

PCRS-UK Protocols



COPD assessment and review in primary care

This protocol has been developed specifically to be utilised by primary care nurses delivering respiratory care. It has also been produced in Microsoft Word™ format as a general guide only, to allow for local adaptation. It must be stressed that the use of all, or part, of this protocol must be sanctioned and approved by the appropriate authorised individual from the practice or primary care organisation in which it is to be used.

The PCRS-UK is neither responsible or liable, directly or indirectly for any form of damage or injury caused as a result of information provided in this document.

Introduction

Chronic obstructive pulmonary disease (COPD) is characterised by airflow obstruction, which is defined by spirometry as a reduced FEV₁/FVC ratio less than 0.7. FEV₁ helps us to look at the severity of the problem. If FEV₁ is $\geq 80\%$ predicted a diagnosis of COPD can be made in the presence of respiratory symptoms, for example breathlessness or cough but there still needs to be obstruction so a reduced FEV₁/FVC ratio < 0.7 . The airflow obstruction is usually progressive, not fully reversible and does not change markedly over several months. The disease is predominantly caused by smoking.¹

Presentation

A diagnosis of COPD should be considered in the following patients:

Patients over 35 with a significant smoking history (15 pack years or more) who have one or more of the following respiratory symptoms:

- Chronic cough which is present intermittently or every day
- Chronic sputum production
- Dyspnoea which is progressive, persistent, worse on exercise, worse during respiratory infections
- History of exposure to risk factors i.e. smoking, occupational dusts and chemicals
- No clinical features of asthma

Clinical signs of COPD do not tend to be apparent until disease becomes severe:

- Barrel chest
- Prominent accessory muscles
- Abdominal breathing
- Weight loss
- Central cyanosis
- Peripheral oedema
- Raised jugular venous pressure
- Chest overinflation

After initial assessment (see figure 1) a review date should be agreed. If new therapies have been started, offer review 1-2 months after changing treatment. If lifestyle changes are being made review according to goals set with the patient. Patient review should also be offered after an exacerbation or hospital admission. Routine reviews should be offered annually to patients with mild to moderate COPD. In patients

with more severe disease follow up should be offered at least every six months.

Assessment

- Breathlessness and exercise tolerance (use MRC dyspnoea score², see page 2)
- Frequency of exacerbations
- Presence of complications
- Effects of drug treatment, discontinue treatments with no subjective benefit (use Jones 5 questions³ to assess effectiveness)
- Inhaler technique and provide education where appropriate
- Smoking status and desire to quit

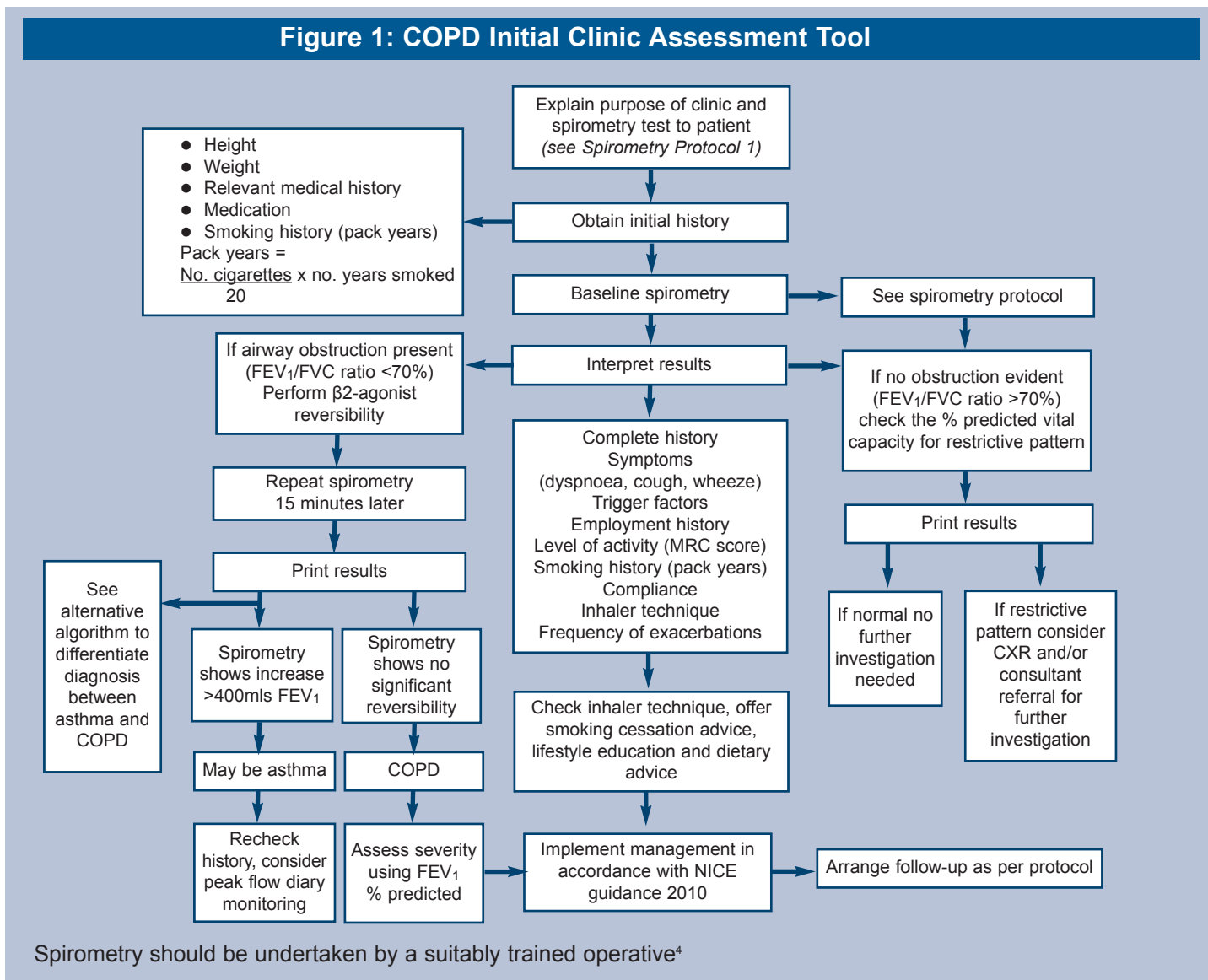
Action

- Give smoking cessation advice or health education where appropriate
- Review need to refer for pulmonary rehabilitation
- Check for the presence of cor pulmonale
- Review need for osteoporosis prevention
- Review nutritional status
- Screen for depression (use NICE¹ guidance questions, see page 2)
- Assess requirement for social services or occupational therapy input
- Consider other co-morbidities as a cause for symptoms

Criteria for referral to Chest Physician

- Diagnostic doubt
- Specialist investigations or treatment
- Very severe disease
- Long term nebuliser therapy or oral steroid therapy
- Frequent infections, dysfunctional breathing or haemoptysis
- Patients under 40 or family history of $\alpha 1$ antitrypsin deficiency
- Rapid decline in FEV₁ or increase in symptoms disproportionate to lung deficit
- Assessment for lung volume reduction therapy or lung transplantation
- Long Term Oxygen Therapy (LTOT)
- The need for LTOT should be assessed in patients with:
 - ♦ MRC score² = 3 or more
 - ♦ Severe airflow obstruction (FEV₁ $< 30\%$ predicted)
 - ♦ Cyanosis or peripheral oedema or polycythaemia

Figure 1: COPD Initial Clinic Assessment Tool



- ◆ Raised jugular venous pressure
- ◆ Oxygen saturations $\leq 92\%$ breathing air

Measurements

- Spirometry
- BMI
- Pulse oximetry (SaO₂)

Useful Tools

Jones 5 questions³

1. Has your treatment made any difference to you?
2. Is your breathing easier in any way?
3. Can you do some things now that you couldn't do before or the same things faster?
4. Can you do the same things as before but are now less breathless when you do them?
5. Has your sleep improved?

MRC dyspnoea score²

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 level ground

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 level ground
5. Too breathless to leave the house or breathless when getting undressed

CAT (COPD assessment tool)⁵

The CAT is a short, simple and validated assessment, which measures the impact of COPD on a patient's life in an objective manner. It helps discussion between people with COPD and health care professionals of the impact of the disease allowing management to be tailored to the individual person with COPD.

NICE Guidance on Depression

1. During the last month have you been bothered by feeling down, depressed or hopeless?
2. During the last month have you often been bothered by having little interest or pleasure in doing things?

A positive test is the answer of "yes" to either of the questions above; refer to GP for further investigation.

Algorithm - Clinical features differentiating COPD and asthma

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

Initial COPD Assessment Form

(Please note relevant read codes in brackets for nGMS contract, complete COPD template)

Patient name _____

Date ____/____/____

Height _____ cm

Weight _____ kg

BMI _____

male female

DOB ____/____/____

Age _____

Ethnicity _____

Occupation

Past _____

Present _____

History of breathing problems:

- Childhood onset Family history
- Occupational Other

Comment _____

Existing respiratory diagnosis

- COPD COPD/asthma
- Asthma Other

Concomitant disease

Smoking status:

- Yes (137R) Never (1371)
- Ex-smoker (137S) Passive (137I)

Pack years _____

(no cigs smoked/20 x no years smoked)

Symptoms

Breathlessness:

- Variable sudden attacks most days

Onset:

- Recent over many years

Trigger factors

Cough

Productive yes no

Sputum type? yes no

Haemoptysis yes no

Haemoptysis can be a symptom of lung cancer: a CXR is mandatory

Last CXR

Result ____/____/____

Oxygen therapy

Blood Gases O₂ _____ CO₂ _____

Date last measured ____/____/____

Type (cylinder/concentrator)? _____

Hours per day _____

Flow rate (L/min) _____

Nebuliser therapy

yes no

Compressor maintained?

yes no

Oral steroids

yes no

Osteoporosis prevention

yes no

Consultant Care

Under the care of: _____

Last seen: ____/____/____

Further investigations

To exclude underlying causes of breathlessness, such as lung cancer, anaemia, cardiac causes, sleep apnoea, bronchiectasis, consider the following:

- Chest X-ray
- ECG/Echocardiogram
- Full Blood count
- Sleep studies
- CT scan

Exercise tolerance

MRC dyspnoea score (1-5) _____

Impact of activities:

Current Management

Drug: _____

Dose: _____

Delivery device: _____

Prescribed regime: _____

Patient actual use: _____

Spacer device yes no

Comment _____

Refer to NICE COPD guidelines (2010) for management options

Education given

Diet

Comment: _____

- Exercise
Comment: _____
- Lifestyle
Comment: _____
- Inhaler technique
Comment: _____
- Smoking cessation (8CAL)
Comment: _____

Inhaler technique

- Good (663H) bad (663I) shown (6636)

Education given continued...

- Influenza vaccination advice
- 65E flu vac given

- Pneumococcal vaccination
 - Exacerbation management/self management
- Comments

Referrals made to

- Pulmonary rehab
- Smoking cessation service
- Consultant/Chest physician
- Other e.g. COPD Nurse Specialist, physiotherapist, other AHP
- Dietician
- Psychologist
- Breathe Easy Group

Spirometry results (pre and post reversibility) and oxygen saturation

	Pre-actual	% predicted	Post actual	% predicted
FEV ₁ /FVC ratio	(339R)			
FEV ₁	(3390)	(339S)		
FVC	(3396)			
VC				

NICE guidelines recommend that an increase of >400mls in FEV₁ from baseline is significant and may indicate asthma (post FEV₁ - pre FEV₁ x 1000)

Lung function assessment indicates:

- Normal lung function
 - Restriction
 - Mild COPD (% predicted FEV₁ ≥ 80% with symptoms)
 - Moderate COPD (% predicted FEV₁ 80% - 50%)
 - Severe COPD (% predicted FEV₁ 49% - 30%)
 - Very severe (% predicted < 30%)
- Pulse oximetry (%) _____ on air on oxygen

References

1. National Institute for Health and Clinical Excellence (NICE) - Guideline for the Management of COPD. February 2004. Revised June 2010 Last accessed 28 June 2010: <http://guidance.nice.org.uk/CG101/NICEGuidance/doc/English>
2. Fletcher CM, Elmes PC, Fairbairn MB *et al*. The significance of respiratory symptoms and the diagnosis of chronic bronchitis in a working population. *BMJ* 1959;**2**:257-266.
3. Jones PW. Health status measurement in chronic obstructive pulmonary disease. *Thorax* 2001;**56**:880-7.
4. Levy ML, Quanjer PH, Booker R, Cooper BG, Holmes S, Small I. Diagnostic Spirometry in Primary Care: Proposed standards for general practice compliant with American Thoracic Society and European Respiratory Society recommendations. A General Practice Airways Group (GPIAG) document, in association with the Association for Respiratory Technology & Physiology (ARTP) and Education for Health. *Prim Care Resp J* 2009;**18**(3):130-47. <http://dx.doi.org/10.4104/pcrj.2009.00054>
5. COPD Assessment Tool (CATS) on line tool <http://catestonline.co.uk/hcpgetting.htm>
6. National Institute for Health and Clinical Excellence (NICE) – Guideline for the management of Depression in adults (CG90) October 2009. <http://www.nice.org.uk/nicemedia/live/12329/45896/45896.pdf>

Further Information

- PCRS-UK Opinion Sheet 25. Reviewing People with COPD. June 2008. H Pinnock. http://www.pcrs-uk.org/downloads/resources/os19_copd_review.pdf
- PCRS-UK Opinion Sheet 1. Spirometry. May 2010. http://www.pcrs-uk.org/downloads/opinions/os1_spirometry.pdf
- PCRS-UK Opinion Sheet 28. Pulse Oximetry. http://www.pcrs-uk.org/downloads/resources/os28_pulse_oximetry.pdf
- PCRS-UK Protocol 1. Spirometry in COPD. S Reilly. http://www.pcrs-uk.org/downloads/resources/protocol01_spirometry_webfinal.doc
- PCRS-UK Summary Guidance. Diagnosis and Management of COPD in Primary Care. Edition 3. http://www.pcrs-uk.org/downloads/resources/copd_guidelinebooklet_final.pdf
- Chronic Obstructive Pulmonary Disease NICE Guideline 101. <http://guidance.nice.org.uk/CG101/NICEGuidance/doc/English> Last accessed 28 June 2010
- An outcomes strategy for people with chronic obstructive pulmonary disease (COPD) and asthma in England https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216139/dh_128428.pdf

This protocol has been developed specifically to be utilised by primary care nurses delivering respiratory care. It has been produced as a general guide only. It must be stressed that the use of all, or part, of this protocol must be sanctioned and approved by the appropriate authorised individual from the practice or primary care organisation in which it is to be used. The PCRS-UK is neither responsible or liable, directly or indirectly for any form of damage or injury caused as a result of information provided in this document.

The PCRS-UK is not able to review or endorse any changes to this protocol.

Date of Preparation: October 2008 **Revised:** June 2010, March 2014

Author: Stephanie Austin, Vice Chair of Nurse Committee PCRS-UK and Head of Clinical Quality, NHS Derby City **Conflict of interest:** None

Editor: Jane Scullion, PCRS-UK

Address: PCRS-UK, Unit 2, Warwick House, Kingsbury Road, Curdworth, Warwicks, B76 9EE **Telephone:** +44 (0)1675 477600 **Facsimile:** +44 (0)1361 331811

Websites: <http://www.pcrs-uk.org>, <http://www.thepcrj.org> **Email:** info@pcrs-uk.org

©PCRS-UK. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, without the prior permission of the PCRS-UK. The PCRS-UK is a registered charity (Charity Number: 1098117) and a company limited by guarantee (Company number 4298947).

The views expressed in this publication are not necessarily those of the Primary Care Respiratory Society UK.