



## **A summary of recommendations of the pulmonary rehabilitation in the community- sharing best practice meeting.**

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A meeting was convened at the GPIAG national conference, on 8 July 2005 for all those involved in the practicalities of setting up and delivering community pulmonary rehabilitation. The aim was to bring health care professionals (including physiotherapists, nurses and doctors) together to share best practise in how they have developed community PR. The final result is a series of recommendations which attempt to summarise the issues considered important by the group. These recommendations are classified as essential, desirable. The recommendations should not be considered as a definitive statement as to how pulmonary rehabilitation in the community must be performed, but more of a check list of points to consider.

Five themes were discussed in detail:

1. Assessing patients
2. The exercise component
3. The education component
4. Safety & venues
5. Follow up & maintenance.

In the tables below

E= Essential

D= Desirable

<p><b>Diagnosis</b> A firm clinical diagnosis of chronic respiratory disease is necessary. (Any chronic lung disease is suitable if it causes functional impairment through breathlessness)</p>	E
<p><b>Investigation</b> Recent spirometry - with reversibility where indicated. Electrocardiogram only when clinically indicated. Blood pressure (initially and monitored as necessary if raised) Chest X-ray in last 2 years. Full blood count BMI</p>	E E E D D D
<p><b>Treatment</b> On optimal medical therapy, (as defined by NICE guidance for COPD patients.) A proforma or algorithm based on NICE guidelines should be available to support those assessing optimal medical therapy. Cigarette smokers should be encouraged to attend smoking cessation services.</p> <p>Oxygen If pulse oximetry shows exercise desaturation by at least 4% and below or equal to 92% on room air, a referral for long term or ambulatory oxygen assessment should be made Patients on ambulatory oxygen should provide their own oxygen.</p> <p><b>Assessment staff</b> Competent individuals must do assessment of all patients prior to PR. Assessing staff should have support available from a competent physician e.g. consultant or other respiratory physician. An experienced and competent physiotherapist should be present during the initial PR assessment</p>	E D E D D E E E
<p><b>Exclusion criteria</b></p> <ol style="list-style-type: none"> <li>1. Cardiovascular conditions liable to be aggravated by exercise- <ul style="list-style-type: none"> <li>o Unstable angina.</li> <li>o Myocardial infarction within the last 4 weeks.</li> <li>o Significant aortic stenosis.</li> <li>o Significant aortic aneurism.</li> <li>o Uncontrolled hypertension.</li> </ul> </li> <li>2. Locomotor impairment liable to prevent exercise training.</li> <li>3. Cognitive impairment or other serious co-morbidity liable to impair participation in the programme.</li> </ol>	

<b>Outcome measures</b>	
Outcome measures should be assessed before and after the programme using validated tools (for examples see below):	
Health status	E
Exercise capacity	E
Activities of daily living	D
Anxiety and depression	D
Breathlessness using the MRC dyspnoea scale (version listed in NICE guidelines)	D
Patient satisfaction should be assessed after the programme	D

### Exercise

Aerobic exercise- Walking is the most accessible form of exercise (other forms of aerobic exercise can be considered) This can be completed either supervised or unsupervised at home.	E
Strength training- upper and lower strength training is desirable. Functional strength training e.g. using the individuals' own body weight as resistance. Upper limb training – through upper limb ergometer, weights, therabands or home made weights.	D
The intensity of exercise should be a minimum of 60% and up to 85% of an individuals maximum exercise capacity.	E
Once weekly supervised exercise session Twice weekly supervised exercise sessions A minimum of four home sessions per week (Home exercise sessions should be calibrated against formal exercise assessments, i.e. those able to complete short bouts of walking should complete daily sessions.)	E D D
The duration of exercise should be increased, aiming for 20-30 minutes of continuous walking, then the intensity can be increased.	D
Group sessions are essential minimum of 4 weeks No maximum number of exercise sessions was identified.	E

## Education

<b>Educators:</b> Educators need to be competent, (good knowledge base of subject). Education should be delivered by multidisciplinary staff. Suggested members: physiotherapist, nurse, doctor, occupational therapist, dietician, clinical psychologist, pharmacist, benefits advisor / citizens advice bureau, expert patients / BLF. Educators share knowledge so can cover for sickness/annual leave.	E D D D
<b>Education sessions:</b> Written information should be available for each education session Offer patients attendance at missed education sessions Duration – half an hour Standardised national education sessions (for example from BLF and/or NICE guidelines)	E D D D

<b>Education topics</b>	
Importance of Exercise.	E
Relaxation and anxiety management.	E
Pathophysiology.	
Smoking effects.	D
	D
Medication:	
o Bronchodilators (short acting, long acting and oral)	E
o Steroids (inhaled and oral)	
o Antibiotics	
o Mucolytics	
Self management:	E
Exacerbation self-management including winter / summer preparation.	D
Sputum clearance.	
Energy conservation for activities of daily living.	D
Nutrition. (Including fat free mass, over or underweight, healthy eating, antioxidants, drinking)	D
	D
Self help groups.	D
What's next?	D
Benefits, housing and social services.	D
Using the NHS.(GPs, practice nurses, hospitals, pharmacist local services etc)	D
Oxygen.	D
Going on holiday / travelling.	D
Breathing control and position techniques	E
Other possible (but less suitable for rolling programmes)	
End of life planning.	D
Relationships and sex.	D

## Safety

<b>Setting</b>	
The size of the room for the exercise session should be assessed by the programme staff and will depend on group numbers.	E
Risk assessment performed.	E

<p>Access</p> <p>Bus stop/parking nearby within 100m.</p> <p>Wheelchair access.</p> <p>Telephone/mobile available in emergencies.</p> <p>Fire exit accessible.</p>	<p>E</p> <p>E</p> <p>E</p> <p>E</p>
<p>Facilities</p> <p>Toilets within 30 metres.</p> <p>Tea/coffee/water facilities.</p>	<p>E</p> <p>D</p>
<p>Cultural sensitivities taken into consideration.</p>	<p>E</p>

## Staff

<p><b>Staffing levels</b></p> <p>Minimum staff/patient ratio 1:8.</p> <p>No of supervisors in attendance e.g. 1 or 2.</p> <p>The risks must be assessed in all groups when deciding staffing levels with consideration of:</p> <ul style="list-style-type: none"> <li>○ The setting and available help in an emergency</li> <li>○ The training of the staff</li> <li>○ Availability of emergency equipment</li> <li>○ The health of the patients</li> </ul>	<p>E</p> <p>D</p> <p>E</p>
<p><b>Qualification of supervisors</b></p> <p>1 PR qualified Health Care Professional (HCP) e.g. Nurse, physiotherapist or doctor and 1 non-qualified HCP competently trained in PR, e.g. Technical I/II/III Instructor, Physiotherapy assistant and Fitness instructors.</p> <p>or 2 non-qualified HCP but competently trained that have close supervision from a qualified HCP.</p> <p>If one member of staff only they should be a qualified HCP trained in PR.</p> <p>At all exercise sessions an exercise specialist in COPD should be present.</p> <p>Physiotherapist involved in PR team for assessments and some monitoring of progress.</p>	<p>E</p> <p>E</p> <p>E</p>
<p><b>Competency of staff/safety</b></p> <p>Knowledge of COPD.</p> <p>Knowledge of exercising patients with COPD.</p> <p>Basic Life support.</p> <p>Immediate Life support.</p> <p>First Aid.</p>	<p>E</p> <p>E</p> <p>E</p> <p>D</p> <p>D</p>

<p><b>Management of emergencies &amp; equipment</b>  Pulse Oximeter: available for all assessments.  Available for routine exercise sessions.</p>	<p>E D</p>
<p>Defibrillator  In some circumstances it will be deemed essential, this will depend on assessing the risk associated with exercising the group of patients in a particular programme.  <i>(there was substantial debate on this)</i></p>	<p>D</p>
<p>Oxygen should be available for all walking test assessments –  If cylinders are used adherence to health and safety issues are essential.  Portable oxygen concentrators maybe an alternative but are expensive.  A PGD is required for all non-medical health professionals for administering oxygen.</p>	<p>E  E</p>
<p>Nebulisers – patients should bring their own, (with own medication), if required.  Salbutamol MDI and spacer should be available  A PGD is required by all non-medical health care professionals to administer bronchodilators on site.</p>	<p>D D E</p>
<p><b>Follow Up &amp; Maintenance</b></p>	
<p><b>Follow up assessments</b>  Some form of reassessment should be offered ( to help patient to monitor progress and to continue with activity).  Re-assessment of the patients physical functioning  Following re-assessment, there are agreed guidelines for action as needed (adhering to the NICE guidelines)</p>	<p>D  D E</p>
<p>Joining a patient support group such as Breathe Easy Group</p>	<p>D</p>
<p><b>Maintenance of exercise</b>  Promotion of the continuing exercise in some form  e.g. walking in the park, joining a Leisure centre or other independent exercise.   Some form of maintenance programme (evidence unclear for content, setting, frequency)  Weekly maintenance of activity.  Access to some form of exercise.</p>	<p>E   D D D</p>
<p>Supervision of classes by members of various professional , with physiotherapist supervision :</p> <ul style="list-style-type: none"> <li>○ Specially trained fitness instructors (BACR or equivalent training required)</li> <li>○ Physiotherapy assistants, technical instructors and respiratory nurses (Trained in exercising patients for rehabilitation)</li> </ul>	<p>D D</p>

Exercising with other pulmonary patients is preferred to a generic class; Degree of severity may dictate which is the better option:	D
<ul style="list-style-type: none"> <li>▪ Patients at the severe end of the spectrum to exercise with other pulmonary Patients</li> <li>▪ Those with mild disease might be just as happy in a mixed group</li> <li>▪ Patient choice</li> </ul>	D D D
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Ongoing access to education, e.g. groups leaflets, Breath Easy, websites	E
<ul style="list-style-type: none"> <li>○ If some form of maintenance programme, include education</li> <li>○ Breath Easy groups encouraged to provide education sessions</li> </ul>	D D

## Conclusion

This group considered the practicalities of establishing and running pulmonary rehabilitation in the community. The group did not formally review the evidence behind these statements, but rather deferred to existing evidence based statements. In particular NICE, CSP, and BTS statements were very useful and should be considered when establishing a programme. New ERS/ATS guidelines are being prepared currently.

### Useful Questionnaires

- Chronic Respiratory Disease Questionnaire
- St Georges Respiratory Questionnaire
- Clinical COPD Questionnaire
- The London Chest Activity Daily Living Questionnaire
- Pulmonary Functional Status & Dyspnoea Questionnaire
- Hospital anxiety Depression scale
- Becks Depression Inventory
- Lung Information Needs Questionnaire

### Validated Walking tests

- Incremental shuttle walking test
- Six minute walking test
- The endurance shuttle-walking test