



A General Practice
Airways Group
Publication

Diagnosis and management of chronic obstructive pulmonary disease in primary care

A guide for those working in primary care



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The diagnosis and management of COPD in primary care

Dr Kevin Gruffydd-Jones

Box Surgery
Wiltshire
Email: kgj@gruffbox.f9.co.uk

Dr John Haughney

GPIAG Research Fellow
Dept. General Practice, University of Aberdeen
Email: j.haughney@abdn.ac.uk

Dr Rupert Jones

GPwSI in Respiratory Medicine
Plymouth PCT
Email: rupert.jones@pms.ac.uk

Dr Noel O'Kelly

GPwSI in Respiratory Medicine (COPD)
East Lincolnshire PCT
Email: noel.okelly@eastlinincs-pct.nhs.uk

Edited by:

Dr Paul Stephenson, paul.stephenson@gp-d83012.nhs.uk
Dr Mark L Levy, marklevy@animalswild.com

The General Practice Airways Group (GPIAG) is an independent GP-led primary care charity dedicated to achieving optimal respiratory health for all. Nationally, the GPIAG provides an independent, authoritative voice for all members of the primary care respiratory team and is committed to achieving high standards in respiratory care.

The GPIAG aims to achieve optimal respiratory health for all by:

- Leading primary care respiratory research
- Facilitating collaboration in primary care respiratory education
- Promoting best practice in primary care respiratory health
- Representing primary care respiratory health needs at policy level

Telephone: 01461 600639 Email: info@gpiag.org
Web: <http://www.gpiag.org>

The British Lung Foundation is the only UK charity working for everyone affected by lung disease. This is what we do:

- We support people affected by lung disease through the individual challenges they will face. Support is the focus of many of our activities, including Breathe Easy, our nationwide support network and Baby Breathe Easy, our parent support groups.
- We help people to understand their condition. We do this by providing comprehensive and clear information on paper, on the web and on the telephone.
- And we work for positive change in lung health. We do this by campaigning, raising awareness and funding world-class research.

Helpline (Mon- Fri, 10am - 6pm): 08458 50 50 20,
Email: enquiries@blf-uk.org Web: <http://www.lunguk.org>

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Introduction

Dr Kevin Gruffydd-Jones

Chronic Obstructive Pulmonary Disease (COPD) is an important cause of morbidity and mortality (30,000 + deaths in the United Kingdom per annum)¹. There are an estimated 3 million people in the UK suffering from the disease (900,000 diagnosed and 2.1 million undiagnosed) and consultation rates for COPD are up to four times that for ischaemic heart disease.

Traditionally COPD has been one of the "Cinderella" conditions of primary care with the perception that little can be done to help sufferers. Recent advances in pharmacological and non-pharma-

cological management have shown that significant improvements in patients' quality of life can be made and, in some cases, a cessation of disease progression.

The National Institute for Clinical Excellence (NICE) have produced clear evidence-based guidance about the management of COPD.¹ This booklet, produced by The General Practice Airways Group (GPIAG) in conjunction with the British Lung Foundation (BLF) aims to help health professionals implement these guidelines in primary care.

Presentation and Diagnosis of COPD

Dr John Haughney

Chronic Obstructive Pulmonary Disease (COPD) is the term now used to describe patients who in the past may have been classified as having "chronic bronchitis", "emphysema", or "COAD". It is a disease characterised by airflow obstruction. Unlike asthma, its symptoms and signs do not vary over time, it is not fully reversible and its severity is progressive. In the Western world, cigarette smoking is the predominant cause.

breathlessness on exertion. Features found at presentation are given in Table 1.

In Primary Care, COPD patients may be identified additionally through:

- a) the re-organisation and inspection of asthma registers; some COPD patients may have found their way onto an asthma register
- b) the screening of asymptomatic smokers, a procedure employed by some practices or primary care organisations

Although chronic cough is the most common presenting symptom for COPD patients, many smokers accept this as "to be expected". Probably the principal reason for seeking medical help is

All cigarette smokers are at risk of developing COPD. Many are reluctant to present because of fears of guilt, a perception of having to admit

Table 1. Presenting features

Consider a diagnosis of COPD in patients who are:

- Over 35 years
- Smokers or ex-smokers
- Have any of the following symptoms:
 - Breathlessness on exertion
 - Chronic cough
 - Regular sputum production
 - Frequent episodes of "bronchitis" or "chest infections"
 - Wheeze

And who don't have clinical features of other diseases, particularly asthma, and including bronchiectasis, congestive cardiac failure and lung cancer.

"self-induced illness" or because they know that the first advice from a clinician will be... STOP SMOKING!

Diagnosis

A diagnosis of COPD is based on the presence of symptoms and signs and requires confirmation by spirometry. In primary care, it is usually possible to differentiate COPD from asthma on the basis of the clinical features as displayed in Table 2.

There may be few or even no symptoms

Table 2. Clinical features differentiating COPD and asthma¹

	COPD	Asthma
Smoker or ex-smoker	Nearly all	Possibly
Symptoms under age 35	Rare	Often
Chronic productive cough	Common	Uncommon
Breathlessness	Persistent and progressive	Variable
Night time waking with breathlessness and/or wheeze	Uncommon	Common
Significant diurnal or day-to-day variability of symptoms	Uncommon	Common

in the early stages of COPD, so that symptoms in individual patients vary and the presence of a single feature is not useful in confirming or refuting the diagnosis.

On examination, the following signs may be present:

- Hyperinflated chest
- Use of accessory muscles of respiration
- Wheeze or quiet breath sounds
- Peripheral oedema
- Raised JVP
- Cyanosis
- Cachexia

Spirometry, and thus demonstration of airflow obstruction, is crucial to a diagnosis. The forced expiratory volume in one second (FEV₁) and the forced vital capacity (FVC) should be compared with predicted normals. It is now felt that a diagnosis of COPD can often be made without formal spirometry reversibility testing, although this remains an option where diagnostic doubt persists. The use of peak expiratory flow measurements (PEF) is not recommended as these can significantly underestimate the severity of airflow obstruction.

A typical spirometry tracing from a patient with COPD is shown at Figure 1B. As part of an initial assessment, at the time of initial diagnosis, patients should also have

- A chest X-ray to exclude other pathology
- A full blood count to exclude anaemia or polycythaemia
- A calculation of their body mass index (BMI)

COPD is a systemic disease. Primary care clinicians should aim to identify the possible extra-pulmonary effects such as

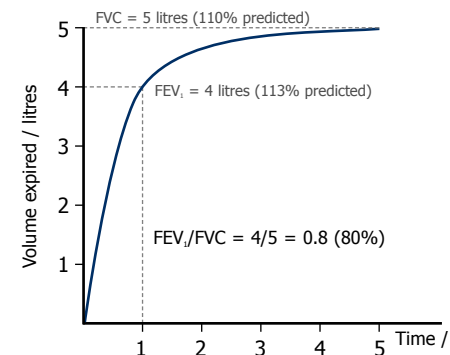
- Weight loss
- Muscle wasting
- Anxiety and depression
- Pulmonary hypertension and cor pulmonale (right heart failure secondary to lung disease)

The assessment and management of these features is dealt with on pages 5-6.

Hypoxia with COPD leads to pulmonary hypertension which in turn may lead to cor pulmonale. Signs of cor pulmonale, such as fluid retention, peripheral oedema and raised venous pressure should be sought on examination. ECG and echocardiography are appropriate, primary care commissioned investigations. The development of right heart failure and cor pulmonale in patients with COPD has important negative implications for prognosis.

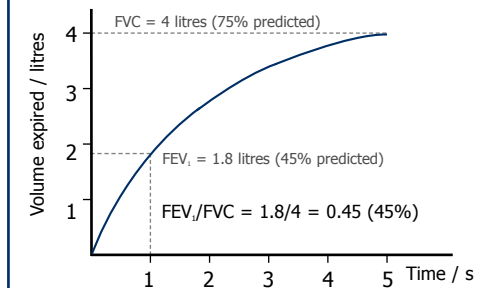
Finally, in this group of patients there are often significant co-morbidities, for example arthritis, dementia, depression and heart diseases. As always, we need to manage the patient, not the individual diseases.

Figure 1A: Spirometry tracing of a patient with normal airways



A forced expiratory manoeuvre. The predicted values are derived from age, gender and height and taken from standard reference tables, currently the European Community for Steel and Coal are used in the UK. These may lead to under diagnosis in the elderly and need adjustment in black and Asian populations. Here, the FVC is 5 litres and the FEV₁ is 4 litres. The ratio is therefore 0.8, normal.

Figure 1B: Spirometry tracing of a patient with COPD: an obstructive picture



Again a forced expiratory manoeuvre. In this case the FVC is 4 litres and the FEV₁ is 1.8 litres. The ratio is therefore 0.45, an OBSTRUCTIVE picture, consistent with COPD (but also with asthma).

Assessment of COPD in primary care

Dr Kevin Gruffydd-Jones

Traditionally, assessment of severity of COPD has been carried out by measurements of airflow obstruction (FEV₁/FVC). Airflow limitation does not necessarily correlate with the level of symptoms or the degree of disability that a patient experiences because of COPD.

NICE¹ Grading of Severity of Airflow Obstruction

Severity	FEV ₁ Predicted
Mild	50-80
Moderate	30-49
Severe	<30

The NICE Guideline recommends a multidimensional assessment as follows:

1. Degree of breathlessness. Measure MRC Dyspnoea Score.²

MRC Dyspnoea Score

Grade degree of breathlessness related to activities:

- 1 Not troubled by breathlessness except on strenuous exercise
- 2 Short of breath when hurrying or walking up a slight hill
- 3 Walks slower than contemporaries on the level because of breathlessness, or has to stop for breath when walking at own pace
- 4 Stops for breath after walking about 100 metres or after a few minutes on the level
- 5 Too breathless to leave the house or breathless when dressing or undressing

2. Exercise limitation and disability
 - "How does your breathing affect your everyday life?"
 - "Do your symptoms stop you doing anything?"
 - Health status can be measured using short questionnaires (see resources)
3. Assessment of productive cough?
4. Frequency of exacerbations (mild=needing an increase in treatment, severe=needing oral steroids/hospitalisation)
5. Body Mass Index (BMI) weight (kg) / height (m²)
6. Signs of "failing lung" (respiratory failure)?
 - Cor pulmonale
 - Raised JVP
 - Hypoxic
 - Pulse oximetry (oxygen saturation \leq 92%)
7. Symptoms of anxiety and/or depression (especially with patients with failing lung/exacerbations)
Screening questions include:
 - During the last month have you often been bothered by feeling down, depressed or helpless?
 - During the last month have you been bothered by having little interest or pleasure in doing things?
 - Do you feel upset or frightened by your attacks of breathlessness?A positive answer should prompt more formal assessment of the depression.

Management of COPD

Dr Kevin Gruffydd-Jones

The centre pages of this booklet (pages 9-10) show a patient-centred approach to management based on the multidimensional assessment with the following headings:

ALL PATIENTS (including asymptomatic patients picked up at screening / opportunistically)

Smoking cessation

- Smoking cessation may halt disease progression and improves mortality
- Refer to practice- or locality-based smoking cessation services.
- Nicotine replacement therapy and oral bupropion can improve smoking cessation success rates.

Influenza and Pneumococcal Vaccination

- Pneumococcal vaccination and an annual influenza vaccination should be offered to patients with COPD.

Exercise Advice

- All patients with COPD should be encouraged to exercise within the limits of any co-morbidity.
- Consider referring patients with mild disease to local exercise promotion schemes
- Consider patients with disability for pulmonary rehabilitation.

Dietary Advice

- Overweight patients (BMI>25) should be advised to lose weight.
- Underweight patients (BMI<20) have an increased mortality and should be referred to a dietician.

SYMPTOMATIC PATIENTS

Pharmacotherapy

Most patients will cope with a hand-held inhaler device and rarely will nebuliser therapy be necessary. A spacer device may help delivery in patients using a pressurised metered dose inhaler (pMDI), especially during an exacerbation. Checking of inhaler technique is vital in a group of patients who may find some devices difficult to use.

Intermittent breathlessness

- Use a short-acting β 2-agonist bronchodilator for relief of symptoms irrespective of their effect on lung function. Short-acting β 2-agonists (SABA) such as terbutaline, and salbutamol have an onset of action from 5 minutes and last 3-4 hours.
- Alternatively, a short-acting anticholinergic agent (ipratropium) can be used; onset of action is within 30 minutes, lasting 4-6 hours.

Persistent breathlessness

- Regular bronchodilation with long-acting bronchodilators can improve FEV₁ and FVC, reduce dynamic hyperinflation of the lungs and hence reduce the work of breathing, improving breathlessness and exercise capacity. Long-acting β 2-agonists (LABA), are given twice daily. Formoterol is given via a dry powder device (TurbohalerTM). Salmeterol can be given via pMDI or a dry powder device (AccuhalerTM).
- The main side-effects of LABA are tremor and palpitations
- Tiotropium given once daily via dry-powder device (HandihalerTM)

has a long duration of action and can be given once daily. It provides a sustained improvement in lung function and significant improvement in health status and reduction in exacerbations (including hospitalisations) compared to regular four-times-daily ipratropium.

- The main side-effect of tiotropium is dry mouth.
- Oral theophyllines are reserved for patients intolerant to inhaled therapy because of their high-risk side-effect profile, drug interactions and the need to monitor blood concentration levels.

Cough

- Patients with distressing viscid sputum may be helped by a trial (4 weeks) of a mucolytic agent, carbocysteine (Mucodyne™) or mecysteine (Visclair™).
- Physiotherapy may also help.

PATIENTS WITH A DISABILITY

When patients have restriction in their ability to carry out daily activities they should be referred for pulmonary rehabilitation (see page 12).

PATIENTS WITH EXACERBATIONS OF COPD

- Patients with an FEV₁ of $\leq 50\%$ predicted and with 2 or more exacerbations of COPD in the previous year should be offered a trial of an inhaled corticosteroid and LABA combination.
- Formoterol 12mcg / budesonide 400mcg (Symbicort™) or salmeterol 50mcg/fluticasone 500mcg (Seretide™) are licensed to be given twice daily via dry powder

devices (Turbohaler™/Accuhaler™) and produce a sustained improvement in lung function, symptoms and health status with a reduction in exacerbations.

- Osteoporosis screening should be considered with prolonged dosing.

Oral corticosteroids

- Oral steroids should not be prescribed for maintenance therapy unless a patient is unable to stop these after an acute exacerbation.
- The risk of side-effects with sustained oral steroid therapy is high.
- Patients should be screened for osteoporosis.

Depression and/or anxiety

NICE guidelines¹ recommend treatment with traditional pharmacotherapy.

Self-management plans

Self-management plans (see page 13) should be discussed with patients who might suffer exacerbations including the provision of standby antibiotics and oral steroids

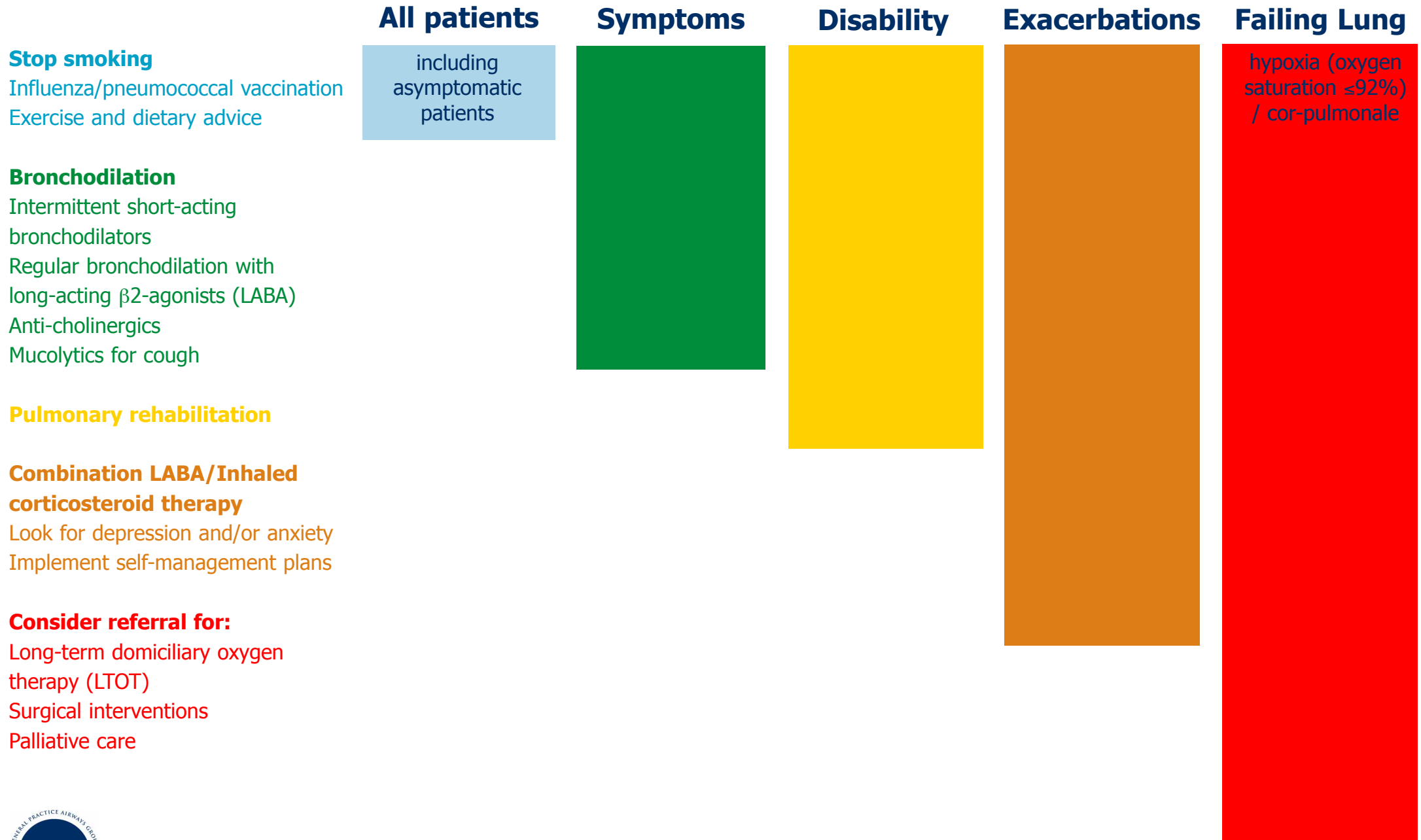
PATIENTS WITH THE "FAILING LUNG"

A diagnosis of "Failing Lung" should be considered when the patient has cor-pulmonale or oxygen saturation $\leq 92\%$ breathing air.

- Refer for secondary care or palliative care assessment (see pages 15-16). Secondary care treatment includes:
 - Long-term or ambulatory oxygen therapy
 - Increased focus on systemic effects of COPD such as increasing muscle mass
 - Lung volume reduction surgery or lung transplantation

Your pull-out copy of patient-centred approach to multidimensional management of COPD

The patient-centred approach to management of COPD



Pulmonary rehabilitation

Dr Rupert Jones

Definition

A multidisciplinary programme of care for patients with chronic respiratory impairment that is individually tailored and designed to optimise each patient's physical and social performance and autonomy.

COPD patients with breathlessness often avoid exercise and become unfit and de-motivated. They become anxious, depressed and socially isolated. Pulmonary rehabilitation (PR) addresses all these issues.

Indication

Any patient who considers themselves to be functionally disabled by COPD (usually MRC dyspnoea scale 3 or above²) irrespective of lung function. It is not suitable for patients unable to exercise. Those who lack motivation need encouragement.

PR is effective in improving:

- o quality of life
- o exercise capacity
- o dyspnoea

There is some evidence of reduced bed days and healthcare consumption. There is strong evidence that it is cost-effective. Despite its proven benefits, it is estimated that it is only available to 2% of suitable patients.

The components of PR

Exercise:

- Individually tailored and increased during the programme

- Involves supervised exercises preferably twice weekly, although once weekly can be effective
- upper- and lower-limb exercises
- usually in a group with an exercise regime to be followed at home

Education - main topics include:

- Relaxation
- Breathing control
- Pathophysiology
- Drug treatment
- Self-management
- Benefits, social services

Setting

In the past PR was mainly hospital-based, but increasingly it is performed in the community. This has advantages for patients in terms of access, but it is important that location and the programme are risk-assessed.

Assessment

It is important that formal assessment of health status and exercise capacity is measured before and after PR.

Widely used are: The Incremental Shuttle Walking Test, Questionnaires: CRQ; SGRQ; CCQ; Other useful questionnaires include LCADL; HAD score; and LINQ. For details see resources on back cover.

Follow-up

It is important to offer a means of continuing the exercise programme. Some have regular follow-up sessions, some refer to exercise on prescription schemes, and some to the local patient support group, e.g. Breathe Easy.

Exacerbations of COPD

Dr Rupert Jones

Definition

An exacerbation of COPD is:

- A sustained worsening of the patient's symptoms from their usual stable state
- Beyond normal day-to-day variations
- Acute in onset
- Requires treatment change

Main symptoms are increased

- Breathlessness
- Cough
- Sputum volume
- Sputum purulence
- General malaise

Costs of exacerbations

Unscheduled care accounts for 60% of NHS costs in COPD, mainly from admissions. Costs of exacerbations are dependent on where they are managed: mild, self managed - £15; moderate, GP managed - £95; severe, requiring admission - £1,658.

Management of exacerbations

Fifty percent of those who survive their first admission with COPD will be re-admitted within 6 months. Ten percent die during the admission and a third will die within 6 months. Exacerbations in moderate to severe COPD compromise quality of life and it takes patients up to 6 months to recover fully. With frequent exacerbations, before they have got over one, they are hit by the next. This pattern is associated with rapid decline in lung function and quality of life.

Self Management

In an exacerbation, the earlier treatment is started, the better:

1. Take maximal bronchodilator therapy
2. Oral steroids if symptoms persist

- despite bronchodilators
3. Antibiotics if sputum goes yellow or green (see action plan sample p14).
- In flu epidemics, when alerted by local public health laboratory, NICE recommend: oseltamivir should be used within 48 hours of the onset of an influenza like illness (rather than zanamivir which may cause bronchospasm).

NICE recommend that pulse oximetry be available to all clinicians assessing acute exacerbations.

Indications for in-patient assessment

Indications for in-patient assessment including chest X-ray, blood gases and ECG are:

- Worsening hypoxaemia
- Unremitting severe breathless
- Confusion, drowsiness (may indicate hypercapnia)
- New onset of peripheral oedema or cyanosis
- Chest pain and fever (may indicate other pathology e.g. pneumonia.)

During an exacerbation, nebulisers hold few advantages over metered dose inhalers, but are sometimes needed to allow better delivery, the moisture may help sputum expectoration. There is strong evidence to support the use of non-invasive ventilation to treat respiratory failure with CO2 retention.

After an exacerbation, a thorough review is indicated including:

- optimal drug treatment (see management section pages 6 & 7)
- self-management advice
- pulmonary rehabilitation and/or oxygen as appropriate

A suggested action plan

THEN: Look at the table

Symptoms	Column 1 <u>OK</u>	Column 2 <u>CAUTION</u>	Column 3 <u>ACTION</u>
Breathlessness	Normal/usual	Worse than usual	Much worse than usual
Cough	Normal/usual	More than usual	Much more than usual

What action to take if your symptoms get worse:

FIRST:

Check the colour of your sputum:

Cough sputum onto a white tissue. If your sputum colour has change from clear or pale to a darker shade e.g. yellow or green : start antibiotics

Reliever Treatment
Via inhaler or nebuliser
Maximum dose / times per day
Maximum dose / times per day
Antibiotics
Please take your home supply or obtain a prescription without delay from the surgery
Prednisolone
Take 30mg once a day (6 x 5mg tablets) until back to normal and then for 2 more days before stopping. Maximum 2 weeks.

WARNING

At any time if you get:

Severe symptoms: If you have symptoms as shown in Column 3 (ACTION) and you've tried medication and you are not getting any better, please contact your doctor/nurse for an urgent appointment

EMERGENCY

If you have any of the following:

- Very short of breath
- Chest pains
- High fever
- Feeling of agitation, fear, drowsiness or confusion

DIAL 999 FOR AN AMBULANCE

If all of your symptoms are in **Column 1 (OK)** continue usual treatment

If any of your symptoms are in **Column 2 (CAUTION)** you should: Increase your **RELIEVER TREATMENT**, take regular doses up to the maximum allowed. Keep a close eye on your symptoms: if you improve within 2 days resume your usual treatment. If there is **NO** improvement start **PREDNISOLONE**

If any of your symptoms are in **Column 3 (ACTION)** you should take the maximum allowed dose of reliever treatment and **START PREDNISOLONE 30mg per day IMMEDIATELY**

Contacts:

Surgery: _____ Respiratory nurse: _____

Notes: _____

Oxygen therapy

Dr Rupert Jones

Oxygen therapy for COPD is classified as:

Long-term oxygen therapy (LTOT)

Can prolong life and improve health status and dyspnoea in patients with respiratory failure. Currently it is under-used. Not all patients comply with the regime.

Short-burst oxygen therapy

Has been overused and has limited benefits, but can be useful in palliative care and in severe dyspnoea. It is relatively safe in stable disease but can cause dangerous carbon dioxide retention, especially in bad exacerbations.

Ambulatory oxygen therapy

Is suitable for those needing LTOT or those who desaturate with exertion, but who wish to keep active.

New Home Oxygen Therapy Service (HOTS)

Under new rules, starting February 1st 2006, the provision of oxygen will be made by the HOTS service led from secondary care. All patients on oxygen will need formal assessments and follow up.

Who should be assessed?

Any of these features, in stable COPD, requires pulse oximetry:

- FEV₁ < 30% predicted
- cyanosis
- polycythaemia
- cor pulmonale

If the SaO₂ is less than or equal to 92% breathing air, they should be referred for specialist assessment including arterial blood gas analysis.

GPs can still order oxygen (with a home oxygen order form) usually as part of short-term arrangements, e.g. palliative care or whilst a patient is awaiting assessment.

End of life issues in the management of COPD

Dr Noel O’Kelly

It is important to establish the point at which a patient fulfils the criteria for end of life care as this will reflect dramatically in the subsequent management plan for the individual patient.

End of life issues should be considered in patients where there is a likelihood that they may die in the ensuing year.

There are a number of clinical indicators that will inform us as to the likelihood of patients fulfilling end of life criteria including:

Primary Clinical Indicators:

1. Severe COPD (FEV₁ < 30%)
2. History of recurrent acute exacerbations of COPD

- (>2 exacerbations in previous year)
- Admission to hospital with acute COPD within previous year
 - Frequent admissions to hospital for acute COPD
 - Progressive shortening of time period between admissions

Supporting Clinical Indicators

1. Severe co-morbidities e.g. heart failure, diabetes etc
2. Dependence on oxygen
 - On long-term oxygen and requiring ambulatory oxygen
3. Severe unremitting dyspnoea at rest (MRC dyspnoea score 5²)
4. Inability to carry out normal activities of daily living, inability to self care
5. On maximal therapy

In patients fulfilling end of life criteria consider:

1. Completion of a DS1500 form to be sent to the benefits agency so that patients can receive a disability living allowance before the prescribed 6-month period.

2. Clear management plan in consultation with the patient and carer.
3. Referral to specialist services
 - Community Matron/Respiratory Nurse Specialist within community
 - District nurses
 - Palliative care specialist nurse (MacMillan Nurse)
4. Adopting Gold Standard Framework e.g. establishing GP register for end of life patients.
5. Provide a patient-held record of care plan, available for emergency services personnel.
6. Provide an alert card to the Out of Hours Service containing summary of relevant patient information including preferred place of death.
7. Adopting Liverpool Care Pathway - (for last 48 hours of life) a nationally adopted integrated care pathway for patients in the last few days of life (more details available from <http://www.lcp-mariecurie.org.uk/>).

Referral criteria to specialist services

Dr Noel O’Kelly

When to refer appropriately is always a difficult decision to make. The decision to refer may be influenced by the knowledge and confidence of the primary care clinician, the referral options available within the health community and on factors directly related to the patient themselves.

Reasons for referral to help with the diagnostic process

1. Diagnostic uncertainty
2. Suspected severe and deteriorating COPD
 - Worsening of symptoms despite maximal therapy
 - Rapid decline in lung function (FEV₁)
 - Symptoms disproportionate to

- lung function
- Age <40 yrs or alpha-1-antitrypsin deficiency
 - Onset of cor pulmonale or presence of significant co-morbidities
 - Red flag symptoms to exclude lung cancer
 - Haemoptysis
 - Finger clubbing
 - Patients experiencing frequent infections/exacerbations
 - Patient requests second opinion

Referral for assessment of additional therapies

- Assessment for pulmonary rehabilitation
 - Patients with functional disability despite optimal therapy (MRC

- dyspnoea score of 3+)
- Assessment for lung surgery
 - Lung volume reduction surgery
 - Lung transplantation
 - Assessment for oxygen therapy
 - Long term oxygen therapy
 - Severe COPD patients ($FEV_1 \leq 30\%$)
 - Oxygen saturation $\leq 92\%$ (pulse oximetry)
 - Assessment for ambulatory oxygen therapy
 - Patients who desaturate on exercise i.e. severe onset of dyspnoea on exertion
 - Assessment for nebulised therapy

- Patient education to ensure patients respond appropriately to onset of acute symptoms (as part of self management plan)
- Systems in place within practice to allow for streamlined access to clinicians for the most vulnerable patients (moderate to severe

- Identification of patients with a history of acute exacerbations and ensuring provision of self-management plans
 - Self-management plan provided to all patients with history of recurrent COPD exacerbations

Providing structured care in COPD in Primary Care

Dr Noel O'Kelly

Key points in the management of COPD patients along the care pathway

- Screening for COPD

Provide spirometry to:

 - Patients who have significant smoking history, are >35 years of age and have a history of asthma
 - Patients who have significant smoking history, are >35 years of age and have had a prescription for a bronchodilator in the last year
 - Patients who have a significant smoking history, are >35 years of age and have a history of an acute respiratory problem in the last year
- Identification and diagnosis of COPD
 - Provision of spirometry in practice

- and method to invite patients to attend
- COPD clinic template of care (see right)
 - Management of COPD with reference to national and local guidelines
 - NICE Guideline¹
 - Locally agreed guidelines
 - Identification of patients with moderate/severe disease who require referral for specialist interventions (see section on referral criteria page 17)
 - Agreed referral pathways between primary and secondary care
 - Ensuring that patients suffering from acute exacerbations receive prompt assessment and treatment
 - Practice register of patients with moderate to severe COPD

COPD Clinic Template with relevant Read Codes

Prompt	Read Code	Pick List
Respiratory disease monitoring	663..	6631. Initial respiratory assessment 66YL. COPD follow-up 9N4W.DNA - COPD clinic
Tobacco Consumption	137..	
Date ceased smoking	137T.	
Cigarette Pack Years	137g.	
Smoking Cessation Advice	8CAL.	
Cough Symptom	171..	
Breathlessness	173..	MRC Dyspnoea Score
O/E Height	229..	
O/E Weight	22A..	
Body Mass index	22K..	
Forced expired volume in 1 second	339O.	
Forced vital capacity - FVC	3396.	
Percent predicted FEV ₁	339S.	
Spirometry	5882.	
Inhaler technique observed	6637.	663H. Inhaler technique - good
	663I.	Inhaler technique - poor
Pulse Oximetry monitoring	8A44.	
Oxygen Therapy	877..	6639. Home Oxygen Supply
	877I.	Oxygen therapy
COPD with acute exacerbation, unspecified	H3y1.	Enter number of exacerbations in last year-free text
Admit COPD emergency	8H2R.	
Flu Vaccine	65E	
Pneumococcal Vaccine	6572.	
Quality of life assessment completed	3894.	AQ20
Hospital anxiety and depression scale	388J.	
COPD self-management plan given	66YI.	
Pulmonary rehabilitation	8FA..	
Medication review done	8B3V.	

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1. Full version of NICE COPD Guideline
National Institute for Clinical Excellence (NICE). 2003. Chronic Obstructive Pulmonary Disease: national clinical guideline for management of chronic obstructive disease in adults in primary and secondary care. *Thorax* 59 (supplement 1). Short version available on <http://www.nice.org.uk>
2. MRC. Dyspnoea Score adapted from: Fletcher CM *et al.* The significance of respiratory symptoms and the diagnosis of chronic bronchitis in a working population. *British Medical Journal* 1959;2:257-66

Examples of Questionnaires for COPD assessment

- Clinical COPD Questionnaire (CCQ) (www.ccq.nl) van der Molen T, Willemse BW, Schokker S, ten Hacken NH, Postma DS, Juniper EF. Development, validity and responsiveness of the Clinical COPD Questionnaire. *Health Qual Life Outcomes*. 2003;1:13 (assessing COPD Control)
- Q20 . Hajiro *et al.* A novel , short and Simple Questionnaire to measure health-related quality of life in patients with Chronic Obstructive Pulmonary Disease *Am. J. Respir Care Med* 1999;159:1874-8 (Health Status Questionnaire.)
- Hospital anxiety Depression scale (HAD) Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr. Scand.* 1983;67:361-70

Resources

- General Practice Airways Group: Information and support for health professionals involved with primary care respiratory medicine <http://www.gpiag.org>. Registered charity No: 1098117
- British Lung Foundation: Registered charity (charity no. 326730) offering help, support and information for patients and carers on all aspects of lung disease <http://www.lunguk.org>
- British Thoracic Society: Information and guidelines on management of lung disease for health professionals. <http://www.brit-thoracic.org.uk/copd>

Stopping Smoking

Quit An independent charity offering help with stopping smoking <http://www.quit.org.uk>
NHS Stop Smoking Helpline: <http://www.givingupsmoking.co.uk>

Training for health professionals in COPD

- National Respiratory Training Centre (NRTC) <http://www.nrtc.org.uk>
- Respiratory Education Training Centres (RETC) <http://www.respiratoryetc.com>

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Registered offices: 21-27 St Paul's Street, Leeds, West Yorkshire LS1 2ER

Address for correspondence: GPIAG, Smithy House, Waterbeck, Lockerbie, DG11 3EY
Telephone: +44 (0)1461 600639 Facsimile: +44 (0)1461 207819 Email: info@gpiag.org
Websites: <http://www.gpiag.org> and <http://www.thepcrj.com>