



Introduction to Cardio

A PHA Classroom Video Resource Guide

Objectives: The goal of the PHA Classroom Exercise Series is to provide people with pulmonary hypertension (PH) information on improving endurance, muscle strength and quality of life through three broad fitness categories: flexibility, strength and cardio. This video series by the Pulmonary Hypertension Association is designed to give you information you need to work with your doctor and pulmonary rehabilitation program to tailor an exercise routine that is right for you.

Regular exercise can improve exercise capacity, muscle function and quality of life for patients with various types of PH. Cardio exercise increases your heart rate and blood circulation through large muscle movements for a sustained period of time.

The Introduction to Cardio video provides an overview of cardio workouts, an example of a cardio routine and questions people with PH should ask their PH doctors before beginning an exercise program. This is just one of the many

cardio routines you could learn in a program like pulmonary rehabilitation. This cardio routine could be applied to other machines commonly found in gyms or to walking outside or in a mall, using the same recommendations for timing and miles per hour (MPH).

Always ask your PH doctor before attempting any of these exercises. Use this table to ask your doctor whether these exercises would be safe and helpful for you.

	Beginner	Intermediate
1 Warm Up 5 minutes*	Treadmill: Start 1.5-1.7 MPH + 0.1 miles per hour increases each minute.	Treadmill: Start 1.8-2.5 MPH + 0.1 MPH increases each minute.
My Doctor's Recommendations:	<hr/> <hr/> <hr/>	
2 Strenuous 5-20 minutes	Elliptical Bike 	Recumbent Bike 
My Doctor's Recommendations:	<hr/> <hr/> <hr/>	

*Some people may need longer than five minutes for warmup.

3

Cool Down
5 minutes

Elliptical Bike: Slowly decrease the resistance and speed from where you ended during the strenuous portion.

Recumbent Bike: Slowly decrease the resistance and speed from where you ended during the strenuous portion.

My Doctor's
Recommendations:

Beginner *and* Intermediate

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Stretch
2-3 minutes

20-30 seconds per stretch. Complete each stretch twice, switching sides.

- Arms stretched out wide (bicep stretch).
- Hand on hip, lean in towards that hip stretching your side ("lateral flexion stretch").
- Arm across your chest, hold your elbow with your other arm and pull to stretch your shoulder ("cross-body shoulder stretch").

My Doctor's
Recommendations:

Safe Exercise Tips

- Plan to exercise when you have the most energy.
- Always exercise with a partner and never alone.
- If there is furniture around, ensure it's out of the way in case you lose your balance.
- Don't hold your breath during exercise.
- You shouldn't feel exhausted, light-headed or dizzy during exercise. You might feel some shortness of breath, but you should always be able to talk and feel in control. If you don't, slow down and regain control of your breathing. Contact your doctor or call 911 if your shortness of breath doesn't ease after five minutes of rest.
- Your doctor might use your results from a six-minute walk, supervised exercise treadmill or bicycle test to help you create a safe plan for exercise.
- Include a warmup and cool-down into your exercise routine. It might take you more time to warm up than people who don't have PH. Don't feel discouraged if you need a longer warmup.
- Start small and work up. If you feel tired, you have found the limit of what you can do today. You're stronger than you were yesterday.
- On a treadmill, start with no incline. On a bike, start with no resistance.

Questions to Ask Your PH Doctor

- Is it safe for me to exercise? If not, why?
 - Is cardio right for me? If cardio isn't right for me, can you tell me why? Is there anything I should avoid?
 - Is there a pulmonary or cardiac rehabilitation program where I could safely learn about and try new cardio routines?
 - What equipment do you recommend I use or avoid? Would a treadmill or cycling bike be safe for me?
 - Should I plan to exercise around the time I take my PH meds? The video suggests that some people exercise an hour after taking their PH meds. Is this right for me? What about my diuretics?
 - Is it safe for me to drink 8-12 ounces of water when I exercise? If not, what is appropriate for me?
 - Should I monitor my heart rate when I exercise? What should be my maximum heart rate? The video says some people use 70% of their age-adjusted max. Is this appropriate for me?
- $$(220 - \text{Age}) \times 70\% = \text{___ max BPM}$$
- How should I check my heart rate? Do I need a heart rate monitor? How do I check my pulse? Is it safe to check my pulse on my neck? Should I monitor my blood pressure?
 - Should I monitor my oxygen levels when I exercise? Continuously, or just every once in a while? Is there an oxygen saturation level I should always be above? The video said many people use 88%. Is that right for me? What do I do if my oxygen saturation goes below that level?
 - Should I change anything about my supplemental oxygen when I exercise?



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Disclaimer: This video and worksheet series has been created for people living with PH interested in learning more about exercise. Included in this series are the opinions of individual PH-treating healthcare professionals and not necessarily those of the Pulmonary Hypertension Association (PHA).

The PHA Classroom Exercise Series does not replace conversations between a patient and his or her PH care team, nor the recommendations that follow these conversations. It is imperative that you have a conversation with your PH team about whether or not exercise is safe and appropriate for you prior to engaging in any exercise activity, including those presented as examples in this series. Your PH team may have recommendations about exercise modifications, exercises to avoid, and any monitoring that would keep you safe. Every person is different, and that is especially true when it comes to people living with PH.

These resources are not designed to be a substitute for medical advice. As with any physical activity, you should talk to

your doctor about whether you are healthy enough to exercise or engage in any activities described in this educational series and the risks of engaging in such activities. PHA makes no warranty or guarantee as to the effectiveness of the methods described within these resources or that the activities are safe for all individuals.

You assume full responsibility for how you choose to use these videos and written resources and hold harmless PHA, its officers, employees and the healthcare professionals who created and participated in this video and worksheet series for any claims arising out of any injury or harm to you relating to your use of these resources.

