td>
<td>30% ≤FEV₁ &lt;50% predicted</td>
</tr>
<tr>
<td>GOLD 4: Very severe</td>
<td></td>
<td>FEV₁ &lt;30% predicted</td>
</tr>
</tbody>
</table>
**Assess symptoms:** There are two widely used measures of symptoms. The modified British Medical Research Council (mMRC) scale provides only an assessment of breathlessness.

**TABLE 2.5 − MODIFIED MRC DYSPNOEA SCALE**

<table>
<thead>
<tr>
<th>mMRC Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 0.</td>
<td>I only get breathless when doing strenuous exercise</td>
</tr>
<tr>
<td>Grade 1.</td>
<td>I get short of breath when hurrying on the level or walking up a slight hill</td>
</tr>
<tr>
<td>Grade 2.</td>
<td>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</td>
</tr>
<tr>
<td>Grade 3.</td>
<td>I stop for breath after walking about 100 metres or after a few minutes on the level</td>
</tr>
<tr>
<td>Grade 4.</td>
<td>I’m too breathless to leave the house, or I get breathless dressing and undressing</td>
</tr>
</tbody>
</table>
The **COPD Assessment Test (CAT™)** is an 8-item unidimensional measure of health status impairment in COPD. For each item below, place a mark [x] in the box that best describes you currently. Be sure to only select one response for each question.

**Figure 2.3. CAT Assessment**

**Example:**

<table>
<thead>
<tr>
<th>I am very happy</th>
<th>I am very sad</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- I never cough
- I have no phlegm (mucus) in my chest at all
- My chest does not feel tight at all
- When I walk up a hill or one flight of stairs I am not breathless
- I am not limited doing any activities at home
- I am confident leaving my home despite my lung condition
- I sleep soundly
- I have lots of energy

**Assess risk of exacerbations:** An exacerbation of COPD is defined as an acute worsening of the patient’s respiratory symptoms that results in additional therapy. The best predictor of having frequent exacerbations (≥2 per year) is a history of previously treated events. The risk of exacerbations also increases as airflow limitation worsens. Hospitalisation for a COPD exacerbation is associated with a poor prognosis with increased risk of death.

**Assess comorbidities:** Comorbidities should be looked for routinely, and treated appropriately, in any patient with COPD. Potential comorbidities include:

- Cardiovascular diseases
- Osteoporosis
- Depression and anxiety
- Skeletal muscle dysfunction
- Metabolic syndrome
- Lung cancer
An understanding of the impact of COPD on an individual patient combines the symptomatic assessment with the patient’s spirometric classification and/or risk of exacerbations.

In the refined assessment scheme, patients should undergo spirometry to determine the severity of airflow limitation. They should also undergo assessment either of breathlessness (MRC) or symptoms (CAT™). Finally, their history of exacerbations should be recorded.

Figure 2.4. The refined ABCD assessment tool

Spirometrically confirmed diagnosis → Assessment of airflow limitation → Assessment of symptoms/risk of exacerbations

Post-bronchodilator FEV₁/FVC < 0.7

<table>
<thead>
<tr>
<th>GOLD</th>
<th>FEV₁ (% predicted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≥80</td>
</tr>
<tr>
<td>2</td>
<td>50–79</td>
</tr>
<tr>
<td>3</td>
<td>30–49</td>
</tr>
<tr>
<td>4</td>
<td>&lt;30</td>
</tr>
</tbody>
</table>

≥2 or ≥1 leading to hospital admission

0 or 1 (not leading to hospital admission)

mMRC 0–1 CAT <10
mMRC ≥2 CAT ≥10

Symptoms

α-1 antitrypsin deficiency: all patients with a COPD diagnosis should be screened.

THE UPDATED TOOL ALLOWS A MORE INDIVIDUALISED TREATMENT FOR PATIENTS
### Additional investigations:

| **Imaging:**                  | CXR to exclude alternative diagnoses and to establish comorbidities  
|                              | CT in patients who meet criteria for lung cancer risk assessment or for surgical assessment |
| **Lung volumes and diffusing capacity:** | To help characterise severity of COPD |
| **Oximetry and arterial blood gas measurement:** | To evaluate need for supplemental oxygen therapy  
|                              | Assess all patients with clinical signs suggestive of respiratory failure or right heart failure  
|                              | If peripheral arterial oxygen saturation is <92% arterial or capillary blood gases should be assessed |
| **Exercise testing and assessment of physical activity:** | A powerful indicator of health status impairment and predictor of prognosis |
| **BODE (BMI, Obstruction, Dyspnoea, Exercise):** | A better predictor of subsequent survival than any single component |
CHAPTER 4 — MANAGEMENT OF STABLE COPD

Once COPD has been diagnosed, effective management should be based on an individualised assessment of current symptoms and future risks.

TABLE 4.1 – GOALS FOR TREATMENT OF STABLE COPD

- Relieve symptoms
- Improve exercise tolerance
- Improve health status
  *and*
- Prevent disease progression
- Prevent and treat exacerbations
- Reduce mortality

Reduce symptoms
Reduce risk

IDENTIFY AND REDUCE EXPOSURE TO RISK FACTORS

- **Tobacco smoke**: COPD patients who smoke should be encouraged to quit at every opportunity
- **Indoor and outdoor air pollution**: Reduction of exposure to smoke from biomass fuel is a crucial goal; efficient ventilation, non-polluting cooking stoves and similar interventions are feasible and should be recommended
- **Occupational exposure**: Advise patients to avoid ongoing exposures to potential irritants if possible

COPD PATIENTS WHO SMOKE SHOULD BE ENCOURAGED TO QUIT AT EVERY OPPORTUNITY
Pharmacological therapies can reduce symptoms, and the frequency and severity of exacerbations, and improve health status and exercise tolerance.

Figure 4.1 – Pharmacologic treatment algorithms by GOLD grade

Group C
- LAMA + LABA
- LABA + ICS
- Further exacerbation(s)
- LAMA

Group D
- Consider roflumilast if FEV₁ < 50% pred. and patient has chronic bronchitis
- Consider macrolide (in former smokers)
- Further exacerbation(s)
- LAMA + LABA + ICS
- Persistent symptoms/further exacerbation(s)
- LAMA + LABA ➔ LABA + ICS

Group A
- Continue, stop or try alternative class of bronchodilator
- Evaluate effect
- A bronchodilator

Group B
- LAMA + LABA
- Persistent symptoms
- A long-acting bronchodilator (LABA or LAMA)

Preferred treatment =

In patients with a major discrepancy between the perceived level of symptoms and severity of airflow limitation, further evaluation is warranted.
The choice of inhaler device has to be individually tailored and will depend on access, cost, prescriber and, more importantly, patient’s ability and preference. It is essential to provide instructions and to demonstrate the proper inhalation technique when prescribing a device to ensure that inhaler technique is adequate, and re-check at each visit that patients continue to use their inhaler correctly. Inhaler technique (and adherence to therapy) should be assessed before concluding that the current therapy requires modification.

LABAs and LAMAs are preferred over short-acting agents except for patients with only occasional dyspnoea. Patients may be started on single or duallong-acting bronchodilator therapy. In patients with persistent dyspnoea on one bronchodilator, treatment should be escalated to two. Inhaled bronchodilators are preferred over oral bronchodilators. Theophylline is not recommended, unless other long-term treatment bronchodilators are unavailable or unaffordable.

Long-term monotherapy with ICS is not recommended. Long-term treatment with ICS may be considered in association with LABAs for patients with a history of exacerbations despite appropriate treatment with long-acting bronchodilators. Long-term therapy with oral corticosteroids is not recommended. In patients with exacerbations despite LABA/ICS or LABA/LAMA/ICS, chronic bronchitis and severe to very severe airflow obstruction, the addition of a PDE4 inhibitor can be considered. In former smokers with exacerbations despite appropriate therapy, macrolides can be considered. Statin therapy is not recommended for prevention of exacerbations. Antioxidant mucolytics are recommended only in selected patients.
Non-pharmacologic management of COPD according to the individualised assessment of symptoms and exacerbation risk.

**TABLE 4.8 – NON-PHARMACOLOGIC MANAGEMENT OF COPD**

<table>
<thead>
<tr>
<th>GOLD patient group</th>
<th>Essential</th>
<th>Recommended</th>
<th>Depending on local guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Smoking cessation (can include pharmacologic treatment)</td>
<td>Physical activity</td>
<td>Flu vaccination, Pneumococcal vaccination</td>
</tr>
<tr>
<td>B,C,D</td>
<td>Smoking cessation (can include pharmacologic treatment)</td>
<td>Physical activity</td>
<td>Flu vaccination, Pneumococcal vaccination</td>
</tr>
<tr>
<td></td>
<td>Pulmonary rehabilitation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PULMONARY REHABILITATION PROGRAMMES**

Patients in GOLD groups B, C and D should be encouraged to take part in a full rehabilitation programme lasting 6–8 weeks:

- Setting patient goals
- Structured and supervised exercise training
- Smoking cessation
- Nutrition counselling
- Self-management education

Pulmonary rehabilitation improves breathlessness, health status and exercise tolerance in stable patients and reduces hospitalisations among patients who have had a recent exacerbation.
VACCINATION

Flu vaccination is recommended for all patients with COPD. Pneumococcal vaccinations, PCV13 and PPSV23, are recommended for all patients > 65 years of age. The PPSV23 is also recommended for younger COPD patients with significant comorbid conditions including chronic heart or lung disease.

OXYGEN THERAPY

Figure 4.2 – Prescription of supplemental oxygen to COPD patients

Arterial hypoxaemia defined as: PaO₂ < 55 mmHg (8 kPa) or SaO₂ < 88% or PaO₂ > 55 but < 60 mmHg (> 8 but < 8.5 kPa) with right heart failure or erythrocytosis

Prescribe supplemental oxygen and titrate to keep SaO₂ ≥ 90%

Recheck in 60 to 90 days to assess:
- If oxygen is still indicated
- If prescribed supplemental oxygen is effective

VENTILATORY SUPPORT

NIV is used occasionally in patients with stable very severe COPD.

END OF LIFE AND PALLIATIVE CARE

The goal of palliative care is to reduce the suffering of patients and their families.

- Establish a clear management plan based on the patient’s personal goals of care
- Develop and implement methods to help patients and their families make informed choices
MONITORING AND FOLLOW-UP

Routine follow-up of COPD patients is essential.

- At least annual spirometry to track any decline in FEV₁
- Measurement of functional capacity (timed walking test)
- Measurement of oxygenation at rest in an arterial blood sample
- Collection of information on symptoms since last visit
- Frequency, severity, type and likely causes of all exacerbations
- Clear worsening of symptoms may indicate imaging
- Determination of smoking status

CHAPTER 5 — MANAGEMENT OF EXACERBATIONS

Definition of an exacerbation: an acute worsening of respiratory symptoms that result in additional therapy.

Causes: The most common causes appear to be respiratory tract infections (viral or bacterial).

Classification:

- **Mild** – treated with short-acting bronchodilators only
- **Moderate** – treated with short-acting bronchodilators + antibiotics and/or oral corticosteroids
- **Severe** – patient requires hospitalisation or visits A & E
**TABLE 5.3 – KEY POINTS FOR THE MANAGEMENT OF ALL EXACERBATIONS:**

- **Bronchodilators:** SABA with or without short-acting anticholinergics are the preferred bronchodilators.
- **Systemic corticosteroids:** shorten recovery time and hospitalisation duration, improve lung function (FEV₁) and arterial hypoxaemia (PaO₂); duration of therapy should be 5–7 days.
- **Antibiotics:** when indicated, can shorten recovery time, reduce the risk of an early relapse, treatment failure, and hospitalisation duration; duration of therapy should be 5–7 days.
- **Methylxanthines:** not recommended.
- **Non-invasive mechanical ventilation:** should be the first mode of ventilation used in COPD patients with acute respiratory failure.
- **NIV:** should be the first mode of ventilation used in COPD patients with acute respiratory failure who have no absolute contraindication because it improves gas exchange, reduces work of breathing and the need for intubation, decreases hospitalisation duration and improves survival.

At all times, healthcare providers should strongly enforce stringent measures against active cigarette smoking. Patients hospitalised because of exacerbations of COPD are at increased risk of DVT and PE; thromboprophylactic measures should be enhanced.
Classification of severity of exacerbation in hospitalised patients:

No respiratory failure
Respiratory rate: 20–30 breaths per minute; no use of accessory respiratory muscles; no changes in mental status; hypoxaemia improved with supplemental oxygen given via Venturi mask 28–35% inspired oxygen (FiO₂); no increase in PaCO₂.

Acute respiratory failure — non-life-threatening
Respiratory rate: >30 breaths per minute; using accessory respiratory muscles; no change in mental status; hypoxaemia improved with supplemental oxygen via Venturi mask 25–30% FiO₂; hypercarbia i.e., PaCO₂ increased compared with baseline or elevated 50–60 mmHg.

Acute respiratory failure — life-threatening
Respiratory rate: >30 breaths per minute; using accessory respiratory muscles; acute changes in mental status; hypoxaemia not improved with supplemental oxygen via Venturi mask or requiring FiO₂ >40%; hypercarbia i.e., PaCO₂ increased compared with baseline or elevated >60 mmHg or the presence of acidosis (pH <7.25).

TABLE 5.1 – POTENTIAL INDICATIONS FOR HOSPITAL ASSESSMENT*

- Severe symptoms such as sudden worsening of resting dyspnoea, high respiratory rate, decreased oxygen saturation, confusion, drowsiness
- Acute respiratory failure
- Onset of new physical signs (e.g. cyanosis or peripheral oedema)
- Failure of an exacerbation to respond to initial medical management
- Presence of serious comorbidities (e.g. heart failure or newly occurring arrhythmias)
- Insufficient home support

*Local resources need to be considered
### TABLE 5.2 – MANAGEMENT OF SEVERE BUT NOT LIFE-THREATENING EXACERBATIONS*

- Assess severity of symptoms, blood gases, CXR
- Administer supplemental oxygen therapy, obtain serial arterial and venous blood gas and pulse oximetry measurements.
- Bronchodilators:
  - Increase doses and/or frequency of short-acting bronchodilators
  - Combine SABA and anticholinergics
  - Consider use of long-acting bronchodilators when patient becomes stable
  - Use spacers or air-driven nebulisers when appropriate
- Consider oral corticosteroids
- Consider oral antibiotics when signs of bacterial infection are present
- Consider non-invasive mechanical ventilation
- At all times:
  - Monitor fluid balance
  - Consider subcutaneous heparin or LMWH for thromboembolism prophylaxis
  - Identify and treat associated conditions (e.g. heart failure, arrhythmias, pulmonary embolism etc.)

*Local resources need to be considered
Oxygen therapy – this is a key component of hospital treatment of an exacerbation. Supplemental oxygen should be titrated to improve the patient’s hypoxaemia with a target saturation of 88–92%.

Ventilatory support – Some patients need immediate admission to the respiratory care or intensive care unit (ICU):

**TABLE 5.4 – INDICATIONS FOR RESPIRATORY OR MEDICAL INTENSIVE CARE UNIT ADMISSION**

- Severe dyspnoea that responds inadequately to initial emergency therapy
- Changes in mental status
- Persistent or worsening hypoxaemia (PaO₂ <5.3 kPa or 40 mmHg) and/or severe/worsening respiratory acidosis (pH <7.25) despite supplemental oxygen and non-invasive ventilation
- Need for invasive mechanical ventilation
- Haemodynamic instability – need for vasopressors

*Local resources need to be considered

**Mechanical ventilation** – The use of NIV is preferred over invasive ventilation (intubation and positive pressure ventilation) as the initial mode of ventilation to treat acute respiratory failure in patients hospitalised for acute exacerbations of COPD.

**HOSPITAL DISCHARGE AND FOLLOW-UP**

Early follow-up (within one month) following discharge is recommended to review therapy with additional follow-up at three months.

**PREVENTION OF EXACERBATIONS**

After an acute exacerbation appropriate measures for prevention of further exacerbations should be initiated.
CHAPTER 6 — COPD AND COMORBIDITIES

OVERVIEW OF COMORBIDITIES

COPD often coexists with other diseases (comorbidities) that may have a significant impact on prognosis. In general, the presence of comorbidities should not alter COPD treatment and comorbidities should be treated as if the patient did not have COPD.

- **Cardiovascular disease**: common and important comorbidity in COPD
- **Osteoporosis and anxiety/depression**: frequent, important comorbidities in COPD, are often under-diagnosed and are associated with poor health status and prognosis
- **Lung cancer**: frequently seen in patients with COPD and is a main cause of death
- **Serious infections**: (especially respiratory infections), frequently seen in patients with COPD
- **Metabolic syndrome and diabetes**: more frequent in patients with COPD and diabetes is likely to impact on prognosis
- **Gastro-oesophageal reflux (GORD)**: an independent risk factor for exacerbations and is associated with a worse health status
- **Bronchiectasis**: increasing use of CT scanning in the assessment of patients with COPD is identifying the presence of previously unrecognised radiographic bronchiectasis that appears to be associated with longer exacerbations and increased mortality
NICE QUALITY STANDARD FOR COPD IN ADULTS

[QS10] Published July 2011; updated February 2016

A set of prioritised statements covering assessment, diagnosis and management of COPD in adults. The NICE quality standard for COPD is designed to drive measurable improvements at a national level in the following areas:

● patient safety
● patient experience
● clinical effectiveness

Statement 1: People aged over 35 years who present with a risk factor and one or more symptoms of COPD have post-bronchodilator spirometry.

Statement 2: People with COPD who are prescribed an inhaler, have their inhaler technique assessed when starting treatment and then regularly during treatment.

Statement 3: People with stable COPD and a persistent resting stable oxygen saturation level of 92% or less have their ABGs measured to assess whether they need long-term oxygen therapy.

Statement 4: People with stable COPD and exercise limitation due to breathlessness are referred to a pulmonary rehabilitation programme.

Statement 5: People admitted to hospital for an acute exacerbation of COPD start a pulmonary rehabilitation programme within 4 weeks of discharge.

Statement 6: People receiving emergency oxygen for an acute exacerbation of COPD have oxygen saturation levels maintained between 88% and 92%.

Statement 7: People with an acute exacerbation of COPD and persistent acidotic hypercapnic ventilatory failure that is not improving after 1 hour of optimal medical therapy have non-invasive ventilation.

Statement 8: NICE placeholder statement* - hospital discharge care bundle.

*A placeholder statement indicates the need for evidence-based guidance to be developed in this area.
CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)³

**Indicator**

| RECORDS |

**COPD001.** The contractor establishes and maintains a register of patients with COPD | 3 |

**INITIAL DIAGNOSIS**

**COPD002.** The percentage of patients with COPD (diagnosed on or after 1 April 2011) in whom the diagnosis has been confirmed by post bronchodilator spirometry between 3 months before and 12 months after entering onto the register | 5 | 45–80% |
### ONGOING MANAGEMENT

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Points</th>
<th>Achievement thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COPD003.</strong> The percentage of patients with COPD who have had a review, undertaken by a healthcare professional, including an assessment of breathlessness using the Medical Research Council dyspnoea scale in the preceding 12 months</td>
<td>9</td>
<td>50–90%</td>
</tr>
<tr>
<td><strong>COPD004.</strong> The percentage of patients with COPD with a record of FEV₁ in the preceding 12 months</td>
<td>7</td>
<td>40–75%</td>
</tr>
<tr>
<td><strong>COPD005.</strong> The percentage of patients with COPD and Medical Research Council dyspnoea grade ≥3 at any time in the preceding 12 months, with a record of oxygen saturation value within the preceding 12 months</td>
<td>5</td>
<td>40–90%</td>
</tr>
<tr>
<td><strong>COPD007.</strong> The percentage of patients with COPD who have had influenza immunisation in the preceding 1 August to 31 March</td>
<td>6</td>
<td>57–97%</td>
</tr>
</tbody>
</table>
Available resources:

- **British Lung Foundation** (www.blf.org.uk) run the Breathe Easy support network

- **Smokefree** (www.nhs.uk/smokefree) is an online NHS resource to support patients

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**GLOSSARY**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABG</td>
<td>Arterial Blood Gas</td>
</tr>
<tr>
<td>ACE</td>
<td>Angiotensin-Converting Enzyme</td>
</tr>
<tr>
<td>ADL</td>
<td>Activity of Daily Living</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CAT</td>
<td>COPD Assessment Test</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructive Pulmonary Disease</td>
</tr>
<tr>
<td>CT</td>
<td>Computerised Tomography</td>
</tr>
<tr>
<td>CXR</td>
<td>Chest X-ray</td>
</tr>
<tr>
<td>DVT</td>
<td>Deep Vein Thrombosis</td>
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<tr>
<td>ECG</td>
<td>Electrocardiogram</td>
</tr>
<tr>
<td>FBC</td>
<td>Full Blood Count</td>
</tr>
<tr>
<td>FEV₁</td>
<td>Forced Expiratory Volume in 1 second</td>
</tr>
<tr>
<td>FH</td>
<td>Family History</td>
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<tr>
<td>FiO₂</td>
<td>Fraction of Inspired Oxygen</td>
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<tr>
<td>FVC</td>
<td>Forced Vital Capacity</td>
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<tr>
<td>GMS</td>
<td>General Medical Services</td>
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<tr>
<td>GOLD</td>
<td>Global Initiative for Chronic Obstructive Lung Disease</td>
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<tr>
<td>HRCT</td>
<td>High Resolution Computerised Tomography</td>
</tr>
<tr>
<td>Hx</td>
<td>History</td>
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<td>ICS</td>
<td>Inhaled Corticosteroid</td>
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<tr>
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<td>Ischaemic Heart Disease</td>
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<tr>
<td>JVP</td>
<td>Jugular Venous Pressure</td>
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<tr>
<td>LABA</td>
<td>Long-acting (\beta_2) Agonist</td>
</tr>
<tr>
<td>LAMA</td>
<td>Long-acting Muscarinic Antagonist</td>
</tr>
<tr>
<td>LMWH</td>
<td>Low Molecular Weight Heparin</td>
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<tr>
<td>LTOT</td>
<td>Long-term Oxygen Therapy</td>
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<tr>
<td>LVF</td>
<td>Left Ventricular Failure</td>
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<tr>
<td>MI</td>
<td>Myocardial Infarction</td>
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<tr>
<td>mMRC</td>
<td>Modified Medical Research Council scale</td>
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<tr>
<td>MRC</td>
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<tr>
<td>NICE</td>
<td>National Institute for Health and Care Excellence</td>
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<td>NIV</td>
<td>Non-Invasive Ventilation</td>
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<tr>
<td>NRT</td>
<td>Nicotine Replacement Therapy</td>
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<tr>
<td>PaCO₂</td>
<td>Partial pressure of carbon dioxide in arterial blood</td>
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<tr>
<td>PaO₂</td>
<td>Partial pressure of oxygen in arterial blood</td>
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<td>PDE₄</td>
<td>Phosphodiesterase type 4</td>
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<td>SaO₂</td>
<td>Arterial Oxygen Saturation</td>
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<td>TLCO</td>
<td>Transfer Factor for Carbon Monoxide</td>
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<td>U&amp;Es</td>
<td>Urea and Electrolytes</td>
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</table>

**Sources:**

Reporting of side effects

If your patient experiences any side effects, including any possible side effects not listed in the package leaflet, they should speak to you or their nurse. They can also report side effects directly via the Yellow Card Scheme at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard).

By reporting side effects they can help provide more information on the safety of the medicine.