## Bronson Cardiac Rehabilitation

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\begin{gathered}
\text { Home } \\
\text { Exercise } \\
\text { Program } \\
\text { Guidelines }
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## Introduction

This book has been designed to help you with your home exercise activities. Definitions of words often used are included as well as an explanation of the parts of an exercise program, and the importance of each part.

This book will give you specific information to follow so that you may follow your exercise program safely. Some of these activities include walking, swimming, bicycling, and jogging for some. The information is based on your performance in our Cardiac Rehab program.

## Words to Know

Here are some key words about your exercise program that will be used in this book or you may have heard during class.

Aerobic Activity: A sustained repetitive activity performed for a long period.
Resistance Training: This is exercise targeting specific muscles to improve strength.
MET: Metabolic Equivalents, The oxygen your body consumes per unit of body mass.
Target Heart Zone (THZ): This is the heart rate range for you to exercise in during aerobic activity.

Rating of Perceived Exertion (RPE): Your feeling of how hard you are working based on a 6 through 20 scale where 6 is seated doing nothing, and 20 the hardest work you can imagine.

Shortness of Breath (SOB): A way to rate how you are breathing where 0 is no shortness of breath, and 4 you are so short of breath you need to stop your exercise.

Angina: Discomfort caused by lack of blood flow to the heart muscle. This may be experienced as pressure, tightness, or heaviness in the chest arm neck jaw or back.

Warm-Up: This is the activity before exercise such as an easy walk and stretching to help improve blood flow to the body and aid in avoiding injury.

Cool-down: This is the activity after exercise such as an easy walk and stretching to help bring the body back to a resting state.

Ejection Fraction (EF): The amount of blood pumped by the heart muscle for each heartbeat.

HDL: High-density lipoprotein is considered "good" cholesterol and used to help carry away cholesterol

LDL: Low-density lipoprotein is considered "Bad" cholesterol and associated with an increased risk of heart disease.

Peripheral Artery Disease (PAD): Blockage of the blood vessels in the legs making it painful to walk for long periods.

## Exercise is medicine

An inactive lifestyle and poor dietary habits are two of the biggest causes of health problems. Thinking of exercise as another medication that will be "taken" daily will have many positive health benefits. Some of these benefits are:
$>$ Lower blood pressure.
> Higher HDL "good" cholesterol and lower LDL "bad" cholesterol.
$>$ Weight loss
> Better control of diabetes and blood sugar
> Reduced fatigue and more energy
> Better sleep patterns
> Decrease bone mineral loss
> Better joint function
> Increased exercise capacity and the ability to more easily complete daily tasks
> Improve PAD and Angina thresholds making it easier to complete tasks without pain.
> Return to work sooner

Your active role in an exercise program, gradually increasing the amount of exercise you do, can help to reduce the number of times you visit the hospital as a patient, make your daily activities more enjoyable, and allow you to live a longer more satisfying life.

Think of exercise as medicine! Don't stop doing your exercise because you are feeling "good". Following your exercise prescription will help you continue to feel good and give you control over your health.

## Warming Up

Warming up prepares your body for the activity. The warm up should include a low level activity such as easy walking or pedaling your bike with out tension for 3-5 minutes. Stretches will help improve flexibility and avoid injury. This warms up the muscles by slowly increasing blood flow, increasing your heart rate and opening blood vessels.

Breathe normally as you stretch. Do not hold your breath or bounce while you stretch. Stretch to the point that you feel a light pull on the muscle you are stretching. Hold this for 30 seconds. The following are the stretches you perform at Cardiac Rehab.

## Stretches

## Calf Stretch

Starting Position: Stand an arms length away from a wall or chair using your hands for support. Your toes should point straight ahead. Place your right foot forward and your left foot back.
Exercise: Bend your right knee keeping the left knee straight and your left heel flat on the floor. As your hips move forward, you should feel a stretch on the lower left leg. Hold this position for 30 seconds, and then repeat with the other leg.


## Achilles Stretch

Starting Position: Stand in the same position as with the calf stretch.
Exercise: This time bend both knees keeping both heels flat on the floor. Bend until you feel a stretch behind the ankle of the leg that is back. Hold this position for 30 seconds and then repeat with the other leg.


## Lower Back and Hamstring Stretch

Starting position: Stand with your feet shoulder width apart or in a comfortable position for you. You may stand next to a table or chair to help you with your balance.
Exercise: Bend at the hips keeping you knees strait but not locked until you feel a pull in the back of the legs and in the lower back. Hold this position for 30 seconds. Bend your knees slightly and slowly return to the standing position.


## Thigh Stretch

Starting Position: Stand by a chair or wall where you can hold on for balance.
Exercise: Bring your right knee up with your right foot behind you. With your right hand grab either your right foot or ankle and gently pull it further behind you until you feel a pull on the muscles on the front of your leg. Hold this position for 30 seconds, and then repeat with the left leg.


Once you have stretched your muscles and warmed up properly, you may begin your exercise session.

## Aerobic Training

The word aerobic means needing air or oxygen. Your body uses oxygen during exercise to produce "fuel" so you may continue the activity. This "fuel" production includes burning calories in the form of fat stored on the body as well as carbohydrates. During exercise, you continue to produce fuel and use the fat stores to help you with your weight loss goals.

Aerobic exercise is repetitive and sustained movement. It usually involves large muscle groups, such as the legs, for a long period. Examples of aerobic exercise are:
Walking
Bicycling
Swimming
Rowing
Jogging
Cross-country skiing
People also refer to these activities as doing "Cardio" or cardiovascular exercise (involving the heart, arteries, and veins). These activities may involve the use of exercise equipment like treadmills, elliptical machines, or stair steppers. We encourage you try activities that you will enjoy and will most likely continue with on your own.

## Target Heart Rate

You wear a heart monitor during cardiac rehab. The monitor gives your clinicians feed back on how fast your heart is beating and whether it is in a "normal" rhythm for you. We developed a $\underline{T}$ arget $\underline{H}$ eart $\underline{R}$ ate range (THR range) during this time to help you exercise within an appropriate and safe level. We want you to continue with your exercise at home in the same manner, and have developed a THR range we feel is best for you.

* Your THR range for home exercise: $\qquad$ to $\qquad$ .

You can track this THR range by counting your pulse for 15 seconds and multiplying by 4. You can use the conversion table on the following page for quick reference. You may want to memorize the numbers that relate to your heart rate range to more easily check to see if you are in your target range.

You can find your pulse on your wrist by turning your palm upward. Lightly press on the thumb side between the bone and the tendon with the first two fingers of the opposite hand. You should feel a pulsation against these fingers. Count the number of times you feel this in 15 seconds.

If you have trouble feeling your pulse, consider buying a pulse-meter. There are many brands and a few different types. The most commonly used is a pulse-meter that has a chest strap transmitter and wristwatch receiver. This type of pulse-meter reads your heart rate continuously. Other types of meters have a clip that attaches to your ear lobe or finger and cord going to the meter, or a wristwatch that you press on with your fingers to get the heart rate.

## Duration

When first starting an exercise program you need to moderate your duration for what you can tolerate. If you are a person who has never exercised you may want to start with 5-10 minute intervals 2-3 times a day (Interval Training), as long as you are not wearing yourself out. As you progress with your tolerance, you can add time. We suggest adding 5 minutes to your routine every week or every other week, deciding by how you feel. Try to do a duration that is about the same as what you are doing at Cardiac Rehab. Over time, you should increase your activity to exercising all at one time and without breaks (Continuous Exercise), and for durations of 45-60 minutes a day.

Your Duration: $\qquad$ . Try to increase by 5 minutes every other week.

## Frequency

Frequency of exercise refers to the number of days each week you will exercise. Moderating your frequency (How often you exercise) when you start an exercise program is also important. We have started you off with a few sessions at Cardiac Rehab, and now want you to increase the number of times you exercise each week. Ideally, we recommend exercise on most days per week, or 5-6 days each week. You are scheduled to exercise at Cardiac Rehab Monday, Wednesday, and Friday, and we encourage you to exercise on the days you are not here (Tuesday, Thursday, Saturday or Sunday). You can leave yourself one to two days each week without exercise or for an easy walk if you want.

Your Frequency: 5-6 days weekly. You do not need to exercise on the days you are scheduled for Cardiac Rehab (Monday, Wednesday, and Friday).

| Conversion Table for 15 Second Pulse Count |  |
| :---: | :---: |
| $\underline{\text { Beats per } 15 \mathrm{Sec} .}=\underline{\text { Beats Per Min }}$ | $\underline{\text { Beats per } 15 \mathrm{Sec} .}=\underline{\text { Beats Per Min }}$ |
| $10 \ldots \ldots \ldots \ldots \ldots .$. | 26............. $=\ldots \ldots \ldots . .104$ |
| $11 \ldots \ldots \ldots \ldots \ldots$. | $27 \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots 108$ |
| $12 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .48$ | $28 . \ldots \ldots \ldots \ldots . . \begin{aligned} & \text { a }\end{aligned}$ |
| $13 . \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots$. | $29 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots . .116$ |
| $14 \ldots \ldots \ldots \ldots \ldots .$. | $30 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .120$ |
| $15 \ldots \ldots \ldots \ldots \ldots .$. | $31 \ldots \ldots \ldots \ldots \ldots$. |
| $16 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .64$ | $32 . \ldots \ldots \ldots \ldots \ldots$. |
| $17 . \ldots \ldots \ldots \ldots \ldots$. = .......... 68 | $33 . \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .132$ |
| $18 . \ldots \ldots \ldots \ldots \ldots$. | $34 . \ldots \ldots \ldots \ldots \ldots$. |
| $19 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots . .76$ | $35 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .140$ |
| $20 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .80$ | $36 . \ldots \ldots \ldots \ldots \ldots$. |
| $21 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .84$ | $37 . \ldots \ldots \ldots \ldots \ldots$. |
| $22 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots$. | $38 \ldots \ldots \ldots \ldots . .=\ldots \ldots \ldots .152$ |
| $23 . \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots . .92$ | $39 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .156$ |
| $24 \ldots \ldots \ldots \ldots \ldots$. | $40 \ldots \ldots \ldots \ldots \ldots$ = $\ldots \ldots \ldots .160$ |
| $25 \ldots \ldots \ldots \ldots \ldots .=\ldots \ldots \ldots .100$ | $41 \ldots \ldots \ldots \ldots . . \begin{aligned} & \text { a }\end{aligned}$ |

## Rating of Perceived Exertion

If you are unable to feel your pulse or your heart rhythm does not allow you to count your heart rate accurately, you can use the Rating of $\underline{P}$ erceived $\underline{E x e r t i o n ~(R P E) ~ t o ~ h e l p ~ t r a c k ~}$ your work level. This scale starts at the number 6 , which you can think of as being seated in a chair doing no work at all, and progresses to the number 20, which would be the hardest work you could possibly think of. There is a range that we want you to maintain on this chart as well.

## Rating of Perceived Exertion

## 6

7.... Very, very light

8
9.... Very light

10
11.... Fairly light

12
13.... Somewhat hard

14
15.... Hard

16
17.... Very hard

18
19.... Very, very hard

20

Perceived exertion refers to the total amount of physical effort you are experiencing. This scale takes into account all sensations of exertion, physical stress and fatigue. When you use the rating scale, try to concentrate on your total "inner" feeling of exertion. This includes leg fatigue and discomfort with labored breathing and total effort you are exerting.

Your RPE range for home exercise: 11 = fairly light to $\mathbf{1 3}=$ somewhat hard.

## Talk Test

It is also important to monitor your breathing. We use the "Shortness of Breath Scale" in our cardiac rehab program to more closely follow your progress. This scale starts at $\underline{\mathbf{0}}$ or no shortness of breath and progresses to the number $\underline{4}$ or being so short of breath you need to stop. For home exercise we want you to monitor your breathing during exercise by using a Talk Test. With the talk test, you should be able to carry on a conversation without needing to stop to catch your breath during your activity.

## Setting your Equipment

Not all equipment is created equal, and not all equipment settings will be the same as the equipment you use at cardiac rehab. We will try to help you with setting your equipment for home. You will need to go more by how your equipment feels when comparing it to ours. This is especially true with bicycles. We can give settings for treadmills and Schwinn Airdyne ${ }^{\circledR}$ bikes, as these are typically very similar.

Treadmill Settings: $\qquad$ MPH $\qquad$ \% Grade

Schwinn Airdyne® settings: $\qquad$ RPM $\qquad$ Level

## Pain Scale



Be sure to monitor your pain level. Stop exercise and report any unusual pain to your cardiologist or primary doctor. The scale above is the scale used in cardiac rehab and will help you to better report your pain.

## Resistance Training

The goals of resistance training are to increase the amount of lean muscle on your body, and improve your ability to complete your daily activities such as shopping, house cleaning, yard work, and hobbies.

By increasing muscle tone and mass, your body will burn more calories during the day (even at rest) since muscles burn calories and fat does not. This will also improve your muscle tone so that you both look and feel better.

While you are in the cardiac rehab program, the weight routine is part of your exercise routine. You will not need to do them at home. Once you have completed the cardiac rehab program, you will want to continue with the weight routine on Monday, Wednesday, and Friday. Your muscles need a "rest" day for rebuilding and repairing the muscle tissue and to avoid over use of these muscles.

Use a weight that will allow you to complete 12-15 repetitions without too much straining. Breathe normally throughout the routine. Do not let the weights drop, or use fast motions. These motions can cause damage to the tendons and ligaments that attach your muscles to your bones. Use slow, smooth motion through each movement. Do not hold your breath. This can cause you to be lightheaded and possibly pass out. Start out by completing one set of each exercise, and add a set when you can tolerate more, up to 3 sets of each exercise. You may also consider using Thera-bands® as an alternative, starting with a tan color, least resistive, progressing through (yellow, red, green, blue, black) to silver, most resistive.

Use the pictures and explanations of the exercises on the following pages to help guide you through the weight activities.

## Biceps Curl

Start with your arms at your sides and your palms facing forward. Bending at your elbow, bring your hands up to your shoulders keeping the upper arms still. Slowly return your hands to the starting position and repeat.


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Shoulder Press

Start with your hands next to your ears with your palms facing forward. Push your hands straight up over your head and then slowly return them to the starting position next to your ears and repeat


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Upright Pulls

Start with your arms at your side and palms facing your body. Pull your hands up your sides to you chest level, and then slowly return them to the starting position at your sides and repeat.


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Triceps

Start with your arms straight up over your head. Slowly lower the weights behind your head keeping your elbows pointed up toward the ceiling, and then return them to the starting position up over your head and repeat.


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Lateral Fly

Start with the weight at your side. With a smooth motion bring your hands outward from your body and straight up to your shoulder level. Follow the same motion returning the weights to your sides and repeat.


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Front Deltoid Raise

Start with your hands at your sides. Raise your hands up in front of you to your shoulder level keeping your arms straight. Slowly return them to the starting position at your sides and repeat


Repetitions: 12-15, Sets: 1 to 3 as you can tolerate.

## Cool Down

This is the period immediately following your activity and will help your body return to the pre-exercise state.

The purpose of the cool down is to:

- Gradually return your heart rate to pre-exercise levels
- Prevent blood from pooling in your legs and to help avoid dizziness
- Improve your flexibility by stretching the muscles you have been using
- Help you avoid muscle soreness.

The cool down period should begin by lowering the intensity of your exercise to a slow walk or easy pedaling on a bicycle with little resistance. Following 2-5 minutes of this lower intensity, repeat the stretches discussed earlier. You performed these same activities before exercise. They will help to relax the muscle, improve and maintain flexibility, and help to prevent injuries and soreness. This cool down process should take between 5-10 minutes.

## The MET

A "MET" is a measure of work level used to help calculate calories and fitness level. It is defined as the amount of oxygen your body uses during exercise per kilogram of body weight per minute of exercise. Knowing your MET level can help you determine the activities you will be able complete at home. For example, someone who is able to walk on level ground at 4 mph (about 4 METs) would be able to: stock shelves, do plumbing, do general housework, bowl, golf with a pull cart, or climb stairs. The following chart may help you to determine the activities that would be safe for you based on the level of exercise you are doing in cardiac rehab.

## Your Met Level :

| METs | Exercise | Recreational | Occupational | Activities of Daily Living |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1.5-2.0 \\ & \text { METs } \end{aligned}$ | Strolling 1-1.5 mph <br> 1 miles in 4060 min | Knitting; Playing cards; Sewing; Watching TV | Desk work; Driving auto/truck; Sitting doing light assembly; Typing; Using hand tools; writing | Brushing hair/teeth, Light housework, Making bed; Partial bath; Polishing furniture; Washing clothes |
| $\begin{aligned} & \text { 2.0-3.0 } \\ & \text { METs } \end{aligned}$ | Walking, level $2.0-2.5 \mathrm{mph}$, 1 mile in 2430 min Cycling, level outdoors-5mph | Horseback riding (walk); Light golf (power cart); Playing musical instrument; Shuffleboard; Woodworking | Bartending; Crane operation; Standing doing light or medium assembly; TV/auto/car repair; Working heavy lever | Cooking; Driving car; Ironing; riding lawn mower; Scrubbing floor; walls, cars, windows; Showering; Sweeping; Tub bath |
| 3.0-4.0 METs | Walking 3.0-4.0 mph, <br> 1 mile in 15- <br> 20 min <br> Cycling, <br> outdoors <br> 5.5 mph | Billiards; Bowling; Canoeing; Croquet; Fly fishing; Golf (pulling cart); Shopping; Volleyball (non-competitive) | Baling hay; Driving heavy truck; heavy machine assembly; Janitorial work; Light welding; Operating large levers; Plastering; Plumbing; Stocking shelves | Cleaning windows; Climbing stairs (slowly); General House work; Kneeling; Light work; Packing/unpacking; Power lawn mowing (light); Sexual intercourse; Stocking shelves; Vacuuming |
| $\begin{aligned} & \text { 4.0-5.0 } \\ & \text { METs } \end{aligned}$ | Walking 3.5-4.0 mph <br> 1 mile in 15-17 min <br> Cycling, 8 mph Calisthenics Swimming (20 $\mathrm{yd} / \mathrm{min}$ ) | Ballet; Dancing; Gardening (how, weeding, digging), Golf (carrying clubs); Table tennis; Tennis (doubles); Volleyball | Building interior of house; Carrying trays/dishes; Farm work (sporadic); House painting, Lifting, carrying objects (20-40 lb); Light carpentry; Mechanic work | Raking leaves, shoveling light loads |


| METs | Exercise | Recreational | Occupational | Activities of Daily Living |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 5.0-6.0 } \\ & \text { METs } \end{aligned}$ | Walking 4.0-4.5 mph 1 mile in 13-15 min <br> Biking, 10 mph | Canoeing ( $4 \mathrm{~m} / \mathrm{hr}$ ); Gardening (digging); Skating (ice/roller); Social/square dancing; Softball/baseball (nongame); Stream fishing | Handyman work (moving, shoveling); Heavy Carpentry; Putting in sidewalk | Raking leaves, shoveling light loads |
| $\begin{aligned} & \text { 6.0-7.0 } \\ & \text { METs } \end{aligned}$ | Walking/jogging, <br> 4.0-5.0 mph <br> 1 mile in 12-13 min <br> Biking, 11 mph Swimming (breaststroke) | Backpacking (light); Badminton; Hiking; Hunting; Horseback riding (trot), Skiing (cross country 2.5 mph); Skiing (light downhill); Square dancing; Tennis (singles) | Exterior home building; Lifting, carrying objects (45$64 \mathrm{lb})$; Shoveling (10/min, 9 lb$)$; Splitting wood | Lawn mowing (push mower); Snow shoveling (light snow) |
| $\begin{aligned} & \text { 7.0-8.0 } \\ & \text { METs } \end{aligned}$ | Walking, 5 mph 1 mile in 12 min Biking (outdoors) 12 mph Swimming (backstroke), 40 yd/min | Badminton (competitive); Basketball (nongame); Canoeing (5 mph); golf (carrying bag); Horseback (gallop); Skiing (downhill, vigorous) | Ascending stairs with 17 lb load; Lifting, carrying (65$84 \mathrm{lb})$; Moving heavy furniture; Sawing |  |
| 8.0-9.0 METs 8.0-9.0 METs | Jog/run 5.5 mph Biking (outdoors) 13 mph Swimming (breaststroke) $40 \mathrm{yd} / \mathrm{min}$ Rowing machine; Rope jumping (60-80 skips/min) | Basketball (nongame); <br> Handball/squash/racq uetball; Mountain climbing; Soccer (nonteam); Touch football; Tour skiing | Lifting, carrying (85- <br> $100 \mathrm{lb})$; Moving heavy furniture (moving van work); Shoveling ( 14 lb scoops, 10 scoops/min); Using heavy tools |  |
| $\begin{aligned} & \text { 9.0-10.0 } \\ & \text { METs } \end{aligned}$ | Jog/run, 6 mph 1 mile in 10 min | Football (competitive); sledding/tobogganing | Heavy labor; Lumberjack; Shoveling ( 16 lb scoops) | Ascending stairs carrying 54 lb |

## Other Considerations

## Clothing

Choose clothing that is suitable for the activity, location, and weather such as shorts and a t -shirt in warm conditions and layered clothing in cool to cold conditions. You may consider clothing that wicks sweat away from your body as you exercise. This will help to keep your body cooler in warm conditions and warmer in cooler conditions. Layering your clothing allows you to "peel off" the layers in cooler weather as your body heats up during your activity.

## Drinking water

Sweating is the bodies' way of naturally keeping your core temperature at about 98.6 degrees. Sweat evaporates from your skin causing a cooling effect so that you don't over heat. As you continue to exercise, you need to replace the water that is evaporating so that your body can continue to keep you cool and function properly. If you cannot sweat, your body will over-heat. This can lead to heat exhaustion, heat stroke and even death. A good rule of thumb is to drink 8 oz of water for every 15 minutes of activity that you do. There are many options for carrying the water with you from water bottles to back pack type containers.

## Shoes

A quality well fitting walking or jogging shoe is important if you are participating in these types of activities. Buy your shoes for how they fit rather than the style, color, brand name, or price. Your shoes should provide support, cushioning, and should fit snuggly but be comfortable. The following checklist can help you to make an educated choice:

1. Try on shoes at the end of the day. Your feet are the biggest at this time and will allow you to more accurately size your shoes.
2. Wear the same thickness of socks that you will be wearing during your exercise.
3. The flex joint of the shoe (where the sole bends) should bend where your foot bends. If the shoe bends back near your arch, your feet will be sore from stiff fitting shoes.
4. The heel should fit snuggly. The ankle should be above the top of the shoe collar.
5. The heal counter should be rigid to help stabilize your heel. A notched heel tab takes pressure off your Achilles tendon during the heel and toe motion.
6. Walk in the shoes, not just in the store, but take them out for a good "test walk" off the carpeting.
7. Buy your shoes from a store with a reliable reputation and with trained personnel fitting you. What are their credentials?
8. Take the time to try on different models and different brands to help find the shoe that make your feet happy. Don't be afraid to ask questions.


Heel Counter
Flex joint
Low Heel

## Cold Weather Exercise

Take precautions when exercising outside in cold weather. Layer your clothing to wick away sweat, insulate against the cold, and provide a shell to guard against the wind. This will help to maintain your body's core temperature. Keeping the skin covered in the cold weather will help you to avoid frostbite and damage to tissues. A hat and gloves are recommended. Forty percent of your body's heat loss occurs through the head, arms and legs. Use a scarf or mask that will cover your face and nose in weather below 30 degrees
to help warm the air you breathe in. The cold air can cause your blood vessels to constrict. This can cause angina (heart pain), and can cause an asthmatic reaction for people with asthma. Snow and ice could mean injuries from falling. We recommend exercising indoors when outside temperatures are less than 30 degrees (including the wind chill factor).

## Hot Weather Exercise

During exercise on warm or humid days, more blood is directed toward the skin to aid the body in staying cool. Less blood is available for your working muscles and your heart rate will increase in response to this. You will find that you will need to lower your intensity of work to maintain your THR; otherwise, your heart rate may get too high and make you more susceptible to dangerous heart rhythms.

During hot weather, we recommend exercise in the cooler parts of the day (early in the morning or late in the evening), or exercise indoors in an air-conditioned or cooler environment. Drink plenty of water before and after your workout. Try to drink 8-16 ounces of water for every 15 minutes of exercise while you are active. Do not exercise in temperatures above 92 degrees (including the heat index and humidity). Stop exercising if you are feeling light headed, have extreme thirst or feel as if you are overheating.

Be aware of ozone and carbon monoxide levels. These may cause constriction of the bronchial tubes and decrease the amount of oxygen transported to the muscles by the blood. During "ozone action" days or when the air quality is poor, avoid outdoor activity especially if you have asthma or emphysema.

## Illness

If you are ill, rest and allow your body time to recover. Avoid exercise if your illness includes any of the following: fever, body aches, nausea and vomiting, and chest congestion. If you miss three or more consecutive days of exercise, restart your program at a lower level of intensity, and at a shorter duration. As you feel better, you can resume your usual level of activity.

## Time of Day

Time of day for exercise is very dependent on the person. Morning is typically when people are the most motivated to complete an exercise program. This helps to avoid scheduling issues that may put off exercise for another time. Try to avoid exercise immediately after a meal (for at least 1 hour) due to the body's high demand for blood during digestion. This will elevate your heart rate and reduce the level of exercise you may do. Noontime may work well for some, and can add a much-needed break to the day as well as help to avoid heavy lunches. Early evening exercise may help a person to
unwind and relax after a hard day. Try to avoid exercising immediately before bedtime. This may make getting to sleep difficult. Other things to consider are medicines you take and how they affect you (heart rates, blood sugar levels, bathroom breaks) and how you may need to change you activity.

## Avoid Injury

Performing too much exercise too soon is the most common cause of exercise related aches and pains. The injury risk can be reduced by beginning the program at a lower level and gradually increase your time and how hard you work. Add 5 minutes to your exercise time per week or every other week, and try to remain in your THZ or RPE level. Nonweight bearing activity (cycling, swimming, rowing) as opposed to weight-bearing activity (running or jumping-type activities) can help reduce the risk of injury.

## The "Best" Form of Exercise

The "best" form of aerobic exercise is the one that keeps you motivated and the one you will continue to complete every day. Though this may be true, a variety of activities will help to keep the exercise fresh and interesting. As long as the exercise is matched in terms of THZ, and RPE level, the benefits will be very similar.

## Hot Tub Use

Do not use a hot tub until the doctor gives the OK. This is generally 3 months after surgery. The temperature of the water is best kept under $104^{\circ}$ and exposure time should be limited to 5 minutes or less. If you begin to feel lightheaded or dizzy, it's a sign you should carefully get out of the pool, cool off and drink some water. Always be accompanied by another person. Do not lift yourself with your arms if your surgery was within the last 3-6 months.

## Calories and Weight Management

The number of calories expended during exercise depends on the intensity and duration of exercise as well as the size of person. Larger people expend more calories than smaller people do during weight bearing activities. The average person can expect to expend 100 calories walking 1 mile. One pound of fat is equal to 3500 calories. To put this into perspective, to lose 1 pound of fat through exercise, you would have to walk 35 miles. Weight loss is more easily achieved by reducing your calorie (food) intake and increasing your activity level. Your goal should be 1-2 pounds of weight loss each week.

## What is the plan for "Weight Management"?

Every good weight-loss program has the same two parts: healthful food choices and physical activity. Wise food choices can help you eat fewer calories and physical activity increases your fitness level. Attention to healthful food and activity will help you lose weight more easily, and you're more likely to keep it off too.

## Choosing a Weight Management Goal

Losing weight slowly is OK and encouraged because slow weight loss makes it easier to keep the weight off. Even a $5-10 \%$ change in original body weight has been shown to make very significant difference in blood sugar, cholesterol and blood pressure levels. These results are even more significant if weight loss is combined with improved fitness levels.

## 5 Simple Goals of a weight loss plan

## 1. Keep portions smaller than your fist.

It's easy to overeat when you have too much food on your plate. Smaller portions help prevent over-eating.

Use a plate that is no more than 9 " in diameter. Fill $1 / 2$ the plate with low calorie vegetables and fill the other $1 / 2$ of the plate with lean meat and starch or casserole. Add a small piece of fruit (tennis ball size) and a glass of low fat milk (fist size) for a well balanced, satisfying and low calorie meal.

## 2. Control your hunger with filling foods that are low in calories.

Foods such as soups, salads, fruits and vegetables can help fill you up without adding a lot of calories. These foods will satisfy hunger and help you lose weight.

## 3. Keep track of what you eat.

When you keep track of what you eat, you are more likely to meet your goals. Studies show that keeping a food $\log$ help people lose weight and keep it off.

## 4. Make trade-offs to reduce how much fat and sugar you eat.

Foods high in fat and sugar are usually high in calories too. But that doesn't mean you have to give up your favorite foods. Keep portions small or learn to make trade-offs.

## 5. Engage in more physical activity.

As you already know, regular physical activity is important for keeping your heart healthy. Keeping fit will help you lose weight, keep the weight off and strengthen your heart at the same time.

## How Many Calories Can I Save?

## To save about 150 calories:

- Eat $1 / 2$ sandwich instead of a whole sandwich.
- Drink 1 less beer or cocktail per day.
- Drink water or diet soda instead of regular soda.
- Drink black coffee or use low-fat or nonfat milk with your coffee instead of sugar and cream/creamer.
- Switch from whole milk to nonfat milk
- Have a 3 oz serving of lean meat or chicken instead of a 6 oz serving.
- Have one taco instead of two.
- Use seasoned vinegar or lemon juice instead of salad dressing.
- Skip the snack crackers.
- Have 1 less piece of pizza than usual.
- Order a regular burger instead of a quarter-pound or double burger.
- Have air-popped popcorn instead of microwave popcorn.
- Skip the chips.
- Eat 1 less scoop of ice cream.
- Pass up the candy bar.


## To save about 100 calories:

- Eat 1 cup of breakfast cereal instead of 2 cups.
- Drink 1 less glass of wine each day.
- Have 1 dinner roll or tortilla instead of 2.
- Switch from whole milk to $1 \%$ milk (save 50 calories / cup).
- Switch from $2 \%$ milk to nonfat milk (save 35 calories / cup).
- Eat a small handful of nuts ( $1 / 8$ cup) instead of a large handful ( $1 / 4$ cup).
- Have broiled fish instead of beef
- Leave the cream cheese off your bagel.
- Leave the margarine or butter off your bread.
- Skip the second helping of pasta.
- Skip the second helping of potatoes.
- Eat 1 cookie instead of 3 .
- Have fruit instead of French fries.
- Eat $1 / 2$ an order of French fries instead of a whole order
- Eat half a donut and give the other half away.


## Weight Management Record

Month...
Beginning Weight.. $\qquad$ Long Range Goal .....

Ending Weight...... $\qquad$
To track your weight, use the 0 on the graph as your Beginning weight. Record weight gain in pounds above the 0 , and weight loss in pounds below the 0 . Set your monthly goal so that you are losing 1-2 pounds each week. Set a Long Range Goal for your self to reach in 6 months to a year.

| Wt. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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## Activity Log

| Date | Weight | Resting <br> Pulse | Exercise <br> Pulse | RPE <br> $(6-20)$ | Duration/ <br> Distance | Equipment <br> Settings | Comments |
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## Activity Log

| Date | Weight | Resting <br> Pulse | Exercise <br> Pulse | RPE <br> $(6-20)$ | Duration/ <br> Distance | Equipment <br> Settings | Comments |
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## Contacts

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