



# Exercise Guidelines

Mercy Cardiopulmonary Rehabilitation

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# Elements of Healthy Living

**The basic elements of healthy living are familiar.**

*They Include:*

- 20 to 60 minutes of aerobic exercise 3 or 5 times per week
- Establishing a positive eating plan
- Getting adequate rest
- Controlling your stress

Most important, your health is YOUR responsibility and only you can improve your personal fitness. Take time out for exercise and feel better for it. These guidelines may help.

- Plan on perspiring. Wear loose clothing that allows for release of body heat and freedom of movement.
- Avoid eating for two hours prior to planned exercise. Skip caffeine and cigarettes, too, but don't skip more than one meal prior to exercise.
- Allow 5-10 minutes for warm-up exercises of a lower level prior to actual exercise, then end in the same manner with a 5-10 minute cool down.
- During exercise, train yourself to breathe in a slow, deep,

rhythmic manner, maintaining a relaxed posture.

- If you are not feeling well because of a cold or other symptoms, do not exercise that day. Similarly, muscle or skeletal (bone) problems should be noted. If they continue please speak with your physician. Pain in a joint or muscle usually indicates a need for rest of that part.

## Listen To Your Body.

- If you plan to shower shortly after exercise, be sure you have cooled down adequately. Use lukewarm water and shift your weight from one foot to the other. Hot water and remaining stationary in the shower can cause blood to pool in your legs, causing you to

### BE ALERT!

Be alert to symptoms of chest pain, palpitations, unusual shortness of breath, fatigue or dizziness. Always report such symptoms to your physician or nurse.

feel lightheaded, faintness or other symptoms.

- Set your goal of personal fitness and give your exercise program a chance to make you feel better.
- Aerobic exercise increases the capacity and efficiency of your cardiovascular system. Examples of aerobic exercise include endurance exercises like walking, cycling, swimming and jogging. These forms of exercise require activity over a relatively long period and depend on establishing a balance between the intake and use of oxygen.

**To achieve maximum benefits of exercise, at least 30 minutes 3 to 5 times per week is required.**

Cardiovascular conditioning is an ongoing process requiring consistent reinforcement.

***Making A Lifetime Commitment Yields Benefits Including:***

- Improved functional capacity and the ability to perform daily activities.
- Improved efficiency of the circulatory or blood transport system throughout the body.
- Improved relaxation and sleep.

- Weight control when coupled with proper diet.
- Improved sense of well-being.

Be alert to symptoms of chest pain, palpitations, unusual shortness of breath, fatigue or dizziness.

Avoid isometric type exertion, tensing of muscles without moving or lifting the joint.

Be aware of tension during normal activities. Attempt to keep muscles relaxed and maintain proper posture and regular breathing.

Dressing appropriately is one key to exercise success.

- Avoid rubber suits, girdles or support pantyhose.
- Choose lightweight clothing with comfortable fit that allows for ventilation in warm weather.
- Choose layers to allow easy temperature adjustment in cool weather.
- Comfortable walking shoes with proper support can help you avoid problems with your walking/jogging program.

## Weather & Exercising

### *In hot weather, exercise in an air-conditioned area.*

Be aware if the temperature is above 80 degrees or humidity greater than 60 percent. When you first begin to exercise, check your pulse every five minutes to be sure you are not overexerting. In warmer weather, total exercise time may have to be decreased with frequent one minute rest periods in-between. Replace fluids lost as sweat by juice or water (equal to 8 oz. per each 30 minutes of exercise). Be alert of symptoms of excessive fatigue, dizziness, nausea, and cool, pale skin as these may be signs of heat illness due to over exertion.

### *In cold weather, avoid overdressing as this can cause an abnormally elevated body temperature and greater strain on the cardiovascular system.*

Warm up gradually – this may be done indoors. Be aware if the temperature is below 40 degrees including adjustment for wind chill. Wear a scarf to avoid exposing the face or neck to cold. Drape it loosely over mouth and nose to avoid inhaling very cold air. Pace yourself by allowing rest periods. Avoid meals, caffeine, alcohol or tobacco before all exertion periods, especially in cold weather. Avoid holding your breath or over exerting when doing cold weather activities such as snow shoveling. Use the Perceived Exertion scale on page 12 to indicate if you are overexerting.

### **BE ALERT!**

If symptoms do occur, stop your activity. Notify your physician if you do not get prompt relief or if symptoms persist or reoccur.

# Stretching is Essential

***Stretching exercises are an essential part of physical conditioning.***

Increased flexibility through stretching may decrease the incidence of muscle and tendon injuries and minimize or alleviate muscle soreness.

Daily stretching will help reduce muscle tension and make the body more relaxed. It will also improve your coordination and promote circulation. If you stretch correctly and regularly, you will find that every movement you make becomes easier.

Stretching is easy to learn, but there is a right way and a wrong way. The right way to stretch is a relaxed, sustained movement with your attention focused on the muscles being stretched.

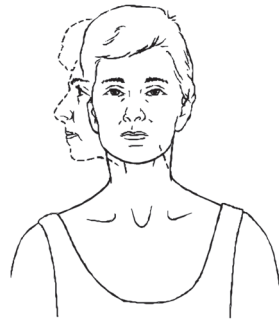
Remember to:

- Hold each stretch for at least 10 seconds.
- Stretch daily **before and after** periods of exercise.
- Alternate exercises for muscle groups on both sides of the body.
- Stretch to the point of slight tension, but avoid pain.

**Don't bounce and always remember to breathe.**

**1. NECK TURNING:** Turn neck to one side and hold for a slow count of 5 to 10. Turn neck to the opposite side and hold for a slow count of 5 to 10. Repeat 3 times on each side.

## ■ Neck Turning



**2. Neck Forward Bending:** Tilt head forward, bringing the chin to the chest. Hold for a slow count of 5 to 10. Repeat 3 times.

## ■ Neck Forward Bending



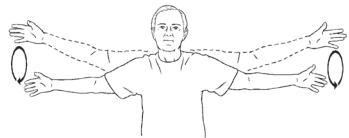
**3. Shoulder Roll:** Lift and roll shoulders 5 times forward and 5 times backward. Repeat 3 times. Continue breathing while rolling shoulders.

■ **Shoulder Roll**



**5. Arm Circles:** Slowly move arms in a forward circular motion 5 times, then in a backward circular motion 5 times.

■ **Arm Circles**



**4. Hug:** Wrap arms around chest with hands on opposite shoulders. Hold for a slow count of 5 to 10. Repeat 3 times.

■ **Hug**



**6. Reach For The Stars:** Reach straight up, one arm at a time, and hold for a slow count of 5 to 10. Do not bend at the waist. Repeat 3 times on each side, alternating arms.

■ **Reach For The Stars**



**7. SLIGHT KNEE BENDS:** With feet shoulder width apart, bend knees slightly while keeping back straight. Hold for a slow count of 5 to 10. Repeat 3 times.

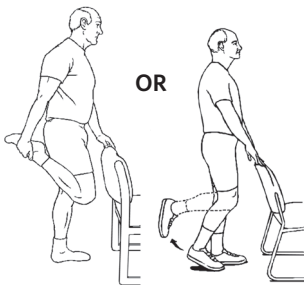
■ Slight Knee Bends



**8. KNEE-QUAD STRETCH:**

Bend knee and hold foot with hand for a slow count of 5 to 10. (Alternate stretch: bend knee and hold lower leg parallel to the floor for a slow count of 5 to 10.) Hold onto rail or wall for stability. Keep back straight. Repeat 3 times on each side, alternating legs.

■ Knee-Quad Stretch



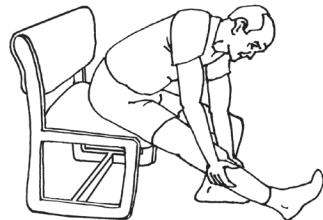
**9. CALF STRETCH:** Place one foot forward with front knee bent and back leg straight. Keep toes pointing straight ahead, and body in a straight line. Hold for a slow count of 5 to 10. Repeat 3 times on each side, alternating legs.

■ Calf Stretch



**10. HAMSTRING STRETCH:** Sit on edge of chair or bench. Straighten one leg, with toes pointing upward. Lean forward slowly, and hold for a slow count of 5 to 10. Repeat 3 times on each side, alternating legs.

■ Hamstring Stretch



# Pulse Counting

**Pulse counting can help you determine the exercise level your heart needs to stay in shape.**

As your physician prescribes your medications, he or she may also give you an exercise prescription. This prescription, is actually a recommended exercise heart rate range for exercise/activity. It is derived from your heart rate and exercise tolerance during an Exercise ECG. This prescribed heart rate range is a safe and beneficial guideline for you to follow in your exercise program.

To make sure you give your heart the correct amount of work, you must know how to take your own pulse.

Pulse counting is a simple procedure which should become habitual with minimal practice. Here's how to accomplish an accurate check.

- Place the index and middle

## Pulse Beats:

The number of pulse beats you count each minute is usually the same as the number of times your heart beats each minute.

## Guide To Estimating Your Heart Rate:

Pulses Per 10 Seconds:	Pulses Per Minute:
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
26.....	156
27.....	162
28.....	168
29.....	174
30.....	180

fingertips of one hand on your opposite arm just above the wrist crease on the thumb-side of your wrist.

- With moderate pressure, feel your pulse. If you have found your pulse you should feel a slight throbbing beneath your fingertips. If you are unable to feel your pulse, lighten or change finger placement slightly.
- Once you have found your pulse, count the pulses felt for ten seconds using a watch



which has a second hand.

- Multiply the number of pulse beats felt by six to arrive at your pulse rate per minute. Your pulse rate is a fairly accurate estimate of your heart rate.
- **Your recommended exercise heart rate range is:**

## Perceived Exertion

**The scale of perceived exertion is a tool you can use to become more aware of how much work you do through the day.**

Think of level 6, 7 & 8 as restful activities like reading or watching television. Try to gauge the difficulty of other activities accordingly. Use it during your exercise program, then learn to apply the concept to your daily activities. This is teaching you to be aware of how hard your body is working with exercise and other activities. Keep in mind that you should generally not exceed level 15. Adjust your exercise intensity to keep your exercise heart rate within target range and your perceived exertion level in the 11-14 range.

### Perceived Exertion Levels:

6	
7	<b>Very, Very Light</b>
8	
9	<b>Very Light</b>
10	
11	<b>Light</b>
12	
13	<b>Somewhat Hard</b>
14	
15	<b>HARD</b>
16	
17	<b>VERY HARD</b>
18	
19	<b>VERY, VERY HARD</b>
20	

# Your Personal 4 Week Exercise Program:

## Cardiopulmonary Rehabilitation

### 4 week exercise guidelines

**Warm-up:** Do slow stretching exercises for 5-10 minutes

### Conditioning exercise:

**Exercise heart rate:** resting plus 20-30 beats

### Progressively increase your exercise as follows:

- **Week 1** - up to 5-10 minutes twice daily
- **Week 2** - up to 10-15 minutes twice daily
- **Week 3** - up to 15-20 minutes twice daily
- **Week 4** - up to 20-30 minutes once daily
- **Cool down** - do slow stretching exercises for 5-10 minutes

**Frequency:** Follow this conditioning exercise schedule until you progress to 30 minutes once daily, then exercise daily 3 to 5 days a week for maintenance

### Guidelines

1. Always warm-up and cool-down
2. Do not exercise outdoors if:
  - Actual temperature or wind

chill is below 40°

- Temperature above 80°
- Humidity is greater than 60%

3. Walk on flat ground
4. Exercise before meals or wait two hours after meals
5. Avoid tobacco, alcohol or caffeine prior to exercise

If you get tired, stop walking for the day. The key rule of thumb to remember is: **"Listen to your body."** Increase your time as you feel ready. This is an example walking program. Please consult your physician for any specific recommendations or problems.

**If you have been ill or bedridden recently or are new to exercise it is normal to feel a little tired and a little short of breath and you may need to slow down your pace. If you remain fatigued for more than one hour after exercise, you have overexerted. Try decreasing your exercise time and slow down. Build up more slowly.**

# Your Personal 6 Week Exercise Program:

## Cardiopulmonary Rehabilitation

### 6 week exercise guidelines

**Warm-up:** Do slow stretching exercises for 5-10 minutes

#### **Conditioning exercise:**

**Exercise heart rate:** resting plus 20 beats

#### **Progressively increase your exercise as follows:**

- **Week 1** - up to 5 minutes twice daily
- **Week 2** - up to 7-10 minutes twice daily
- **Week 3** - up to 10-15 minutes twice daily
- **Week 4** - up to 15-20 minutes twice daily
- **Week 5** - up to 20-25 minutes once daily
- **Week 6** - up to 25-30 minutes once daily
- **Cool down** - do slow stretching exercises for 5-10 minutes

**Frequency:** Follow this conditioning exercise schedule until you progress to 30 minutes once daily, then exercise daily 3 to 5 days a week for maintenance

### *Guidelines*

1. Always warm-up and cool-down
2. Do not exercise outdoors if:
  - Actual temperature or wind chill is below 40°
  - Temperature above 80°
  - Humidity is greater than 60%
3. Walk on flat ground
4. Exercise before meals or wait two hours after meals
5. Avoid tobacco, alcohol or caffeine prior to exercise

If you get tired, stop walking for the day. The key rule of thumb to remember is: **"Listen to your body."** Increase your time as you feel ready. This is an example walking program. Please consult your physician for any specific recommendations or problems.

**If you have been ill or bedridden recently or are new to exercise it is normal to feel a little tired and a little short of breath and you may need to slow down your pace. If you remain fatigued for more than one hour after exercise, you have overexerted. Try decreasing your exercise time and slow down. Build up more slowly.**

# Muscle Strengthening Exercises

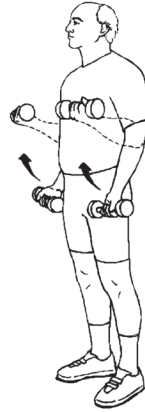
## General Information:

1. Start with 1-2 lbs. weights doing 8-10 repetitions of each demonstration (1 set).
2. Increase to doing 2 sets using same weight.
3. When you can do 2 sets of 10 repetitions increase to next weight. Start with one set of 8-10 repetitions.
4. Always remember to breathe during lifting.
5. Muscle strengthening exercises can begin after open heart surgery with your physician's approval.
6. Always use slow, controlled movements.

## Arm Curl:

1. Place elbows at sides resting at waist and palms facing forward.
2. Bend arms at elbow bringing weights up to chest without raising elbows.
3. Return to starting position to complete 1 repetition.

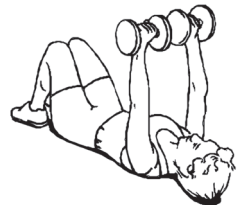
## ■ Arm Curl



## Chest Press:

1. Lie back on a bench and begin with the weights at chest level.
2. Push arms up until they are straight.
3. Return to starting position to complete 1 repetition.

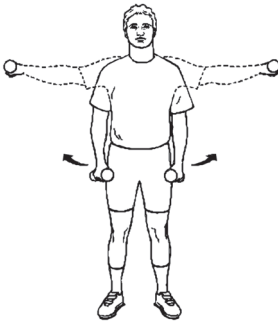
## ■ Chest Press



### Lateral Raise:

1. Begin with arms hanging straight down at the side.
2. Lift arms out to the side and return to starting position to complete 1 repetition.

#### ■ Lateral Raise



### Shoulder Press:

1. Begin with weights at shoulder level and palms facing forward.
2. Push up over head and return to starting position to complete 1 repetition.

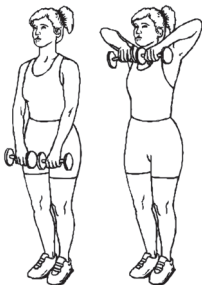
#### ■ Shoulder Press



### Row:

1. Begin with arms extended in front of you, palms facing your body.
2. Keeping hands next to one another, lift up to chest with elbows out.
3. Return to starting position to complete 1 repetition.

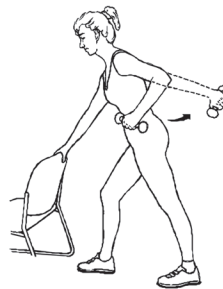
#### ■ Row



### Tricep Kickback:

1. Lean slightly forward, placing one hand on a chair or table for balance.
2. Begin with arm bent, keeping upper arm parallel to the floor.
3. Raise weight until arm is straight, then return to starting position to complete 1 repetition.
4. Upper arm and shoulder must remain still throughout the lift, moving only at the elbow.

#### ■ Tricep Kickback



# METabolic energy

## **MET** (*METabolic energy*)

measurements will help you determine your safe activity level.

After your Exercise Test (stress test), your physician may advise you to exercise at a certain MET level of activity. A MET is the amount of energy (oxygen) you use at rest. Two METs would be twice the amount of energy as the body uses at rest. Therefore, a MET relates to your body's ability to perform certain activities each day at a specific MET level. The chart below provides practical and general guidelines. General fitness, excitement, fatigue or emotional stress may alter MET levels for any activity.

## **1 MET**

- **Exercise or sports activities**
  - No activity allowed
- **Home Activities**
  - Bed rest
  - Sitting
  - Eating
  - Reading
  - Sewing
  - Watching television
- **Occupational Activities**
  - No activity allowed

## **1 to 2 METs**

- **Exercise or sports activities**
  - Walking 1 mph (1.6 km/hr) on level ground
- **Home Activities**
  - Dressing
  - Shaving
  - Brushing teeth
  - Washing at sink
  - Making bed
  - Desk work
  - Driving car
  - Playing cards
  - Knitting
- **Occupational Activities**
  - Typing (electronic typewriter)

## **2 to 3 METs**

- **Exercise or Sports Activities**
  - Walking 2 mph (3.2 km/hr) on level ground
  - Bicycling 5 mph (8 km/hr) on level ground
  - Playing billiards
  - Fishing
  - Bowling
  - Golfing (with motor cart)
  - Operating motorboat
  - Riding horseback (at walk)
- **Home Activities**
  - Tub bathing
  - Cooking
  - Waxing floor
  - Riding power lawn mower
  - Playing piano

- **Occupational Activities**
  - Driving small truck
  - Using hand tools
  - Typing (manual typewriter)
  - Repairing car

### **3 to 4 METs**

- **Exercise or sports activities**
  - Walking 3 mph (4.8 km/hr)
  - Bicycling 6 mph (9.7 km/hr)
  - Sailing
  - Golfing (pulling hand cart)
  - Pitching horseshoes
  - Archery
  - Badminton (doubles)
  - Horseback riding (at slow trot)
  - Fly-fishing
- **Home Activities**
  - General housework
  - Cleaning windows
  - Light gardening
  - Pushing light power mower
  - Sexual intercourse
- **Occupational Activities**
  - Assembly-line work
  - Driving large truck
  - Bricklaying
  - Plastering

### **4 to 5 METs**

- **Exercise or Sports Activities**
  - Calisthenics
  - Table tennis
  - Golfing (carrying bag)
  - Tennis (doubles)

- Dancing
- Slow swimming
- **Home Activities**
  - Heavy housework
  - Heavy gardening
  - Home repairs, including painting & light carpentry
  - Raking leaves
- **Occupational Activities**
  - Painting
  - Masonry
  - Wallpaper hanging

### **5 to 6 METs**

- **Exercise or Sports Activities**
  - Walking 4 mph (6.4 km/hr)
  - Bicycling 10 mph (16.1 km/hr)
  - Skating
  - Fishing with waders
  - Hiking
  - Hunting
  - Square dancing
  - Horseback riding (at brisk trot)
- **Home Activities**
  - Sawing softwood
  - Digging garden
  - Shoveling light loads
- **Occupational Activities**
  - Using heavy tools
  - Lifting 50 pounds

### **6 to 7 METs**

- **Exercise or sports activities**
  - Walking or jogging 5 mph (8.0 km/hr)

- Bicycling 11 mph  
(17.7 km/hr)
  - Tennis (singles)
  - Waterskiing
  - Light downhill skiing
- **Home Activities**
  - Shoveling snow
  - Splitting wood
  - Mowing lawn with hand mower
- **Occupational Activities**
  - All activities listed previously

## **7 to 8 METs**

- **Exercise or Sports Activities**
  - Paddleball
  - Touch football
  - Swimming (backstroke)
  - Basketball
  - Ice hockey
- **Home Activities**
  - Sawing hardwood
- **Occupational Activities**
  - Digging ditches
  - Lifting 80 pounds
  - Moving heavy furniture

## **8 to 9 METs**

- **Exercise or sports activities**
  - Running 5.5 mph  
(8.9 km/hr)
  - Bicycling 13 mph  
(20.9 km/hr)
  - Swimming (breaststroke)
  - Handball (noncompetitive)
  - Cross-country skiing
  - Fencing

- **Home Activities**
  - All activities listed previously
- **Occupational Activities**
  - Lifting 100 pounds

## **10 or more METs**

- **Exercise or sports activities**
  - Running 6 mph  
(9.7 km/hr) or faster
  - Handball (competitive)
  - Squash (competitive)
  - Gymnastics
  - Football (contact)
- **Home Activities**
  - All activities listed previously
- **Occupational Activities**
  - All activities listed previously









**Your health is YOUR responsibility and only you can improve your personal fitness.** Use the guidelines in this booklet to help take charge of your personal fitness goals. Please let us know anytime you have questions or concerns about your exercise program.

**Mercy Hammons Heart Institute**

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For more information, call **417-888-8888**.