Heart Attack

Treatment and Recovery Guidebook

AdventHealth

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Understanding and Recovering from a Heart Attack

Understanding a Heart Attack

Heart Attack (Myocardial Infarction)

Myocardial infarction (MI) or acute myocardial infarction (AMI), commonly known as a heart attack, occurs when blood flow stops to a part of the heart, causing damage to the heart muscle.

Angina

When the arteries are unable to supply blood and oxygen that the heart muscle needs, angina may occur. Angina is pain or discomfort caused by a temporary decrease of oxygen to the heart muscle.

Angina is most likely to occur during hard work or play when the heart needs extra oxygen. Angina may also occur during extremes in temperature, after eating a heavy meal, at high altitudes or during emotional upsets.

Angina is not always pain over the heart. It may be pain or numbness in the arm; a discomfort in the neck, jaw or below the shoulder blades; shortness of breath or a burning sensation in the upper abdomen. Diabetics and women are more likely to experience silent symptoms, including possible signs of heart failure, such as fluid build up, unusual weight gain and fatigue.

Angina is not always a severe pain. It may feel like a tightness or heaviness in the chest, or an aching in the arms, and can feel uncomfortable rather than painful.

Angina is not the same for everyone. Most people experience angina during work or exercise. Some people experience angina at rest. Some live with angina for years without having a heart attack. Stable angina has a predictable pattern, while unstable angina represents a change or increase in angina pattern. If your angina pattern changes in frequency or severity, report this to your physician. Others may have a heart attack without ever experiencing angina.

Angina or Heart Attack?

At the hospital, a physician will use laboratory tests, electrocardiograms (ECGs) and other tests to determine if you are having a heart attack. An ECG is a graphic record of the electrical activity of the heart used in diagnosing abnormalities in heart action.

Angina, the signal that an area of the heart muscle is suffering from a decrease in blood flow is not the same as a heart attack (myocardial infarction). When the use of nitroglycerin (NTG) quickly relieves angina symptoms, that is generally referred to as an angina attack. If angina symptoms persist even after the use of NTG and the hospital tests are positive for heart attack, then your doctor will treat you for heart attack. Heart attack means permanent, irreversible damage to the heart

muscle caused by a lack of blood flow in a coronary artery — even for a short time.

If angina is caused by arteries with blockages (atherosclerosis), lifestyle changes may slow the progress of coronary artery disease. Lifestyle changes include eating a low-fat diet, not smoking, reducing stress, exercising regularly and controlling high blood pressure. If angina is caused by coronary artery spasm, your physician may prescribe lifestyle changes and medication. Some medications help relax the arteries, preventing spasms.

Remember, angina is a warning from the heart that something is wrong. If you experience frequent or more severe angina, let your physician know! The difference between angina and a heart attack is not the severity of discomfort but how long the symptoms occur. The longer the heart muscle is without oxygen the greater the risk of heart
muscle damage.

Heart Attack Symptoms

The words “heart attack” probably make you think of the word “pain,” but did you know that the pain varies from person to person? It might be an intense crushing feeling or just a mild tightness in the chest.

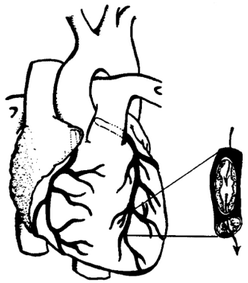
Heart attack pain may be felt as pain or discomfort in the arm, neck or jaw. To some people it feels like indigestion. There are people who have “silent” heart attacks during which they feel no pain. Frequently, shortness of breath, sweating and nausea occur with a heart attack.

All of these symptoms are warnings that some part of the heart muscle is starving for oxygen. If this oxygen starvation does not cause heart tissue injury, it is angina. If heart tissue (muscle cells) dies because of this lack of oxygen, it is a heart attack.

Atherosclerosis

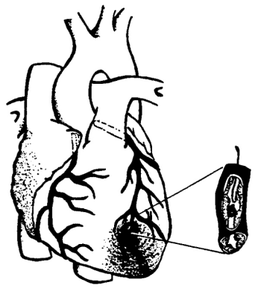
Coronary arteries, the blood vessels on the outside surface of the heart, carry oxygen to the heart muscle.

Over a period of time, fat deposits (plaque) can build up within the inner walls of the arteries, causing narrowing of the arteries. When an artery becomes narrowed by fat deposits, blood flow to the heart muscle is limited. Also known as coronary artery disease (atherosclerosis), this is a progressive build-up of plaque, causing narrowing of the arteries. The artery walls also become more rigid.



Clots

Changes along the inner walls of the arteries can cause blood to stick and form clots. This usually occurs in areas of the arteries that have been narrowed by plaque. When a clot closes off an artery, blood flow stops and a heart attack begins. Coronary thrombosis is the name for a heart attack caused by a blood clot.



Spasms

Clots and atherosclerosis are not the only causes of heart attack. If blood flow through a coronary artery is slowed or stopped because of a prolonged spasm in the artery, a heart attack can also occur.

When the oxygen-rich blood in a coronary artery is restricted from a portion of the heart muscle for any reason during a prolonged period of time, permanent damage to the heart muscle may occur.

During a heart attack, damage is limited to the area of the heart muscle no longer receiving blood from the blocked artery. Damage to the heart muscle is referred to as a heart attack, myocardial infarction (MI), coronary occlusion or coronary thrombosis.

In summary, a heart attack can be caused by plaque build-up within an artery, a blood clot in a coronary artery, a spasm of a coronary artery - or any combination of those - and results in tissue damage..

Takotsubo Cardiomyopathy

Takotsubo cardiomyopathy is also known as broken heart syndrome (often referred to as stress cardiomyopathy) and is a temporary weakening/ballooning of the left ventricle of the heart. The incident typically resembles all the signs and symptoms of a heart attack, including elevated cardiac blood enzymes. A heart catheterization shows normal coronaries with left ventricle apical ballooning. The event is usually associated with acute emotional or physical stress. The condition usually reverses itself in a short period of time but may depend on the underlying cause. A 1-2 week recovery may be advised and in some cases the recovery may be longer.

It is important to take it easy for a few weeks and gradually resume normal activities. Continue to walk daily and increase as tolerated weekly. See your doctor in a follow up appointment.

Recovering from a Heart Attack

Healing

Heart muscle that has been damaged needs to rest to heal. The heart muscle can only rest if the whole body is resting; rest or limited activity is initially advised, even for a small heart attack. It is important that the heart muscle does less work than usual while the damaged area is healing. **The heart does heal.**

The heart heals by forming a scar in place of the damaged heart muscle. This scar strengthens the weakened area of the heart, but it also makes it less elastic or flexible. Because scar tissue is less flexible than healthy heart muscle, the heart's pumping actions may be decreased.

The heart needs several weeks to mend. You may be asked to refrain from higher levels of activity or heavy lifting for a few weeks. It is normal to feel tired or weak after a heart attack. When recovering from a heart attack, you may also experience a low fever, poor appetite, shortness of breath or irregular heartbeats (arrhythmias). These problems can usually be treated with medication. You will likely remain in the hospital for a short time immediately following the heart attack so that these problems can be treated should they arise.

Don't lift more than _____lbs for _____weeks

Walk _____ minutes, 4 times a day
Then _____ minutes, 4 times a day

See your doctor before resuming an exercise program.

Collateral Circulation

Following a heart attack, tiny arteries may dilate, sending blood to the area of the heart muscle affected by the blocked artery. This is called collateral circulation. It takes months and sometimes years for good collateral circulation to develop. The amount of collateral circulation that develops varies from person to person. A regular exercise program may help develop and maintain collateral circulation.

Going Home

Recovery from a heart attack takes three to six weeks. It is important to make and keep follow-up appointments with your provider. You will be given instructions concerning your activities, and prescriptions for medications that you are to take exactly as directed by your doctor.

Although you can ride home in a car, driving is not advised for several weeks. If you are traveling a long distance by car, stop every one to two hours for a rest period and to walk around. If you are traveling by air, arrange with the airline for assistance with your luggage.

No driving for _____

See my doctor _____

Medications

Do not stop, start or change dosages of medications without consulting your physician.

Do not assume you should continue medications that you were taking routinely before your heart attack. You may no longer need that dosage or that medication, or your physician may have ordered the same drug but by a different name. Work with your physician to determine the proper drug and dosage for you.

Points to Remember

- If you forget to take a pill, do not take two the next time it is due.
- Your medication is prescribed especially for you; sharing with others may be harmful.
- Keep all medications out of the reach of children.
- Fill prescriptions at your local pharmacy for easy refill accessibility. Your local pharmacist will be able to answer questions about your medicine.
- As medications age, they become inactive or sometimes harmful; your pharmacist can tell you if your medication is still usable.
- It's important to carry a list of your medications and dosages in your wallet or purse. Be sure to update this list as your medications change.

Medication often used after a heart attack includes:

- a cholesterol lowering medication
- medication to relax blood vessels to improve blood flow
- medication to prevent blood from sticking to a blood vessel
- a medication to help the heart beat slower and reduce the work of the heart

My antiplatelet medication is

_____

I should continue on my antiplatelet medication for _____

Visits to Your Physician

Make and keep appointments with your cardiologist and primary care provider.

If you have questions for your primary care physician or cardiologist, it is helpful to write them down on a piece of paper so you remember what questions to ask at your next appointment. Take your medication bottles with you so your physician can confirm your prescriptions.

Emotions

A heart attack causes stress on your body — emotionally as well as physically. It requires a lot of emotional energy to cope. After your heart attack, you may feel denial, anger and have a “let down” or depressed feeling; this is normal.

You may go through periods of feeling irritable, tearful or sad. You may have a recurring dream, or notice a loss of concentration or memory. As your recovery progresses, these feelings will go away. If you experience a prolonged or severe depression, consult your physician for treatment.

Rest and Sleep

The healing process for a heart attack usually takes three to six weeks; your activities will gradually increase during this period. At first, even normal daily activities, such as bathing and dressing, will seem like work. Use common sense; do an activity only to the point of mild fatigue. Stop to rest when you are tired. “Overdoing” will increase your fatigue and slow your recovery.

Sex

Both you and your partner may be concerned about having sex following your heart attack. It is normal to wonder if sex will be too exhausting or even harm the heart. In most cases, if you can climb two flight of stairs, walk a mile or ride a bicycle without feeling tired, short of breath or having chest pain, you are probably ready to resume sex.

Many medications can affect sexual response; however, never stop taking any medications without talking with your doctor. A simple adjustment may be all that is needed. Any medication on the market for erectile dysfunction can be life-threatening for men with heart problems or high blood pressure. Check with your physician prior to starting this or any other similar medication.

Bathing

Showering in hot water can cause dizziness or sudden weakness and can lead to a loss of consciousness or a fall. Use only warm water when taking a bath or showering.

Walking

Inactivity can cause a lot of aches and pains, and even add to depression. Try walking daily; it decreases these problems by improving your circulation, muscle tone and strength, and the way you feel about yourself.

Walk _____ minutes 4x a day the first week

then _____ minutes 4x a day the second week

Walking is a safe, easy exercise requiring no special or expensive equipment. Use common sense, and wear comfortable clothes and shoes. Avoid walking in extreme temperatures or on rough terrain; this will increase your fatigue. Select a smooth, flat surface on which to walk.

Many people walk in malls or on neighborhood tracks. Start out with several short walks every day and gradually increase the length of your walk.

Although swimming is a great cardiac-conditioning exercise, it should be avoided until the heart muscle heals (usually about six weeks).

AdventHealth offers supervised exercise programs in a structured environment. Ask more about our Cardiac Rehabilitation program.

Chores and Housework

Use common sense with all of your activities.

Small household chores that do not involve lifting or straining may be done as tolerated. Remember — just as a broken leg needs time to heal, so does your heart muscle.

Avoid activities that cause strain, such as:

- Pushing a vacuum
- Lifting
- Moving furniture
- Raking
- Mowing or mopping
- Lifting children
- Carrying luggage or groceries

If you have stairs, you may use them. Climbing is more exercise than walking. You many find that during the early phase of your recovery, you need to stop and rest part-way up the stairs. Walk slowly and listen to your body.

Any activity that causes extreme fatigue or shortness of breath should be avoided. Don’t get discouraged during your initial recovery phase. Take one day at a time. Recovery is a gradual process with little improvements daily.

Recreational Activities

Even enjoyable activities are work for your body, so gradually recondition yourself to these activities.

Again, listen to your body and rest when you need to, not when the activity is done. As with household chores, recreational activities are permitted or restricted on the basis of the amount of workload placed on the heart muscle.

Activities you may enjoy during the heart’s healing period include

- Riding in a car
- Playing cards
- Going to the theater
- Getting your hair done
- Short shopping trips
- Practicing golf putts
- Needlework
- Oil paintings
- Croquet
- Watching spectator sports

You may wonder why driving a car is restricted when it involves only sitting. Your reaction time will be slowed because of weakness, fatigue and medications. After your two- to three-week checkup, your physician may allow you to drive, jog, swim, hunt, fish, and play tennis or golf. If you have any questions concerning your limitations, ask your physician.

Returning to Work

Your return to work date is usually determined at your follow-up visit with your physician. Many factors are evaluated, such as the progress of your recovery, your physical condition and the type of work you do.

Your physician may allow you to return to work earlier if you have a desk job, or if you are able to control your workload by working half days or taking rest periods as needed.

A longer recovery period may be required before returning to a job with fixed break periods, heavy physical or mental stress or long hours. Other restrictions to be discussed with your physician include lifting objects more than 50 pounds and working overtime. Wait until your recovery is complete before making decisions involving a job change or retirement.

Risk Factors

There are inherited tendencies and lifestyle habits (risk factors) that contribute to the development of the atherosclerotic process. No one risk factor causes development of coronary artery disease, but the chances become greater with each added risk. Therefore, modification of lifestyle habits is important.

Home Exercise Program

Week	Activity	Duration	Frequency
1	Walk	5 minutes	3–4 times daily
2	Walk	10 minutes	3–4 times daily
3	Walk or Exercise Bike	15 minutes	2 times daily
4	Walk or Exercise Bike	20 minutes	2 times daily
5	Walk or Exercise Bike	25 minutes	2 times daily
6	Walk or Exercise Bike	30 minutes	2 times daily

Passport to Health after a Heart Attack

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Am weight							
Aspirin and _____							
Eat less salt							
Walks							

Passport to Health after a Heart Attack

	Saturday	Friday	Thursday	Wednesday	Tuesday	Monday	Sunday
Am weight							
Aspirin and ____							
Eat less salt							
Walks							

Possible Problems After a Heart Attack

Many times your heart recovery goes without complication. In some cases you may experience;

- **Arrhythmias:** a change or irregularity in your heart rate. There are medications to help control or prevent the possible irregular heart rate.
- **Pericarditis:** inflammation of the sac around your heart. Your doctor will be able to order a medication to help the inflammation and discomfort you may feel.
- **Heart Failure:** A healthy heart pumps blood to all parts of your body. When a heart can no longer do this effectively, you have a degree of heart failure.

Remember to:

- eat less salt
- weigh daily
- call your doctor with rapid weight gain
- call your doctor for signs of fluid build up

After a heart attack the heart may be damaged or stunned requiring time to heal. When the heart has difficulty doing its pumping job, blood can back up in the body or lungs. Fluid may build up in these areas, causing a variety of symptoms listed below. Your recovery will allow your heart the time it needs to heal and lessen the chance of Heart Failure symptoms.

Heart failure can range from mild to severe with a wide range of signs, symptoms and causes. Signs and symptoms of heart failure may or may not be present, but it is important to know what they are so that you can report them to your doctor:

- Unusual tiredness
- Shortness of breath
- Unusual weight gain
- Worsening cough
- Fluid build-up in the legs, hands and/or abdominal area
- Waking up at night with shortness of breath
- Needing to prop up your head or sit up at night to breathe easier

To help monitor these symptoms and your wellness, it is important that you check your weight every morning daily. Record your weight and notify your doctor for an increased weight gain of 2-3 lbs in 1-2 days or 5 lbs in less then a week. Report any worsening symptoms of heart failure to your doctor

Looking at the list of symptoms listed above, I would say that in the past, the fluid built up:

_____

Weight Gain and Fluid Retention

Weigh Yourself! Weight gain may occur slowly or quickly. Retaining water, while eating normally or between dialysis, may mean that your treatment needs to be adjusted.

- Keep a daily record of your weight.
- Weigh yourself every morning, after urinating and before eating.
- Call your doctor if you gain two to three or more pounds in one or more days, or if you gain five or more pounds in a week (you know your body best).

CREATION Health

OUR PHILOSOPHY OF HEALTH AND WELLNESS

CREATION Health is a whole-person lifestyle created by AdventHealth designed to help individuals achieve maximum health and wellness. This framework seeks to positively influence all aspects of a person's recovery — mind, body and spirit. When practiced consistently, CREATION Health empowers participants to live a more fulfilling and productive life by embracing eight guiding principles — Choice, Rest, Environment, Activity, Trust, Interpersonal relationships, Outlook and Nutrition.

Choice – Choice inspires personal fulfillment and well-being. Establishing control over your life through conscious decision-making leads to improved health and longevity. Choose the most important thing for you each day and share it with friends and loved ones.

Rest – Rest rejuvenates the mind, body and spirit, empowering you to function at your best. Proper sleep and relaxation can lower blood pressure and reduce stress. Rest is important to your recovery. Take time to relax. Listen to soothing music, read and meditate.

Environment – Environment influences your overall health. Creating pleasant surroundings that energize the senses can lead to inner peace and happiness. Keep things around you that make you feel comfortable. Adjust lighting and temperature as needed.

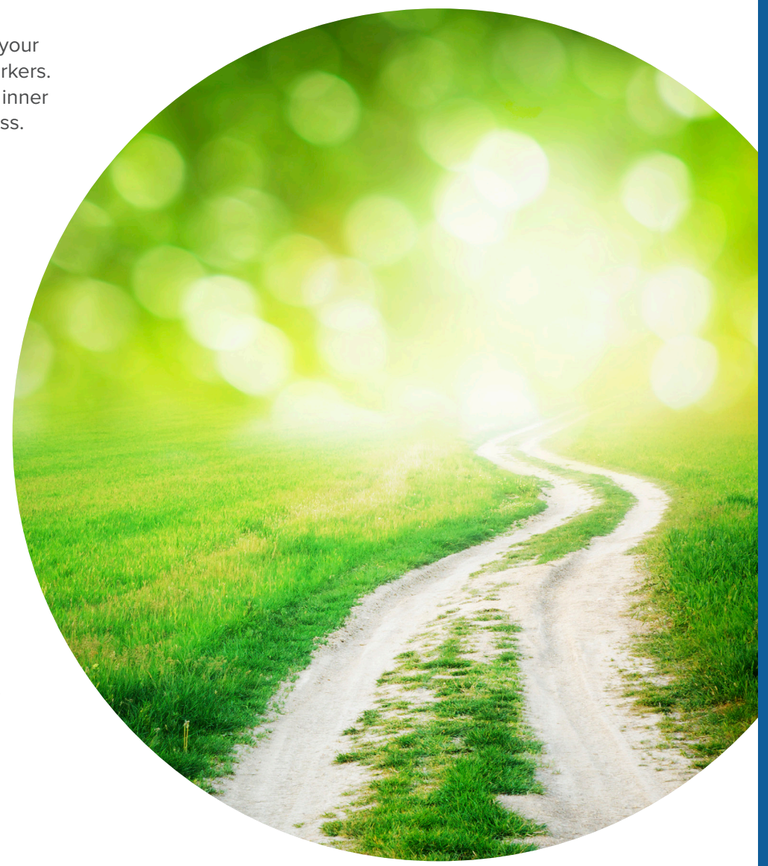
Activity – Activity strengthens the body, sharpens the mind and invigorates the spirit. Regular physical and mental exercise can greatly improve your quality of life. Maintain the level of activity that your health care team recommends. Puzzles, word searches and other games are a fun way to stimulate your mind.

Trust – Trust promotes healing and security in your relationship with God, family, friends and coworkers. Nurturing trust in all your relationships creates inner stability and confidence, which leads to wellness. Talk to your pastor, friends and family about your spiritual and emotional needs. Pray, read scripture or journal about your experience.

Interpersonal relationships – Interpersonal relationships can spark health and healing. Social connection fortifies resolve and nourishes the mind, body and spirit. Stay connected through emails, blogs, letters and phone calls. Encourage friends and family to visit.

Outlook – Outlook creates your reality. A positive attitude can strengthen the health of your mind, body and spiritual life. Begin a gratitude journal and write down what you are thankful for each day. Keep a list of how you are integrating CREATION Health principles in your life.

Nutrition – Nutrition is the fuel that drives you. Small changes to your diet can produce profound improvements to your overall health. Follow your diet plan to feel better and more energized.

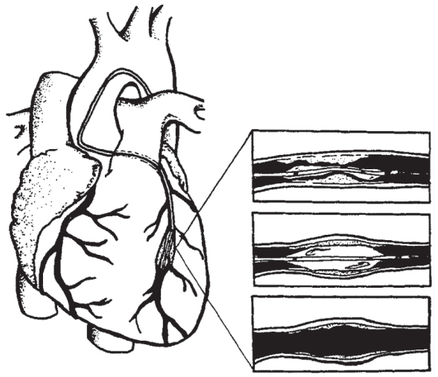


Chapter 2: Cardiac Interventions

Heart Repair by Percutaneous Coronary Intervention (PCI)

Transluminal Coronary Angioplasty (PTCA) and Stent Placement

First, your cardiologist will numb the insertion site with a local anesthetic. Then, your cardiologist will place a short tube called an introducer sheath into your femoral artery. Next, a long flexible tube — a guiding catheter — is inserted through the introducer sheath. Your cardiologist will then advance the catheter to the blocked coronary artery. The balloon catheter and its guide wire are passed through the guiding catheter and advanced into the coronary artery until the balloon reaches the blocked part of the artery. The balloon is then inflated.



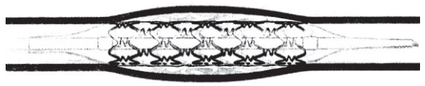
The inflated balloon opens up the blocked artery by splitting and reshaping the plaque and slightly stretching the wall of the artery. The plaque is not removed. The balloon may be inflated and deflated several times. If necessary, your cardiologist may remove the balloon and replace it with a larger balloon for additional stretching.

It's normal to have slight chest pain while the balloon is inflated because the balloon is temporarily blocking blood flow to part of the heart muscle. After the balloon is deflated, the pain should decrease. During the procedure, your cardiologist will ask you whether or not you are feeling pain.

Coronary Stent

After angioplasty has been performed, the doctor may choose to implant a coronary stent to help keep the artery open. A coronary stent is a surgical metal coil with openings in the wall. It resembles a very small spring or a hollow cylinder with slotted openings.

A stent is mounted on a ballon catheter.



A balloon is inflated and the stents is expanded.

The balloon is removed and the stent is implanted in the vessel.

The stent is pre-loaded onto a balloon catheter. The balloon and stent are directed to the angioplasty site. Once in position, the balloon is inflated, which expands the stent, compressing it slightly into the vessel wall. Next the balloon is deflated and removed, leaving the expanded stent behind. Tissue begins to grow between the openings in the stent, and the tissue growth completely covers it in several months.

While the stent is exposed, it is necessary to take some form of blood thinner to prevent blood from adhering to it. Your doctor will prescribe your blood-thinner medication. A blood test may be required to monitor this medication.

Some of the currently available stents are

- **Uncoated "Bare Metal" Stents:** An expandable, slotted metal coil that acts as a mechanical scaffold in a blood vessel.
- **Drug-eluting Stents:** A drug-eluting stent allows for the release of a drug at the stent implantation site. The action of the drug is intended to limit the overgrowth of normal tissue as the healing process occurs following coronary stent implantation.

After PTCA and Stent

Following PTCA, you will be taken to a recovery area where you will be closely monitored.

- Your cardiac status is monitored on an ECG monitor.
- The catheterization site (groin area) is watched for signs of bleeding, and your pulse is checked.
- You are encouraged to drink fluids to help flush the dye out of your system.
- You may undergo lab tests.
- When the sheath is removed from the groin, pressure is applied to your insertion site to stop bleeding
- If your insertion site is in your groin plan to stay in bed to two to eight hours after the sheath is removed and bleeding stops. If your insertion site is in your wrist you will need to limit activities with that arm.

When recovering from PCI

- Report any angina or chest discomfort to your physician.
- Take all medications as directed.
- Get your physician's approval before resuming alcohol use. It may interfere with your medications.
- Eat a low-fat, low-cholesterol diet.
- Stop smoking.
- Start your home exercise program.
- Avoid heavy lifting, straining or vigorous activities until the insertion site is healed. Vigorous activities, straining and heavy lifting can cause the insertion site to bleed.
- Keep follow-up appointments with your physician. At some point, your physician may give you an exercise test to determine if the dilated artery is still open and if the heart has good circulation.

Following PCI, a majority of patients have no further problems. In 5 percent of patients, however, narrowing of the coronary arteries may reoccur.

New blockage can build up and restrict flow in a nearby site due to various factors. These factors can include: the nature and severity of the original blockage, diabetes and cigarette smoking. The highest risk of reclosure of the treated area is within the first three to twelve months after an invasive procedure (PTCA, stent). Report any changes in angina to your physician.

Atherectomy

Atherectomy devices are only used in very limited situations, as best determined by your cardiologist.

Atherectomy is the cutting away of plaque within a coronary artery. The plaque is removed by a small cutting device. The device operates with either a one-directional movement or a rotational movement. *Follow "After PTCA and Stent" guidelines.*

Rotational atherectomy is a procedure used to remove plaque from a coronary artery. The rotational device is a football-shaped burr that is coated with microscopic diamond chips. The device is advanced via the blood vessels to the site of the plaque. There, using a rapid rotational movement, it breaks the plaque into microscopic particles that are filtered out of the body. The rotoblator is designed to cut hard material, such as plaque, and softer elastic tissue moves out of its way.After rotational atherectomy is performed, angioplasty is used to compress the plaque that was not cut away. *Follow "After PTCA and Stent" guidelines.*

AdventHealth offers a comprehensive cardiac rehabilitation and fitness program that offers guidance and support to those cardiac patients who want to modify or eliminate their cardiac risk factors.

Antiplatelet Therapy

About Your Antiplatelet Medication

Antiplatelet medication stops platelets from clumping together and plays an important role in your blood clotting. A blood clot in one or more of your coronary arteries can cause either partial or total blockage of blood flow to your heart. Antiplatelet medication has been shown to decrease the risk of future heart events, including heart attack and stroke. Following the placement of a stent, antiplatelet medication is usually started in the hospital prior to discharge.

My antiplatelet medication is:

_____

I must take my antiplatelet medication for

_____

Taking Your Antiplatelet Medication

- May be taken with or without food.
- Usually taken together with a daily dose of aspirin.
- Research shows that taking aspirin and antiplatelet medication together is very beneficial, but carries with it a small risk of bleeding.
- Together, these medications help stop the platelets from sticking together and forming clots in the arteries. This is especially important if you had a coronary artery stent placed.
- Take this and all other medications as directed by your physician.
- Report any unusual bleeding to your physician.
- Duration of antiplatelet therapy varies from patient to patient. Your physician will tell you how long you need to continue taking it.
- If you have had a coronary artery stent placed, **you may remain on an antiplatelet medication for up to a year.**
- **Never stop taking your antiplatelet medication or aspirin or any other medication without talking to your doctor first.**

It has been proven that if you do not continue taking your antiplatelet medication after having a coronary artery stent placed, you increase your risk of thrombosis (clotting), heart attack or death. Your life is important; please do not take that risk. Take your aspirin and antiplatelet medication as directed.

Chapter 3:
Managing Risk Factors

Risk Factors

Risk factors are inherited tendencies or daily lifestyle habits that contribute to the development of coronary artery disease (atherosclerosis). Most risk factors are related to how you live. Choices you make now about your health habits will affect how heart healthy you are in the future. Most risk factors are associated with habits that can be modified or changed.

However, risk factors that CANNOT be altered are

- **Advancing age:** Atherosclerosis, a form of arteriosclerosis (hardening of the arteries), commonly accompanies the aging process.
- **Heredity:** Heredity determines how your body metabolizes cholesterol and fats, which is a factor in the development of coronary artery disease.

Even though you cannot control these two risk factors, you can control and/or eliminate most other risk factors.

Risk factors that CAN be modified or changed include

- Smoking
- High-fat diet
- High blood pressure
- Diabetes
- Excessive stress
- Excessive body weight
- Lack of regular exercise

Identify your cardiac risk factors

by checking those that apply to your lifestyle.

- ☐ Advancing age
- ☐ Family history of heart disease
- ☐ Smoking
- ☐ High-fat diet
- ☐ High blood pressure
- ☐ Diabetes
- ☐ Excessive stress
- ☐ Excessive body weight
- ☐ Lack of regular exercise

If you reduce your risk factors, the results can be good general health, physical fitness and an increased sense of wellbeing. In addition, lifestyle modifications may prevent acceleration of coronary artery disease.

As you read the following information about cardiac risk factors, give serious thought to how you might change your lifestyle to become heart healthy. Your cardiac rehabilitation nurse and dietitian, as well as your bedside nurse, can help you learn more about heart-healthy habits.

Smoking

Tobacco smoking has long been linked with lung diseases such as chronic bronchitis and cancer. Smoking is one of the top three controllable risk factors contributing to coronary artery disease.

The nicotine in tobacco is a stimulant; it speeds up the heart rate, increases blood pressure and causes the heart to work harder. Individuals with heart disease who smoke are at greater risk of having extra or skipped heartbeats (arrhythmias).

Some arrhythmias are dangerous and can lead to heart attack or sudden death. Nicotine increases the fat levels in the blood, paving the way for atherosclerosis. Nicotine also causes platelet adhesiveness, which makes blood clots form more easily.

Carbon monoxide, a familiar air pollutant from automobile exhaust, is also found in cigarette smoke. Some heavy smokers have up to 20 percent carbon monoxide in their blood.

Every cell in the body depends on oxygen to survive. The heart must have an abundant supply of oxygen-rich blood to function properly. By smoking, you are starving some cells of oxygen and depriving your heart muscle of the full amount of oxygen it requires.

Other kinds of tobacco use, such as pipes, cigars, filters and chewing, may be lower risks for heart disease.

One reason for this may be that these habits do not require the inhalation of smoke. Still, the risk for pipe and cigar smokers is twice that of non-smokers. Cancer of the lips and gums is common in pipe and cigar smokers, as well as those who chew. Cigarette filters may reduce tar and nicotine, but they usually increase carbon monoxide intake.

Many non-smokers think that second-hand smoke from others will not affect them, but noxious gasses, such as carbon monoxide and benzopyrene, are at very high levels when a smoker is present. It is almost impossible to accurately measure the negative side effects of second-hand smoke.

Smoking Cessation

The decision to quit smoking is an important step toward the beginning of a healthier lifestyle. The encouraging news is that as soon as you stop smoking, your body begins to repair some of the damage. When you stop smoking, there is less strain on your heart, and your heart and lungs begin to function better. With improved breathing, you can increase physical activity that can minimize other risk factors. Remember, it's worth the effort for you to stop smoking, regardless of the number of years you have smoked.

Quitting smoking may be difficult. Sometimes it's helpful to talk with other people who are trying to stop.

My reward for not smoking is:

_____

Nutrition

Heart disease is the leading cause of death in the United States. This has been linked to nutrition habits that include excessive caloric intake, diets high in saturated fat and cholesterol, and frequent consumption of less-healthy convenience foods. On the other hand, diets rich in the following foods have been shown to decrease the risk of heart disease: whole grains, beans and peas, vegetables and fruits, and heart-healthy fats found in flax seed, fish, nuts and seeds.

Survival Skills for Heart Health

- Whole grains, dried beans and peas, and fruits and vegetables should comprise the largest part of the diet. Low-fat dairy foods should also be included. Lean meats or low-fat meat substitutes are recommended in moderation. Saturated fats and oils, along with sweets, should be eaten only in small amounts.
- Eat three sensibly sized, balanced meals per day. A balanced meal is made up of carbohydrates, protein and fat. An example of a balanced meal is grilled tuna fish, corn, broccoli, strawberries and a cup of low-fat milk. Another option would be to divide the foods from three balanced meals into smaller, more frequent meals.
- Eat foods high in fiber at each meal. Fiber promotes digestive health and a feeling of fullness after a meal, which can help moderate caloric intake, assisting with weight control. Soluble fiber is found in oats, barley, dried beans and peas (legumes), and many fruits and vegetables, including apples, citrus and psyllium seed. Soluble fiber can help decrease heart disease risk by reducing cholesterol.
- Plan lunch and dinner in the following way. Divide the plate so that the the meal is comprised of half vegetables, one quarter carbohydrates, (such as corn, brown rice, whole-grain bread or potato) and one quarter protein, such as fish. Choose fresh fruit for dessert.
- Choose whole grains, fresh fruits, vegetables, dried beans and peas. Examples of whole grains include oats, whole wheat, corn, rye, barley, brown rice, millet and quinoa. Whole grains contain fiber and are high in vitamins and minerals.
- Choose foods containing mono-unsaturated fat or Omega 3 fat most of the time. Polyunsaturated fat may be used in moderation. Saturated and hydrogenated fat should be limited or avoided.
- Monounsaturated fat — found in olive, peanut and canola oils; nuts; and seeds
- Omega 3 fat — found in fatty fish, flax seed, nuts, seeds
- Polyunsaturated fat — found in sunflower, safflower, soybean, corn and sesame oils
- Saturated fat — found in animal fat (meat, poultry, cheese, butter), palm and coconut oils
- Hydrogenated or partially hydrogenated oil (trans-fats) — found in desserts, baked goods, crackers, chips, fast foods, margarine and shortening
- Use low-fat dairy or dairy substitutes in place of regular dairy. Milk, sour cream, cottage cheese, ice cream, cheese and yogurt are all available in low-fat forms. Instead of butter or stick margarine, use light margarine in a tub or liquid form. Butter-flavored low-fat yogurt spreads like Brummeln-Brown®, butter-flavored cooking sprays, and fat-free butter substitutes are also available.
- Limit meat consumption to a three-ounce serving per meal and six ounces per day to reduce cholesterol and saturated fat intake. Skinless chicken or turkey breast, pork tenderloin and very lean cuts of red meat are wise choices.
- Sauces, gravies, salad dressings and pastries contain hidden saturated fat. Look for low-fat versions of these foods and use them in moderation.
- Limit cholesterol and especially saturated fat. Cholesterol is found only in animal foods. Foods that are high in cholesterol and saturated fat (cheese, meat, fatty poultry) should be avoided or limited. Avoid organ meats, such as liver. Foods that are high in cholesterol but low in saturated fat, such as fish and shellfish, may be eaten in moderation. Egg yolks should be limited to three or four per week.
- Another type of fat found in the blood and associated with heart disease is triglycerides. Limiting refined carbohydrates, eating high-fibnutrient-dense carbohydrates, eating heart-healthy fats, and reducing weight (body fat) is recommended. Avoid alcoholic beverages if your triglyceride level is high.

Salt and Caffeine

The average American consumes about six to eight grams of salt daily (about three to four teaspoons). The body does not require this much sodium. A high-salt (sodium) diet may increase the risk of high blood pressure.

Keep the following points in mind

- Most processed foods are high in sodium
- Salt is about half sodium
- Sodium is found naturally in most foods, in small amounts

To reduce sodium intake, EAT MORE

- Fresh fruits and vegetables
- Foods prepared with herbs/lemon and small amounts of oil
- Unprocessed foods
- Low-salt and low-sodium foods

To reduce sodium intake, EAT LESS

- Canned items and frozen dinners
- Condiments such as pickles, olives and salad dressings
- Processed meats and luncheon meats

Caffeine may be a contributing factor to health problems such as heart disease, cancer and diabetes. Excess caffeine use can cause irregular heart rhythms, increases output of stomach acid and acts as a diuretic. Ideally, choose decaffeinated beverages. If you are going to consume caffeinated beverages, limit the number to two eight-ounce cups or less per day.

Blood Pressure

Blood pressure is the force exerted by the blood on the walls of the arteries (blood vessels that carry blood from the heart to all parts of the body). This force is created by the pumping actions of the heart. Each time the heart beats, it pushes blood out into the arteries. The arteries expand and contract to carry the blood from the heart to parts of the body. Blood pressure remains low or normal if the arteries expand as the heart beats, allowing blood to flow freely. If the arteries are constricted, resisting blood flow, blood pressure is higher.

Think about blowing up a balloon. Have you ever tried to blow up a balloon and couldn't because it wouldn't stretch to let the air in? Did you find that if you blew with greater force, the air went into the balloon? This is similar to what happens when the heart pumps blood into constricted arteries. The greater the resistance, the harder the heart must push.

Your blood pressure changes many times during the day. Blood pressure goes up with stress, excitement, fear or exercise. It should go down during relaxation. When blood pressure remains high all the time, it is called high blood pressure or hypertension.

Blood pressure is lowest when the heart rests between beats. This is called diastolic pressure and is the bottom number of a blood pressure reading.

Normal blood pressure is 120/80.

A blood pressure reading of 140/90 or higher is considered high blood pressure; it must be monitored closely and treated appropriately.

My blood pressure is:_____/_____

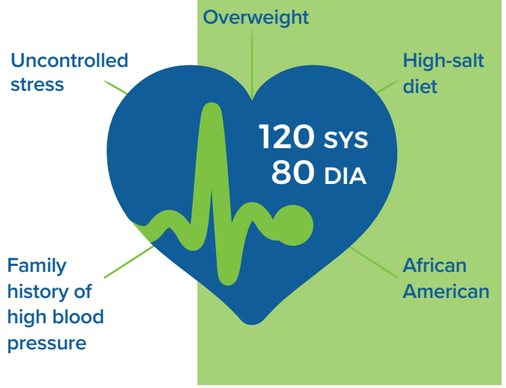
My medications to control my blood pressure are:

_____

_____

Risk Factors for High Blood Pressure

Certain characteristics identify a person at risk for having high blood pressure:



Blood Pressure Medications

Medications can control high blood pressure by making the arteries relax so the blood flows with least resistance. Diuretics (water pills) help the body eliminate extra fluid and salt; this helps lower blood pressure.

Medications must be taken on schedule. Never stop taking a drug because your blood pressure is normal or because you feel okay. Report side effects (dizziness, nausea, etc.) to your physician.

Diabetes

Insulin is a hormone manufactured by the body; it turns sugar and starch into energy. Diabetes is a disorder in which insulin is either inadequately produced by the body or does not function properly in the body. When insulin is absent or not functioning normally, excess sugar builds up in the blood; this excess amount of sugar is associated with a rise in blood fat levels and thus, the development of atherosclerosis.

Diabetes can usually be detected early through regular medical checkups. Blood sugar levels can be controlled with proper treatment. Some treatments for diabetes include diet modification, weight control, regular exercise and stress management. Insulin injections or diabetic pills may also be required.

Stress Management

What Is Stress?

Stress is our body's response to something in the environment that places a demand on our system.

Each person responds to stress in a predictable biological manner. Stress prepares the body for an emergency by quickly activating hormones that make us stronger and more alert, and cause the blood to clot faster. Our bodies can tolerate short-term stress, but long-term activation of these hormones may lead to serious health problems, such as coronary artery disease, high blood pressure, diabetes, depression and sleep disorders.

We need some stress to have enough motivation to get up in the morning, but too much makes us vulnerable to stress symptoms and distress.

What things can I do to cope with stress?

Exercise: Exercise redirects the mind and body into positive action. As the body relaxes, our minds can think more clearly and cognitive restructuring is then possible.

Supportive Relationships: Every person needs a connection with someone outside of themselves. Friends, animals and plants can provide comfort in times of distress, as well as a belief in God. If you have someone who will sit and listen, then you have a valuable resource. Allow people to nurture you at this time of your recovery. Your turn will come when someone needs you to be strong for them, and then you can repay the favor.

Journal Writing: Many people benefit from keeping a journal of their thoughts and feelings. It is a great way to find out more about yourself. It may also help to keep you motivated as you make changes in your lifestyle.

Humor: Laughter is often called internal jogging. It causes a release of endorphins in your body, which acts as a mood elevator. Try to see some humor in your life. Smile more often.

Relaxation: Relaxation techniques can be useful to break the stress cycle. They allow our body to calm down, and the blood pressure and heart rate to decrease. Choose a quiet place, away from distractions, and focus on deep, relaxing breaths as you think about a peaceful favorite place. Some people listen to music or use a specific relaxation tape for this purpose.

If stress is a factor in your heart disease, start today to reclaim your balance. Sometimes it takes a crisis such as this to bring balance back to your life. Learn now to pace yourself and take care of your own needs. Recognizing the symptoms of stress can provide an early warning signal so that you may intervene for your own benefit.

Obesity

An alarming number of adults and children in the United States are significantly overweight (obese). Statistics show that the death rate for obese individuals is much higher than that for people of normal weight. Health problems associated with obesity include gout, diabetes, high blood pressure, high blood cholesterol levels and coronary artery disease.

Be aware that the only method of permanent weight control is to continually balance caloric intake with calories used. This can be done with a reduced-calorie diet and a progressive exercise program. A loss of one to two pounds per week is a reasonable goal.

Develop a pattern of eating and exercising that will keep your weight normal and provide long-term weight control.

Points to Remember

- Set realistic goals for weight loss and be patient.
- Avoid “magic” pills or “miracle” drugs.
- Avoid starvation diets, extremely low-calorie diets or fad diets.
- Eat a variety of foods. No one food supplies all your body’s daily nutritional needs.
- Avoid using food to alleviate tension, worry and boredom.
- Develop a regular exercise program.
- Labor-saving devices, escalators, elevators and automobiles have taken much of the physical work out of living.
- Be aware of stumbling blocks like weekends, vacations and dining out.
- Reward yourself for pounds lost, but not with food. Try new clothes, a movie, a relaxing massage, etc.

Heart Health Nutrition

Knowledge of the following nutrition principles will help you manage fluid overload after a heart attack:

- Healthy foods
- Low-salt (sodium) meals
- Amount of fluid
- Amount and type of fat
- Amount of alcohol or caffeine

Healthful Foods

Eat a variety of nutritious foods to help yourself feel better, such as:

- Fresh fruits
- Fresh vegetables
- Whole grains
- Beans
- Lean vegetarian protein
- Lean meats

Balance your meals by including carbohydrates from fruits, whole grains and low-fat dairy plus a lean source of protein. In addition, it may be easier to eat smaller portions more often.

Reduce Sodium Intake

Low-salt (sodium) meals: Fluid may collect in the lungs, or other parts of the body, due to congestive heart failure because the heart is not pumping as well as it should. Limiting the amount of salt/sodium in your meals will help reduce your body's inclination to take in more fluid and retain it.

What is sodium?

Sodium is an essential mineral that helps the body move water in and out of cells, maintains blood pressure, and helps muscles, including the heart, relax. In a healthy body, a balance is maintained between sodium and water by the body organs.

Where is sodium found?

Small amounts of sodium are found naturally in all foods. Large amounts of sodium are often added to foods to enhance flavor and extend shelf life. The majority of this added sodium is added as salt. One teaspoon of table salt contains about 2,000 milligrams (two grams) of sodium.

How much do I need?

Most doctors recommend limiting the amount of sodium to two grams each day (2,000 milligrams). Limit sodium to 700 milligrams or less per meal if three meals are eaten during the day.

A Note on Medications

Although few prescription medications contain sodium, many over-the-counter medications do, such as:

- Antacids
- Cough medicines
- Analgesics
- Laxatives
- Some toothpastes
- Vitamin C (as sodium ascorbate)

If these products contain more than 115 milligrams per dose, there must be a warning on the label. If you are in doubt, ask your physician or pharmacist if the medication is appropriate for your use.

How much sodium is in my food?

Most foods at the grocery store have labels on them with nutritional information. This label will give you the sodium content in "mg" (milligrams) contained in one serving of the food. Be sure to look at the serving size. You may actually eat more or less than one serving.

Foods without labels create challenges. Fresh foods like fruits and vegetables contain only small amounts of natural sodium. Processed foods that may not be labeled like pastries and ready-made foods (fast foods) are almost always very high in sodium.

Limit high-sodium foods

Foods to limit or avoid on a two-gram (2,000 milligram) sodium diet:

Protein
- Bacon
- Processed cheese
- Corned beef
- Dried fish or fish canned with salt
- Frankfurters/hot dogs
- Ham
- Dried meat or canned meat
- Kosher meat
- Luncheon meat (cold cuts)
- Sausage
- Vegetarian meat analogs
- Commercial chili
- Salted nuts

Fruits and Vegetables
- Salted french fries
- Pickles, relish
- Potato salad
- Sauerkraut
- Tomato juice or vegetable juice

Grains
- Hot instant cereal, pancakes, waffles
- Salted crackers, pretzels and popcorn
- Commercially prepared pasta dishes
- Stuffing mix and instant rice mix

Fats
- Bacon fat
- Cured ham hocks

Desserts
- Doughnuts
- Pastries
- Instant pudding
- Cookies
- Cake

Miscellaneous
- Sports drinks
- MSG
- Canned or dried soups
- Bouillon
- Broth
- TV dinners
- Fast foods
- Salted gravy
- Soy sauce
- Barbecue or steak sauce
- Cheese sauce
- Pizza or spaghetti sauce
- Tartar sauce
- Worcestershire sauce
- Garlic or celery salt
- All spice mixes
- Pickles, pickle relish
- Seasoned salts
- Olives
- Potato or corn chips

Nutrition Facts
Serving Size: ½ cup
Servings Per Container: 6

Amount Per Serving	
Calories 110	Calories from fat 20
	% Dairy Value
Total Fat 2.5g	4%
Saturated Fat 0.5g	3%
Cholesterol 0mg	0%
Sodium 200mg	4%
Total Carbohydrate 21g	7%
Dietary Fiber 9g	37%
Sugar 10g	
Protein 3g	
Vitamin A 6% •	Vitamin C 0%
Calcium 2% •	Iron 2%

Amount and Type of Fat

Eat low-fat meals that emphasize fruits, vegetables, whole grains and beans. Also include low-fat proteins prepared without additional fat such as fish, chicken breast and very lean meats. However, limit your portion to three ounces.

Vegetarian proteins such as tofu, beans and legumes are heart-healthy choices that may be substituted for meat.

Limit most types of cheese, as it is high in saturated fat as well as sodium. Eggs may be used three to four times weekly. A small amount of nuts, seeds, olive or canola oils are good choices to incorporate healthier fat.

Avoid or limit butter, most margarines, fried foods and fatty dessert items. The use of non-caloric fat-free sprays such as Pam is recommended.

Amount of Alcohol

Discuss any alcohol use with your doctor and health professionals.

Amount of Caffeine

Limit your caffeine intake to two eight-ounce cups of caffeinated beverages or less. Talk to your doctor about avoiding caffeine use completely if you have an irregular heartbeat.

Supplements and Herbs

Discuss any vitamin, mineral or herb use with your doctor and nutrition professional.

Exercise

Beginning Exercise

Each exercise session should have three phases: the warm-up, exercise activities and the cool-down. The warm-up helps you prepare for an effective exercise session in which you don't injure your muscles. It also helps increase your cardiac workload gradually. The warm-up should increase circulation as well as stretch and warm the muscles. Doing some range-of-motion exercises and walking slowly for five to 10 minutes is usually adequate for warming up.

The purpose of the cool-down phase is to gradually reduce circulation and cardiac work. To cool down, walk five to 10 minutes and/or repeat the range-of-motion exercises.

Do not stop exercising suddenly. Exercise activities should be carefully planned.

Progression: After your heart attack or surgery, exercise will be limited for awhile. You should continue the walking program you began while in the hospital. Take a walk three or four times each day for 5 to 10 minutes each time. Gradually increase the distance and time. These walks should make you feel refreshed, not exhausted or short of breath. Increase exercises gradually according to your tolerance for each level of exercise. Length of time or intensity can be increased. In most cases, increasing the length of time you exercise will promote cardiovascular fitness without risk or strain to the heart. Be consistent - don't exercise a lot one day and not at all the next.

Your exercising heart rate should be determined by your physician or cardiac rehabilitation nurse. It will serve as a guide for adjusting the duration and intensity of exercise. Adjusting the exercises will keep your pulse within your heart-rate range and you will be assured a proper workout session.

An awareness of "perceived exertion" is another method for adjusting exercise levels. Perceived exertion is how hard you feel you are working; it is ranked on a scale of one to 20. One equals a very minimal workload, and 20 equals an extremely hard workload. You may find that the amount of exercise needed to achieve your desired perceived exertion number will vary due to many factors, such as changing physical fitness, a poor night's sleep, weight gain, illness, stress or fatigue.

Perceived Exertion Levels[A]	
1–7	Very Light
8–11	Fairly Light
12–13	Somewhat Hard
14–15	Hard
16–17	Very Hard
18–20	Very, Very Hard

perceived exertion level of between 11 and 13 should be your goal at approximately six weeks, progressively increasing your perceived exertion level to 12 to 15 as a long term goal.

If for any reason walking must be limited, substitute with a stationary bicycle. Do not use tension or resistance on the stationary bicycle at first; the workload will be sufficient without tension while healing takes place.

If your stationary bicycle has an arm activity connected, do not use that part in the early phase of recovery. If you have had open-heart surgery, consult your doctor or cardiac rehabilitation staff about an appropriate time to begin using the arm action on your bike.

Although swimming is a good cardiovascular exercise, avoid swimming for two to four months following bypass surgery so that the sternum and incisions are completely healed.

Exercise Guidelines and Precautions

These guidelines can promote a safe exercise program

- Obtain approval from your physician before beginning an exercise program.
- Choose activities you like.
- At first, choose activities that require familiar skills.
- Increase the variety and intensity that requires familiar skills.
- Wear appropriate clothing and shoes for the exercise chosen.
- Avoid moderate to heavy exercise within two hours of eating.
- Avoid smoking before exercising.
- Avoid consuming caffeinated beverages before exercising.
- Avoid exercising in extreme temperatures.
- Avoid exercising on uneven or unsafe ground.
- Avoid sudden or strenuous activities.
- If you have not exercised for awhile, begin with low workloads.
- Do not push yourself beyond your limits to keep up with someone else.
- Stop exercising if you experience pain in your chest, jaw, neck or arm, or unusual shortness of breath, dizziness or fatigue. Report abnormal symptoms to your physician. If these symptoms persist, go to the hospital immediately.
- If you are a diabetic, monitor your blood glucose level to avoid complications.

Benefits of Exercise

Exercise is beneficial because it

- Decreases resting blood pressure
- Decreases resting and exercising heart rates
- Improves muscle tone
- Develops collateral circulation to the heart muscle
- Provides an outlet for built-up tension, and helps you relax for rest and sleep
- Improves your ability to cope with stressful situations
- Provides an increased "zest for living"
- Lowers cholesterol and fat levels in the blood
- Burns calories, making it easier to lose and maintain an ideal weight
- Increases stamina

Exercise improves the quality of life at every age. Even if you have yielded to sedentary habits, you can improve your physical fitness.

When you stop an exercise program, the benefits are rapidly lost. Remember, exercise should be a lifelong commitment. AdventHealth offers a comprehensive-cardiac rehabilitation and fitness program that provides medical supervision and progress reports to your physician.

I used to walk: _____

My goal is: _____

☐ I will speak to my cardiologist about cardiac rehab at my follow up appt.

About AdventHealth

The AdventHealth Cardiovascular Institute treats more cardiology patients than any other medical facility in the United States. From around the world, patients seek out our specialists for treatment for a wide range of cardiac conditions. Increasingly, other hospitals and physicians are referring their most challenging cardiac cases to us because they know our highly skilled specialists — using the latest technologies— will provide quality care.

Treating highly complex cases means patients are inherently at higher risk. Using evidence-based care practices and comprehensive treatment, we are committed to providing quality cardiac care to all patients at each stage of their disease. The Heart Success Center and Trina Hidalgo Heart Care Center help recovering patients adopt a heart-healthy lifestyle — promoting long-term health and lifestyle changes.

More people choose AdventHealth

- Number one in cardiology volume in the nation*
- Number one in vascular surgery volume in the nation*
- Number one in open-heart surgery in Florida*
- Number one in heart-transplant surgery in the Southeast **

*Sources: *2016 Medpar data; **2019 Scientific Registry of Transplant Recipients;*

AdventHealth Then & Now

Established 1866:

30 DOCTORS

1 UNIQUE FACILITY

106 PATIENTS

Today:

MORE THAN 80,000 PHYSICIANS & STAFF

47 AWARD-WINNING HOSPITALS IN NINE STATES

5 MILLION+ PATIENTS SERVED ANNUALLY

Chapter 4: Contact Information and Patient Resources

Glossary

Angina: Discomfort or pain that develops because of decreased oxygen to the heart muscle.

Anticoagulant: A medication that alters blood clotting time; also known as a “blood thinner.”

Aorta: The large artery extending out of the left side of the heart that carries blood from the heart to the body.

Aortic Insufficiency: A valve that is unable to close properly, allowing blood to back flow.

Aortic Stenosis: A narrowing or stiffening of the aortic valve.

Arrhythmias: Irregular heartbeats.

Arteries: Blood vessels that carry oxygen away from the heart to all parts of the body.

Atherosclerosis: Narrowing of the arteries due to deposits of cholesterol, fats, blood-clotting materials or calcium that forms within the inner walls of the arteries.

Bacterial Endocarditis: An infection of the heart’s inner lining or valves.

Congenital Heart Disease: An abnormal formation of the heart at birth.

Congestive Heart Failure: Increased workload on the heart due to too much blood in the heart.

Coronary Arteries: Blood vessels that supply blood to the heart muscle.

Coronary Artery Bypass Surgery: A surgery that increases circulation by bypassing the blocked artery, providing another pathway for blood flow to the heart muscle.

Coronary Artery Disease: Coronary artery blockages due to plaque build-up within the inner walls of the arteries (atherosclerosis).

Coronary Artery Spasm: A sudden, temporary constriction of a coronary artery, interfering with blood flow to the heart muscle.

Coronary Occlusion: Another name for a heart attack.

Coronary Thrombosis: A blood clot in a coronary artery; another name for a heart attack.

Coumadin: An anticoagulant drug (blood thinner).

Echocardiogram (Echo): A type of ultrasound test that uses high-pitched sound waves that are sent through a device called a transducer. The device picks up echoes of the sound waves as they bounce off the different parts of your heart.

Endocarditis Prophylaxis: Antibiotics that are given before and after a surgical or dental procedure to prevent a valve infection.

Heart: A hollow, four-chambered, muscular organ that pumps blood.

Heart Attack: Permanent damage to the heart muscle due to lack of blood and oxygen supply.

Heart Block: A problem conducting the electrical impulse from the atrium to the ventricles.

Ischemia: A decrease of blood and oxygen supply to the heart muscle.

Lungs: The organs that bring oxygen into the body and eliminate carbon dioxide from the body.

Mitral Valve Prolapse (MVP): A common, rarely serious, abnormal closing of the mitral valve.

Myocardial Infarction (MI): Another name for a heart attack.

Nitroglycerin (NTG): A medication that expands blood vessels, increasing blood flow.

Normal Sinus Rhythm (NSR): A heart rate between 60 and 100 beats per minute.

Oxygen: A chemical element that humans, animals and plants must have to live.

Percutaneous transluminal coronary angioplasty (PTCA): A procedure for improving blood flow to the heart muscle.

Pericarditis: An inflammation of the sac surrounding the heart.

Plaque: Fat deposits that build up within the inner walls of the arteries.

Potassium: A mineral needed by the body; low potassium can cause irregular heart rhythm.

Premature Atrial Contraction: A common rhythm disturbance originating in the upper portion of the heart.

Premature Ventricular Contraction: A common rhythm disturbance originating in the lower portion of the heart.

Prolapsed: A valve that bulges or flops.

Prophylaxis: See Endocarditis Prophylaxis.

Regurgitating Valve: A valve that is unable to close properly, allowing blood to back flow.

Risk Factors: Inherited tendencies and lifestyle habits that contribute to the development of coronary artery disease.

Sinus Node: The area of the heart that initiates electrical impulses, causing the heart to beat.

Stenosis: A narrowing or stiffening of the valves that decreases their effectiveness.

Sternum: The breast bone.

Tachycardia: A heart rate greater than 100 beats per minute.

Valve: Heart tissue that acts as a one-way door.

Valvuloplasty: A procedure that uses a special balloon to open a stenotic valve.

Vasodilator: A medication that lowers blood pressure by relaxing or widening blood vessels, making it easier for the heart to pump.

Veins: Blood vessels that carry blood from various parts of the body back to the heart.

Heart Attack Recovery

Know Your Zone Every Day

Daily Check

DO ALL OF THESE THINGS DAILY UNTIL DIRECTED BY YOUR PHYSICIAN TO STOP.

- Check blood pressure and pulse – keep a log to take to your physician visits.
- Take your medications as prescribed
- Maintain a healthy weight with diet and exercise as prescribed by your healthcare provider.
- Don’t smoke.

Green Zone

YOUR SYMPTOMS ARE UNDER CONTROL IF YOU HAVE:

- A blood pressure and pulse within normal limits as defined by the parameters your physician has recommended for you.
- Blood Pressure _____ /_____ Pulse _____
- No shortness of breath.
- No limit to your activities of daily living.
- No chest, neck, shoulder or jaw pain.

Yellow Zone

CALL YOUR DOCTOR IF YOU EXPERIENCE ANY OF THE FOLLOWING :

- Feelings of indigestion.
- Less energy than usual.
- More shortness of breath.
- Intermittent dizziness or lightheadedness.

Red Zone

IF YOU EXPERIENCE ANY OF THE FOLLOWING, CALL 911. DO NOT DRIVE YOURSELF TO THE EMERGENCY DEPARTMENT. .

- Chest pain, pressure, squeezing with or without pain radiating to the jaw, neck or shoulders.
- Sweating.
- Extreme shortness of breath.

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