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**Standard Operating Procedure for**

**Pulmonary Rehabilitation**

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**Introduction**

Pulmonary Rehabilitation (PR) is a multidisciplinary programme that promotes self-care and management for patients with chronic lung disease. The aim is for the individual to achieve their fullest physical, mental, social and vocational potential above that achieved by conventional medical treatment. It is an individually tailored programme of exercise and education, which aims to prevent deconditioning, improve exercise capacity and desensitise the patient to their breathlessness. It also helps the patient to develop disease coping strategies, self-management skills and promote long term lifestyle changes.

**Aims and purpose**

The aim of this document is to ensure a safe and appropriate Pulmonary Rehabilitation within [service name]. This includes:

* Ensuring that patients are referred to Pulmonary Rehabilitation appropriately
* Ensuring that patients are stratified into the correct programme of Pulmonary Rehabilitation
* Ensuring that all staff members have a good understanding about the patient pathway and that through assessments are performed prior to joining a Pulmonary Rehabilitation programme
* Ensuring all staff have a good understanding about the delivery of Pulmonary Rehabilitation at [service name] from a delivery point of view. It is beyond the scope of this document to cover how to deliver each of the streams of rehabilitation programme at [service name].

**Scope**

This document applies to all staff members who work at [service name], in particular the physiotherapy, occupational therapy and Nursing teams.

**Clinical Guidelines for Pulmonary Rehabilitation**

The clinical guidelines and other guidance relevant to the provision of Pulmonary Rehabilitation are listed in the reference section at the end of this document.

**Benefits of Pulmonary rehabilitation:**

Pulmonary rehabilitation is an essential option available within a wider, comprehensive respiratory pathway. There is sound evidence on the benefits of pulmonary rehabilitation and emerging evidence that pulmonary rehabilitation may make an impact on secondary care health utilisation. For example, research studies have shown that pulmonary rehabilitation can:

* reduce mortality
* reduce hospital admissions
* reduce inpatient hospital days
* reduce readmissions (e.g. from 33 – 7%)
* reduce the number of home visits
* improve health-related quality of life in COPD patients after suffering an exacerbation (e.g. dyspnoea, fatigue, depression, and patient control of the disease)
* be highly cost-effective – it is substantially below the NICE threshold for cost-effectiveness, at only £2,000 - £8,000 per QALY
* be cost-saving - one study showed an overall cost saving of £152 per patient per pulmonary rehabilitation programme Improvements in exercise tolerance

**Aims:**

The aims of pulmonary rehabilitation are to:

* Increase exercise tolerance and reduced dyspnoea
* Increase muscle strength and endurance (peripheral and respiratory)
* Improve HRQoL
* Increase independence in daily functioning
* Increase knowledge of lung condition and promote self – management
* Promote long term commitment to exercise

**Referral Criteria**:

Patients and any health care professional can refer to the [service name] PR programme; this can be from both primary and secondary care (e.g.: Consultant, GP, Physiotherapist, Practice Nurse, Community Matron, the patient or their family member or carer).

**Inclusion Criteria:**

* The following criteria should be met for patients to be eligible for referral to PR:
* Diagnosed respiratory condition (confirmed with spirometry), this may include COPD, Bronchiectasis, Chronic Asthma, Pulmonary Fibrosis, Fibrosing Alveolitis
* The patient experiences breathlessness in their day to day life
* The patient is on optimal respiratory medication
* Motivated to attend PR
* No cardiac event in the past 3 months
* Any known cardiac condition (e.g. angina, hypertension) must be well controlled and stable
* Aged 18+

**Exclusion Criteria:**

This list relates to patient with various medical conditions where it would aggravate their present condition and possibly make their condition worse. It would therefore not be safe or advisable for them to attempt such a programme. These would include:

* The presence of unstable cardiac disease – unstable angina
* Not motivated to attend
* Acute LVF
* Uncontrolled hypertension
* Uncontrolled cardiac arrhythmias
* Uncontrolled diabetes
* Aortic Stenosis
* Suspected or known dissecting aneurysm
* Any medical problem which severely restricts exercise or compliance with the programme (e.g. dementia)

**Service Provision Currently**

*Inpatient Therapy Service*

20 inpatient beds

Inpatient therapy cover overseen by [1 x whole time equivalent OT (band 6), 1 x whole time equivalent rehabilitation support worker (band 3), and 0.5 whole time equivalent Physio input (0.1 at band 7, 0.4 at band 5)]

Home visits completed as required

Inpatient rehabilitation classes completed in [atrium] as required dependent on patients

*OutPatient service*

[26] x Rehabilitation Assessments completed by [physiotherapists (band 5/6)] each week

[17] x Specialist Physiotherapist Assessments completed by [band 7] each week

Rehabilitation Classes

[25] x Gym Classes completed each week

**Assessment Process:**

Following referral, patients are sent a letter by admin inviting them to a pulmonary rehabilitation assessment.

On initial assessment, patients undergo a comprehensive assessment prior to commencing a pulmonary rehabilitation programme. This is completed by a physiotherapist and lasts approximately 45minutes. The assessment process involves a discussion regarding medial history, social history and pharmacological history.

Patients are able to attend with a relative should they wish.

Generally assessments take place on either the first or second floor landings, however patients should be offered the option to have their care discussed in private in one of the clinic rooms.

Assessment outcomes are recorded on [the “Pre Rehab Assessment” template on Systm1]

Outcome Measures

* ISWT (See Local SOP)
* ESWT/ETWT (See Local SOP)
* CAT questionnaire
* MRC

NB Patients who are on LTOT should complete all walking tests on oxygen; if they do not have ambulatory oxygen then the physiotherapist should complete an ambulatory oxygen therapy assessment as per local procedure prior to commencement in rehab. Patients who are noted to desaturate on pre-walks are not on any oxygen therapy will be closely monitored in the gym and a formal ambulatory assessment will be completed.

**Pulmonary Rehabilitation Programme:**

The gym based pulmonary rehabilitation programme delivered by a physiotherapist consists of 2 main component parts; exercise and education.

There are two different types of class:

* Pulmonary Rehabilitation
* High Dependency

Patient allocation to the most suitable class is a clinical decision made by the assessing therapist (this class tends to be for the patients with more complex PMH and multiple co-morbidities, or those whom need closer supervision to mount/dismount equipment).

Patients new to rehabilitation will have a thorough induction on their first session [(Monday/Tuesday/Wednesday)], and will be asked to sign a rehabilitation contract to ensure that have understood the content. Demonstration of each piece of equipment will be provided by the physiotherapist and safety pointers emphasised.

Education takes place at the session which is at the latter end of the week [(Thursday / Friday)]. Education is delivered to two classes of patients simultaneously (i.e. at 11am, 2pm), and all patients are expected to participate, regardless of whether or not they have listened to the session previously.

[Example Gym timetable:]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
| 9am | Maintenance | Maintenance | Maintenance | Maintenance | Maintenance |
| 10am | Rehab | Rehab | Maintenance | Rehab | Rehab |
| 11am | High Dependency | Rehab | High Dependency | High Dependency | Rehab |
| 1pm | Rehab |  |  | Rehab | High Dependency |
| 2pm | Rehab | Rehab |  | Rehab | Rehab |
| 3pm | Maintenance | Maintenance |  | Maintenance |  |

Some patients may require a longer period of rehabilitation. This will be discussed with each patient as the need arises.

Maintenance will be offered to all suitable patients following rehabilitation. In the event maintenance is not appropriate / the patient does not wish to attend, an individualised written exercise programme will be issued.

For those patients, whom a gym based programme is not appropriate, a functional rehabilitation class is offered once weekly in the [atrium].

The table below outlines the main differences between the four types of classes offered:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Classes / Week | Cohorts / week | Max Patients | Usual Staffing | Min Staffing | Setting | Type | Duration |
| Pulmonary Rehab | 12 | 6 | 15 | 1 x PT, 2 x RAP | 1 x PT, 1 x RAP | Gym based | Rolling | Twice/week for 6 weeks |
| High Dependency | 4 | 2 | 8 | 1 x PT, 2 x RAP | 1 x PT, 2 x RAP | Gym based | Rolling | Twice/week for 6 weeks |
| Functional Class | 1 | 1 | 10 | 1 x OT, 1 x RSW | 1 x OT, 1 x RSW | Atrium | Cohort | Once/week for 4 weeks |
| Maintenance Class | 9 | 9 | 15 | 2 x RAP | 2 x RAP | Gym based | Rolling | Once/week for 6 months |

Exercise component includes:

A warm up - this can be done in sitting or standing depending on the group

Main exercise session – an individualised programme of exercise which is likely to include endurance / aerobic training and strength training

The exercise component lasts approximately 1 hour.

Education sessions may include:

Types of lung disease

ACBT / chest clearance techniques

Breathing Control

Management of exacerbations

Inhaler technique and medications

Dietary advice

Speech and language therapy

Living an active life with lung disease / Benefits of exercise

Travelling with a lung condition

Managing anxiety / Relaxation strategies

The education session lasts approximately 30 mins, and written material will be provided for self-directed learning.

**The Pulmonary Rehabilitation Team:**

[INSERT team structure information/diagram including names, roles and band]

Respiratory Nurse Consultant / Specialists, Dietician, and Speech and Language therapist also available to input into education provision and as per patient need.

The gym based programmes are co-ordinated by the clinical specialist physiotherapist and the [atrium] based functional group is co-ordinated by the Specialist Occupational Therapist (with assistance from the physiotherapists, as required, for advice regarding the exercise component).

**Links with follow on services**

Follow on programmes are led by level 4 exercise instructors via [service name], referrals are made via online web portal either following completion of maintenance or following completion of pulmonary rehabilitation where accessibility is an issue.

[website/contact information]

**Health and safety**

All staff will be trained in basic life support yearly, and are personally responsible for ensuring they are up to date with all mandatory training requirements as per Trust policy.

Risk assessment of the gym and equipment will be carried out annually, or sooner if need is identified by the designated risk assessor ([name]).

Any issues regarding gym equipment should be recorded in the maintenance log (situated in the gym) and reported to [name] ([Operations manager]) via email by the person identifying the fault. “Out of Order” signs should be placed upon any faulty equipment at point of identification until checks/repairs have been completed. These can be found in the gym cupboard. Treadmill safety clips should be checked daily to ensure adequate functioning.

All equipment must be cleaned with appropriate cleansing wipes following each class – on completion this should be recorded in the cleaning log in the gym. Patients advised on induction regarding appropriate use of the wall mounted alcohol gel dispenser outside the gym before and after class.

Any adverse incidents should be reported on [details]. The outcome of adverse incident reports specific to pulmonary rehabilitation will be discussed in therapy team meeting and measures will be put in place to mitigate risk of recurrence.

Defibrillator, oxygen, pulse oximeter and blood pressure monitor should always be available for use during a Pulmonary Rehabilitation class

First aid box and defibrillator available on site

In the event of adverse weather conditions e.g. extreme temperatures, hot or cold, the class may be cancelled as deemed appropriate by the pulmonary rehabilitation co-ordinators.

**Equality / Diversity**

Vulnerable adults / patients with learning disabilities are able to bring their support worker with them to class. One to one support can be offered by a rehabilitation assistant practitioner as required during the programme to support progression and comprehension.

Interpreters can be provided for those patients whose first language is not English. Interpreters will be provided for both assessment and rehabilitation, throughout the course, this will need to be arranged by [name] at [the main reception]. Interpreters are expected to stay for the educational component of the programme. The use of family and friends as interpreters is discouraged unless it is the patient's choice to use them as interpreters. If patients exercise this choice it is to be documented on [systm1].

Transport can be provided for both assessment and rehabilitation for those who experience difficulty accessing the service. Unfortunately we are unable to offer transport for maintenance classes.

**Audit, monitoring / review**

Reporting is completed annually (April>March) by the [systm1 development lead and administrative support].

Following rehabilitation, patients complete a satisfaction survey. Survey outcomes are reviewed as received for any negative comments/suggestions for improvement which will be acted upon accordingly in a timely manner. Positive responses will be audited annually.

**Communication Cascade**

Team leader attends:

* Community team lead meeting with locality management
* Clinical Effectiveness meeting

Monthly therapy team meetings are completed on [the first Tuesday of every month] to facilitate handover of information to staff and also shape service provision

**References**

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Bronchiectasis in Adults. British Thoracic Society Reports, 4 (1)

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<https://www.nice.org.uk/guidance/CG101>

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Bolton CE, et al. (2013) BTS Guideline on Pulmonary Rehabilitation in Adults. Thorax; 68:ii1–ii30.

The Chartered Society of Physiotherapy. The effectiveness of pulmonary rehabilitation: evidence and implications for physiotherapists. [www.csp.org.uk](http://www.csp.org.uk) 2003

Pulmonary Rehabilitation Process Map

New Referral

(Self, GP, Consultant, Nurse, AHP)

6 Month Review – Band 3 led

Discharged

Inpt Assessment Completed

Suitable for Rehab

In-Patient

Inpt Assessment Not Completed

Outpatient

Clinic 1 – Nurse Led Assessment:

MRC, Spirometry, Meds Review, Diagnosis Confirmation, Referrals on

TRIAGED

Not suitable for Rehab

Clinic 2 – Physio Led Assessment to

? Suitability for pulmonary rehab: ISWT/6MWT, CAT

PR – Pulmonary Rehab

HD – Higher dependency PR

Community Based Programme

Ex 1hr, Education 30min twice weekly sessions for 6 weeks

Post Rehab Review: Repeat ISWT/6MWT, EWT, CAT. ? Maintenance. Refer on for ambulatory O2 as appropriate

Maintenance once weekly for 6 months

**Discharge from Pulmonary Rehabilitation**

Final Assessment should include:

Repeat walking tests

Repeat CAT

Patient completes the satisfaction questionnaire

Discuss continuation into maintenance – can attend once/week for 6 weeks. If patient does not want to attend / is not suitable (comprehension as needs to set self up on equipment / has medicar) to attend maintenance a written individualised home exercise programme should be issued.

Explain the follow up process to the patient

Organise a Nurse follow up appointment if required, indicate on patient’s notes why i.e. needs a self-management plan

Patient may require appointment for:

LTOT assessment – book O2 clinic appointment as per local guidelines

Ambulatory O2 assessment – book appointment as per local guidelines

Discharge letter to referrer / GP

Further assessment will be completed on completion of maintenance and referral on for follow on programmes in the community should be discussed. If patient wishes to attend, referral should be made electronically via: [details]

If not, written exercise programme should be issued

It should be emphasised to the patient they are able to self-refer back through the programme if required.