

Activities and Exercises

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This chapter is designed to help you understand the importance of activity. It will help you understand how to safely increase your activity level from the hospital bed to a healthy, active lifestyle. Staying active is important for everyone. It is especially important for people who have heart disease.

SECTION 1

♥ **Physical Activity and Your Heart**

Regular physical activity can help reduce your risk of heart attack and improve your chances of survival if you have a heart attack. However, if you already have heart disease, an exercise program should be started slowly and with caution. Physical activity places an increased demand on the heart by increasing heart rate and blood pressure. This may result in angina if certain activities are performed.

Activity following a heart attack should be limited. It is important for the heart muscle to have time to heal. Strenuous physical activity should be avoided during this time. The area of the heart attack will form a scar. If you do strenuous physical activity, the

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scar tissue may not heal properly.

Activity following heart surgery should also start slowly and be gradually increased. Although your chest incision heals quickly (1 to 2 weeks), your breast bone does not completely heal for three months. Therefore you should limit or even avoid certain activities during this time. See section on Activity Restrictions later in this chapter.

SECTION 2

♥ Recommended Activities

In hospital

During your hospital stay, you will be encouraged to increase your activity. You will progress from self-care activities (eating, bathing) to walking in the hallways. Your heart rate and rhythm will be monitored frequently. The cardiac staff will encourage you to walk 3 to 4 times per day for 3 to 5 minutes, depending on your individual activity tolerance.

Return Home

It will be very important to continue being active when you go home. Upon discharge, cardiac rehab staff will develop an exercise program for you.

FIT Principle

The FIT principle is a guideline for people to follow for a good fitness program.

F: stands for frequency, how often a person exercises,

I: stands for intensity, how hard a person exercises,

T: stands for time, how long a person exercises.

2006 American Heart Association Guideline: All patients are encouraged to do 30-60 minutes of moderate-intensity aerobic activity, such as brisk walking, on most, preferably all, days of the week, supplemented by an increase in daily lifestyle activities.

A sample exercise program

Follow the exercise, stretching and activity guidelines that are given in the rest of this section. Note: The recommended activity level will vary from person to person.

1. Do pre-exercise stretches.

(see *stretching guidelines, Page F4*).

2. Warm-up: Before each exercise session, always perform 2 to 5 minutes of slower-paced activities that allow your heart rate to increase slowly.

Week 1: Walk/cycle for 5-8 minutes, two times per day. Try to improve time by adding 1-2 minutes each day.

Week 2-4: Walk/cycle for 20 minutes, two times per day. Continue to increase time, adding 2 minutes each day.

Week 5-6: Walk/cycle for 30 to 60 minutes, once per day. Continue to increase exercise time as tolerated.

*** The goal is to continue to walk/cycle continuously for 30-60 minutes 5 to 7 days per week as a long-term exercise program.**

3. Cool-down: Here again, slow your pace down during the last few minutes of exercise. This lets your heart rate slow down gradually.

4. Do post-exercise stretches.

Remember: *This is only an exercise plan. You should reduce your exercise intensity if you are unable to breath or talk comfortably. Increase your activity as tolerated. Use the techniques listed in Section 5 to assist you in adjusting your exercise program. If you have questions, call the Cardiac Rehab staff.*

Daily activities recommended after discharge

In addition to your exercise routine, you will also be doing your usual daily activities. You may be asking yourself “How long until I can get back to my old activities?” This is a good question. You need to understand that you won’t be returning to your normal activities directly after leaving the hospital. But as you gradually progress, you will be able to tolerate more activity at a safe level.

Activities that are recommended include

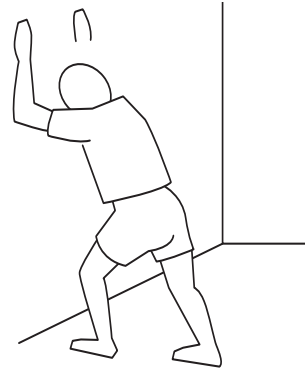
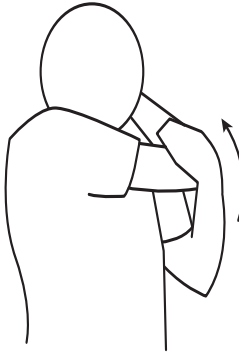
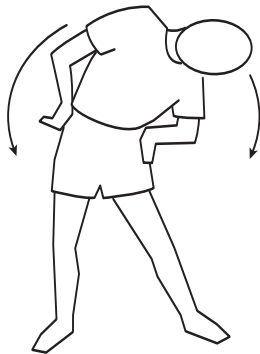
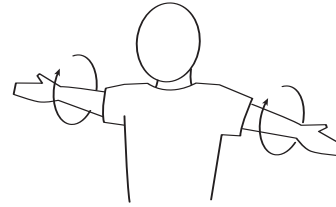
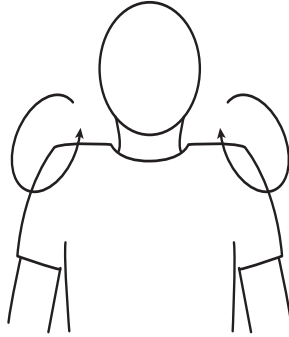
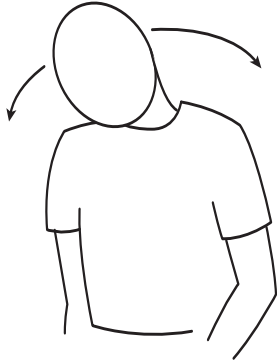
- ✓ Personal Care: hygiene
- ✓ Light household or workshop tasks
- ✓ Activities on your exercise plan: walking, cycling, etc.
- ✓ A gradual return to special activities and hobbies

The chart on page F5 will help you in selecting appropriate activities during your recovery. Each activity is given a MET level.

1 MET =
the amount of work
your heart performs at rest

The chart lists the activities into four categories: light activities, light-moderate activities, moderate activities, and moderate-heavy activities.

Stretching Guidelines



- ✓ Try to perform each stretch at least once per day. Always perform stretches before and after your exercise session.
- ✓ Always stretch with a slow, steady motion. Do not bounce or jerk your body! Just stretch until you feel a slight pull and then hold.
- ✓ For best results, hold each stretch 10 to 20 seconds.
- ✓ Do not hold your breath while stretching.

Stretching is an important part of your exercise program. It can reduce muscle soreness, prevent injuries and increase flexibility. Stretching is extremely important after heart surgery to assist in relieving muscle tightness and improving your range of motion. Stretching can be performed many times throughout the day. If you experience any discomfort while stretching, stop! Then, try moving on to the next stretch.

Activities and Met Levels

Light Activities (1-2 Mets)

Self Care

Lying, sitting
Tub bath, sitting
Eating

Work/home

Writing
Typing
Folding wash

Recreation

Playing Cards
Knitting
Reading in a chair

Light-Moderate (2-3 Mets)

Self Care

Warm shower, sitting
Dressing

Work/Home

Washing dishes
Light cleaning
Fixing meals

Recreation

Billiards, pool
Wood carving
Light repair work

Moderate Activities (3-4 Mets)

Self Care

Warm shower, standing

Work/Home

Walking 3 mph
Mowing lawn (riding)
Grocery shopping, vacuuming

Recreation

Sexual activity
Slow dancing
Golfing with pull cart

Moderate-Heavy (5-8 Mets)

Self Care

Hot shower, standing
Climbing Stairs

Work/Home

Mowing lawn (walking)
Hoeing, digging
Chopping wood
Remodeling

Recreation

Dance-aerobic
Biking outdoors
Golfing, carrying clubs
Hunting

Remember: *The amount of energy it takes to perform these activities is based on many factors. Consider the following: your current fitness level; weather conditions; familiarity and efficiency in performing the task; and speed at which you perform the activity. The ability to PACE yourself during a task is of key importance! You can do a higher level of activity if you're only doing it for a short amount of time, at a slower pace.*

SECTION 3

♥ Strategies for Conserving Energy

This section is designed to help you conserve energy and decrease the workload placed on your heart. These guidelines are most important early in your recovery, but some people may need them long term.

By using these techniques, you may be able to safely complete specific tasks and have more energy for other activities. In addition, there are suggestions for decreasing unnecessary stress on your heart.

Set Priorities

Decide which tasks must be done and be willing to say “NO” and/or delegate certain tasks.

Plan ahead

Avoid rushing and trying to “Beat the clock.”

Pace Yourself

Work at a relaxed, moderate speed. You’ll be surprised at your ability to get a task done when you slow down your pace. Alternate between difficult and easy tasks and divide long jobs into several shorter tasks to conserve your energy.

Rest Periods and Relaxation

Plan rest periods frequently during the day. Rest periods should be taken in a sitting position with legs elevated or in a lying position.



Body Mechanics and Work Methods

Sit while working to reduce the amount of energy a task requires. Avoid bending, stooping, and reaching to reduce fatigue. Perform tasks at the proper work height. Avoid tasks which require extended overhead arm work. Example: washing windows, hanging laundry, painting, changing light bulbs, etc.

Stand and sit erect to increase the oxygen flow to your lungs and reduce the workload on your heart. Go up and down stairs only as necessary (if you are able). Stay on that level and rest awhile before using the stairs again. Avoid using your arms to pull yourself up. Lift with your legs, not your back. When carrying objects, keep them close to your body. Avoid activities requiring continued contractions of your muscles, such as, gripping a steering wheel for prolonged periods of time, holding heavy boxes, and pushing or pulling furniture around or opening stuck windows.

Activity Guidelines

Watch for cardiac signs of intolerance to activity. If any of these signs occur, stop activity immediately and rest.

- ✓ Heaviness, tightness, pressure or pain in the chest, neck, jaw, or arms
- ✓ Dizziness, lightheaded feeling or fainting spell
- ✓ Shortness of breath or not able to talk while performing activity
- ✓ Extreme fatigue
- ✓ Excessive sweating
- ✓ Nausea or vomiting

Saving Energy During Self-Care**Bathing and Showering**

- ✓ Sit while showering on a chair or stool
- ✓ Use water of moderate temperature for easy breathing
- ✓ To avoid bending from the waist, use cross-leg method to wash and dry feet or a long-handled scrub brush
- ✓ Avoid over exertion by taking rest periods
- ✓ Shower the night before to save energy the next morning.

Dressing

- ✓ Have a dressing area where all clothes can be easily reached
- ✓ Before dressing, gather all clothes, shoes, etc. or set out the night before

- ✓ Sit in a chair or on the edge of the bed to dress.
- ✓ Cross legs or use a foot stool rather than stooping over to get on socks, shoes, and pants.

Grooming

- ✓ Sit whenever possible
- ✓ If care takes longer than five minutes, sit and rest both elbows on the counter while doing the tasks
- ✓ If rolling or curling hair, frequently allow arms to rest

Cooking

- ✓ Organize cabinets: store frequently used items at heights between your shoulder and hip level. If this is not possible, place these items in front of the cabinets.
- ✓ Eliminate clutter. If you do not use something very often, put it in those hard to reach places.
- ✓ Gather all needed items at the beginning of meal preparation.
- ✓ Sit at the table or on a stool at the counter top to prepare food.
- ✓ Use a rolling kitchen cart to transport dishes and/or food.
- ✓ Slide heavy items on the counter top or dish up hot items from the stove rather than carrying heavy pots and pans.

Laundry

- ✓ Avoid having a laundry day. Spread out over several days.
- ✓ Keep soap in smaller, more manageable containers.

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- ✓ Use a rolling cart or ask for help to transport laundry to and from the laundry room.
- ✓ Sit at a table to fold clothes.
- ✓ If you have a clothesline, position it so that it is no higher than shoulder height.
- ✓ Hang clothes immediately so they don't require ironing.
- ✓ If you do have to iron, do it sitting and on a day that you are not washing.

Housekeeping

- ✓ Make one side of the bed at a time to eliminate unnecessary steps around the bed.
- ✓ For chores such as dusting, vacuuming, and mopping, start at one side of the room and work your way around.
- ✓ Vacuuming and mopping are harder tasks to complete. Do them slowly and only for a short period of time.
- ✓ Make use of step-saver floor cleaners that eliminate the waxing process.
- ✓ For table setting, organize everything you need on a rolling cart, set one side of the table at a time and work your way around the table, use the same procedure to clear the table.
- ✓ Sit at the sink to wash dishes.
- ✓ If you don't have a dishwasher, let dishes drip dry in the sink.

Grocery Shopping

- ✓ Take a list to store so that you don't forget items as you go through the store.
- ✓ Use a grocery cart so you won't have to carry items.
- ✓ Bag cold items together so that those are the only bags that "have to" come in.
- ✓ Don't try to carry too much in at once. Use a rolling cart to help transport groceries into the house.
- ✓ Use a grocery store that sacks and carries groceries to your car.

Driving

- ✓ Consult your physician before you resume driving.
- ✓ Use a car with automatic transmission if available.
- ✓ Avoid rush hour traffic, busy streets, and driving during bad weather.
- ✓ On long trips, share driving and stop every hour to stretch.

Bench work

- ✓ Avoid prolonged holding of tools. Stop and rest hands frequently.
- ✓ Use clamps to stabilize objects.
- ✓ Sit at a workbench whenever possible to reduce energy output.
- ✓ Arrange workbench whenever possible to reduce energy output.
- ✓ Arrange work bench so all tools are within easy reach. Get rid of items you don't use.

- ✓ Slide heavy boards and equipment or use a cart. Don't carry them.
- ✓ Make sure room is well ventilated when using paints and finishes.

Household Repairs

- ✓ Avoid getting into cramped positions like under a sink or in a closet.
- ✓ Sit on the floor or on a stool instead of crouching when working at a low level.
- ✓ Use a long handled roller for ceiling and high walls when painting.
- ✓ Learn to delegate household repairs if a job is difficult for you.

Lawn Work and Gardening

- ✓ Consult your physician about your individual limits before performing yard work.
- ✓ Avoid extremes of heat, cold, and humidity. Dress accordingly. In the summer, try to do outdoor work in the early morning or evening when it is cooler.
- ✓ Use a power mower or riding mower.
- ✓ Avoid pushing the mower up inclines.
- ✓ Use long handled trimmer for grass edges to avoid bending or crawling.
- ✓ Do not try to groom the entire lawn in one day.
- ✓ Take frequent rest breaks.

- ✓ Switch positions frequently during gardening work. Use a stool for weeding.
- ✓ Do not hesitate to hire outside help for strenuous yard work or delegate it to family.

Snow shoveling

- ✓ Elderly persons, people with hypertension and those with heart disease **SHOULD NOT** shovel snow or use a snow blower.
- ✓ Consult your physician before attempting any snow removal.

SECTION 4

♥ **Activity Restrictions**

Activity Restrictions for Individuals with Heart Disease

Avoid the following activities:

1. Prolonged reaching. This causes your heart muscle to work against gravity. Examples: replacing light bulbs, car maintenance, etc.
2. Holding your breath. Examples: weight lifting, constipation.
3. Physical activity immediately after meals. Wait 60 minutes after eating to perform activity.
4. Reducing circulation. Example: sitting for extended periods without elevating legs to waist or heart level.
5. Smoking, alcohol or drug use. These activities reduce the amount of oxygen available and make your heart work harder.

Temperature and Weather Activity Guidelines

Cold Weather Precautions

- ✓ Avoid physical activity outdoors if the temperature is below 35 degrees Fahrenheit or if the wind chill makes the temperature less than 35 degrees Fahrenheit.
- ✓ Be aware of wind speed and direction before walking/exercising outdoors. Begin with the wind against you and finish with the wind to your back.
- ✓ Protect your face and mouth with a scarf or mask to avoid symptoms of shortness of breath or angina.
- ✓ Dress in layers when exercising outdoors to adjust to changes in your body temperature.
- ✓ Wear a hat/cap to prevent heat loss.

Reminder: Activities in extreme temperatures increase the amount of work placed on the heart and cardiovascular system. Always remember to reduce your levels of intensity when exercising in these environments.

Warm Weather Precautions

- ✓ Avoid temperatures above 85 degrees Fahrenheit or humidity greater than 80 percent.
- ✓ Exercise in an indoor area with air conditioning or a cool, well ventilated environment.
- ✓ Drink a minimum of 8 8-oz. glasses of water or caffeine-free beverages a day. Increasing the amount of fluids consumed will prevent dehydration, as your body can lose up to 2 liters of fluid an hour during activity in hot weather.
- ✓ Dress in light, cotton or breathable fabrics to increase the evaporation of perspiration and increase heat loss from the body.



6. Activities in extreme outdoor temperatures. (Refer to information above).

7. Hot showers, baths or whirlpools. Extreme temperatures can place an increased workload on the cardiovascular system.

Activity Restrictions**Following Surgery**

1. Do not lift more than 10 pounds for the first 2 weeks after surgery. You may progress by 10 pounds every 2 weeks. Also avoid bending, pulling, pushing or straining. When getting out of a chair, do not push off with your arms. Scoot to the front of the chair and use your legs to rise out of the chair. Your breast bone (sternum) will take approximately three months to heal.
2. When sitting up, use a reclining position with legs elevated. Avoid sitting for periods of time longer than 2 hours.
3. You may resume driving when your doctor gives you permission. Avoid driving for long periods of time.
4. You may resume sexual activity in 3-4 weeks. Use positions that do not place stress on your chest incision.

Activity Restrictions**Following Heart Attack**

1. Avoid pulling, pushing, or lifting more than 10 pounds unless your doctor allows you to lift more.
2. Your doctor may restrict you from driving for two weeks.

Activity Restrictions Following Angioplasty (PTCA) and/or Stent Placement

1. Take it easy for the first 2-3 days

following the procedure. Avoid pulling, pushing or lifting more than 10 pounds.

Going to Higher Altitudes for Heart Patients General Guidelines

At higher altitudes the air pressure is lower making it harder for your lungs and heart to provide oxygen to your body. This can lead to shortness of breath and fatigue. If you have symptoms at home, the symptoms will likely be worse when you travel to higher altitudes. If you have angina (heart pain) due to blocked heart arteries, higher altitudes may cause it to be more often, last longer, and come on with less activity.

If travel plans include higher altitudes:

- ✓ Know the specific altitude where you will be staying.
- ✓ Know what activities are planned. It is very important to limit your activities to those you feel okay doing at home. Riding in a car or train may be well tolerated; but hiking, walking distances, canoeing or skiing may not be.
- ✓ Keep your plans flexible enough that if you have problems you can change your plans/location.

The body can adapt to higher altitudes with time. Some of the changes occur within 48 hours, but it can take up to three months to fully adapt. To help you adapt, the doctor may sug-

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gest you spend one or two days at a lower altitude than your final destination.

Prepare in advance for your trip by:

- ✓ Plan activities that you do at home easily. Know the activities that you don't do regularly.
- ✓ If you feel your symptoms have worsened (shortness of breath, chest pain) you should be seen by your doctor prior to your trip.
- ✓ Take your medicine as prescribed on your trip. A fresh supply of nitroglycerin tablets/spray is also important to take if you have coronary artery disease.
- ✓ Update and take with you a medicine and drug allergy list.
- ✓ Locate the closest hospital in the area where you will be staying.

Even patients without medical illness can have symptoms at higher altitudes. These may include altitude sickness which often presents as a headache, severe breathing problems or dizziness. Dehydration at higher altitudes is also common because of decreased humidity. One needs to make sure that one drinks fluid while at higher altitudes. Sunburn, due to being closer to the sun, is also common at higher altitudes. Use sun block to avoid sunburn.

Each person is different and needs to discuss with their doctor the specific

concerns based on their medical problem/destination/activity plans. It is unknown how the altitude will affect you. Your travel party must accept that if you have heart symptoms, your plans may need to change. Listen to your body.

SECTION 5

♥ **Monitoring Activity Levels**

In this section you will learn how to monitor yourself when being active.

It is important to exercise at a comfortable pace. You should be able to carry on a conversation while exercising. In addition, there are three more ways to assist you in monitoring your activity level: taking your pulse; rating your perceived exertion; and listening to your body's cues.

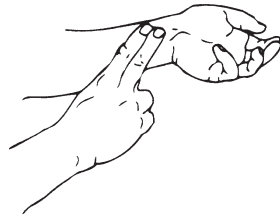
Taking Your Pulse

Taking your pulse or heart rate will tell you how hard your heart is working. Your heart rate is the number of times your heart beats in a minute. If your doctor has given you a Target Heart Rate, you can adjust your activity level accordingly.

Note: A majority of heart patients are on medications that will alter your heart rate. Therefore, using your heart rate for monitoring your level of activity might not be the best way.

Finding a pulse

Two ways to determine your heart rate:



1. The **wrist pulse** located on the thumb-side can be felt using your index finger and middle finger of your opposite hand. (Do not use thumb). Apply a light, firm pressure to the area between the bone and the tendons.



2. The **carotid pulse** in your neck can be found on either side of your windpipe. Place your finger in the groove between the windpipe and the neck muscle. Be careful not to press too firmly!

Count the number of beats you feel in a 10-second period. The conversion table will help you determine your heart rate for 1 minute.

Conversion Table For Heart Rates

Count your pulse for 10 seconds and multiply that number by 6.

Beats in 10 seconds	Beats in 1 minute
8	48
9	54
10	60
11	66
12	72
13	78
14	84
15	90
16	96
17	102
18	108
19	114
20	120
21	126
22	132
23	138
24	144
25	150

Note: You may need to pause during exercise to be able to count your pulse. Your pulse rate will begin to slow down when you stop your activity. So, you should find your pulse as quickly as possible.

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Rating Your Perceived Exertion

Perceived exertion is the total amount of exertion or physical fatigue you feel during activity. You should determine this rating based on all bodily feelings (breathing, muscle fatigue, weakness, etc.). Try to estimate as accurately as possible.

When you exercise, your perceived exertion should range from 11 to 14. You should not exercise at a rating of “hard” or 15. If so, reduce your activity level.

6		
7	Very, very light	Warm-up
8		and
9	Very light	Cool-down

10		
11	Fairly light	
12		Exercising
13	Somewhat hard	
14		

15	Hard	
16		
17	Very hard	Overdoing
18		
19	Very, very hard	
20		



Symptoms

Listening to your body is the safest way to measure your activity level.

Signs and symptoms of overexertion

- ✓ Excessive shortness of breath
- ✓ Excessive sweating
- ✓ Nausea
- ✓ Angina, chest discomfort, irregular heart beat
- ✓ Lightheadedness, dizziness
- ✓ Excessive fatigue

These symptoms are all good reasons to slow down or maybe even stop. You should seek medical advice if these symptoms occur.

SECTION 6

♥ **Benefits of Exercise**

As a cardiac patient, it is important that you understand the benefits of regular exercise. Regular, brisk physical activity can help reduce your risk of having another heart attack.

Regular exercise can also improve the quality of your life and how you feel. Exercise can help you do more without the chest discomfort or shortness of breath that you may have experienced.

Listed below are a variety of reasons why exercise is beneficial to you.

Improved fitness

- ✓ Greater stamina
- ✓ Increased strength and flexibility
- ✓ Helps heart and lungs be more efficient

Reduced risk of further heart disease

- ✓ Improves blood cholesterol levels
- ✓ Lowers blood pressure
- ✓ Decreases body weight
- ✓ Lowers blood sugars
- ✓ Lowers stress and improves coping
- ✓ Improves ability to sleep

Exercise plays an important role in your Heart Healthy Lifestyle! And, exercise also plays an important role in many other health concerns, including cancer, arthritis, diabetes and osteoporosis.

SECTION 7

♥ **Exercise Options**

There are many exercise options available to you. Ask yourself the following questions in order to determine what options best meet your needs.



*Consider: You may also choose to join a **Health Club** or exercise in a **Home Exercise Program**. The activity guidelines here will assist you in beginning an exercise program. Remember to talk with your physician when starting activities that are not addressed here.*

For more information about your exercise program, contact your the cardiac rehab staff.

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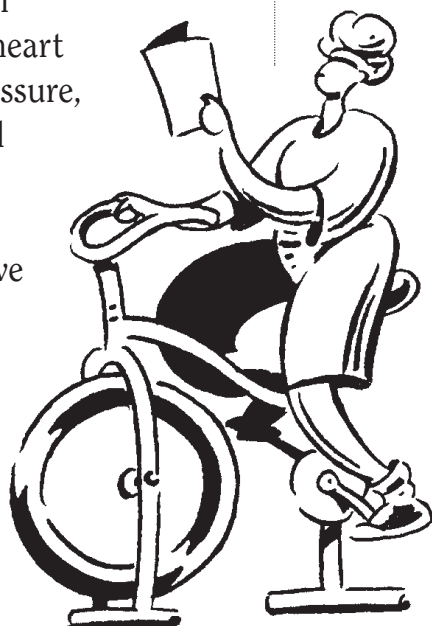
- ✓ Would I benefit from a supervised exercise program?
- ✓ Do I prefer to exercise outdoors or in my home?
- ✓ What exercise equipment options do I have available?
- ✓ Would I benefit from peer support?
- ✓ What type of exercise program fits my lifestyle and schedule?
- ✓ Do I have additional education needs?

Answers to the above questions will determine if you would benefit from a supervised outpatient cardiac rehabilitation program or an independent home exercise program.

Outpatient Phase II Rehabilitation

Outpatient Phase II Rehabilitation begins shortly after your hospital discharge and usually continues until your activity goals have been achieved. A Phase II program will include monitoring of heart rate, rhythm, blood pressure, and symptoms. You will receive instruction in your exercise program. In addition you will have the chance to learn lifestyle modification through educational classes.

Please talk with your cardiac rehabilitation staff about



entering a program like this.

After the Phase II program, you can enter the maintenance phase of cardiac rehabilitation or **Phase III**. The cardiac rehabilitation staff will help find a site that offers this program in your area.

SECTION 8

♥ How Do I stay Motivated?

Staying motivated to exercise will be the hardest thing you do. But it is the most important!

- ✓ Have variety in your exercise routine.
- ✓ Select exercise you enjoy!
- ✓ Make exercise a part of your daily routine.
- ✓ Exercise with a partner!
- ✓ Select a time of day that works with your schedule.
- ✓ Listen to music, read, or watch TV while exercising.
- ✓ Use exercise as a “Time-Out” in a stressful day.
- ✓ Chart your exercise on a calendar!
- ✓ Join an exercise group or class.

Note: Try not to miss more than two days of exercise in a row. If you stop for awhile, restart at a slower pace and for a shorter length of time.