GOLD report on the diagnosis and management of COPD

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The new Global Initiative for Chronic Obstructive Lung Disease (GOLD) report on the prevention, diagnosis and management of COPD advises using inhaled steroids less frequently than in current practice. This article summarises the main recommendations of the report and the implications for GPs.

A new consensus report from the Global Initiative for Chronic Obstructive Lung Disease (GOLD)\(^1\) recommends that treatment decisions for patients with chronic obstructive pulmonary disease (COPD) are based on a careful assessment of their symptoms and exacerbation rate rather than lung function tests and warns that inhaled steroids should be used less than in current practice, following a review of latest available evidence.

Speaking at a briefing funded by Boehringer Ingelheim during the Winter British Thoracic Society (BTS) Meeting in London, Professor David Halpin, consultant chest physician at Royal Devon and Exeter Hospital, and a member of the GOLD board of directors and the science committee that drew up the report, explained that the organisation publishes a report every five years but also carries out an annual update after reviewing new evidence twice a year. “So the GOLD report has the advantage of being much more contemporary than NICE or other guidelines. It provides a framework that can be adapted to local situations,” he said.

“Locally, our CCG has adopted the GOLD format for their formulary recommendations and that’s happening increasingly around the country because the recommendations are seen as more contemporary than other COPD guidelines,” he added. He noted that the NICE guideline on COPD is currently being updated after the last publication, which he led, in 2010.\(^2\)

**Change in definition of COPD**

The definition of COPD in the 2017 GOLD report has been revised to include respiratory symptoms as well as airflow limitation. “This is a really important clinical issue because the definition previously talked about airflow obstruction while the focus is now on symptoms, and this leads into how to diagnose and manage the condition,” explained Professor Halpin. He added: “Symptoms are really important – you can’t have COPD without symptoms.”

COPD should be considered in any patient who has symptoms of dyspnoea, cough or sputum production, and/or a history of exposure to risk factors for the disease (see Figure 1). Chronic and progressive dyspnoea is the most characteristic symptom of COPD and cough with sputum production is present in up to 30% of patients. These symptoms can vary from day to day and may occur many years before a patient develops airflow limitation.

In considering risk factors for COPD, the report recognises that the main risk factor remains tobacco smoking, together with exposure to indoor and outdoor pollution, and occupation. However, the new definition also recognises that airflow obstruction can be due to host

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**Figure 1. Diagnosing COPD. From: GOLD. Global strategy for the diagnosis, management and prevention of COPD, 2017;\(^1\) with permission**
factors, including changes in the airways or alveolar abnormalities. Lung function in childhood may be relevant in the development of COPD in some patients, which means it may be necessary to look back at a patient's lung function over time.

Spirometry remains the essential test required to diagnose COPD and to assess the severity of a patient's airflow limitation. A post-bronchodilator $FEV_1/FVC$ ratio less than 0.7 confirms the presence of persistent airflow limitation and a diagnosis of COPD in patients with relevant symptoms and significant exposure to risk factors. Spirometry to assess $FEV_1$ may also be useful when making decisions about nonpharmacological treatments, including surgery, bronchoscopic interventions and pulmonary rehabilitation.

**Simplifying assessment of COPD and treatment decisions**

The major change in the new GOLD report is simplifying the ABCD grading system used to assess a patient's symptoms and risk of exacerbations to help guide treatment decisions. The scientific committee found that the rate of exacerbations varies greatly between patients and the best predictor of frequent exacerbations (defined as two or more exacerbations per year) is a history of previous treated exacerbations, while $FEV_1$ by itself lacks sufficient precision to be used clinically to predict a patient's risk of future exacerbations.

Taking account of this, the updated ABCD assessment tool is based on only two measures – COPD symptoms and the number of exacerbations a patient has had in the last year – with airflow limitation no longer being taken into account in making treatment decisions (see Figure 2). Rather than just asking patients about breathlessness, the report recommends comprehensively assessing symptoms using a short self-administered questionnaire, such as the eight-item COPD Assessment Test (CAT™; see Figure 3). This provides a simple way of separating patients into two main groups: those with lower levels of symptoms (CAT $<$10) and those with higher levels of symptoms (CAT $\geq$10).

Using the tool, GPs can divide patients into four groups (A, B, C or D) based on the number of exacerbations leading to hospital admission in the previous year and their symptom score:

- **Group A**: patients have had zero or one exacerbation in the previous year and a symptom CAT score $<$10
- **Group B**: patients have had zero or one exacerbation in the previous year but have a symptom CAT score $\geq$10
- **Group C**: patients have had more than one or two exacerbations in the previous year and have a symptom CAT score $<$10
- **Group D**: patients have had more than one or two exacerbations in the previous year and have a symptom CAT score $\geq$10.

“Very simply, one axis is exacerbation risk and one is symptoms, and patients are divided into four groups based on this,” explained Professor Halpin. “Separating clinical parameters from airway limitation makes it clearer what is being evaluated and ranked. This will facilitate more precise treatment recommendations based on parameters that are driving the patient’s symptoms at any given time.”

“This is an important change for GPs,” commented Dr Vincent McGovern, GP with a special interest in respiratory medicine, Belfast. “Since the NICE 2010 guideline, GPs and practice nurses have been using lung function as the starting point for deciding on therapy. This has been driven by QOF [quality and outcomes framework], with a focus on lung function being heavily emphasised for deciding on COPD treatment.”

Taking lung function out of ongoing assessments means that patients with airway

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**Figure 2.** The refined ABCD assessment tool. From: GOLD. *Global strategy for the diagnosis, management and prevention of COPD, 2017,* with permission.
limitation but who are not having frequent exacerbations move from GOLD C and D on the old classification to groups A and B, with implications for how they should be treated.

There are essentially now three main types of COPD patients: those with a lot of symptoms but without exacerbations; patients with frequent exacerbations; and patients with both symptoms and exacerbations. "NICE lumped together symptoms and breathlessness," noted Dr McGovern. "That encouraged use of all available therapies. Now we are starting to think about whether we are treating symptoms or exacerbations, or both."

The new report also advises that all patients should be reviewed after an exacerbation. "It is essential that the patient is followed up, assessing why the exacerbation occurred, whether they are on appropriate treatment and what measures can prevent further exacerbation," stressed Dr McGovern.

**New treatment recommendations**

Table 1 summarises the main treatment recommendations of the GOLD report. A patient’s symptoms and future risk of exacerbations provide ‘the map’ for pharmacological management of stable COPD. The new report shifts to a more personalised approach to treatment, recommending that pharmacotherapy is based on a patient’s symptoms and exacerbation history using the ABCD assessment tool. Also, for the first time, it provides advice on treatment options for patients who fail to show adequate response to first-line therapy as well as when to de-escalate therapy.

Long-acting inhaled bronchodilators (either a long-acting beta-agonist or a long-acting muscarinic antagonist) are recommended as first-line drug treatment for patients with COPD experiencing more than occasional dyspnoea. Those who remain symptomatic should be stepped up to dual bronchodilator therapy. "If there is no clinical benefit, you would consider going back down to monotherapy alone," explained Professor Halpin. "Rather like asthma guidelines, make a change, review the impact and then decide what to do next.” Although there is no specific recommendation, he suggested that assessing the impact of treatment after three months was reasonable.

Inhaled corticosteroids are not recommended as monotherapy for COPD, according to the updated GOLD report. “Inhaled steroids should be used far less frequently than in current practice,” warned Professor Halpin, noting that this recommendation is based on concern about side-effects and lack of efficacy in COPD. However, combination treatments containing an inhaled corticosteroid together with a long-acting beta-agonist may be considered as step-up therapy for patients who continue to have COPD exacerbations while taking long-acting bronchodilators (see Figure 4).

“Previous guidelines meant that therapy was escalated based on lung function so many patients ended up on triple therapy, including inhaled steroids,” said Dr McGovern. The simple message now is that all patients start on bronchodilators, and that inhaled corticosteroids are considered only in those with frequent exacerbations despite dual bronchodilator therapy.

Oral corticosteroids may be used in the acute management of COPD exacerbations but have no role in the chronic daily treatment of COPD because of the lack of benefit and the high risk of systemic
The aims of treatment are to improve symptoms and reduce exacerbations.
Take an individualised approach to pharmacotherapy based on symptoms and risk of exacerbation.
Treatment of a patient who is symptomatic should start with bronchodilator therapy, with use of inhaled steroids only in patients who continue to have exacerbations despite dual bronchodilator therapy.
Smoking cessation is an essential component of managing COPD.

### Table 1. GOLD 2017 recommendations for managing COPD: key points

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### Non-drug approaches

Non-drug approaches are very important for the management of COPD so have been given greater prominence in the latest GOLD report. Smoking cessation remains a key recommendation, with the greatest capacity to influence the natural history of COPD. COPD patients should be asked about smoking at every visit and those who smoke should be given personalised information and strategies to help them to quit, with follow-up. The GOLD report notes that pharmacotherapy and nicotine replacement therapy reliably increase long-term smoking abstinence rates, with behavioural support further improving success. However, it does not recommend use of e-cigarettes because their efficacy for smoking cessation remains controversial and their safety profile has not been well defined.

Influenza vaccination can reduce serious illness, including lower respiratory tract infections requiring hospital admission and death, in COPD patients. Pneumococcal vaccination is also recommended for all people aged 65 years and older and has been shown to reduce the incidence of community-acquired pneumonia in younger patients with COPD and reduced FEV₁.

Pulmonary rehabilitation, which provides exercise training, education and self-management approaches for COPD, should be considered part of integrated patient management, having been shown to be the most effective approach to improving shortness of breath, health status and exercise tolerance. The 2017 GOLD report found optimum benefits from programmes lasting six to eight weeks, with no evidence for extending rehabilitation further. It noted that pulmonary rehabilitation is one of the most cost-effective treatment strategies for COPD, with an estimated cost per quality-adjusted life year (QALY) gained of £2000-£8000.

Dr McGovern warned there is currently inadequate provision of pulmonary rehabilitation for COPD patients. “And even where it is well provided, the uptake is low. We need patients to understand that, like cardiac rehab after a heart attack, pulmonary rehab is essential,” he said.

### Implications for GPs

“For GPs, this GOLD report provides a really useful contemporary update, moving the management of COPD forward,” suggested Dr McGovern. He considered the emphasis on non-drug interventions was important, advising: “Before you step up therapy, discuss with a patient whether they have stopped smoking, have received education about their condition, and whether they use their inhaler correctly and regularly.”

Reflecting on the shift in treatment recommendations, he concluded: “We are used to an emphasis on treatment with inhaled steroids in asthma. But we need to think completely differently about COPD – it’s a bronchodilator first and another bronchodilator at the next step. Use of an inhaled steroid is down the line, to reduce exacerbations.” He considered that the concept of stepping down COPD therapy was a paradigm shift. “When you start a further treatment in a patient with COPD, ask them: ‘Did that help you?’ If they don’t feel better or breathe better or have fewer symptoms, step down again.”

### References


### Declaration of interests

None to declare.

Susan Mayor is a freelance medical writer.