

Early Diagnosis of COPD does help!

COPD (Chronic Obstructive Pulmonary Disease) is an increasingly common condition resulting in considerable morbidity and mortality. This opinion sheet will review the evidence for the benefits of early diagnosis and give you some tools that you can use to make changes in your practice to improve health outcomes for your patients.

Why does early diagnosis matter?

COPD is commonly under-diagnosed worldwide. Only a quarter of the people shown to have COPD in a population survey in Spain were previously aware of the diagnosis.¹

Diagnosis of COPD usually does not occur until significant lung function has already been lost. By the time patients recognise that they have symptoms, their FEV₁ has usually fallen to about 50% predicted - a level where health status is already reduced and there is a significant amount of systemic inflammation leading to co-morbidities.²

Financial costs of COPD are high. These include the direct costs of hospitalisation and other healthcare interventions, as well as the indirect costs of disability, lost productivity, caregiver support and family costs. Many of these costs could be reduced by earlier diagnosis and intervention.³

Can early intervention help?

At all stages in the management of COPD, using interventions including smoking cessation, exercise and rehabilitation, lifestyle changes, influenza and pneumococcal vaccination and the reduction of exacerbations result in better quality of life for the patient.²

A growing body of evidence suggests that early detection of airflow limitation and early intervention can delay lung function decline, reduce the burden of COPD symptoms, and improve patients' quality of life.⁴

Smoking cessation has been shown to be the

most significant intervention to slow the rate of decline of lung function⁵ and the earlier a smoker stops smoking, the better lung function is preserved.⁶ Smoking cessation intervention may well be more successful in those who are actually given a firm diagnosis.⁷ Reviewing the illness and instructing patients on their lung age has also been shown to improve smoking cessation rates.⁸ For tools on smoking cessation please see the IPCRG smoking cessation fact sheet⁹ or the web-based practical guidance.¹⁰

Early pharmacological intervention can improve the health status and exercise capacity of COPD patients, and reduce exacerbations, even in patients with mild to moderate COPD.¹¹ Airflow limitation during exercise is associated with extensive small airways dysfunction even in patients whose lung function at rest may appear to be relatively preserved. These patients are likely to benefit from bronchodilation irrespective of the improvements observed with spirometry.¹² Early identification also allows earlier lifestyle change such as exercise and pulmonary rehabilitation.¹³

Early and aggressive management of exacerbations protects the patient from COPD progression. Every purulent COPD exacerbation decreases quality of life and longevity, and reduces lung function.¹⁴

Vaccination, adequate nutrition, and appropriate pharmacological intervention have been shown to decrease exacerbations.^{15,16}

Self-management education is a crucial component of care and all people with COPD should be offered the opportunity to discuss the lifestyle changes that can improve prognosis and develop plans for early intervention of exacerbations.¹⁷

What are the barriers to making the diagnosis earlier?

There are many barriers to an early diagnosis - see Table 1.

How do we promote earlier diagnosis?

There are a number of strategies that can be used to encourage earlier diagnosis. Promoting better understanding and awareness among politicians, health professionals and people in

Table 1. Barriers when promoting COPD earlier diagnosis

- COPD progresses relentlessly, but slowly, and as such, many patients do not realise that they have a problem
- COPD patients blame their breathlessness on aging, being less active and becoming older. They assume their cough is a normal phenomenon; the 'smoker's cough'
- COPD patients tend to be uncomplaining about their condition – described as the 'silence of people with COPD'¹⁸
- Because patients under-emphasise their symptoms, the physician may be less aggressive about treating them and does not consider the disease at an early stage
- Physicians might not consider repeated bronchial infections as an early sign of COPD development
- These patients often have multiple co-morbidities, and these conditions may well be more pressing and clearer to diagnose
- Physicians have a gender bias, assuming that females would have asthma, and thus missing the proper diagnosis¹⁹
- Controversy about the use of spirometry in primary care for early detection may discourage some clinicians²⁰
- There is a lack of consistently performed spirometry and spirometry training in primary care²¹
- There may be a delay in receiving spirometry reports when done outside of the office²²
- There are time pressures on General Practitioners that impact adversely on their capacity to manage patients proactively^{23,24}

the community about an increasingly important disease is the cornerstone of a global change in attitude.

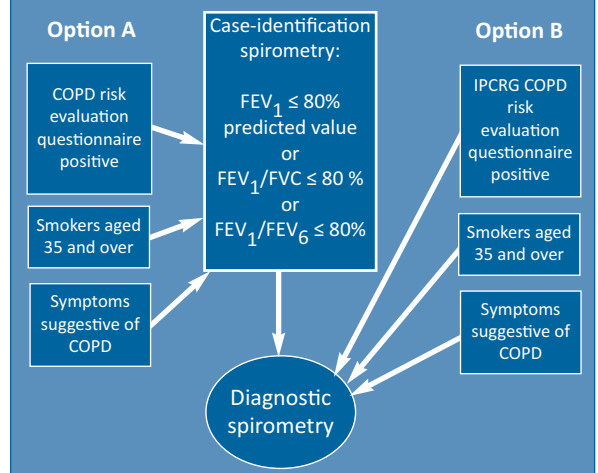
Offering spirometry to all smokers regardless of whether they are symptomatic for COPD has been advocated, with a detection rate for newly diagnosed COPD of up to 20%.²⁵ However, many authors recommend case finding by offering spirometry to symptomatic smokers after an initial approach using existing questionnaires to detect COPD-related initial symptoms.²⁶

In a population setting, questionnaires could be distributed through the media to encourage smokers at risk to check whether they have symptoms and visit their general practitioners. The Canada Lung Health Test²⁷ is one good example (Table 2). A negative screen makes a diagnosis of COPD less likely.²⁸

The IPCRGR currently recommends that all patients over 35 years old should be evaluated for their risk of developing COPD²⁹ - see Figure 1.

1. Take a history using validated screening questionnaires based on a combination of risk factors and symptoms.
2. Perform 'case-identification' spirometry using a variety of small "mini-spirometers" that can exclude those with normal FEV₁ and identify those who require more complete investigation for COPD.
3. Offer diagnostic spirometry to patients who have either symptoms and risk factors, or a positive screening questionnaire, or whose screening FEV₁ is not within normal limits.

Figure 1.²⁹ An approach to COPD case-identification in primary care
Adapted with permission from *Primary Care Respiratory Journal*
Full text of this article is available at: <http://dx.doi.org/10.4104/pcrj.2009.00055>



Concern has been expressed about the accuracy of spirometry performed in primary care settings^{30,31} However, studies show that accurate spirometry can be performed in primary care offices, where the operators have appropriate training and interest.

Practices that have introduced spirometry into

routine care have made significant changes in COPD diagnosis and treatment.³²

Opportunistic spirometry to detect COPD has been shown to be cost effective.³³

Summary

Early diagnosis of patients with COPD is good for the patient and the community. The health care worker must suspect the possible diagnosis from symptoms and risk factors, consider screening with mini-spirometers, and offer proper spirometry to confirm the diagnosis. Making the diagnosis early will encourage smoking cessation and enable earlier interventions to help prevent exacerbations and hopefully preserve lung function, quality of life and decrease mortality.

Table 2. Canada Lung Health Test²⁷

1. Do you cough regularly?
2. Do you cough up phlegm regularly?
3. Do even simple chores make you short of breath?
4. Do you wheeze when you exert yourself, or at night?
5. Do you get frequent colds that persist longer than those of other people you know?

If the patient is a smoker or ex-smoker and over 40 years old and answers yes to any of the listed questions, referral should be made for further assessment, including spirometry.

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