ABC of chronic obstructive pulmonary disease

Primary care and palliative care

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This is the 11th in a series of 12 articles

Primary care

Over the past decade, interest in diagnosing and managing COPD in primary care has grown in recognition of its increasing burden on patients, families, health services, and society. Guidelines from bodies such as the British Thoracic Society, National Institute for Health and Clinical Excellence, Global Initiative for Chronic Obstructive Lung Disease, and International Primary Care Airways Group have also increased awareness of COPD among primary care doctors.

COPD is a cause of great misery to many patients and their carers. Decreasing lung function—with symptoms such as breathlessness, cough, wheeze, fluid retention, and fatigue—results in a downward spiral of reduced activity, social isolation, loss of independence, depression, and increased contact with health and social care providers. However, considerable help can and should be provided in primary care. Recently, the inclusion of COPD management in the UK general practice “new contract” has provided incentives for better care.

Detection

Patients with COPD typically present late, often with respiratory tract infections that have not previously been linked with COPD or with breathlessness misdiagnosed as asthma. Studies suggest that, among cigarette smokers older than 40 years, about 20% of those without a respiratory diagnosis and at least a quarter of those with a diagnosis of asthma actually have COPD. By the time most have COPD diagnosed, at least 50% of their lung function will have been lost.

Thus, a priority in primary care should be earlier detection and correct diagnosis. The use of simple questionnaires may allow easier detection of patients who need spirometry, avoiding the need for mass spirometry screening programmes.

All patients should receive education about COPD

Assessing and correcting inhaler technique and, when necessary, switching to an alternative device are vital in all patients with COPD

Simple questionnaire for evaluating risk of COPD

Patient characteristic	Value	Score*
Age (years)?	40-49	0
	50-59	4
	60-69	8
	≥ 70	10
Smoking pack years?	0-14	0
	15-24	2
	25-49	3
	≥ 50	7
Body mass index?	< 25.4	5
	25.4-29.7	1
	> 29.7	0
Cough affected by weather?	Yes	3
	No or no cough	0
Sputum production in absence of a cold?	Yes	3
	No	0
Sputum production first thing in the morning?	Yes	0
	No	3
Wheezes?	Sometimes or often	4
	Never	0
Has or used to have any allergies?	Yes	0
	No	3

*Total scores of ≥ 17 suggest increased risk of COPD being present

Simple questionnaire for differential diagnosis of COPD

Patient characteristic	Value	Score*
Age (years)?	40-49	0
	50-59	5
	60-69	9
	≥ 70	11
Smoking pack years?	0-14	0
	15-24	3
	25-49	7
	≥ 50	9
Increased frequency of cough in recent years?	Yes	0
	No	1
Breathing problems in past 3 years?†	Yes	0
	No	3
Ever admitted to hospital with breathing problems?	Yes	6
	No	0
Short of breath more often in recent years?	Yes	1
	No	0
How much sputum coughed up most days?	< 15 ml/day	0
	≥ 15 ml/day	4
When gets a cold it usually goes to chest?	Yes	4
	No	0
Taking any treatment to help breathing?	Yes	5
	No	0

*Total scores of ≤ 18 suggest asthma is the predominant diagnosis, scores of ≥ 19 suggest COPD

†Serious enough to keep patient away from work, indoors, at home, or in bed

Diagnosis and assessment

The diagnosis of COPD is established by detection of airflow obstruction in conjunction with typical symptoms and a history of smoking. Spirometry must be performed by adequately trained staff using a vitalograph that is properly maintained and calibrated. Similarly, results should be interpreted by individuals with sufficient expertise. Some primary care teams may find either performing or interpreting spirometry difficult, and help should be readily available in undertaking these tasks.

The severity of COPD should be assessed not only in terms of impairment in lung function but as an overall assessment of the patient. This should include symptoms (particularly breathlessness according to the MRC dyspnoea score), frequency of exacerbations, extent of disability, health status, evidence of depression and anxiety, and body mass index.

Secondary care referral

The decision to refer to secondary care will depend on the individual general practitioner's experience and confidence in managing COPD and on the facilities available. If diagnostic uncertainty exists, however, consider referral to a specialist to help confirm or refute the diagnosis. Other potential reasons for specialist referral include

- Severe airflow obstruction
- Marked functional impairment
- Rapidly declining lung function
- Assessment of suitability of domiciliary oxygen in hypoxic patients
- Young age or family history of α_1 antitrypsin deficiency
- Persistent symptoms despite apparently adequate therapy
- Frequent exacerbations and infections
- Haemoptysis or suspected lung cancer
- Signs suggestive of cor pulmonale
- Assessment for specialist treatment such as nebulisers, pulmonary rehabilitation, domiciliary non-invasive ventilation, lung volume reduction surgery, lung transplantation, or bullectomy.

Management of stable disease

Once the diagnosis of COPD has been established, ensure that patients are given sufficient information about the disorder and that their inhaler technique is assessed at every available opportunity. The detailed management of patients with stable COPD should involve both non-pharmacological and pharmacological measures as outlined in earlier articles. Pulmonary rehabilitation is not universally available, although in some regions it is extending beyond secondary care to community settings. This development may be especially attractive to patients with milder disease and those in rural communities where travelling to a secondary care centre every week for several months is impractical.

Management of exacerbations

Most exacerbations can and should be managed by the patient or the primary care team. The decision to admit a patient to hospital depends on a combination of physical and social criteria, which may vary according to the facilities available to the clinician making the decision. Patients may find a self management plan useful. This normally gives advice on how to recognise and respond to an exacerbation. Its content will probably vary according to the patient population (and indeed individual patients) but should include

- How to recognise an exacerbation
- What treatment to take and for how long (antibiotics, oral corticosteroids, and increase in bronchodilators)

MRC dyspnoea score

Grade	Impact of dyspnoea
1	Not troubled by breathlessness except on vigorous exertion
2	Short of breath when hurrying or walking up inclines
3	Walks slower than contemporaries because of breathlessness, or has to stop for breath when walking at own pace
4	Stops for breath after walking about 100 metres or stops after a few minutes' walking on the level
5	Too breathless to leave the house or breathless on dressing or undressing

A patient's lung function can be assessed in primary care with a benchtop vitalograph (top) or a handheld device (bottom)

Suggested format for initial assessment of a patient with COPD

Diagnosis and severity

- Date diagnosis confirmed
- Spirometry
- Severity
- Body mass index
- MRC dyspnoea score

Medical history

- Respiratory
- Cardiac
- Other

Smoking status

- Date stopped
- Smoking pack years
- Smoking cessation advice

Investigations

- Full blood count
- Chest radiograph
- Oxygen saturation (%)

Exacerbations in past 12 months

- No of antibiotic courses
- No of oral corticosteroid courses
- No of hospital admissions

Treatment review

- Patient's understanding of treatment
- Inhaler technique
- Self management plan
- Oxygen therapy

Vaccinations

- Influenza
- Pneumococcal

Holistic review

- Depression
- Vulnerable patient (lives alone or severe disease)

Referral to other teams or services

- Secondary care
- Community nursing teams
- Palliative care services
- Osteoporosis assessment

Time to next review

- Who to contact in an emergency (including out of hours services, or the nearest emergency room facility) and how to recognise the need to do so
- Advice to see their doctor or respiratory nurse for review once they have improved.

Structured review

The need to review patients with COPD will depend on the individual patient, the severity and stability of the disease, the extent of social support, and any recent changes in treatment. However, all patients should be reviewed four to six weeks after a change in treatment or after an exacerbation (this should include measurement of spirometry, a review of treatment, and discussion of patients' understanding of their disease). In general, those with mild to moderate disease should be reviewed annually, while those with severe disease at least every six months. The review process may be assisted by the use of standardised templates for primary care computer systems such as that endorsed by the General Practice Airways Group (www.gpiag.org/news/copd_template1.php).

Palliative care

Palliative care is defined as "an approach that improves quality of life of patients and their families facing the problems associated with life threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."

Patients with end stage COPD need structured palliative care at least as much as patients with malignant disease, and this should ideally be delivered by a multidisciplinary team working in synchrony. In some cases referral to a specialist palliative care team with access to hospice beds and home nursing services may be required. However, primary care input is vital as the individual patient's general practice will probably have looked after the patient for many years and be familiar with his or her family and social background. Knowing when to discuss prognosis is often difficult, as patients vary widely in the length of time between diagnosis and pre-terminal events. However, most patients generally find open discussion about end of life issues worth while and prefer to be involved in decision making.

Symptom control

The most disturbing symptom for patients with end stage COPD is usually overwhelming dyspnoea, which often induces anxiety and frank fear. General principles for management of distressing breathlessness revolve around reassuring patients and care givers, suggesting distraction techniques, devising coping strategies, adapting daily activities, and ensuring patients have realistic expectations of their capabilities. Some patients find that a moving stream of cool air produced by a bedside or hand held fan also helps to relieve breathlessness, but oxygen should be considered if patients are hypoxic. Patients should, of course, receive bronchodilators. For patients with end stage disease who continue to have distressing breathlessness despite maximal treatment, there should be a low threshold to starting opiates and benzodiazepines. However, palliation of symptoms should neither postpone nor hasten death.

Patients at the pre-terminal stage who are too weak to expectorate may experience accumulations of upper airway secretions. These can produce a "death rattle" that may be distressing to both patient and family. In hospital, oropharyngeal suctioning may be useful, and if this fails a subcutaneous infusion or boluses of hyoscine hydrobromide can be given (0.6-2.4 mg/24 hours).

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Suggested format for structured review of a patient with COPD

Smoking status

- Is patient still smoking?
If no: date stopped and pack year exposure
- If yes: smoking cessation advice offered and response and current pack year exposure

Treatment review

- Patient's understanding of treatment
- Inhaler technique
- Self management plan discussed and reviewed
- Oxygen therapy

Assess impairment and severity

- Repeat spirometry
- Oxygen saturation (%)
- Body mass index

Assess symptoms

- MRC dyspnoea score

Exacerbations in past 12 months

- No of antibiotic courses
- No of oral corticosteroid courses
- No of hospital admissions

Holistic review

- Depression or anxiety
- Social situation

Assess need to refer to other teams or services

- Secondary care
- Community nursing teams
- Palliative care
- Osteoporosis assessment

Time to next review

- Change in treatment: 6 weeks
- No change in treatment: 3-9 months depending on severity

Drugs for symptom control in end stage COPD

Opiates and benzodiazepines are the most useful drugs in relieving breathlessness in end stage disease

Opiates

- Useful in reducing the sensation of breathlessness
- Initially prescribe oral morphine (for example, Oramorph or Sevredol 2.5-5 mg) as required
- This can lead on to a regular longer acting opiate

Benzodiazepines

- Useful in relieving breathlessness when anxiety is an integral component
- Can be prescribed alone or alongside opiates
- Lorazepam can be used sublingually as required at dose of 0.5-1 mg
- Patients with persistent anxiety or breathlessness may require a regular longer acting benzodiazepine such as diazepam 2-5 mg every 8 hours

Further reading

- Bellamy D, Bouchard J, Henrichsen S, Johansson G, Langhammer A, Reid J, et al. International Primary Care Respiratory Group (IPCRG) guidelines: management of chronic obstructive pulmonary disease (COPD). *Prim Care Respir J* 2006;15:48-57
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