UW Medicine
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# Phase I Cardiac Rehab: Heart Failure

*Exercise and activity guidelines*

*This handout explains how to safely resume activity and start an exercise and walking program after you leave the hospital.*

## What is heart failure?

*Heart failure* occurs when the heart cannot pump enough blood to meet your body's oxygen needs. This means your heart must work even harder to deliver oxygen to your body's organs and tissues. When your heart is overworked, blood can back up. This causes fluid to collect in your legs, trunk, or abdomen.

## What are the symptoms of heart failure?

The most common symptoms of heart failure are feeling short of breath, feeling tired, and swelling in your legs or abdomen from retaining fluid.

## How is it treated?

Treatments for heart failure are designed to help you feel better so you can take part in the activities you enjoy. The right level of exercise will improve your health and help you recover from your hospital stay. It will also help you prepare for Phase II (outpatient) Cardiac Rehab or another exercise program.



*Being physically active helps improve your heart and lung health.*

## Why is exercise important?

Exercise helps improve your *cardiovascular* (heart and blood vessel) health. The American Heart Association advises adults to exercise at a moderate pace for at least 150 minutes a week. This is about 30 to 40 minutes a day. This can be *aerobic* or *resistance* exercise, or both.


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- **Aerobic exercise** strengthens the heart and lungs by moving blood and oxygen through the body. Walking, swimming, dancing, and biking are all types of aerobic activity.
- **Resistance exercise** improves strength and endurance by making your muscles work against a weight or force. You might use elastic bands, weights, or other devices for this type of exercise.

Regular exercise can help you:

- Keep or reach a healthy weight
- Get stronger and have more energy (you will not tire as easily as you get stronger)
- Control your pain, blood pressure, cholesterol, and blood sugars
- Improve your mood and manage stress
- Get better sleep at night

## When You Go Home

Exercise is one of the best ways to improve your health. When you go home, be active. Plan to spend 30 to 40 minutes every day exercising.

Follow these guidelines for 6 weeks:

- **Exercise at a low to moderate level**, between 2 and 4 on a scale of 1 to 10. (See the section "Exercise Intensity Guidelines" on page 9.)
- **Pace yourself.** Slow down or rest if you are breathless, dizzy, cannot talk while exercising, or are perspiring.

### Aerobic Exercise: Walking

*If you cannot walk for exercise, please talk with your physical therapist about the type of exercise that will work best for you. Follow the example exercise program shown on page 3, but do your type of exercise instead of walking.*

One of the easiest ways to get aerobic exercise is to walk every day. You do not need any special equipment to walk. But, make sure you wear shoes that are comfortable and support your feet well.

Walking can be a great way to spend time with friends or family. If weather is bad, walk inside your house, a mall, or a store. Always walk in a safe place.

When you leave the hospital:

- **Keep doing the exercise and walking program** that your physical therapist (PT) taught you.

- Aim to be walking **at least 30 to 40 minutes every day by 6 weeks after your discharge**.

To get the best results from your walking program:

- **Warm up before you walk and cool down afterward**. Stretch or do gentle exercises for at least 5 minutes before and after you walk. This lets your heart and breathing rates increase slowly before you walk and decrease slowly afterward. This helps your heart and muscles get the right amount of oxygen.
- **Take many short walks every day, throughout the day**. Slowly increase the amount of time you spend walking each day.
- When you first get home, walk at least **3 times a day for 5 minutes each time**. This is about the same amount of time that you walked while you were in the hospital.
- **Work at a low to moderate level**, between 2 and 4 on a scale of 1 to 10. (See the section ""Exercise Intensity Guidelines" on page 9.)
- Do your best to take **slow deep breaths** while you walk.
- **Each week, increase the total time you exercise by about 3 minutes**, until you are walking a total of 30 to 40 minutes every day. To do this, add 1 minute to each of your 3 daily walks, as in this example:

### Example of a Walking Program

| Week # | Warm-up Exercises | Walk | Cool-down Exercises | Total Exercise Time | Goal Met? |
|---|---|---|---|---|---|
| 1 | 5 min. | 3 x 5 min. | 5 min. | 25 min. | ❑ |
| 2 | | 3 x 6 min. | | 28 min. | ❑ |
| 3 | | 3 x 7 min. | | 31 min. | ❑ |
| 4 | | 3 x 8 min. | | 34 min. | ❑ |
| 5 | | 3 x 9 min. | | 37 min. | ❑ |
| 6 | | 3 x 10 min. | | 40 min. | ❑ |

## Resistance Exercise

Resistance exercise is also called *strength training* or *weight training*. It uses your own muscle resistance to build strength and endurance. Some resistance exercises use weights or elastic bands. When you repeat this type of exercise over time, your muscles get stronger.

When your doctor says it is OK for you to add weights to your exercise program, you may do resistance exercises for 30 minutes 2 to 3 times a week, in place of your half-hour walk. This will increase your muscle strength and endurance more than just walking alone.


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**Important: Do not add resistance exercises until your doctor says it is OK to lift weights.**

To add resistance exercise to your exercise program, choose 2 or 3 days (not in a row) to do strength training instead of walking. For example:

- Walk on Monday, Wednesday, and Friday.
- Do resistance exercises on Tuesday and Thursday.

❑ **If this box is checked: Follow the precautions your care team gave you.**

To get the best results from your resistance program:

- **Warm up before you exercise and cool down afterward**. Stretch or walk at a comfortable pace for at least 5 minutes before and after you exercise.
- **Do 3 to 5 exercises from the resistance training handout** that your physical therapist (PT) gave you. Use the weight or resistance band that your PT advised you to use.
- **Do not hold your breath** while doing these exercises.
- **Maintain** the muscle tension of each repetition (rep) for 3 to 5 seconds (breathe OUT while you hold the muscle tight).
- **Rest** 30 to 60 seconds between each set.
- **Work at a low to moderate level**, between 2 and 4 on a scale of 1 to 10. (See the section "Exercise Intensity Guidelines" on page 9.)
- **Add more sets and reps** to your resistance training program as you get stronger. This table shows one way to do that:

## Example of How to Advance Your Resistance Training

| Week # | Warm-up | Sets | Repetitions | Cool-down | Total Reps | Goal Met? |
|---|---|---|---|---|---|---|
| 1 | 5 min. | 1 | 10 | 5 min. | 10 | ❑ |
| 2 | | 2 | 6 | | 12 | ❑ |
| 3 | | 2 | 8 | | 16 | ❑ |
| 4 | | 2 | 10 | | 20 | ❑ |
| 5 | | 3 | 7 | | 21 | ❑ |
| 6 | | 3 | 8 | | 24 | ❑ |

## Monitor Your Body

Your PT will teach you ways to monitor how hard your body is working:

### ❑ Take your pulse.

Your pulse will tell you how hard your heart is working. For 2 weeks after your discharge, make sure your pulse does not increase more than **20 to 30 beats per minute above your resting heart rate**.

Check your pulse at rest before you start, during, and after exercise:

- Use your index and middle fingers (not your thumb) to find your pulse on the inner part of your wrist, just above your thumb. If you cannot find your wrist pulse, gently find the pulse on one side of your neck. **Do not press hard**. Pressing too hard could reduce blood flow to your head and make you feel dizzy or faint.
- Count the beats for 1 minute.
- Subtract your normal resting heart rate from your pulse taken during and after exercise. This shows how much your heart rate has increased.

### ❑ Monitor your rate of perceived exertion (RPE) on a scale of 0 to 10.

When you are active, think about how hard you are working, or how much effort it takes for you to keep doing the activity. Rate your effort on a scale of 0 to 10, with 0 being lowest and 10 being highest exertion. If you are working between levels 2 and 4 on a scale of 0 to 10, you are exercising at a low to moderate level. (See "Exercise Intensity Guidelines" on page 9.)

### ❑ Talk to someone while you exercise.

Use your rate of breathing to guide how hard you are exercising. When exercising or walking, you should not be so out of breath that you cannot talk with someone.

### ❑ Pay attention to your body.

It can take a lot of energy to exercise and do daily tasks such as dressing, bathing, grooming, and household chores. Reduce your activity if you:

- Have an increase in heart rate (pulse) of more than 20 to 30 beats above your resting heart rate, or if your RPE is higher than 4 during the activity
- Keep having a high heart rate for 10 minutes after you stop exercising
- Are breathless for longer than 10 minutes after you stop exercising
- Have fatigue (extreme tiredness) or notice increased swelling in your legs or feet up to 24 hours after you exercise
- Have pain or cramping in your leg muscles
- Have pain in your joints, heels, or shins


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**Tip:** To help save your energy, sit to take a shower and do other activities that you usually stand to do.

### ❑ Know when to stop exercising.

Talk with your doctor before starting to exercise again if you:

- Have an abnormal heart rhythm – an irregular pulse, *palpitations* (a rapid, fluttering, or pounding heart), sudden very slow pulse, or a sudden burst of rapid heartbeats
- Have new or ongoing pain or pressure in your chest, back, arms, or throat
- Feel dizzy, lightheaded, or faint
- Lose coordination, have changes in your vision, or become confused
- Have cold sweats or become pale
- Have nausea or vomiting

**If you need medical care right away, call 911.**

## Choose a Heart-Healthy Lifestyle

The American Heart Association advises people with heart failure to choose a lifestyle that supports heart health. This includes:

- Taking the medicines your doctor prescribes, on time and as directed
- Being active
- Being careful about what you eat and drink

To support your heart's health:

- **Quit smoking.** Quitting smoking can improve the health of your heart and blood vessels and help your heart failure symptoms improve.
- **Maintain a healthy weight.** Staying at a healthy weight lowers your risk of diabetes, high blood pressure, high cholesterol, and high triglycerides. A healthy weight reduces the burden on your heart and can keep heart disease from getting worse.
- **Eat a healthy diet.** Eat a diet that is high in fruits, vegetables, whole grains, nuts, low-fat dairy products, and fish (instead of other types of meat). Avoid foods that are high in sugar, sodium, and unhealthy fats (*saturated* or *trans fats*).
- **Reduce stress in your life.** Plan ahead, slow down, and make time to connect with friends and family. Try not to worry about things that you cannot change.


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## Questions and Notes

Use this space to write questions you want to remember to ask your care providers, and for notes you take during your visit.

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## Daily Monitoring

- **Weigh yourself every morning, before you eat.** Do this at the same time every day and on the same scale every time. Tell your primary care team if you gain more than 2 to 3 pounds in 24 hours, or more than 5 pounds in 1 week.
- **Monitor your blood pressure.** Keep your blood pressure within the range that your primary care team advises. Doing this will help your heart work its best. If you can, check your blood pressure every day at the same time, when you are at rest. Talk with your primary care team if your readings are higher or lower than usual for a few days in a row.
- **Monitor your ability to be active.** Call your primary care team if you have problems with your daily routine or trouble exercising because:
  - You feel short of breath at rest when you have not been active
  - Your feet or ankles are more swollen
  - You are having trouble sleeping
  - You cannot lie flat to sleep because you feel short of breath while lying down
  - You have a dry cough
  - Your appetite is poor
  - You feel tired all the time
  - You feel sad or depressed for many days in a row

## Your Questions Are Important

While you are in the hospital, your inpatient PT and medical team will answer your questions about exercise. If you have questions or concerns about exercise after you leave the hospital, talk with your outpatient cardiac rehab provider, outpatient PT, or primary care team.

Use the column at left to write your notes and questions, or start a notebook for this purpose.

### To Learn More

Visit the American Heart Association website at *www.heart.org* for more ideas and inspiration to help you stay active and healthy after you leave the hospital. From the main page, click on “Healthy Living” and then click on “Fitness.”


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## What happens in Phase II Cardiac Rehab?

Outpatient cardiac rehab is a program to help heart patients recover and improve their health. The goal of the program is to give you tools to stabilize, slow, or even reverse the progression of heart failure. Medical providers run these programs.

Cardiac rehab includes monitored exercise training, teaching on how to reduce your cardiac risk factors, and support to help you return to your normal activities. The program can help you:

- Lower your risk of more severe heart disease
- Lower your risk of having another cardiac event and needing another hospital stay
- Live longer

Staff at the cardiac rehab facility you choose will help you safely increase how long and how hard you exercise. Your goal is to be able to do your exercise program on your own.

### Paying for Cardiac Rehab

Health insurance usually covers cardiac rehab for patients with heart failure who:

- Have an *ejection fraction* (a measure of how strongly the heart pumps) of less than or equal to 35%.
- Have been medically stable for 6 weeks

If finances are a concern, cardiac rehab facilities can often offer other options, such as lower cost exercise programs (Phase III Cardiac Rehab). They can also suggest other supervised exercise programs in your area that may cost less.

❑ **If this box is checked, please talk with your cardiologist or primary care provider about outpatient cardiac rehab.**


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## Exercise Intensity Guidelines

For 6 weeks after your discharge, it is important that you **work at a low to moderate level** to help your heart recover. To judge the correct level of *exertion* (effort), rate your effort on a scale of 0 to 10, with 0 being least effort and 10 being greatest effort.

The table below shows the Rate of Perceived Exertion (RPE) scale. You are exercising at a low to moderate level if you are working **between levels 2 and 4 on the scale of 0 to 10.** The area outlined in bold halfway down the table is your goal Training Zone.

### Effort Level (RPE)

| RPE | Work Load | Talk Test |
|---|---|---|
| 0 | Very, very light | At rest |
| 1 | Very light | Gentle walking or strolling |
| 2 | Fairly light | Steady pace, not breathless |
| 3 | | |
| 4 | Somewhat hard | Brisk walking, can hold a conversation |
| 5 | Hard | Very brisk walking, must take a breath every 4 to 5 words |
| 6 | | |
| 7 | Very hard | Cannot talk and keep pace |
| 8 | | |
| 9 | Very, very hard | |
| 10 | | |

**Goal Training Zone**

*Table adapted from Avers, D., & Brown, M. (2009). White Paper Strength Training for the Older Adult. Journal of Geriatric Physical Therapy, 32(4), 148-152.*

## Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

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