



PULMONARY REHABILITATION
*understanding the professional
guidelines*



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This guide includes information on what the European Respiratory Society and the American Thoracic Society have said about pulmonary rehabilitation.

It is based on a longer version, written for professionals, to explain what pulmonary rehabilitation is, how it should be delivered and why it is effective.

This version is written for patients and the public to help you understand what to expect if you are receiving pulmonary rehabilitation. This guide does not include background information on chronic lung diseases, but this can be accessed on the European Lung Foundation website:

www.europeanlung.org/COPD

WHAT IS PULMONARY REHABILITATION

Pulmonary rehabilitation is short course of regular exercises. It aims to reduce the impact that a lung condition has on a person's quality of life by reducing the severity of symptoms and increasing their ability to participate in everyday activities.

Following on from an individual assessment, different exercises and activities are prescribed to help each individual improve their physical and emotional symptoms caused by their lung condition.

WHO IS IT FOR?

Pulmonary rehabilitation can be prescribed to people with chronic lung diseases, such as chronic obstructive pulmonary disease (COPD). There is also a small amount of evidence to suggest that pulmonary rehabilitation can help improve symptoms for people with other conditions, such as asthma, cystic fibrosis and interstitial lung diseases.



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WHEN SHOULD YOU RECEIVE PULMONARY REHABILITATION?

Most research shows that the earlier in a course of the disease that rehabilitation is started, the more benefit a person will experience. However, people with any stage of the disease are likely to see benefits when they begin the treatment. Pulmonary rehabilitation can also be carried out after exacerbations or hospitalisations.

WHAT SHOULD YOU EXPECT FROM THE PROGRAMME?

All pulmonary rehabilitation programmes should be personalised to meet a person's needs and their specific symptoms. A thorough assessment of each person should take place before exercise begins. This will check whether there is a need for supplemental oxygen, ensure the safety of the programme and provide activities that will be at an appropriate level.

- **Endurance training:** Usually prescribed 3-5 times per week, this includes continuous exercise for 20-60 minutes. This could be walking or cycling, for example.
- **Interval training:** This is a type of endurance training which includes rest points. It will involve completing high-intensity activities, followed by regular breaks of low-intensity exercise or rest.
- **Resistance/strength training:** This includes lifting of weights to improve muscle strength.
- **Upper limb training:** Strengthening the arms muscles, through lifting weights or activities such as walking, to improve upper body strength.
- **Neuromuscular electrical stimulation (NMES):** This uses electrical impulses to strengthen the muscles in the leg to improve strength and the ability to exercise.



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- **Inspiratory muscle training:** This refers to strengthening breathing muscles can help improve muscle strength and ability to exercise.

Duration

There is no agreed time limit on a programme of pulmonary rehabilitation. Longer programmes are thought to gain more benefits; therefore a minimum of 8 weeks is suggested to ensure good improvement in quality of life.

Education

Pulmonary rehabilitation programmes should also include an educational aspect, enabling people to learn about exercise and activity so they can help manage their condition even after the programme has ended. This includes taking control of goal setting, problem solving and decision making.

Supplements and additional support

Research currently suggests that not all people will benefit from having oxygen support or nutritional supplements throughout their pulmonary rehabilitation. This will be decided on an individual basis.

Support team

Pulmonary rehabilitation should be implemented by a dedicated team of healthcare professionals, including physiotherapists, respiratory therapists, nurses, psychologists, nutritionists, social workers and occupational therapists.

Location

The programme could take place in a hospital or within the home. With recent advances in technology, programmes can also be completed via phone-based support or video-conferencing. This enables people living in remote areas, or without access to transport, to still carry out the activities.



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HOW WILL PROGRESS BE MEASURED?

The benefits of pulmonary rehabilitation should be measured through a test or questionnaire which assesses quality of life. These could include the following questionnaires:

- The COPD Assessment Test
- The Lung Information Needs Questionnaire
- The Bristol COPD Knowledge Questionnaire
- The COPD Self-Efficacy Scale
- The Praise Pulmonary Rehabilitation Adapted Index

Each of these tools will look at how a person's life has improved since starting the pulmonary rehabilitation programme.

FUTURE RESEARCH

Experts feel that more research is needed into four key areas of pulmonary rehabilitation:

- Who can take part – could people with diseases other than COPD benefit from the programme?
- Accessibility –how do we ensure all people who could benefit from the programme have access to it?
- Improving continuation of exercise –how can we encourage people to maintain exercise once the programme is completed?
- Understanding COPD – learning more about the complexities of the condition to ensure pulmonary rehabilitation is beneficial.



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ABOUT ELF

The European Lung Foundation (ELF) was founded by the European Respiratory Society (ERS) to bring together patients, the public and professionals.

The ERS has been in guideline development for more than a decade; providing continent-wide advice to healthcare professionals on the appropriate care and treatment for people with lung condition.

The ELF produces public versions of these guidelines to summarise the recommendations made to healthcare professionals in Europe, in a simple format for all to understand.

These documents do not contain detailed information on each condition and should be used in conjunction with other patient information and discussions with your doctor. More information on lung conditions can be found on the ELF website: www.europeanlung.org

ABOUT ERS

ERS is the leading professional organisation in its field in Europe. It is broad-based, with some 10,000 members and counting in over 100 countries. Its scope covers both basic science and clinical medicine.

ERS seeks to alleviate suffering from respiratory disease and promote lung health through research, sharing of knowledge and through medical and public education.