



Exercise and Pulmonary Rehabilitation in PH

2018 PHA on the Road – Long Beach, Calif.

Session Description

Starting an exercise program with a diagnosis of PH can often be a scary thought. Exercise is a great way to improve breathing efficiency, aerobic capacity, and overall quality of life. Attend this session to learn more about home exercise and safety, pulmonary rehabilitation and its qualifications.

Learning Objectives

At the end of the session attendees will be able to:

- Learn about pulmonary rehabilitation programs and its benefits.
- Learn general guidelines to exercising safely outside of a PR program.

Overview of Cardiac and Pulmonary Rehabilitation and Other Exercise for PH Patients

Studies have demonstrated that cardiac and pulmonary rehabilitation (PR) can improve exercise performance and quality of life. Physical activity is essential to maintain muscle tone and physical and mental wellness. A major goal of pulmonary hypertension (PH) therapy is to improve the amount of activity that you can do before you become short of breath. Safe exercise can have a positive impact on your health.

Exercise in patients with PH is not risk-free. It is important that certain precautions be observed to prevent over-exertion. The supervised setting of a formal rehab program can help patients understand and adhere to these precautions, though it is important to note that the details regarding the optimal patient population, the timing of initiation and the specific regimen to be used are undefined. Still, cardiac and pulmonary rehabilitation appear to be effective resources to help patients optimize their physical abilities.

Always consult with your physician before starting an exercise regimen.

About PR Programs

PR may help you to improve your quality of life. Although PR cannot cure PH, it can be of great benefit and you may notice improved breathing effort and fewer breathing problems. Other benefits may include:

- A decrease in the symptoms of your disease or condition.
- Ability to function better in your daily life.
- Increased ability to exercise.
- A decrease in symptoms and better management of anxiety and depression.

A PR program usually includes the following components:

Exercise classes and education about your PH

PR may help you participate in activities with less shortness of breath and teach you how to live better with PH.

In addition, classes will teach you about:

- Reducing and controlling breathing difficulties and breathing retraining.
- Your disease, treatment options and chronic disease coping strategies (including medications, including drug action, side effects, using an inhaler and self-care techniques).
- Symptom assessment, when to seek medical treatment and how to reduce your dependence on costly medical resources.

- Maintaining healthy behaviors such as smoking cessation, good nutrition, exercise and weight management.
- Understanding and using oxygen therapy.

Monitored and supervised exercise

A physical activity plan is tailored to your needs. Exercise will help improve your endurance and muscle strength, so you are better able to carry out daily activities.

Psychosocial support

People who have chronic lung diseases are more prone to depression, anxiety and other emotional problems. Many PR programs offer counseling or support groups. If your program does not, your PR team can refer you to such services.

Beginning an Exercise Program Outside of PR

General exercise guidelines for beginning an exercise program outside of PR

- It is important to receive a physical assessment and medical clearance from your care team.
- Assess if and how much oxygen you will need during exercise.
- Discuss what the appropriate activities could be for you
- Pay attention to your body and symptoms – if the activity causes undue shortness of breath, chest tightness or dizziness, it is best to stop.
- A formal prescription for exercise can be provided in a PR program using the Six-Minute Walking Distance test (6MWD) and/or an exercise test on the treadmill

Exercise Safety

- Know yourself and choose exercises that make sense for you.
- Follow your oxygen requirements.
- Never exercise alone; start an exercise program in a supervised setting.
- Always have back-up medications and pumps as prescribed.
- Learn proper use of equipment, including safety with lines/pumps.
- There are two major causes of shortness of breath to watch for during exertion in PH patients:
 - Decrease in the amount of blood pumped out by the heart because of the narrowing of arteries in the lung; this is present in all patients with PH.
 - Low level of oxygen in the blood for other reasons.

Choosing Exercises

- Intensity
 - Choose your exercise intensity based on your physician recommendations.
 - Know your baseline PH symptoms, which include:
 - Shortness of breath, dizziness, chest tightness, chest pain, fatigue, palpitations, increased heart rate, low systemic blood pressure, low blood oxygen levels, etc.
 - Know your limits and don't exercise beyond them.
 - Avoid activities that increase intra-thoracic pressure or Valsalva effort (the effort to breathe out forcibly while the mouth and nose are firmly closed).
- Duration and Frequency
 - Exercise in intervals: listen to your body and exercise only for as long as is comfortable and safe.
 - Try to exercise at least 4-5 times per week.

- Modes
 - Walking – outside or on treadmill
 - Stationary cycling
 - Upper and lower extremity training as directed by PH physician
 - Aerobic exercise at low to moderate intensity
 - Aerobic interval training
 - Resistance training
 - Tai chi and yoga

Sexual Activity

Different reports have documented that almost all PH patients described their sexual lives as severely affected, mainly because of low self-esteem and being unable to physically exert themselves. Intimate relationships were adversely affected as the disease progressed; like most chronic diseases, PH can decrease libido.

During sex, the heart rate increases, blood pressure increases, and blood flow is redirected. The magnitude of these changes depends on how fit you are and, very importantly, whether you are with a new partner or someone you have been with for years. In general, if you can walk two blocks, take a shower and get dressed without having to stop, then you probably can participate in sexual activity. Patients with marked shortness of breath or symptoms with minimal activity should wait. Consult with your health care team before starting sexual activity if you have concerns.

Takeaway Messages

Exercise is individualized; it is important to listen to your body while you are exercising and to know your limits. Recommendations for PH patients differ for each individual and may change over time. You will have good days and bad days – it is important to give yourself permission to stop when your body has had enough. The rule of thumb is to listen and know your body.