



# On The Mend After Open Heart Surgery

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The content of this booklet is for **informational purposes only**. It is not intended to replace professional health care. See your health care provider for information relevant to your individual medical history.

## **Introduction**

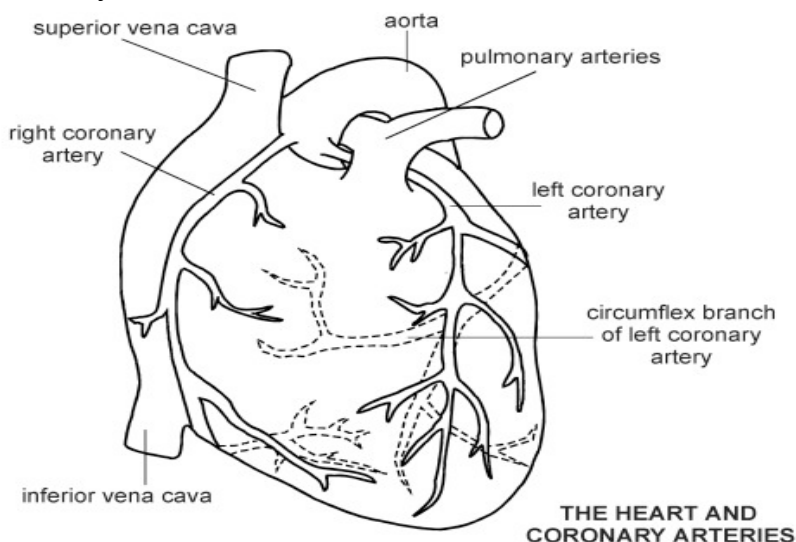
Welcome to Atlantic Health's Cardiovascular Program at Morristown Memorial Hospital. Now that you have had open heart surgery, it is time to learn what lies ahead. Many questions may come to mind concerning your future. The information contained in this booklet will acquaint you and your family with the care you can expect to receive throughout your hospital stay, and teach you and your family how to be actively involved in your care and recovery. The length of stay after open heart surgery is usually 4-7 days. Your physician and a knowledgeable team of professionals will attend to your special needs, to help you understand your heart condition and how to best live with it.

### **Your Heart and Its Function**

The heart is a strong muscle about the size of your clenched fist. It is located in the center of your chest behind the breastbone (sternum) and tilts slightly to the left. The

heart's function is to pump blood to all parts of the body supplying oxygen and nutrients through blood vessels called arteries and veins.

The right side of the heart receives blood through the veins of the body and pumps it to the lungs. Oxygen is added to the blood with each breath. Then oxygen enriched blood travels from the lungs to the left side of the heart and is pumped through the arteries to the body.



The heart muscle needs its own supply of oxygen and nutrients. It receives this by way of blood vessels that lie on the outside surface of the heart called **coronary arteries**. The right coronary artery supplies blood to the right side and back of the heart. The left main coronary artery has two major branches: the left anterior descending artery which supplies blood to the front and left of the heart, and the circumflex artery supplying blood to the left and back portion of the heart.

### **Coronary Artery Disease**

Coronary artery disease (CAD) is a narrowing of the coronary arteries that prevents adequate blood supply to the heart muscle. The narrowing is usually caused by atherosclerosis, a buildup of fat and cholesterol called plaque on the inner walls of the coronary arteries. As the disease progresses the arteries become narrower and lose their ability to expand. Thus, the amount of oxygen rich blood flowing to the heart muscle is reduced which may threaten the heart muscle. There are four basic ways to treat coronary artery disease: medication; coronary artery bypass graft surgery; interventional procedures such as percutaneous transluminal coronary angioplasty (PTCA), atherectomy, or stent placement; and cardiac rehabilitation.

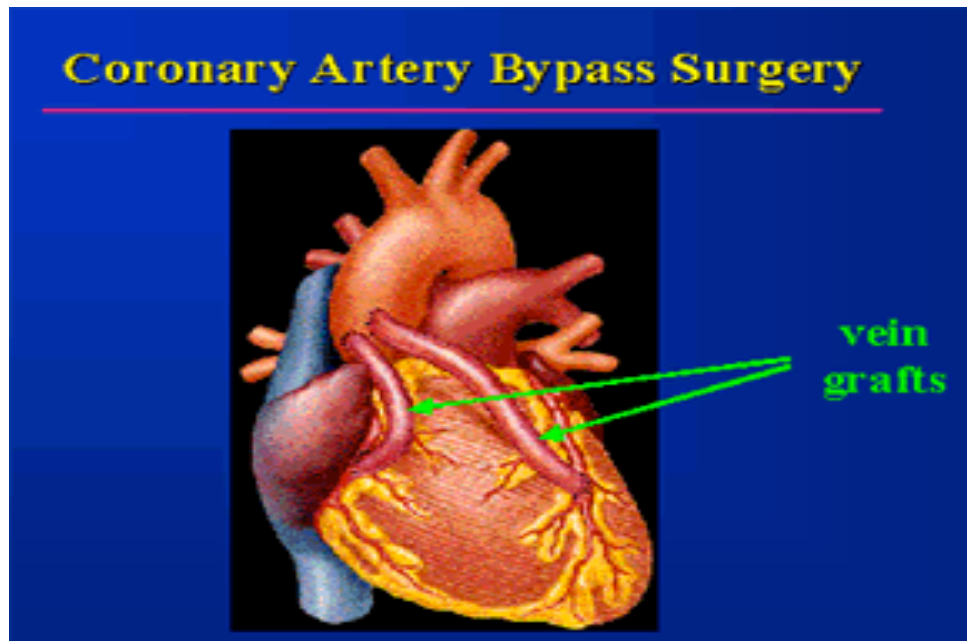
### **What Is Open Heart Surgery?**

Understanding your surgery is the first step in getting prepared. The term “open heart surgery” refers to any surgery in which the heart-lung machine is used. This machine does the work for the heart and lungs to oxygenate and circulate the blood through the

body while allowing the surgical team to perform the detailed operation on a still, non-beating heart. The most common types of open heart surgery are coronary artery bypass surgery and valve surgery. Other types of open heart surgery may also include surgery on the aorta, aneurysm, and congenital heart defects.

### **Coronary Artery Bypass Surgery:**

Coronary artery bypass surgery is performed to improve the blood flow to the heart muscle by bypassing the blockage in one or more coronary arteries. A portion of a leg vein (saphenous vein) and/or an artery from the chest (internal mammary artery), or arms (radial artery) are used as bypass grafts. The sternum (breast bone) is broken in order to gain access to the heart. This is called a sternotomy.



### **Minimally Invasive Direct Coronary Artery Bypass (MIDCAB):**

In the MIDCAB procedure, the surgeon operates on a beating heart, which does not require the use of the heart-lung machine. The sternum is never fully broken; instead the surgeon cuts only the lower portion to access the heart. There is less trauma associated with this procedure, so the average hospital stay is 2-3 days. Due to the limited size of the incision, the MIDCAB is generally reserved for patients whose blockages are in the front of the heart.

## **Valve Surgery:**

The heart has 4 valves that function as one way gates. Heart valves are normally thin, smooth structures that open to allow blood to flow through the heart's four chambers and then close tight to prevent back flow. If one of them does not function normally, it can cause the heart to work harder and create symptoms such as shortness of breath, dizziness, or chest pain. A valve that is not working properly either does not open wide enough to allow blood to flow between the chambers (stenosis) or it does not close all the way causing a leak (insufficiency). Valve repair or replacement is performed to restore normal function to the valve. This procedure is performed either through a full sternotomy or utilizing the minimally invasive technique (for aortic valves only), and requires the use of a heart-lung machine.

## **Atrial Septal Defect Surgery:**

The atrial septum is the wall that divides the upper chambers (atria) of the heart. An **Atrial- Septal Defect (ASD)** is an abnormal opening in this wall which disrupts normal blood flow and increases the work of the heart. During surgery the opening is covered with a synthetic material or sewn closed. As a result of the surgical repair, the normal blood flow is restored.

## **Major Aortic Surgery:**

The aorta is the largest artery in the body. It carries oxygen rich blood from the left ventricle through the aortic valve and delivers it to the head and body. If the wall of the aorta weakens, a bulging or enlargement of the vessel occurs resulting in pooling of blood in that area. This is called an **aneurysm**. An aneurysm can lead to an aortic **dissection** in which a tear occurs between the layers of the vessel allowing blood to be trapped. Dissections that occur in the ascending portion of the aorta (closest to the heart), are referred to as Type A. Dissections in the descending portion are referred to as Type B. Aneurysms most commonly occur in patients with a pre-existing condition known as Marfan's syndrome, while aortic dissections are typically seen in patients with high blood pressure or a pre-existing aneurysm.

## Activity During Hospitalization

Now that your surgery is over, a cardiac rehabilitation program will begin. It will be important to begin the exercises/activities listed below to maintain and build strength, and decrease complications/risks of inactivity and surgery. You will be visited daily by a cardiac rehab professional who will instruct and assist you with these daily exercises. The goal is to have you be able to take care of your own personal needs upon returning home. The length of stay is typically 4-7 days.

Cardiac Rehabilitation includes 4 activities:

1. **Incentive Spirometer** (blue breathing apparatus): This device is a visual aid, which shows how deeply a breath is inspired. It helps to promote secretion expectoration, open airways and prevent pneumonia. While your lips are sealed tightly around the mouthpiece, take in a slow deep breath and hold the indicator cup up for as long as possible by continuing to inhale. Then exhale and relax. Repeat this exercise 10 breaths every hour while awake. After the 10 breaths, give yourself a hug with your "heart" pillow, take a deep breath in and cough. It is very important to expel the mucous in the lungs to minimize the risk of pneumonia.
2. **Ankle circles/ pumps**: This exercise helps blood flow through your lower legs to prevent pooling of blood. This exercise can be accomplished by turning your feet in a circular motion, tightening and relaxing your calf muscles, or "pumping" your feet. Ankle circles/pumps should be performed 10 times every hour while awake. You won't need to do these exercises once you are walking.
3. **Sitting/Standing Exercises**: These exercises are performed to maintain joint flexibility and muscle tone, and reduce scar tissue. The weight of the extremity is enough resistance to accomplish this. Five (5) repetitions are performed on each extremity, 2 times per day.
4. **Ambulation (walking)**: The Cardiac Rehab staff will review with you the distance and frequency of walking necessary to ensure safety and benefit. How often and how far you are walking will help in determining when you are ready to go home.

Our staff will also practice stair climbing with you before discharge from the hospital. The activities are grouped into STEPS. Each step will be reviewed with you daily. You will be instructed on the activities that require assistance and others that you can do on your own.

### **The STEPS of Cardiac Rehab Activity**

#### **Step 1:**

- ▲ Incentive spirometer 10x every hour and cough
- ▲ Ankle circles 10x every hour
- ▲ Out of bed to chair with assistance 1-2x
- ▲ Sitting exercises in chair or bed 2x/day
- ▲ Walk with assistance to bathroom

#### **Step 2:**

- ▲ Incentive spirometer 10x every hour and cough
- ▲ Out of bed to chair with assistance 3x for 30 minutes minimum
- ▲ Sitting exercises in chair 2x/day
- ▲ Walk 150 feet with assistance, as needed, 2-4x/day

#### **Step 3:**

- ▲ Incentive spirometer 10x every hour and cough
- ▲ Sit in chair as much as tolerated
- ▲ Sitting/standing exercises 2x/day
- ▲ Walk 250 feet 4-6x/day

#### **Step 4:**

- ▲ Incentive spirometer 10x every 2 hours and cough
- ▲ Sit in chair most of the day
- ▲ Sitting/standing exercises 2x/day
- ▲ Walk 400 feet 4-6x/day

#### **Step 5:**

- ▲ Continue incentive spirometer
- ▲ Sit in chair most of the day
- ▲ Sitting/standing exercises 2x/day
- ▲ Walk a minimum of 400 feet 6x/day
- ▲ Stair climbing with assistance of the rehab staff

### **PATIENTS PROGRESS AT DISCHARGE**

Patient \_\_\_\_\_

Completed Step \_\_\_\_\_ and ambulating \_\_\_\_\_ feet \_\_\_\_\_ times/day.

Assessment: \_\_\_\_\_

Assistive Device: \_\_\_\_\_



## General Information

**The following guidelines will guide your recovery over the first few weeks after you leave the hospital.**

### **Bathing/ Incision Care**

- ▲ Wash the incisions *every day* using a soft washcloth, and antibacterial soap. Wash the incisions first then the rest of your body to minimize introducing germs to your incisions.
- ▲ You may take a sponge bath or shower with warm, not hot water. Do not allow a strong stream of water to hit directly on the incision.
- ▲ Wait to take a tub bath for at least **6 weeks**.
- ▲ Do not use lotions, creams, oils, or powders on the incisions.
- ▲ Look at your incisions daily and report any signs of infection to the surgeon. Watch for changes in amount or color of drainage, increased swelling, tenderness or redness, warm to the touch, or edges pull apart.
- ▲ You may notice swelling or a lump at the top of your chest incision. This is normal and may take several months to disappear.
- ▲ Take your temperature every morning for 1 week after discharge. Notify your physician if your temperature is above 101° F or greater for more than a day.

### **Leg Care**

- ▲ Wear antiembolic stockings (TED stockings) for 2 weeks. The stockings aid blood flow and help reduce swelling in the legs. Have someone put them on in the morning and remove them at bedtime. Wash them with mild soap and air dry overnight. It is easiest to put the stockings on before you rise in the morning, however they can put them on after a morning shower. They should fit snugly without cutting off circulation.
- ▲ If ankles and feet begin to swell, elevate them on a stool when sitting, and resume the ankle circles 10 rotations every hour.
- ▲ Do not cross your legs.

### **Incentive Spirometer**

- ▲ Continue to use your incentive spirometer every 2-4 hours, while awake, for the next 2 weeks at home.

## Driving

- ▲ Do not drive for **6 weeks**.
- ▲ If your car has a front passenger air bag, you need to sit in the back seat.
- ▲ Continue to use seat belts including the shoulder strap.
- ▲ Take your heart pillow in the car to hug on bumpy roads.
- ▲ When riding in a car for long distances, stop every hour to stretch your legs. This will improve circulation in your legs and help minimize swelling.

## Activity

- ▲ Follow the home exercise program prescribed by cardiac rehab on page 13. Begin it a day or 2 after returning home.
- ▲ Walking is an excellent form of exercise.
- ▲ Alternate periods of activity with rest to minimize fatigue.
- ▲ Stop and rest if experiencing extreme fatigue, excessive sweating, shortness of breath, light-headedness, nausea, or a pounding chest (palpitations).
- ▲ Do not lift more than **10-15** pounds and avoid pushing/pulling activities with your arms to protect the breastbone while it heals for **6 weeks**.
- ▲ You may climb stairs, but take your time and go slowly. Here are some simple points: limit your daily trips up and down, use the handrail for balance but don't pull with your arms. Sit down and rest if you become tired, short of breath, or dizzy.
- ▲ Avoid isometrics: straining to move your bowels, pushing/pulling heavy objects, or working with your arms overhead. These activities disproportionately elevate blood pressure and put an added strain on a healing heart.
- ▲ After eating, the heart is working harder to digest food. Rest a half an hour to an hour after a meal before exercising. One and a half to two hours after a large meal.
- ▲ Be sure to dress in street clothes and plan activities that are relaxing and enjoyable. You are on your way to recovery!

## Emotions

- ▲ Realize that being emotional, mildly depressed, or having difficulty concentrating, and memory loss are common and should improve as you recover from surgery. Let your physician know if these symptoms persist longer than a few weeks.
- ▲ When you are upset, the heart works harder. It is best to anticipate and avoid situations, people, or topics of conversation that make you tense or angry.
- ▲ Visit with friends, family, and neighbors, but not to the point of becoming over-tired.

## **Miscellaneous**

- ▲ Check your weight every morning for the first 2 weeks. If you have a weight gain greater than 2 pounds in 24 hours or more than 5 pounds in 1 week, notify your cardiologist.
- ▲ Notify your doctor if you develop angina (chest pain) which you may have experienced before surgery. It is important to not confuse incisional pain, which is normal, with angina.
- ▲ Be aware that loss of appetite may occur after surgery and will gradually return to normal.

## **Recovering After Open Heart Surgery: Speaking to the Heart of the Family**

The total family constellation-- the patient, spouse, children, and significant others-- can be significantly affected by cardiac surgery. In addition to the physical recovery, there is an emotional component experienced by the total family unit. Similar to a ripple in a pond when a stone is dropped, many waves occur before the pond eventually calms.

Facing changes in one's lifestyle is emotionally overwhelming. Some alterations may take place rather quickly such as diet changes and smoking cessation. Others may be more gradual such as maintaining an exercise program or incorporating long-term stress management techniques. It is important, however, to remember that it is the patient's responsibility for initiating lifestyle changes and retaining a heart healthy program. Other family members may assist and encourage, but only the patient can do it!

Recovery from cardiac surgery creates role changes and responsibility shifts among family members. Upon return to the home, the patient will have temporary physical limitations and dependencies for which family members will be expected to compensate. The husband may need to do the grocery shopping and carry packages for his wife who will be restricted in driving a car and lifting heavy items for a period of time. A son or daughter may need to assist in mowing the lawn and taking out the garbage for their father who will be limited in activities requiring exertion while rebuilding strength. Enabling a patient to regain a level of self-reliance and increased independence can prove to be a delicate balance and be cause for friction. Staying informed of the doctor's recommendations regarding the patient's anticipated progress can minimize the stress of this transitional period for both the patient and family.

Remember that recovery will be a challenge for the patient and family. There will be days of high energy and of fatigue, accomplishments, moments of temptation, feelings of exuberance, and even days of feeling blue and angry. These reactions are all part of the physical and emotional healing process that normally takes place during convalescence.

Here are some tips for your continued successful recovery:

- ▲ Encourage each other to express and discuss feelings. Open communication can minimize misunderstandings.
- ▲ Seek support by talking with others who have experienced similar cardiac events. Sharing common concerns can be reassuring.
- ▲ Reach out for help. Changing life long habits can be overwhelming. Behavior modification groups (i.e. Smoke Enders) provide structure as well as the mutual support and added motivation.
- ▲ Become knowledgeable about the cardiac condition, be inquisitive, attend lectures, and explore literature. Being informed can reduce anxiety.
- ▲ If you are feeling emotionally overwhelmed, seek professional advice. A trained counselor can help you to cope more adequately with your concerns. Consult your hospital social worker by calling the Main Social Work Services Department at (973) 971-5168.

Remember that recovery takes time. Sharing feelings and discussing ongoing issues can make for a smoother transition for all.

## What to Expect after Discharge

### Exercise For Your Heart

Aerobic exercise is the type of exercise recommended to strengthen the heart and cardiovascular system. Studies have shown that exercising aerobically 3-4 times a week, for at least 30 minutes, is enough to accomplish this. **However**, since you will be recovering from cardiac surgery for the next few months, the intensity and frequency of the aerobic exercise need to be modified to ensure both safety and benefit.

While you are rehabilitating at home following your surgery, you are encouraged to engage in a low level exercise program to aid in your recovery. Similar to the walking during your hospital stay, you need to walk short distances several times a day in order to build your endurance safely. As you progress through the next six weeks, you will gradually be able to increase the exercise time while decreasing the frequency of your daily walking.

<b>Week 1</b>	Walk 3-5 minutes four times daily.
<b>Week 2</b>	Walk 7-10 minutes three times daily.
<b>Week 3</b>	Walk 10-15 minutes two times daily.
<b>Week 4-6</b>	Walk 15-20 minutes twice daily or 30 minutes once daily.

Your heart rate (pulse) and how you are feeling overall determine the pace of your walk. Check your heart rate before and at midpoint during your walk (refer to page 17 for pulse taking instructions). You should not allow your heart rate to exceed **twenty** beats above the resting heart rate taken before walking. The **Rate of Perceived Exertion (R.P.E.)** also aids you in determining how hard your heart is working. Choose a number below that best describes how the exercise feels to you. Be sure to consider your overall sensations and feelings of physical stress, effort, and fatigue. You can use the **R.P.E.** scale for any kind of activity and it should be in the range of “**very light**” to “**light**”, # 1-2.

## R.P.E. Scale

0	nothing	6	heavy
1/2	very, very light	7	very heavy
1	very, light	8	very heavy
2	light	9	very, very heavy
3	moderate	10	very, very heavy
4	somewhat heavy		
5	heavy		

Once you are able to walk for twenty minutes without stopping, you should begin incorporating a **warm-up** and **cool-down** period. The warm-up and cool-down are important because they prepare the body for a change of activity level by slowly altering body temperature, blood pressure, heart rate, and respiration. The warm-up and cool-down are a minimum of five minutes in duration and consist of slow walking. Your heart rate should be taken before you warm-up, at midpoint during the aerobic phase, and after the cool-down. Again, your heart rate should not exceed **twenty beats** above your resting heart rate. If this should occur, slow down. Conversely, if your heart rate is not elevated (and the activity feels “**light**”), pick up the pace a little for the remaining time, then proceed with the cool-down. After the cool-down, your heart rate should return close to the heart rate taken before the warm-up. If it has not, then a longer cool-down is indicated to slowly bring your heart rate down.

**Warm-up:** Slow walking for 5 minutes.

**Aerobic:** Brisk walking 20 minutes or greater.

**Cool-down:** Slow walking for 5 minutes.

After speaking with your doctor or attending an outpatient cardiac rehabilitation program, you may be able to increase the aerobic phase. Aerobic equipment, such a motorized treadmill or stationary bike, can be substituted for walking. If you need information regarding their use, please speak with a cardiac rehab staff member. If you have orthopedic or medical conditions that limit your exercise, consult your doctor for guidance.

Always Check With Your Physician before Starting Any Exercise Program

## **Signs and Symptoms of Exercise Intolerance**

It is normal to feel pleasantly tired when first beginning an exercise program. Mild muscle fatigue or soreness may occur due to unaccustomed exercise. These minor complaints should go away as you progress through the program.

If you should experience excessive shortness of breath, muscle cramps or pain, or extreme fatigue, follow the steps below to modify your program:

1. Stop and rest until these symptoms subside.
2. Return home at a slower pace and take a shortcut.
3. Over the next several days, walk more slowly, or for a shorter distance, then gradually increase your distance and pace.

If you experience chest pain while walking follow these steps:

1. Stop your activity and sit down. Rest will often relieve chest pain. To return home, take a short cut, walking at a slower pace if chest pain is relieved.
2. If chest pain persists activate the 911 emergency system.

## **Environmental Considerations**

1. Exercising in hot weather: Heat and humidity decrease exercise tolerance by adding an extra demand on the heart to cool the body. Therefore it is best to exercise in the coolest times of the day, early morning or evening. If the temperature is above 80°F, and/or the humidity is above 80%, consider exercising in an environmentally-controlled area such as a mall, or use an exercise bike in an air-conditioned room. Be sure to wear loose, light weight clothing to aid in the elimination of body heat. Drink plenty of water before and after exercise in order to replace fluid lost through respiration and perspiration.



2. Exercising in cold weather: Be sure to exercise in the warmest part of the day, layering your clothing to control heat loss. Forty percent of body heat is lost through the head, therefore a hat is needed. Wearing a scarf across the nose and mouth is helpful as it warms the air momentarily before it is inhaled into the lungs. If the weather is inclement or the temperature is cold (below 32°F), consider exercising indoors in an environmentally controlled area.
3. Air pollution: The carbon dioxide released from cars replaces the oxygen taken into the lungs. Therefore, avoid heavily traveled roads, especially during rush hour. Utilize side roads or walking paths in your local park.

### **General Guidelines:**

In order to achieve the maximum benefit from your exercise program and to help evaluate your progress, the following are recommended:

1. Walking should be continuous and rhythmic.
2. Wear loose fitting clothing and comfortable shoes, preferably walking shoes or sneakers.
3. Do not exercise immediately after meals. Wait at least half an hour after a snack and up to an hour and a half after a large meal.
4. Walking should be done on level ground.
5. Postpone exercise at times of strong emotion, fatigue, or illness.
6. It is always a good idea to tell someone where you are going and for how long.
7. Diet control, exercise, and abstinence from tobacco will significantly improve your fitness level and your entire cardiovascular system.

Learning to count your heart rate (pulse) is a very positive step. It provides information on how your heart is working and enables you to gauge the intensity of your exercise program. For patients on medications, which regulate the heart rate, taking your pulse aids in effective medication administration.

Learning to count your heart rate is simple and this skill can be learned relatively quickly with a little patience and practice. There are two commonly used sites where you can feel your pulse:

The **wrist pulse** (at the radial artery) is located at the base of either thumb and is best felt with the finger pads (not the tips) of two or three fingers of the opposite hand. Do not use the thumb.

The **carotid pulse** (carotid artery) is located on either side of the windpipe. This is one of the largest arteries in the body and so it is one of the easiest to feel. It is best to use the right middle fingers to feel the left carotid or vice versa. **Do not press both carotid arteries at the same time.** This may cause you to faint or feel lightheaded, especially when pressing near the jaw bone as this can stimulate sensitive nerves.

When first learning to count your pulse, it is a common mistake to press the artery too hard. This occludes the pulse and you will not feel anything. A light but firm pressure will allow you to feel it well.

- ▲ **Use a watch with a second hand.**
- ▲ **Count the number of beats you feel in 10 seconds and multiply that number by 6.**
- ▲ **Example: 15 beats in 10 seconds x 6 = 90 beats per minute. (15 x 6= 90)**

### Heart Rate Chart

8 x 6 = 48	14 x 6 = 84	20 x 6 = 120
9 x 6 = 54	15 x 6 = 90	21 x 6 = 126
10 x 6 = 60	16 x 6 = 96	22 x 6 = 132
11 x 6 = 66	17 x 6 = 102	23 x 6 = 138
12 x 6 = 72	18 x 6 = 108	24 x 6 = 144
13 x 6 = 78	19 x 6 = 114	25 x 6 = 150



a long way toward improving the quality of your life. Studies have shown that plaque build-up on the inside of artery walls can be reduced through dietary and lifestyle modification, and regular exercise.

Outpatient cardiac rehabilitation is a medically supervised, monitored exercise and educational program. Candidates for this program include those who have had a heart attack, coronary artery bypass surgery, angioplasty and/or intracoronary stent placement, or ongoing stable angina. The program provides comprehensive rehabilitation with an individualized approach to treatment. Risk factors are identified for every participant and cardiac health education is included to assist you in making positive lifestyle changes. In addition, outpatient cardiac rehab centers offer lectures, stress management, and nutritional assessments/counseling. Excellent clinical resources are provided by experienced critical care registered nurses, exercise physiologists, cardiovascular technologists and clinical dietitians. In order to enroll in an outpatient cardiac rehab program, a physician referral is needed. Most insurance carriers as well as Medicare will pay a large portion if not all of a monitored cardiac rehabilitation program.

### **Returning To Work**

Returning to work is individualized based upon the nature of employment (desk job vs. manual labor), the severity of heart damage and function, and your activity tolerance. Approximately 4-6 weeks after surgery, your physician will evaluate your progress and set a specific date for resuming work.

Try to identify potential job related concerns prior to returning to the work force to minimize stress. Such considerations would be job responsibilities, hours, and transportation that may need to be modified in order to make your return to work less stressful and tiring, and more pleasant.

## **Sexual Activity**

There is a great deal of pleasurable sexual activity that is not sexual intercourse. Being near someone, holding, fondling, caressing are all activities that enhance closeness and pleasure. Since these activities require very little energy, you may engage in these anytime after discharge from the hospital. Many couples find that this expression of love allows them to slowly return to a full sex life with confidence.

Sexual intercourse requires slightly more energy, therefore a waiting time of 2-4 weeks is generally recommended. As you engage in the home walking program, and witness firsthand increased endurance and confidence, you will know when you are ready. Studies have shown that the energy expenditure for intercourse is the equivalent of walking briskly or climbing up two flights of stairs. Sexual activity does cause a temporary rise in heart rate, blood pressure, and rate of breathing which will return to normal shortly afterwards.

While recovering after surgery, you may be more aware of your heart beating, breathing, and muscle tension. This awareness is normal and is no cause for alarm.

Fears of performance and general depression are two psychological factors that can greatly reduce sexual interest and capacity. These are considered normal during convalescence and in most cases disappear within 3 months. If depression continues after 3-6 months, professional counseling should be considered.

There are several ways to prepare for the resumption of sexual activity. The first step is to exercise as mentioned prior.

The second step is to be tolerant of each other's emotions. For a brief time following a cardiac event, emotions are delicately balanced and subject to rapid mood swings. Try to keep day to day events in perspective and remember that a good sense of humor is the best ally.

The third step is to try to adjust mutual sexual expectations. Emotional response, as well as physical responses, sometimes makes the resumption of sexual relations fearful and that is normal.

The desire for sex is often temporarily diminished but will return to normal. It is reassuring to know that most cardiac patients are able to resume this activity, at the same level, and with the same satisfaction, as before the illness.

### **Some general guidelines:**

- ▲ Be relaxed and rested before intercourse. Avoid sex if you are fatigued or upset. The sexual experience should not be prolonged to the point of causing extreme fatigue.
- ▲ Choose a position that does not restrict breathing or require prolonged muscular support, and does not put your body weight on your arms or chest. The habits and positions with which you are familiar are usually the best.
- ▲ Maintain a comfortable room temperature and familiar surroundings and partner.
- ▲ Speak with your physician if you are experiencing any chest pain, angina, shortness of breath, rapid heart rate, or extreme fatigue in relation to sexual activity.
- ▲ Wait at least 1-3 hours after a meal or alcoholic beverage(s) before sexual activity.
- ▲ Open communication is important between partners.
- ▲ Various medications may affect sexual drive and/or function. If this occurs, consult your physician. Often a change in medication or dosage can remedy the problem. Never stop taking any prescribed medication without your physician's approval.

## Patient Medication Counseling

**Taking medications that have been prescribed by your doctor is extremely important to your recovery. Your doctor and nurse will review your medications with you prior to discharge. The following is a list of general guidelines to follow:**

- ▲ Compliance- Always take medications exactly as prescribed by your doctor. Do not change the regimen on your own and do not skip doses even if you feel better. **Never** stop taking your medications unless your doctor has specifically instructed you to do so.
- ▲ Side effects- Speak to your pharmacist or doctor about the possible side effects of your medications. Let your doctor know if you are experiencing any side effects. It may be possible for your doctor to change or modify the medication(s).
- ▲ Labeling- Ideally, keep the medications in the bottle as dispensed by your pharmacy so that you will not forget what they are and how to take them. If you do transfer them to another bottle, make sure they are properly labeled before you do so.
- ▲ Some medications are best taken with food while others should be taken on an empty stomach. Certain medications are best taken at bedtime or in the morning. Ask your doctor or pharmacist how and/or when to take your medication if it's not specified on the label.
- ▲ Keep a list of your medications, dosage and schedule in your wallet or purse.
- ▲ Keep all medications out of the reach of children.
- ▲ Store medications in a cool dry place. The bathroom cabinet is often too warm and moist for proper storage.
- ▲ Do not take any over-the-counter medications, vitamins, or herbal products without checking with your doctor or pharmacist. They may alter the effects of your prescribed medications.
- ▲ Be sure to tell your doctor and pharmacist if you have any drug allergies.

## Coumadin

Coumadin (sodium warfarin) is an anticoagulant that reduces the formation of blood clots. It is commonly prescribed for those who have had valve replacement or repair, irregular heart rhythm (atrial fibrillation), stroke, or prone to blood clots for other medical reasons.

The dosage of Coumadin is prescribed according to a blood test called prothrombin time test (PT) or clotting time. It may be necessary to have this test repeated frequently when first taking the medication until the doctor regulates the proper dosage. Then the frequency of the PT declines to about monthly.

Several factors may affect the clotting time of the blood. These include illness, especially with fluid loss through vomiting or diarrhea, changes in exercise or dietary habits, and other medications. Tell your doctor if any of the above occurs because the Coumadin may have to be adjusted.

Some common non-prescription medications that adversely interact with Coumadin include but are not limited to: Tylenol, aspirin, ibuprofen, H2-receptor antagonists such as Tagamet or Zantac, vitamin supplements with vitamin K which cause blood to clot, and herbal medications. Also many foods we eat have vitamin K, and though there is no need to avoid these foods, it is important to eat them consistently. They include:

Broccoli	Endive	Liver
Brussels sprouts	Green scallion	Mustard greens
Cabbage	Green pepper	Spinach
Cauliflower	Kale	Swiss chard
Coleslaw	Lentils	Turnip greens
Collard greens	Lettuce	Watercress

In addition, canola oil, soybean oil, Mayonnaise and green tea are high in vitamin K. Keep the total amount you consume steady in your diet each day. You should inform your doctor if you are taking any herbal or nutritional supplements since they can also affect the way that Coumadin works.

Excessive alcohol intake may also cause bleeding while taking Coumadin. Check with your doctor about drinking alcohol.



If you have had your valve repaired or replaced, tell the doctor or dentist who is treating you, especially for dental work or a surgical procedure, as antibiotics will be prescribed to prevent an infection from settling in your heart.

Be certain to take your Coumadin at the same time every day. If you miss a dose, take the next dose at the normal time. Never take two doses at once.

Look for signs of bleeding while you are taking Coumadin. Notify your physician if you have:

- ▲ any abnormal bleeding
- ▲ red or black bowel movements
- ▲ pink or red urine
- ▲ severe headaches, abdominal or lower back pain
- ▲ faintness or dizziness
- ▲ red or "coffee ground like" vomit
- ▲ excessive bruising
- ▲ excessive nose bleeds
- ▲ yellow or jaundice skin
- ▲ any symptoms that concern you

Again, it will be necessary to have a blood test (PT) periodically. If you are planning to be away from home for awhile be sure to mention this to your doctor.

It is a good idea to carry a wallet identification card or a Medical Alert bracelet indicating that you are taking Coumadin.

## Managing Chest Pain

### How and when to summon emergency assistance:

If you experience chest pain, **dial 911**. This will summon your local ambulance squad and paramedics to your home, who are equipped to provide immediate care. You should **never** drive yourself to the hospital. (If your doctor has prescribed nitroglycerin, call 911 if chest pain persists after proper administration of nitroglycerin.)

Remember that time is of the essence. Lives are saved with prompt medical intervention. Medication can be given to limit or prevent damage to the heart muscle.

It is highly recommended that all members of your family learn cardiopulmonary resuscitation (CPR). The Community Health/Education Departments of Atlantic Health or a local chapter of the American Heart Association offer CPR classes.

When your physician told you that you had a heart problem, probably one of the first questions to cross your mind was "Why Me?" Medical science has not yet discovered the answer to your question. Presently we cannot predict who will have heart disease, nor do we know exactly why certain individuals have heart disease and others do not. But even though we don't have these answers, research has provided some clues about the occurrence of heart disease. For example, research has shown us that people with certain habits, attributes and lifestyles have an increased risk of developing a heart attack or heart disease. These specific habits, attributes, and lifestyles are called *risk factors*.

Now is the time for you and your health team to look at your risk factors and assist you in taking steps to either modify or eliminate risk factors of which you have control. Your goal is to minimize your risk of future heart trouble.

On the next page is a list of the coronary risk factors. As you read each one, think about whether it applies to you. Check all boxes either yes or no. The risk factors that can be modified or eliminated have a page number for your reference.

RISK FACTORS	Yes	No
<p><b>1. Your AGE may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You are a man over 45 years old..</li> <li>▲ You are a woman over 55 years old, or you have passed menopause or had your ovaries removed.</li> </ul>		
<p><b>2. Your FAMILY HISTORY may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You have a close blood relative who had a heart attack before age 55 (if father or brother) or before age 65 (if mother or sister)</li> </ul>		
<p><b>3. Cigarette and tobacco SMOKE increases your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You smoke, or live or work with people who smoke every day.</li> </ul>		
<p><b>4. Your total CHOLESTEROL and HDL cholesterol levels may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ Your total cholesterol level is 240 mg/dL or higher.</li> <li>▲ Your HDL (“good”) cholesterol level is less than 35 mg/dL.</li> <li>▲ You <i>don't know</i> what your cholesterol level is.</li> </ul>		
<p><b>5. Your BLOOD PRESSURE may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ Your blood pressure is 140/90 mm Hg or higher, or you have been told that you blood pressure is <i>too high</i>.</li> <li>▲ You <i>don't know</i> what your blood pressure is.</li> </ul>		
<p><b>6. PHYSICAL INACTIVITY may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You are not exercising a minimum of 30 minutes 3-5 times per week.</li> </ul>		
<p><b>7. Excess BODY WEIGHT may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You are 20 pounds or more overweight.</li> </ul>		
<p><b>8. DIABETES increases your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You have diabetes or need medicine to control your blood sugar.</li> </ul>		
<p><b>9. Excessive STRESS may increase your risk if...</b></p> <ul style="list-style-type: none"> <li>▲ You experience <i>excessive stress</i> over a long period.</li> </ul>		

## **Diet, High Cholesterol, Diabetes And Obesity**

The food you eat affects many factors in your body including your risk for heart disease. It is of great importance that you modify your diet to control weight, blood sugar and cholesterol levels.

**High blood cholesterol** is a risk factor for heart disease. The higher the blood cholesterol, the greater the chance of developing heart disease. An increased cholesterol level with a high level of low density lipoprotein (LDL) or a low level of high density lipoprotein (HDL) increases the risk of heart disease. Conversely, the opposite reduces the risk. High levels of fat in the blood are responsible for the accumulation of atherosclerotic plaque in the coronary arteries. Diet, weight loss and exercise can positively impact cholesterol levels. Your doctor may add medication when these measures fail to adequately control the cholesterol level.

**Diabetes** is a condition characterized by elevated blood sugar due to an inadequate secretion or absence of insulin. It is a major risk factor for atherosclerosis and is compounded in the presence of other risk factors. Those with diabetes tend to have high cholesterol, triglycerides, and blood pressure. Diabetes increases the risk of heart disease three fold in men and possibly even more in women. Therefore, it is important to maintain control of this disease with proper body weight through diet, exercise, regular medical checkups and medication, if ordered by a physician.

**Obesity** places an added workload in the heart; therefore the risk for developing heart disease increases as body weight increases. The heart must pump harder to supply blood to a larger area, thus requiring more oxygen for the heart. Obesity is closely linked to a poor diet with high fat and cholesterol intake, and a sedentary lifestyle. Being overweight also contributes to heart disease because it adversely affects other risk factors such as high blood pressure and diabetes.

## **Dietary Guidelines**

The following pages contain detailed information about fat and cholesterol. Our registered dietitian can provide further information regarding the management of your healthy diet.

## **Dietary Fats and Heart Disease**

The following definitions will assist your understanding of how to follow a heart healthy diet:

**Cholesterol:** Cholesterol is a fat-like substance. The cholesterol level in the blood is determined partly by your genetic makeup, and the saturated fat and cholesterol in the foods you eat. Cholesterol is found in eggs, dairy products, meat, poultry, fish, and shellfish. Egg yolks and organ meats (liver, kidney, sweetbread, and brain) are particularly rich sources of cholesterol. Fish generally has less cholesterol, but shellfish varies in cholesterol content. Foods of plant origin, like fruits, vegetables, grains, cereals, nuts, and seeds contain no cholesterol.

**Lipoprotein:** A large fat droplet with a protein shell which travels through the blood stream delivering and taking up fat and cholesterol from cells. Two types of lipoproteins are:

**High Density Lipoproteins (HDL)** - (commonly referred to as “good cholesterol”) carry cholesterol away from body cells and tissues to the liver for excretion from the body. Low levels of HDL are associated with an increased risk of coronary heart disease. Therefore, the higher the HDL level, the better.

**Low Density Lipoproteins (LDL)** - Lipoproteins in the blood that contains the largest amount of cholesterol. LDL is responsible for depositing cholesterol in the artery walls. High levels of LDL are associated with an increased risk of coronary heart disease and are therefore referred to as “bad cholesterol”. Hence, the lower the LDL level, the better.

**Total Fat:** The sum of the saturated, monounsaturated, and polyunsaturated fats present in food. A mixture of all three in varying amounts is found in most foods. Total fat in your diet should be 30% or less of total calories daily.

anything else in your diet. The best way to reduce your blood cholesterol level is to reduce the amount of saturated fat that you eat. Animal products as a group are a major source of saturated fat in the American diet. It is concentrated in the fat that surrounds meat and in the white streaks of fat in the muscle of meat (marbling). Butter, cheese, whole milk, ice-cream, and cream all contain high amounts of saturated fat. Poultry, fish, and shellfish contain saturated fat, although generally less than meat. The following vegetable oils are also high in saturated fat: coconut oil, cocoa butter (found in chocolate), palm kernel oil, and palm oil.

**Unsaturated Fat:** Unsaturated fat consists of both polyunsaturated and monounsaturated fatty acids. They are often found in liquid oils of vegetable origin. Both types of unsaturated fatty acids may help lower your blood cholesterol level when used in place of saturated fatty acids in your diet. Although these oils are low in saturated fat, they still have a high caloric density, and if used in excess, can cause weight gain.

**Polyunsaturated Fat:** This type of fat is found primarily in safflower, corn, soybean, sesame, and sunflower oils. Another type of polyunsaturated fat, omega 3 fatty acid, is found in fish. Some data suggests that the consumption of fish of any type, regardless of its omega 3 fatty acid content, is associated with reduced coronary artery disease risk.

**Monounsaturated Fat:** This type of fat is found primarily in olive and canola oil.

**Triglyceride:** The bulk of the body's fat is stored for energy in the form of triglycerides. We consume triglycerides primarily from the saturated fat in our diet. Weight control is an important component of the dietary approach to therapy in patients with borderline-high triglycerides (200-400 mg/dl) or high triglycerides (400-1000 mg/dl). Weight loss should be combined with a regular exercise program, as per the discretion of your doctor. Even small amounts of alcohol can lead to large fluctuations in triglyceride levels; thus, alcohol intake should be considerably restricted on a trial basis. Marked increases in the carbohydrate content of the diet may increase triglycerides and lower HDL-cholesterol levels in some individuals.

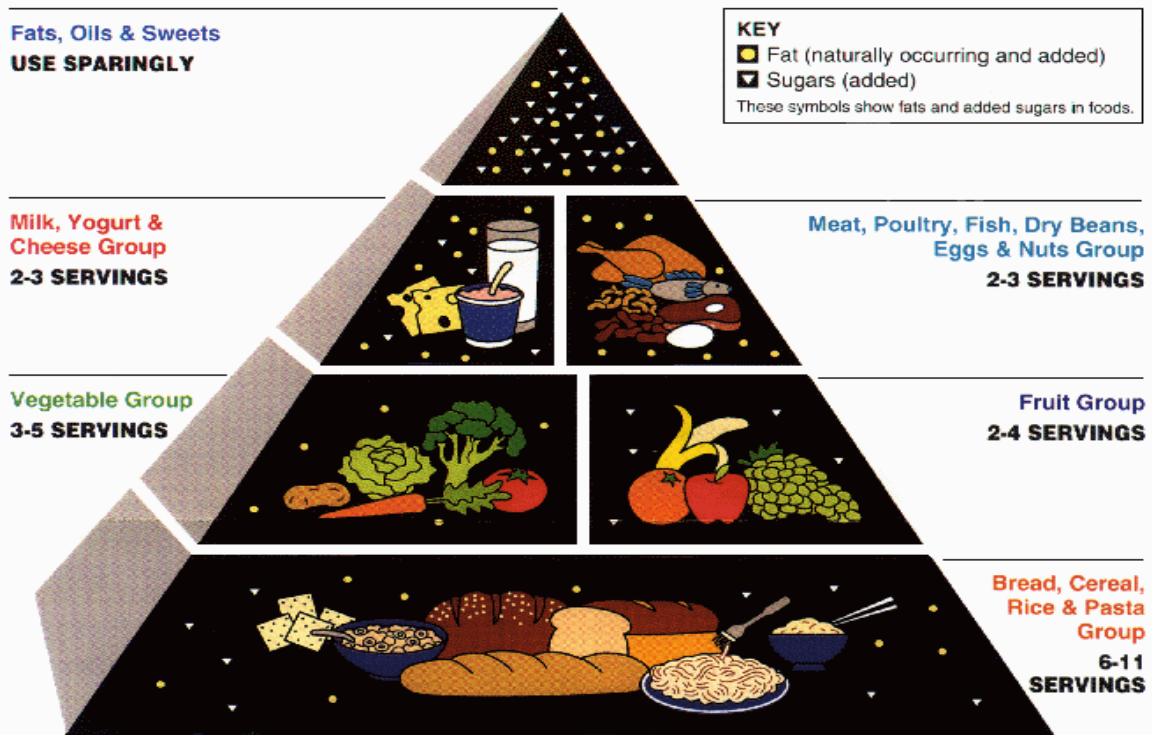
“Trans” fat. Trans fat appears to raise blood cholesterol more than other unsaturated fats, but not as much as saturated fat. They are formed when vegetable oil is hardened to become margarine or shortening through a process called hydrogenation. You should limit the amount of trans fats in your diet.

**Fiber:** Fiber is an indigestible part of certain foods. There are two types of fiber, insoluble and soluble fiber. **Insoluble** fiber adds bulk to stools. Although insoluble dietary fiber, such as wheat bran, does not lower serum cholesterol levels it may have other health benefits. **Soluble** fiber has some cholesterol lowering potential. These include pectins, certain gums and psyllium. Some authorities recommend a total dietary fiber intake of 20-35 g daily for adults. About 25% (6 g) of this probably should be soluble fiber. These recommendations can be achieved with five or more servings of fruits and vegetables and six or more servings of grain products daily. Fiber intake should be increased gradually with additional fluids as well.

## **Food Guide Pyramid**

The U.S. Department of Agriculture (USDA) has developed a Food Guide Pyramid to help you choose a balanced diet from the five major food groups. The base of the pyramid contains the largest portion of food in the form of grains: bread, cereal, rice, pasta, and whole grains. Add the recommended number of servings from the fruit, vegetable, milk, and meat groups for a balanced diet. It is important to eat a variety of foods from each group





Research indicates that a diet high in fat and cholesterol is associated with higher rates of heart disease, obesity, and hyperlipidemia (high blood cholesterol and lipid levels). Excessive sodium intake is associated with fluid retention, hypertension, and congestive heart failure. The following is a list of prudent, long-range guidelines that will require permanent lifestyle changes to help reduce these risk factors.

Goals:

1. Adjustment of caloric intake to achieve and maintain optimal weight.
2. Reduction of dietary cholesterol to about 300 milligrams per day.
3. Reduction of total fat to less than 30% of calories daily.
4. Reduction of dietary saturated fat to less than 10% of calories daily.
5. Reduction of dietary sodium to 2000 milligrams (mg) daily.

## 2gm Sodium, Low Cholesterol- Modified Fat Diet Guidelines:

Food Group	Foods Recommended	Foods to Limit
<b>Dairy Products</b>	<p><b>Milk- Limit to 2 cups per day</b></p> <ul style="list-style-type: none"> <li>▲ 1% or skim milk.</li> <li>▲ Low-fat yogurt</li> <li>▲ Evaporated skim milk, fat-free non-dairy creamer</li> </ul> <p><b>Cheese – Limit to 3 servings per week:</b></p> <ul style="list-style-type: none"> <li>▲ 1/2 cup low-fat cottage cheese or part skim ricotta.</li> <li>▲ 2 oz. Part-skim mozzarella or reduced fat cheeses.</li> <li>▲ Lorraine Swiss.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Buttermilk, whole milk, 2% milk, chocolate milk</li> <li>▲ Half &amp; half, light and heavy cream, non-dairy creamers, whipping cream, regular sour cream.</li> <li>▲ Yogurt greater than 1% fat.</li> </ul> <p><b>Cheese-</b></p> <ul style="list-style-type: none"> <li>▲ Creamed, cottage cheese, American cheese, blue, Brie, cheddar, colby, feta, gouda, Monterey Jack, mozzarella, Parmesan, provolone, Romano,</li> <li>▲ Cheese spreads and all other processed cheese.</li> </ul>
<b>Protein</b>	<p><b>Red Meat- Limit to 3 times per week</b> Lean, well-trimmed cuts (top, round, center) of beef, lamb, pork, veal, game.</p> <p><b>Poultry-</b> Chicken and turkey (no skin).</p> <p><b>Fish-</b> All fresh and frozen fish.</p> <p><b>Eggs</b></p> <ul style="list-style-type: none"> <li>▲ Egg yolks- Limit to 3 per week- including those used in cooking.</li> <li>▲ Egg whites/substitute- as desired.</li> </ul>	<p><b>Red Meat-</b></p> <ul style="list-style-type: none"> <li>▲ Organ meats, ham, ground beef, short ribs, rib roast, and chuck steak.</li> <li>▲ Processed meats- bacon, frankfurters, bologna, salami, pepperoni, fatty corned beef, smoked meat.</li> </ul> <p><b>Poultry-</b></p> <ul style="list-style-type: none"> <li>▲ Duck, goose, capon.</li> <li>▲ Poultry skin.</li> <li>▲ Fried chicken.</li> <li>▲ Smoked turkey or chicken.</li> <li>▲ Sardines, roe/caviar, canned tuna or salmon.</li> <li>▲ Fried fish.</li> <li>▲ Frozen breaded fish.</li> <li>▲ All salted or smoked fish- anchovies, lox, salt cod, herring.</li> </ul> <p><b>Eggs-</b></p> <ul style="list-style-type: none"> <li>▲ Pickled eggs.</li> </ul>
<b>Meat Alternatives</b>	<ul style="list-style-type: none"> <li>▲ Dried peas, beans, lentils; soy or wheat protein (Tofu or TVP).</li> <li>▲ Peanut butter- in moderation.</li> <li>▲ Rinsed canned beans.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Canned beans and pork</li> </ul>
<b>Grains</b>	<p><b>Bread and Cereal</b></p> <ul style="list-style-type: none"> <li>▲ White, whole wheat, rye, Italian, and French bread, graham crackers, unsalted saltines, melba toast, bagel.</li> <li>▲ All cereal, except granola type.</li> </ul>	<p><b>Bread and Cereal-</b></p> <ul style="list-style-type: none"> <li>▲ Cheese bread, egg bread, croissants, salt bagel, seasoned bread crumbs, and croutons.</li> <li>▲ Party/snack crackers (i.e. wheat thins, sociables).</li> <li>▲ Granola type cereal, instant hot cereal.</li> </ul>

## 2gm Sodium, Low Cholesterol- Modified Fat Diet

Food Group	Foods Recommended	Foods to Limit
<b>Grains Cont.</b>	<ul style="list-style-type: none"> <li>▲ Cornbread, pancakes, muffins to be used in moderation and made with allowed Ingredients</li> </ul> <p><b>Rice/Pasta/Grains-</b> Rice, pasta, noodles, bulgur, couscous, oats, rye, millet, barley, corn, stuffing- only with allowed ingredients.</p>	<ul style="list-style-type: none"> <li>▲ Commercial muffins, biscuits, waffles, and pancakes.</li> </ul> <p><b>Rice/Pasta/Grains-</b> ▲ Pre-seasoned pasta, rice, fried rice, and noodle mix.</p>
<b>Fruits &amp; Vegetables</b>	<ul style="list-style-type: none"> <li>▲ All fresh and frozen.</li> </ul>	<ul style="list-style-type: none"> <li>▲ Sauerkraut, tomato sauce or puree, tomato juice or V-8 juice, spaghetti sauce, all canned vegetables unless label states no salt added.</li> <li>▲ Instant potato flakes, French fries, fried vegetables, vegetable packages with butter or cream sauce, vegetables in pastry.</li> <li>▲ Avocado and coconut.</li> </ul>
<b>Fats and</b>	<ul style="list-style-type: none"> <li>▲ Tubbed margarine, olive oil, canola oil, safflower, sesame, sunflower, corn, soybean, or cottonseed oil.</li> <li>▲ Oil and vinegar.</li> <li>▲ Mayonnaise.</li> </ul> <p>Homemade gravy without fat or salt Added</p>	<ul style="list-style-type: none"> <li>▲ Butter, stick margarine, light and heavy cream, sour cream, cream cheese,</li> <li>▲ Bacon, bacon fat, party spreads and dips, coconut and palm oil, lard, salad dressing.</li> <li>▲ Commercial gravy.</li> </ul>
<b>Misc.</b>	<p><b>Soup-</b></p> <ul style="list-style-type: none"> <li>▲ All made with allowed ingredients.</li> <li>▲ Low sodium bouillon.</li> </ul> <p><b>Snack Foods</b></p> <ul style="list-style-type: none"> <li>▲ Pretzels, air-popped popcorn.</li> </ul> <p><b>Desserts-</b></p> <ul style="list-style-type: none"> <li>▲ Angel food cake, Jell-o, low- fat frozen yogurt, puddings and ice milk made with skim milk- within milk allowance.</li> <li>▲ Homemade cakes, pies, cookies made with allowed ingredients.</li> </ul> <p><b>Condiments-</b></p> <ul style="list-style-type: none"> <li>▲ Herbs, spices, vinegar, horseradish, dry mustard, onion or garlic powder, jams, jelly, hard candy, honey.</li> </ul> <p><b>Beverages-</b></p> <ul style="list-style-type: none"> <li>▲ Mineral and soda water, carbonated beverages, tea, coffee, Ovaltine, cocoa and carob powder.</li> </ul>	<p><b>Soup-</b></p> <ul style="list-style-type: none"> <li>▲ Canned soups, instant dehydrated soup, commercial cream soups and chowders.</li> </ul> <p><b>Snack Foods-</b></p> <ul style="list-style-type: none"> <li>▲ Potato chips, cheese doodles, buttered popcorn, microwave popcorn, nuts.</li> </ul> <p><b>Desserts-</b></p> <ul style="list-style-type: none"> <li>▲ Ice cream, cheesecake, custard, pudding, pastries, chocolate, commercially prepared baked goods.</li> </ul> <p><b>Condiments-</b></p> <ul style="list-style-type: none"> <li>▲ Olives, pickles, relish, mustard, ketchup, chili sauce, meat tenderizers, soy sauce,</li> <li>▲ Worcestershire sauce, steak sauce, MSG- monosodium glutamate.</li> </ul> <p><b>Beverages-</b></p> <ul style="list-style-type: none"> <li>▲ Regular hot chocolate, yoo-hoo, club soda.</li> </ul>

## Sodium

Many cardiac patients are restricted to 2000 mg. of sodium/day to minimize fluid retention and reduce the workload on the heart. This is especially true for people who have high blood pressure (hypertension) or a history of congestive heart failure. All the sodium we need can be found naturally in balanced meals excluding the use of processed foods, added salt during cooking, or at the table.

### Tips for Eating Less Salt:

- ▲ Take the saltshaker off the table. Replace it with salt-free herb mixes, spices, and salt substitutes.
- ▲ Read food labels very carefully to find out the sodium contents in foods. Foods commonly known to be high in sodium include cheeses, pickles, regular canned vegetables, soups, frozen foods, and any processed foods.
- ▲ Don't add salt to food when you're cooking. Season your foods with flavorings such as pepper, lemon, garlic, and onion instead.
- ▲ When you eat out, ask that your food be cooked without added salt.
- ▲ Give yourself time to get used to eating without salt.

## **Living with Hypertension**

Blood pressure is the force of blood pushing against the walls of the blood vessels. When your blood pressure is measured, you will notice that the measurement is given in two separate numbers, 110/70 for example. The top number refers to the pressure in your arteries when your heart is contracting (systolic pressure) to push blood. The lower number refers to the pressure in your arteries when the heart is resting or relaxing (diastolic).

Blood pressure changes throughout the day depending on your activity, stress level, diet, and other factors. High blood pressure is usually defined as blood pressure greater than 140/90 that fails to come down regardless of your activity.

### **Ways to Control Hypertension:**

1. Too much sodium (commonly found in table salt) can aggravate high blood pressure by causing your body to retain fluid. This fluid can make it harder for your heart to pump effectively. If you suffer from hypertension, you will probably be advised to cut down on added salt and avoid high sodium foods.
2. Regular aerobic exercise has been shown to help lower blood pressure as well as raise levels of "protective" HDL cholesterol, (the kind that carries artery clogging cholesterol out of the blood).
3. If you smoke, stop! Smoking not only raises blood pressure, but also damages arterial walls. Smoking is also linked to higher levels of artery clogging cholesterol.
4. High blood pressure is a silent risk factor. The importance of regular blood pressure screenings can not be over emphasized. For those who suffer from high blood pressure, check- ups can help track your progress, evaluate your treatment, and motivate you to continue your blood pressure control program.
5. If other lifestyle changes fail to lower your blood pressure to safe levels, your doctor may prescribe daily medication. Take your medication faithfully. If you experience side effects, do not stop taking your medication. Instead, notify your physician who may recommend an alternate type of medication.

## **Stress and Heart Disease**

Stress in itself is not unhealthy. It's your body's response to any physical or emotional demand. But too much unrelieved stress can lower your body's resistance to disease, contribute to disorders such as stomach ailments and insomnia, and cause changes in the body's chemistry that can directly affect your heart's health.

The "stress response" is your body's physical reaction to a stressful situation. It is commonly called the "fight or flight" response. The physical changes, which occur, are designed to help your body to fight, or to flee from the threat. When your body reacts to stress it produces more adrenaline which acts as a stimulant to increase your heart and respiratory rate as well as your blood pressure. Fatty acids and cholesterol are emptied into the blood stream, and the blood itself becomes "thicker". Muscles tense and prepare for action. When the stressful situation is relieved, your body relaxes and these processes reverse.

The key to reducing stress is not in eliminating all stress, but rather in learning to manage your response to stressful situations. It also means learning how to relax following stressful periods so that your body has a chance to recover. Begin by identifying the stressful situations in your life. Can you avoid them? Can you learn to accept the situations you can not change? Respond differently to them? When you find yourself in a stressful situation, try one of the stress-reduction techniques listed below.

Consider how you will handle a potentially stressful situation before it happens. Often stress results from fear of the unknown: "rehearsing" your response can help you deal with the situation and defuse your stress.

One time-honored technique that virtually anyone can do is deep-breathing. Practice deep breathing whenever you feel "stressed out". Inhale deeply through your nose, hold for a count of five, and then exhale slowly through pursed lips. Repeat three or four times until you feel calmed down.

Take time to relax- go to a movie, take a warm bath, walk around the park, listen to soothing music, read a novel, put your feet up and close your eyes, or take up a relaxing hobby.

that can cause physical and emotional distress. Learn to accept that some things are beyond your control and are not worth worrying about. When you learn to manage stress you'll be happier and your heart will be healthier. If you need help in learning to manage stress, speak with your physician or call the Mind/ Body Medical Institute at Morristown Memorial Hospital.

## **Cigarettes and Heart Disease**

Smoking is the number one risk factor for heart disease. There are many bad effects of smoking on your body:

- ▲ The nicotine in cigarette smoke is a stimulant that elevates heart rate and blood pressure. Nicotine also causes arteries to constrict making it more difficult for blood to flow, thereby placing a greater strain on an already overworked heart.
- ▲ Carbon monoxide, also present in cigarette smoke, reduces oxygen in the blood. The heart must work harder to supply the rest of the body with needed oxygen.
- ▲ Smoking causes changes in the blood. Platelets (blood cells needed for normal clotting) become abnormally sticky, blood becomes "thicker", and your risk of developing blood clots increases.
- ▲ Smoking also causes changes in the inner walls of the arteries, and is a factor in coronary artery disease (the buildup of fatty substances in the arteries that supply blood to the heart).

There are a variety of methods to quitting cigarettes but no method will work without motivation. You already have quit since you entered the hospital. Now commit yourself to a new habit by remaining smoke-free! Some people are able to go "cold-turkey" but ask your doctor about aids such as nicotine patches, gum, or pills if you feel the need.

There are circumstances or events which will trigger the urge to smoke, such as drinking coffee, feeling edgy, watching TV, and so on. Research has shown that the most difficult place to resist the urge to smoke is in your home. The key is to learn to deal with these urges without giving in to them.



smoke-free:

1. Review your reasons for quitting- i.e., smoking is bad for my heart, or smoking makes my clothes and hair smell. Everyone has different reasons for quitting. List them and review them when you have the urge to smoke.
2. Be on guard for making or finding excuses to smoke again.
3. Anticipate triggers and prepare in advance ways you can avoid them
  - ▲ Do an activity with your hands that makes smoking difficult such as gardening, meditating, knitting, or playing cards.
  - ▲ Put sugarless gum or a low fat snack in your mouth instead of a cigarette.
  - ▲ Engage in an exercise program such as walking or biking and do it regularly. This will make you feel healthy and leave you feeling less inclined to smoke.
  - ▲ Change some habits. If you usually have a cigarette with a cup of coffee, switch to tea for a while. Instead of lighting up after a meal, get up as soon as a meal is over and wash the dishes, brush your teeth, or walk the dog.
  - ▲ Avoid smoking areas and being around people who are smoking.
  - ▲ Limit alcohol consumption. Too much alcohol may weaken your commitment. Better yet, switch to juice, soda, or mineral water.
  - ▲ Brush your teeth several times during the day to keep your mouth fresh and clean.
4. Reward yourself for not smoking. Place the money you would have spent smoking aside and reward yourself on a weekly basis for committing to remaining smoke-free.
5. Use positive thoughts. Remind yourself how far you have come and the benefits of not smoking. Use affirmations such as, "I can do this!", and "It is possible!"
6. Use relaxation techniques. Deep breathing helps reduce tension and overcome the urge to smoke. Instead of a cigarette, take a long deep breath, hold it momentarily, and release it. Repeat this several times.
7. Seek social support. It is easier to remain committed with the encouragement and support of friends and family members. Listed in the phone book are organizations, such as the American Heart Association, American Cancer Society, and Atlantic Heath's Community Education Departments, which can provide more information, or consult your physician.

## Physical Inactivity

In today's society we appear to be surrounded by modern inventions which discourage us from walking. But our bodies were designed to be in motion. Not only do we benefit from exercise, we thrive on it!

The definition of fitness varies depending upon the nature of the activity performed. For the weight lifter, fitness relies on the ability to lift or "press" a specific weight. A gymnast needs flexibility as well as strength in order to be fluid and graceful in motion. On the other hand, a runner relies mostly on endurance to go the distance. For the average, non-competing adult, fitness is the ability to perform daily activities without undue fatigue, while having the ability to respond to sudden physical and emotional stress without overtaxing the heart. This capacity to adapt is closely related to the endurance and stamina that come with cardiovascular fitness, which is the ability of the heart and blood vessels to supply oxygen to the body. To understand the relationship between cardiovascular fitness and exercise it is important to know how the body responds to different kinds of exercise.

There are two basic types of exercise: **aerobic** and **anaerobic**. Aerobic exercises are large-muscle group rhythmic activities that are performed in a continuous fashion. Examples of this type of exercise are walking, biking, and lap swimming. These activities help to increase your level of cardio-respiratory fitness.

Anaerobic exercises can help increase muscular strength and endurance, thus improving activities of daily living. A good example of this type of activity is weight lifting. Once you begin outpatient cardiac rehab, the staff will teach you how to safely incorporate strength training into your exercise regimen.

One type of anaerobic exercise to avoid is **isometric exercise**. An example of this type of activity is pulling or pushing a load that is too heavy to move such as a couch. This type of activity may increase blood pressure and heart rate causing extra work for the heart due to a decrease of oxygen delivered to the heart.

## **Benefits Of Exercise**

A relationship exists between physical inactivity and increased risk of heart disease. Physical activity favorably influences your body by:

- ▲ reducing triglycerides and low density lipoproteins (LDL), while increasing high density lipoproteins (HDL).
- ▲ preventing and managing high blood pressure.
- ▲ reducing resting heart rate, which decreases the workload on the heart.
- ▲ improving circulation.
- ▲ alleviating stress and anxiety.
- ▲ assisting with weight loss/ control.
- ▲ boosting energy levels
- ▲ joie de vivre- JOY OF LIVING!

## Resources

**The Cardiac Health Center at Morristown Memorial Hospital:** Provides cardiac rehabilitation through an individualized education and exercise program. Also offered is a heart disease reversal program with aggressive lipid (fat) management and exercise. Community education programs are offered to the general public to promote cardiac wellness. For information call (973) 971-7230.

**Community Health and Education Department of Morristown Memorial Hospital:** Offers stress management, weight reduction, and smoking cessation for community groups. For information call (973) 971-5304.

**Morristown Memorial Hospital Social Work Services Department:** Provides additional assistance and resource referrals for emotional problems or alternate living facilities. For information call (973) 971-5168.

**Mended Hearts:** Mutual help for persons who have had a heart attack, heart surgery, heart disease, or other heart conditions. For information call (973) 539-5728.

**The Mind Body Medical Institute at Morristown Memorial Hospital:** Programs are offered for patients with medical problems that are caused or worsened by stress, or for those who recognize stress as having a negative effect on their lifestyle. For more information call (973) 971-4575.

**Your local bookstore or library** is an excellent resource. It has a large variety of books related to heart disease, diet, cookbooks, exercise, stress/relaxation and other healthy lifestyle living.

**Internet Web Sites-** [www.AtlanticHealth.org](http://www.AtlanticHealth.org), [www.heartsurgeons.com](http://www.heartsurgeons.com), [www.amhr.org](http://www.amhr.org), [www.heartinfo.com](http://www.heartinfo.com), [www.medscape.com](http://www.medscape.com), [www.hopkinsafter50.com](http://www.hopkinsafter50.com), [www.nih.gov](http://www.nih.gov), [www.cardiologychannel.com](http://www.cardiologychannel.com), [www.diabetes.org](http://www.diabetes.org), and [www.Hopkinsmedicine.com](http://www.Hopkinsmedicine.com).

## YOUR NOTES AND QUESTIONS

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Morristown Memorial is an Atlantic Health 575-bed hospital located in Morristown, New Jersey. It is a private non-profit hospital licensed by the New Jersey State Department of Health. Morristown Memorial is accredited by the Joint Commission on Accreditation of Health Care Organization and CARF... The Rehabilitation Accreditation Commission. Atlantic Health is the primary academic and clinical affiliate in New Jersey of Mount Sinai School of Medicine and The Mount Sinai Hospital. Morristown Memorial offers specialized services including cardiology and cardiac surgery, adult and pediatric oncology, critical and emergency care, inpatient rehabilitation services, obstetrics, and neonatal intensive care services. Morristown Memorial is also a Level II Trauma Center, a Level III regional perinatal center, a regional pediatric center. It has also been recognized as a "Magnet" Hospital.

**Our Best Wishes For A  
Continued Smooth  
Recovery!**