

How to institute pulmonary rehabilitation for patients with chronic obstructive pulmonary disease

Pulmonary rehabilitation (or reconditioning) (PR) is a key component of the non-drug treatment of patients with chronic obstructive pulmonary disease (COPD).

Not all patients for whom it would be indicated have access to this and national resources are variable. This document aims to explain the available options of its prescription and institution.

Key points

- Pulmonary rehabilitation (PR) must be prescribed as soon as a patient presents with dyspnoea, exercise intolerance or a decrease in daily activities despite optimised drug therapy. In these indications it improves exercise capacity and quality of life, reduces COPD-related dyspnoea, anxiety and depression and brings down hospital admission rates.
- It can also be prescribed after a stay in hospital on account of a COPD exacerbation, which is a situation where it may reduce mortality.
- Access to pulmonary rehabilitation may be optimised:
 - by offering the patient options that address his/her limitations;
 - by promoting rehabilitation on an outpatient basis and at home.
- All health professionals are involved in the therapeutic education of the patient and his/her family. This requires an organisational team. Additional support measures may be provided by patients' associations.

- Maintaining improvement in the long term is vital, for which:
 - physical activity 3-5 times a week for 30 to 45 minutes (cycling, walking, stairs, etc.) should be integrated into daily routines; such activities may be promoted by sports/healthy living associations and by patients' associations;
 - it is important to identify patients at risk of poor compliance in order to help keep them motivated.
- Evaluation of the long-term effectiveness of PR is based on monitoring of the following parameters: dyspnoea scale, exercise tolerance test, quality of life questionnaire, depression, anxiety, etc.
- Coordinated monitoring by a primary care team is necessary at all these stages and may be aided by multidisciplinary protocols.

What you need to know

PR comprises two key components: Exercise training through taking up suitable physical activities and therapeutic education (PE), in combination with smoking cessation, maintaining a balanced diet and psychosocial care (Annex 1). The objectives are:

- increasing the patient's functional exercise capacity;
- developing the behavioural changes necessary to improve his/her health and quality of life;
- maintaining these behaviours in the long term.

Current data suggest that pulmonary rehabilitation is not prescribed often enough by general practitioners, pulmonologists and specialists in physical and rehabilitation medicine.

PR is a multidisciplinary practice and requires the coordination of everyone involved. The content of the PR and the roles of the specialists overseeing its various elements are described in the guide to the COPD care pathway.¹

It is recommended to start rehabilitation with a training period comprising at least 12 sessions (usually 20) over a period of 6 to 12 weeks.

These take place two or three times a week on an outpatient basis or up to five times a week in hospital.

After the initial training phase, the benefits must be maintained through acquired behavioural changes that the patient needs to keep up for a period of months or years, or even for the rest of his/her life.

What needs to be done

Stage 1: Identify, motivate and guide the patient

The general practitioner and/or pulmonologist identify a patient who can benefit from rehabilitation.

- **This should be offered** to all patients with COPD who, despite optimal management of the disease and comorbidities, has:
 - dyspnoea or exercise intolerance;
 - or limitations on activity or on participation in social activities linked to COPD.PR is also indicated after an exacerbation, particularly if it resulted in hospitalisation.
- The contraindications are mainly contraindications relating to exercise (in particular unstable cardiovascular conditions, etc.).

The general practitioner and/or pulmonologist assess the patient's motivation and explain to him/her the benefits he/she can expect, taking into consideration the patient's expectations and needs and outlining what is involved in putting it into practice.

Potential obstacles from the patient's point of view to the implementation of a programme of rehabilitation are: lack of motivation and poor compliance, history of insufficient exercise and low confidence in his/her ability to learn new behaviour to improve health and to achieve satisfactory results. Motivational interviewing about physical activity and other behaviour to improve their health is especially useful in such cases (see example in Annex 1).

Solutions need to be found when implementation of PR is complicated because of poor access to treatment, the place of treatment and its timetabling being incompatible with the patient's work commitments².

The general practitioner and/or the pulmonologist help the patient establish which treatment centre is best able to address their limitations (see Stage 2). The components of the patient's **personalised** programme

of rehabilitation will be defined by a professional at this treatment centre.

Stage 2: Perform pulmonary rehabilitation with methodology tailored to the patient

PR begins with a clinical and functional assessment by the pulmonologist or specialist in physical and rehabilitation medicine and other individuals involved: physiotherapist, dietitian, smoking cessation specialist, psychologist, etc.

This assessment includes:

- clinical criteria: assessment of dyspnoea, level of physical activity, tobacco use and quality of life, investigation of anxiety and depression, psychosocial assessment, etc.;
- functional measures, comprising at least:
 - at rest: resting spirometry and blood gases,
 - during exercise: exercise ECG, 6-minute walk test;
- an educational diagnosis or joint educational assessment (Annex 2);
- an assessment of comorbidities that may require the intervention of other specialists.

The pulmonologist and/or specialist in physical and rehabilitation medicine prescribe the programme components and methods on the basis of the initial assessment, available options and the patient's wishes.

PR can be undergone in many different places:

- healthcare institutions: during full hospitalisation (or follow-up and convalescence care), day hospital or external/outpatient appointments;
- a local treatment centre: medical and/or physiotherapy practice or rehabilitation unit, coordinated by a network;
- at the patient's home.

The coordination of everyone involved is essential, irrespective of where PR takes place.

These structures are complementary and may be used in tandem; it is now accepted that they are all effective.

It is recommended that the initial training period of PR be carried out during full hospitalisation:

- in the case of patients for whom at least one of the following criteria applies:
 - presence of multiple severe comorbidities and/or risk of instability;
 - severe respiratory disease that makes the patient largely dependent on others;
 - psychological and/or social problems;
- if there is no available outpatient provision.

¹ HAS. Chronic obstructive pulmonary disease 2012.

² For example scheduling work hours based on the advice of the occupational physician.

These things aside, what is key is to tailor to the patient's needs and limitations.

The programme or its initial phase and the results obtained should be assessed and this assessment passed on to the general practitioner, the pulmonologist and to the other professionals involved in the patient's care pathway: this should include assessments of the same criteria as the initial evaluation, in particular dyspnoea, exercise tolerance test and quality of life.

Stage 3: Maintaining the benefits of an initial rehabilitation training period/programme

During the initial training period, the provision of a **skills maintenance programme** is necessary: This programme should commence at the end of this training period, in order to maintain the changes in behaviour. If this is not done, the benefits subside within six to twelve months. For long-term maintenance:

- carry out personalised physical activity for 30 to 45 minutes (in a single session or in more than one, ideally for at least 10 minutes each time) three to five times a week at an adequate level of intensity (without becoming out of breath), either independently, at a club or association, or with the physiotherapist in the short term;
- integrate this physical activity into daily routines: cycling (on a power-assisted bicycle when appropriate), walking, climbing stairs, DIY, gardening, cleaning, shopping, etc.;
- continue with therapeutic education and with support to help maintain behavioural changes and self-management skills: smoking cessation, pursuit of suitable physical activities, ability to recognise signs heralding an exacerbation and to institute a suitable action plan, knowledge of treatments, etc. (Annex 2);
- continue with psychosocial support, dietary management and chest physiotherapy as appropriate.

All the health and care professionals involved need to play a part in this long-term rehabilitation: first and foremost the general practitioner, followed by the pulmonologist, pharmacist, physiotherapist, instructor in suitable physical activity, sports physician, etc. Support is provided by the relevant associations, which should be recommended to the patient: recreational associations and patients' associations that help the patient maintain adequate levels of physical activity, keep motivated and counter isolation.

Long-term aftercare is coordinated by the patient's general practitioner and/or pulmonologist on the basis of the available care options and the level of severity of his/her condition. This can be facilitated by drawing up and following multidisciplinary protocols.

The patient's progress may be monitored by at least performance of the same exercise tolerance test (6-minute walk test, step test, etc.) once a year.

To improve long-term maintenance of acquired skills, the following is recommended:

- **regular assessment of compliance:** to identify patients at risk of non-compliance by asking questions about the difficulties in keeping up the different elements of PR. Such patients may benefit from closer monitoring, with targeted "coaching";
- **encouraging the patient to remain motivated** by helping him/her search for his/her physical activities of choice (hiking, Nordic walking, other favourite sporting activities of the patient, etc.) and the means to practice them: he/she can be encouraged to seek the assistance of sports clubs or sports/healthy living associations with staff trained in the management of patients with chronic conditions and his/her nearest patients' association (Annex 1);
- **continuing with patient education and support** (Annex 2) ;
- **ensuring aftercare appointments** with the general practitioner and pulmonologist are kept in the long term.

The patient's family and friends should be involved and kept updated at all stages and about all components of his/her rehabilitation.

What to avoid

- Ceasing to offer rehabilitation to a patient because it is believed that he/she will decline this.
- Being too slow to prescribe the pulmonary rehabilitation appropriate to the degree of COPD progression.
- Referring patients for rehabilitation without having explained to them the objectives and methods for their rehabilitation training period.
- Referring patients for full hospitalisation when they may benefit from PR as an outpatient or at home.
- Neglecting to ensure that the initial training period of PR is swiftly followed by a programme of aftercare to maintain the gains that were made.

Conditions to be met

Improving the skills of health professionals as part of CPD:

- offering multidisciplinary training to foster teamwork;
- training general practitioners and health professionals in the benefits of pulmonary rehabilitation and the identification of persons who may benefit;
- instructing physiotherapists in exercise training.

Fostering greater awareness of regional PR resources:

- making an inventory for each health area of the pulmonary rehabilitation options and local dynamics³;
- publicising this inventory so that prescribers are aware of the PR options available in their health area: providing access to this list of resources through the websites of the Regional Healthcare Agency (ARS⁴) or SPLF [French-speaking society for pulmonology]⁵.

Developing local pulmonary rehabilitation as part of an ARS Regional Healthcare Project:

- tackling inequality in local provision through the development of local, outpatient and home rehabilitation options by multidisciplinary teams;
- engaging sports/healthy living associations and local communities in the promotion of access to suitable physical activities;
- fostering professional practice in primary care teams engaged in patient aftercare;
- determine a funding framework for this organisation.

Proposed practice indicators

- Number of patients in the patient base who had undergone PR at T0 versus the number of patients in the patient base who had undergone PR one year later.
- Number of COPD PE programmes offered in the region at T0 versus the number of COPD PE programmes offered in the region one year later.
- Number of patients who had undergone PR and were showing improvement in their exercise tolerance test (or 6-minute walk test) one year later versus the number of patients who had undergone PR.

Examples of projects carried out or still ongoing

- Experience is based broadly on the PR networks in certain regions: Partn'air in Midi-Pyrénées, R3VPBL in the Basque country, Récup'Air in Ile-de-France (depending on network: outpatient PR, PE, maintenance of acquired skills, training of professionals, etc.).
- The Nord-Pas de Calais ARS is developing a programme of actions on the care pathway for persons with COPD, which includes:
 - developing shorter courses at treatment centres and at home;
 - offering patients with early-stage disease, as an alternative to PR, PE by teams of primary care professionals⁶.
- The Lorraine respiratory failure network (Lorraine RIR) has a project for the reorganisation of pulmonary rehabilitation in Lorraine comprising three care groups including an outpatient programme with private professionals: (www.rirlorraine.org)

³ Rehabilitation centres (outpatient phase or during hospitalisation), home rehabilitation programmes, where they exist, programmes of exercise training by trained and equipped physiotherapists, local therapeutic education programmes instituted by primary care professionals, sports associations offering suitable physical activities (in conjunction with the Regional Directorate of Youth, Sports and Social Cohesion), patients' associations offering support.

⁴ <http://www.ars.sante.fr/portail.0.html>

⁵ <http://splf.org/groupe/calveole/carte-alv.html> (annexe 1)

⁶ [Action plan on the care pathway for persons with chronic conditions. Chronic obstructive pulmonary disease \(COPD\) 2012-2016. Nord-Pas de Calais Regional Healthcare Project.](#)

Annex 1: Examples of tools for the implementation of pulmonary rehabilitation

1. Finding out about pulmonary rehabilitation

SPLF [French-speaking society for pulmonology] "Pulmonary rehabilitation" leaflet 2014 <http://splf.org/groupe/alveole.html>

This leaflet can be given to the patient to explain pulmonary rehabilitation to him/her.

Résultats

- Une meilleure qualité de vie
- Une amélioration de la tolérance à l'effort
- Une diminution de l'essoufflement
- Une diminution des épisodes infectieux et des hospitalisations

La réhabilitation peut se faire en hospitalisation complète ou ambulatoire ou à domicile. Les structures présentes sur cette carte interactive (soins de suite et rééducation, hôpitaux, réseaux, cabinets de kinésithérapeutes) ont signé une charte de bonne pratique.

<http://splf.org/groupe/alveole/carte-alv.html>

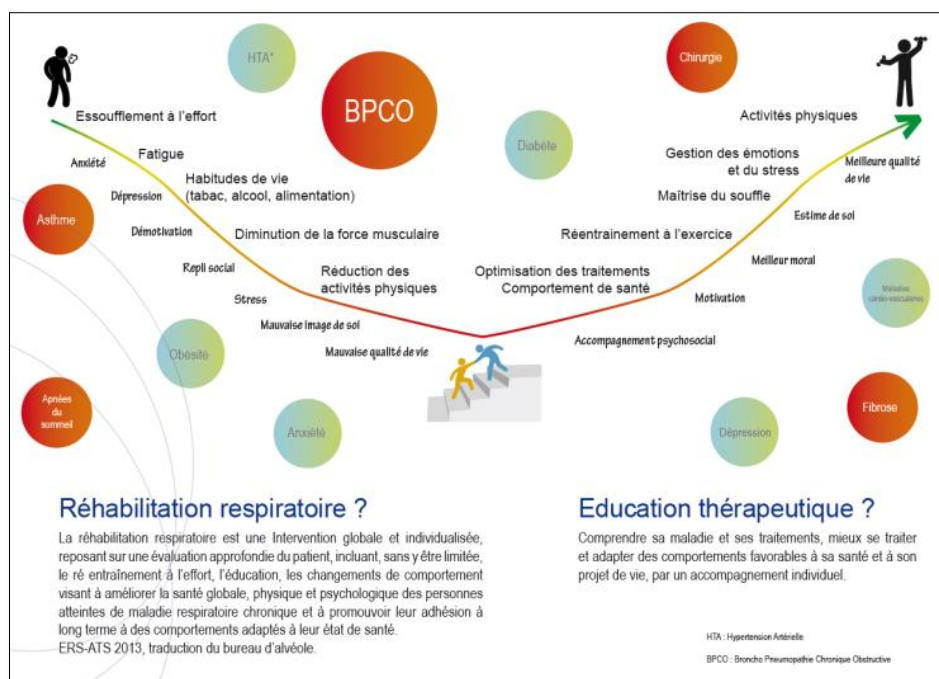
Vous êtes essoufflé à l'effort ?
Avez-vous songé à la **réhabilitation respiratoire** ?

Une prise en charge globale et personnalisée des maladies respiratoires chroniques et des problèmes de santé associés.

Indispensable dans le parcours de soin, la réhabilitation respiratoire a pour objectif de vous rendre autonome.

PARLEZ-EN À VOTRE MEDECIN

D'après une idée originale des équipes de réhabilitation du Nord-Pas-de-Calais avec l'aide du service communication de l'ARS Nord-Pas-de-Calais



2. Finding out about the structures in place across the country

SPLF [French-speaking society for pulmonology] Rehabilitation in France by region. 2014
<http://splf.org/groupe/calveole/carte-alv.html>

Doctors have access to the map of pulmonary rehabilitation centres, and thus to the list of centres in their region, last updated on 6 February, 2014.



3. Tool associated with the “Stopping smoking: From individual screening to maintaining abstinence” good practice guideline HAS October 2013

Example of the motivational interviewing method

Evaluate the wishes, beliefs and expectations of the patient in relation to his/her smoking and treatment:

- “What makes you smoke?”
- “What are the reasons why you wish to give up smoking?”
- “Are you afraid to give up smoking? If yes, for what reasons?”
- “If you decide to give up smoking, how confident would you be about your ability to achieve this?”

Use the analogue scale to evaluate the perceived efficacy.

Evaluation of perceived efficacy

- “Are you confident about your ability to give up smoking?”
- “If you were to give up smoking today, how would you estimate your chances of success?”
- “Rate this on a scale from 1 to 10:

0 means: “I am absolutely certain that I won’t be able to manage this.”

10 means: “I am absolutely certain that I will be successful.”

Circle the number corresponding to your answer:

0 1 2 3 4 5 6 7 8 9 10 →

If you answered less than 10 to this question, what do you think would make you feel more confident?”

Annex 2: List detailing the principal educational goals

The educational goals necessary in order to meet the patient's needs and expectations can be selected by going through this list with him/her. The purpose of this is to build a personalised PE programme that allows the patient to acquire skills and keep them up in the long-term.

Educational goal	Explained to the patient Yes/No	Achieved	On the way to being achieved	Not achieved
Understanding the disease and the importance of achieving lasting changes in behaviour				
Understanding the benefit of base treatment and crisis treatments				
Mastery of the techniques for inhaling medicinal products				
Understanding the benefit of oxygen therapy and noninvasive ventilation and knowing how to use this				
Understanding the importance of adhering to the treatment (compliance)				
Recognizing that tobacco dependence is a chronic disease				
Understanding the reasons for starting a smoking cessation programme and the treatment involved				
Knowing what options are available for help giving up smoking				
Understanding the need for vaccination against influenza and pneumococcal infection				
Recognising the onset symptoms of a COPD exacerbation				
Knowing what to do in the event of onset symptoms of an acute exacerbation of COPD: When to take the prescribed medications? When to call his/her general practitioner or pulmonologist? When to call A&E?				
Assessing functional impairment in the execution of daily activities (washing, shopping, cleaning, etc.)				
Choosing and executing suitable daily physical activity for 30 to 45 minutes (in a single session or in more than one smaller one, ideally for at least 10 minutes each time), three to five times a week at moderate intensity (without becoming out of breath)				
Knowing and assessing the expected benefits of daily physical activity				
Knowing about his/her dietary needs and making dietary changes				
Understanding the importance of scheduling his/her aftercare appointments with the general practitioner, physiotherapist, pulmonologist, etc. and of keeping them in the long term				
Managing leisure activities and travel				



All HAS publications can be downloaded from :
www.has-sante.fr

THE ORIGINAL FRENCH VERSION IS THE LEGALLY BINDING TEXT