

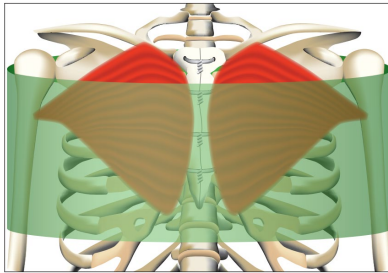
# Phase I Cardiac Rehab: Open Heart Surgery

## After heart surgery using a sternal approach

This handout explains the activity recommendations and exercise program as you recover from your heart surgery and prepare for Phase II cardiac rehab.

### Activity Recommendations

“Keep Your Move in the Tube” is a phrase to help you minimize the stress on your *sternum* (breastbone) while it heals after surgery and allows you to use your arms.

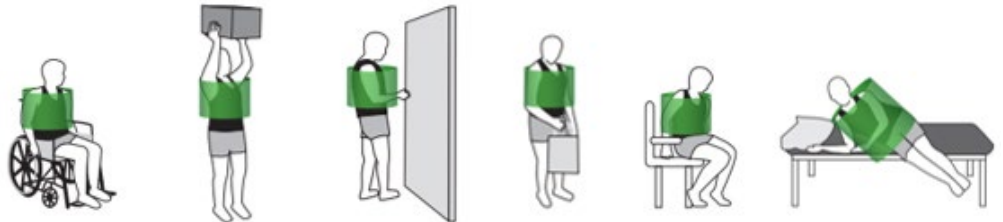


The “tube” is the area shown in green around your upper arms, sternum, and the attached muscles.

The goal is to **keep your upper arms close to your body** with load-bearing movement. You can move your arms outside the tube with non-load-bearing movements. Your therapists will help you modify activities specific to you. Pictures of common activities such as getting out of your bed, standing up from a chair, and reaching overhead are below.

When performing tasks that require lifting, pushing, and pulling, use both arms together and keep them **“in the tube.”** You should ease into these activities. There are no weightlifting restrictions. Listen to your body. Pain is a signal to stop or change the activity. We do not expect a sudden, sharp increase in pain. We do expect soreness.

### Movements in the Tube (to do):



With each movement, both arms are kept close to the body (in the tube). This movement avoids stretching across the chest and using any chest muscle in a way that would put stress on your sternum.

### Movements out of the Tube (to avoid):



With each movement, one or both arms are further from the body (out of the tube). This either causes a stretch across the chest and/or chest muscle use that stresses the sternum.

## Your Exercise Program

### While You Are in the Hospital

Your therapist will prescribe an exercise, breathing, and walking program for you to start while you are in the hospital. It is important that you walk with staff 3 to 4 times every day. Activity will help:

- Your digestive, *respiratory* (breathing), and *circulatory* (blood vessel) systems recover from your procedure. This will help you:
  - Stabilize your blood pressure and reduce dizziness
  - Stop using extra oxygen
  - Improve your strength, balance, and energy
  - Improve your mood and help you sleep better at night
  - Ease constipation and nausea

### When You Go Home

Keep doing the exercise, breathing, and walking program that your therapists taught you. Your goal is to **be walking at least 30 to 40 minutes every day** by 6 weeks after your procedure.

- **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 allows your heart and breathing rates to increase slowly before you walk and decrease slowly afterward. Warming up and cooling down 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. For example:
  - **Walk at least 3 times a day for 5 minutes or more each time.** This is a goal, and will vary with your physical performance after surgery in the hospital.
  - **Each week, increase the total time you exercise by about 3 minutes** (for example: add 1 minute to each of your 3 daily walks). Here is a sample walking program:

## Sample Walking Program

Week #	Warm-up Exercises	Walk	Cool-down Exercises	Total Walking Time	Goal Met?
1	5 min.	3 x 5 min.	5 min.	15 min.	<input type="checkbox"/>
2		3 x 6 min.		18 min.	<input type="checkbox"/>
3		3 x 7 min.		21 min.	<input type="checkbox"/>
4		3 x 8 min.		24 min.	<input type="checkbox"/>
5		3 x 9 min.		27 min.	<input type="checkbox"/>
6		3 x 10 min.		30 min.	<input type="checkbox"/>

*Note: If you cannot walk for exercise, talk with your physical therapist about the type of exercise that will work best for you. Follow the sample program above, but do your type of exercise instead of walking.*

## Monitor Your Body

**For 6 weeks after your procedure, be active at a low to moderate level.** Pace yourself. Slow down or rest if you are breathless, dizzy, cannot talk, or are perspiring.

Your physical therapist will teach you different ways to monitor how hard your body is working. These include:

- **Rating your perceived exertion (RPE) on a scale of 0 to 10**, with 0 being lowest exertion and 10 being highest exertion. When you are active, think about how hard you are working, or how much effort it takes for you to keep doing the activity you are doing.

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 “Effort Level (RPE)” table on page 6.)

- **Talking 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.
- **Paying attention to your body.** Reduce your activity during exercises and daily tasks (including dressing, bathing, grooming, and household activities) if:
  - Your RPE is greater than 4 during the activity
  - You keep having a high heart rate (pulse) for 10 minutes after you have stopped exercising
  - You are breathless for longer than 10 minutes after you stop exercising

- You have fatigue (feel very tired) for 24 hours after you exercise
- You notice increased swelling in your legs or feet up to 24 hours after you exercise
- You have pain or cramping in your leg muscles
- You have pain in your joints, heels, or shins

**Tip:** To help save your energy, you may need to sit when you shower, get dressed, or do other activities you used to stand to do.

**Stop exercising** and talk with your doctor before starting again if you:

- Have an abnormal heart rhythm: irregular pulse, palpitations, sudden very slow pulse, or sudden burst of rapid heartbeats
- Have new or ongoing pain or pressure in your chest, back, arms, or throat
- Feel dizzy, light-headed, have cold sweats, or faint
- Lose coordination, have changes in your vision, or become confused

**When at home, if you need medical care right away, call 911.**

## Phase II Cardiac Rehab

Use these same guidelines for your exercise program when you leave the hospital. Most people who have had open heart surgery start phase II cardiac rehab 4 to 6 weeks after discharge. Remember that you cannot drive for 6 weeks after surgery, or until cleared by a cardiac surgeon.

The staff at your cardiac rehab facility will teach you how to safely increase the intensity and duration of your exercises. Your goal is to be able to do your exercise program on your own.

Keep doing your walking program on the days you do not go to rehab.

## Choose a Heart-Healthy Lifestyle

The American Heart Association advises people with heart disease 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 disease 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.

## American Heart Association Resources

The American Heart Association website has ideas and inspiration for staying active and healthy. Visit [www.heart.org](http://www.heart.org), click on “Healthy Living” in the menu bar and then click on “Fitness.”

### 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.

## Rate of Perceived Exertion (RPE)

Goal Training Zone

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		
10	Very, very hard	

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.

## Your Questions Are Important

While you are in the hospital, your physical therapist 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, home health physical therapist, outpatient physical therapist, or main care team.

### Questions?

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

Name: \_\_\_\_\_

Number: \_\_\_\_\_