

Pulmonary Hypertension: Getting Active and Staying Active (Standing Exercises)

People with pulmonary hypertension (PH) should stay as active as possible at home. Because the severity of PH and other health conditions vary from patient to patient, recommendations for exercise may be different for everyone. Always talk to your PH specialist or PH care team before starting a new activity program.

Why is daily activity important?

Regular exercise can improve exercise capacity, muscle function and quality of life for people with pulmonary hypertension (PH)

What are the benefits of regular physical activity?

Exercise may make you feel better, allow you to accomplish more, and make routine daily activities easier to do.

You don't have to do all your exercise at one time. Exercising in shorter sessions a few times a day may work better for you. For example: you can exercise in three, 10-minute blocks to reach 30-minutes.

Tips for exercising safely

1. Plan to exercise when you have the most energy.
2. Find an exercise partner to be active with.
3. **Do not** hold your breath while exercising.
4. Include a warmup and cool-down into your exercise routine.
5. Start slowly and gradually build up in intensity, frequency, and duration.

6. If any movement is painful, make the movement smaller or stop doing that exercise.
7. **Do not** exercise if you experience chest pain or tightness, dizziness or lightheadedness, worsening shortness of breath or a fast or irregular heartbeat.
8. Ask your PH provider if it is safe to do resistance training and lift more than 10 pounds.

This section contains descriptions and pictures of each exercise you may consider during your exercise session at home. These exercises are not intended to be a difficult workout for your body. These exercises may prevent pain from developing in your shoulders and trunk. They may also help you with your breathing.

How often should I perform these exercises?

Perform these exercises 1 or more times a day.

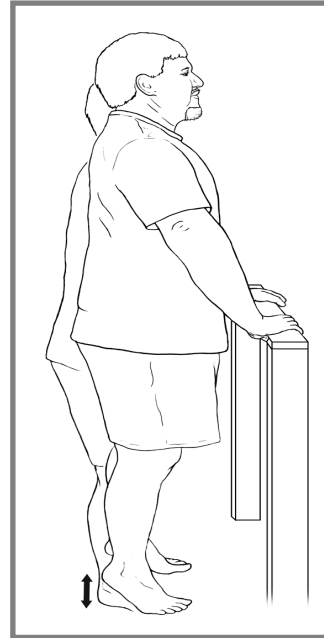
Repeat each exercise 10 times.

Activity Session Step 1: Standing exercises

This series of standing exercises requires a counter or chair in front of you to reach out to in case you start losing balance.

1. Heel Raises:

- Stand at a counter and hold for support only—no leaning.
- Raise your heels off the floor so you are standing on your toes, then slowly lower back to the ground



2. Knee bends:

- Stand at a counter or holding onto a chair for support.
- Bend your knee and bring heel towards your bottom.
- Slowly lower and then repeat with the other leg.

3. Hip Abduction:

- Stand tall, holding onto a counter or sink for support.
- Keeping your knee straight, kick your leg out to the side.



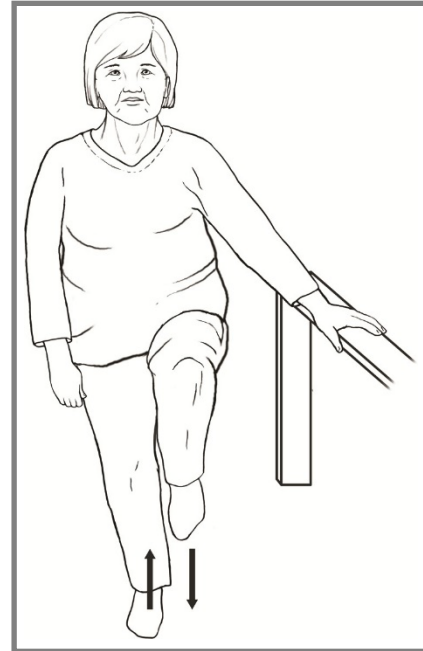
4. Hip extension-

- Bring your leg out behind you, emphasizing your thigh going behind you, squeezing your buttocks.
- Repeat with your other leg.



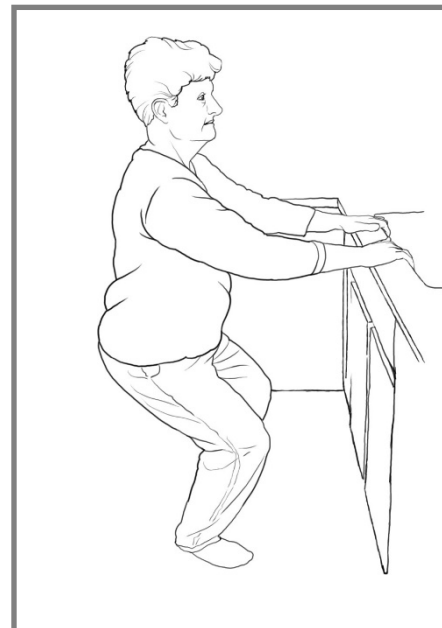
5. Marching-

- Stand at a counter and hold for support.
- Raise your knee no higher than your waist.
- Alternate legs as if in a marching band.



6. Mini Squats:

- Stand at a counter and hold for support.
- Squat to about 45 degrees of knee bend.
- Keep your back flat and look up.
- Make sure your knees are not bending over your toes.





7. Forward Step Ups:

- Step up with the right foot, followed by the left foot, step down with the left foot, followed by the right foot.
- Repeat starting with the opposite foot.

8. Lateral Step Ups:

- Standing sideways, step up with your right foot, followed by your left foot.
- Make sure you leave enough room for your left foot, on the step.
- Step down leading with your left foot, followed by your right foot.
- Repeat with the opposite side.



How will I rate my activity intensity?

During aerobic activity, you will rate your effort. This means that your care team wants you to estimate how hard the activity is for you. This is called **exertion** or effort. Use the table below while you are doing an activity. It ranges from 6 to 20. **6 means "no exertion at all" and 20 means "maximal exertion."**

How will I use the perceived exertion scale?

During activity, take a moment to sense how you are feeling. Now relate that feeling to one of the numbers on the **rate of perceived exertion (RPE)** scale below. For example, sitting in a chair you might feel like you are exerting yourself at a 6. This means it is “no exertion” (or very low effort) on the perceived exertion scale. Walking at a moderate pace, you might perceive to be a 11 “fairly light” or 13 “somewhat hard” effort. It is advised that you **do not exercise at “very hard” or “very, very hard” effort.**

Identify the level of exertion you are feeling:		Activity zone instructions
6	No exertion	
7	very very light exertion	
8		
9	very light exertion	
10		
11	fairly light exertion	
12		
13	somewhat hard	
14		Slow down your movements to get back to the green zone
15	Hard	
16		
17	very hard	Stop and rest
18		
19	very very hard	
20		

What are the signs and symptoms of overexertion?

During exercise, it is normal to feel short of breath, sweat and have a faster heartbeat than normal. If exercise puts too much strain on your body, you may experience signs of overexertion. The following signs are things to watch for:

- Significant shortness of breath
- Chest pain or tightness
- Dizziness or lightheadedness
- Unusual or extreme fatigue
- Fast or irregular heartbeat

Steps to take if you have any of these symptoms while you are active:

1. Slow down
2. Rest while standing
3. Rest while sitting
4. **Stop** the activity if your symptoms do not get better with the first 3 steps.
5. **Call 9-1-1** if your chest pain or other symptoms do not go away.



**Never stop exercising suddenly.
This may cause you to feel dizzy or lightheaded.
Always do a cool down routine.**

Activity Session Step 2: Aerobic Activity

Aerobic activity means moving your large muscles in a continuous way for a sustained period. Walking is a perfect way to do this. Aerobic activity should be done daily. The key to becoming more active is to do it slowly and build up gradually. Move at a pace that is comfortable for you. Be sure to listen to your body and be aware of your symptoms

How do I begin a walking program?

- Begin by walking multiple times daily to build your endurance.
- You can walk inside or outside.
- Walk at a comfortable speed, timing yourself as you walk so you can continue to walk the same amount of time once you return home.
- Each day, add another minute to your walk.
- When you make it to 30 continuous minutes, increase your pace.
- Continue walking for 30 minutes 4-6 days a week.

Activity Session Step 3: Cool Down

- Like the warm-up phase, your cool down should last up to 5 minutes. This will help your body recover from activity. The best way to cool down is to decrease the intensity of the activity you are doing.

Additional resources for exercise:

- Pulmonary Hypertension Association Website: includes "Introduction to Exercise Video Series" and questions to ask your PH care team before you start exercising: <https://tinyurl.com/4wcbcr42>
- Introduction to Yoga for Pulmonary Hypertension Patients: includes seated and standing yoga, developed by Dr. Rana Adwish, Pulmonary Hypertension Program at Henry Ford Health System. <https://tinyurl.com/5bwnrkwn>
- Michigan Medicine Pulmonary Hypertension: Getting Active and Staying Active (Seated Exercises): <https://michmed.org/wnN5n>

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