



# As You Recover from Cardiac Surgery Information and Guidelines

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## Introduction

This notebook tells you what to expect after your heart surgery. We hope this information will help you have a successful recovery.

Keep in mind that you are unique. Every health situation and surgery recovery is different. If you have questions, you should call your heart surgery providers.

## Words to Know

Here are some important terms related to heart surgery. Some are used in this notebook. Your provider may use others.

**Aorta:** The main blood vessel that carries blood from the heart to the body.

**Artery:** A blood vessel that takes blood away from the heart. This blood carries oxygen to the body.

**Atherosclerosis:** Fatty deposits called plaque lodge in the walls of the arteries. This can block the artery and lead to a heart attack or need for bypass surgery.

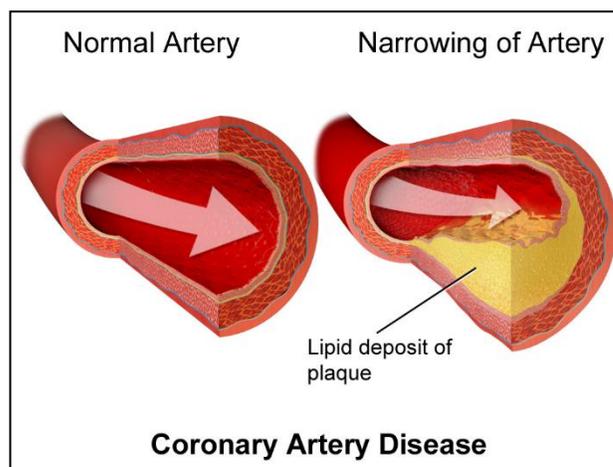
**Atrial fibrillation:** An irregular and often fast heartbeat. It may cause poor blood flow to the body. You may need medicine to control your heart rate.

**Atrium:** The top two chambers of the heart.

**Coronary arteries:** The blood vessels that carry blood to the heart muscle.

**Coronary artery bypass graft surgery (CABG or “cabbage”):** Heart surgery to create a new path for blood to flow to heart muscle that is affected by blocked arteries. Most often arteries or veins from other locations in your body are used as the new path. These vessels are referred to as bypass grafts.

**Coronary artery disease (CAD, heart disease):** When the coronary arteries narrow or are blocked by a buildup of a fatty deposit called plaque.



**Cox-Maze procedure:** This may be done with open heart surgery. It corrects or prevents atrial fibrillation.

**Diabetes:** When your body does not produce or use insulin properly.

**Ejection fraction (EF):** Measures the pumping ability of the heart muscle. An EF of 50% or more is considered normal.

**Heart lung machine (bypass machine):** A machine used to pump blood through the body while heart surgery is taking place.

**Heart valves:** Aortic, mitral, tricuspid and pulmonic valves. These can be either too tight (stenotic) or not tight enough (insufficiency or regurgitation). Mitral valves can sometimes be repaired. Other valves are replaced with a valve made from animal tissue or a mechanical valve.

**Hyperlipidemia:** The word to describe high cholesterol and triglycerides in your blood.



**HDL:** High-density lipoprotein, one form in which cholesterol travels in the blood. HDL is the “good cholesterol,” which contains a lot of protein. It actually works to clear cholesterol from the blood.



**LDL:** Low-density lipoprotein, one form in which cholesterol travels in the blood. LDL is the “bad cholesterol” — the main source of artery-clogging plaque.

**INR:** International Normalized Ratio. A lab test used to measure the effect of the blood thinner warfarin (Coumadin®).

**Left atrial appendage:** A small pouch in the left atrium. Blood clots can sometimes form in this pouch. This may cause a stroke if you have atrial fibrillation. The surgeon may remove this during surgery.

**LIMA:** The left internal mammary artery. This artery is located under the left side of the breastbone and is often used for a bypass graft.

**Myocardial infarction or heart attack:** This happens when there is a blockage of blood flow to an area of the heart. The heart muscle is damaged when it does not get enough blood and oxygen.

**Off pump (beating heart surgery):** The surgeon performs the surgery while the heart is still beating. The heart lung machine is not used. Special equipment is used to hold the part of the heart that is being worked on.

**Pericardial window:** Heart surgery to remove fluid from the sac around the heart.

**Radial artery:** This artery is located in each forearm and is sometimes used for a bypass graft.

**RIMA:** The right internal mammary artery. This artery is located under the right side of the breastbone and is sometimes used for a bypass graft.

**Sternotomy:** Cutting through the breastbone (sternum) to get to the heart.

**Vein:** A blood vessel that returns blood back to the heart. Saphenous veins are used as heart bypass grafts.

**Ventricles:** The bottom two chambers of the heart. The ventricles pump blood out of the heart to the lungs and body.

## Follow-up Appointments and Care

Your Bronson discharge instructions will tell you when to see your doctors for follow-up care.

- Your heart surgery provider will usually see you 1-2 weeks after you leave the hospital.
- Your heart surgeon will usually see you 4-6 weeks after surgery. After this appointment, you may be allowed to:
  - Drive
  - Start lifting more weight
  - Discuss returning to work
  - Participate in cardiac rehab
- Your cardiologist (heart doctor) will usually see you 4-6 weeks after you leave the hospital. You should call when you get home from the hospital to make this appointment.
- If you have diabetes, you may need to call the heart surgery office with your blood sugars 2 times a week. Please keep a record of blood sugars to bring to your follow up appointments.
- You will need to make an appointment with your primary care provider (PCP) or family doctor within 6 weeks of discharge. You should call when you get home to make this appointment.
- Your case manager will set up your home health care before you leave the hospital. The home health care team will call and visit you once you are home.
- Other appointments may be needed.

For any symptoms, questions or concerns, please call your heart surgery team at 269-341-7333.

### Call your heart surgeon's office right away if you:

- Feel like your breastbone is "loose," especially after a cough or sneeze.
- Have a temperature over 101 degrees Fahrenheit.
- Have drainage, swelling or redness of the incision. Any drainage from the sternotomy (long chest incision) is not normal.
- Have increased difficulty in breathing.
- Have increased swelling, particularly in the legs.
- Gain weight suddenly (3 pounds in 1 day or 5 pounds in 1 week).
- Feel side effects from your medicine.
- Do not feel well for any reason.
- Have blood sugars that are greater than 180.
- Have incision pain that is not helped with pain medicine.
- Have problems with heart rate, palpitations or heart racing sensation.
- Have problems with blood pressure.
- Have questions about your medicines.

**Call 911** or go to the nearest Emergency Room (ER) if:

- You feel chest discomfort that is different from incision pain.

**Call during regular business hours:**

- Need a refill on pain medicine.
- Non urgent questions or concerns.

## **Frequently Asked Questions (FAQs)**

**Q:** Who do I call for my prescriptions?

**A:** You will get prescriptions before you leave the hospital. Be sure to take only the medicines listed on your after visit summary or discharge papers. If you have questions about your pain medicine, ask your heart surgeon. Your heart doctor or heart surgeon can answer other medicine questions.

**Q:** Why do I have tingling, creepy-crawly sensations across my chest, often on my left side?

**A:** An artery under the left side of your breastbone may have been used during surgery. The sensations will go away with time.

**Q:** Why do I feel winded during activity?

**A:** Your lungs were inflated and deflated during surgery. You will feel less winded as time goes on. Remember to keep using your incentive spirometer after you leave the hospital.

**Q:** Why am I having trouble sleeping at night?

**A:** Your usual sleeping pattern was upset while you were in the hospital. If you had trouble sleeping before surgery, it may be worse now. Try to nap less during the day. Some people need medicine to help them sleep. It may take 4-8 weeks for your sleeping pattern to get back to your baseline after surgery.

**Q:** Is it normal to have swelling at the top of my incision?

**A:** Yes. The swelling will shrink with time.

**Q:** Is it normal to have less appetite?

**A:** Yes. Appetite often decreases after surgery, but it will return to normal.

**Q:** Why am I constipated?

**A:** Pain medicines can sometimes cause constipation. Try an over-the-counter stool softener. If the problem continues, call your heart surgery provider.

**Q:** Is it normal to have mood swings and feel irritable?

**A:** Yes. Many people feel depressed after heart surgery. This feeling usually goes away with time. If you don't begin to feel better after 4-6 weeks or your symptoms are severe, talk with your primary care doctor.

**Q:** My leg with the incision is still swollen. Is this normal?

**A:** Yes. It can take months for the remaining veins to take over completely. It will help to raise your legs above the level of your heart. Do this anytime while at rest during the day. If your legs are swollen in the morning *before* getting out of bed, raise your legs on a pillow overnight.

**Q:** I get tired faster. Is this normal?

**A:** Yes. You had a major surgery and were not active for a while. You will regain your endurance over time. Participating in a cardiac rehab program will help. Your heart surgeon and heart doctor will discuss options with you.

**Q:** Why do I hear or feel my heart beating?

**A:** An "insulating" tissue that surrounds the heart was removed during surgery. This sensation may go away with time.

**Q:** When can I lay on my side?

**A:** 4 weeks after surgery.

**Q:** When can I sleep in bed?

**A:** When it is comfortable for you.

**Q:** When can I go up and down stairs?

**A:** When you feel strong enough to safely do so. Do not use stairs for exercise purposes until you are cleared to do so by your heart surgery team.

### **Taking Care of Your Incisions:**

- Keep the incision clean and dry. Clean the incision with soap and water in the shower every day.
- It is likely your incisions have Dermabond® (a glue like substance) over them. This will peel off over time, usually by 2-3 weeks. **DO NOT PICK OR PEEL THE GLUE.**
- Shower only. Do not take a tub bath. Do not soak your incisions.
- Do not pick at scabs.
- Wash your hands often during the day. Keep your fingers away from your incisions.
- Do not use oils, lotions or ointments on the incisions until they are well healed.
- If you have steri-strips (paper strips) on any of your incisions, they should be removed by 2 weeks after your surgery. It is okay if they come off in the shower.

### **Protecting Your Breastbone:**

- Hold a small, flat pillow against your breastbone incision to support it when you cough or sneeze. Do this when you get up out of a chair or bed.
- Do not push or pull with your arms.
- Do not lift more than 5 pounds (1/2 gallon of milk).
- Do not do any activity that strains or moves your healing breastbone. For example: swinging a golf club, changing sheets on the bed, mowing a lawn or raking.
- Do not drive until your surgeon says it's okay. This is usually about 4 weeks after surgery. Michigan law requires you to wear a lap belt and shoulder strap when you ride in the car. For comfort, you can put a pillow between your chest and the shoulder strap.

## Medicines

The following medicines are often prescribed for people who have heart problems. The information is divided by drug classes. Each section contains general information and possible side effects.



Learn your medicines and know why you are taking them.

### General Guidelines

- Keep a complete list of your medicines with you at all times. Include herbal supplements, prescription and medicine you can buy without a prescription. List the drug name, dose (how much you take) and how often you take it. Update this list every time you start a new medicine or stop taking a medicine.
- Use one pharmacy. This prevents harmful medicine interactions.
- Tell all your doctors about any changes in your medicines. This includes starting or stopping any medicines.
- Take your medicines as ordered by your doctor. Do not double up on doses if you miss a dose.
- Call your doctor if you have side effects from your medicines.

### Aspirin

- Most patients take aspirin after CABG or valve surgery. Aspirin keeps platelets in the blood from sticking together and forming clots. Aspirin is also used to prevent strokes.
- Your surgeon will decide your aspirin dose.
- These side effects should be reported to your doctor:
  - Abdominal or stomach cramps
  - Blood in your stool
  - Heartburn
  - Indigestion
  - Nausea
  - Vomiting blood

### Blood Thinners:

#### Warfarin (Coumadin®)

- Warfarin (Coumadin®) prevents blood clots from forming or growing larger. It is used for patients with atrial fibrillation and patients who have had valve surgery. These patients are at risk for developing a blood clot that may cause a stroke.
- Your heart team provider will use a blood test to decide your dose of warfarin (Coumadin®). Your results are reported as an International Normalized Ratio (INR). Your dose may change based on your INR. At first you will need frequent blood tests.

Once you are on a stable dose, you will need the tests less often. Your provider will tell you how often.

- Several factors may affect your INR. These include sickness, changes in diet or activity, and other medicines. Try to keep the same diet. Many medicines can affect your INR. Tell your doctor or pharmacist if you are taking any new medicines, including medicine you can buy without a prescription. If pain medicine is needed after your prescribed pain medicine runs out, acetaminophen (Tylenol®) is preferred over ibuprofen (Motrin®, Advil®) or naproxen (Aleve®). Ibuprofen and medicines like ibuprofen can increase the risk of bleeding.
- Warfarin (Coumadin®) has side effects related to bleeding. Call your doctor right away if you have:
  - Bleeding that you cannot stop
  - Blood in your urine
  - Unusual bruising
  - Black or bloody stools
  - Dizziness or feeling faint can be caused by bleeding inside the body
  - Stomach pain
- Other side effects may include:
  - Diarrhea
  - Upset stomach
  - Skin rash
  - Headache

### **Antiplatelet Medicines:**

#### **Clopidogrel (Plavix®)**

- Clopidogrel (Plavix®) helps to keep platelets in the blood from sticking together and forming clots. Taken every day, it can reduce your risk of having a heart attack or stroke.
- The most common side effects are:
  - Mild bruising
  - Mild bleeding
- Call your doctor right away if you have:
  - Bleeding that you cannot stop
  - Blood in your urine
  - Unusual bruising
  - Black or bloody stools
  - Dizziness or feeling faint can be caused by bleeding inside the body

### **Pain medicines:**

**Hydrocodone with acetaminophen (Vicodin®, Norco®, Lortab®)**

**Tramadol (Ultram®)**

**Acetaminophen (Tylenol®)**

**Oxycodone with acetaminophen (Percocet®)**

**Oxycodone (Roxicodone®)**

### **Gabapentin (Neurontin®)**

- Take your pain medicine as prescribed by your doctor.
- Pain medicines are used to ease your pain so you can move more and breathe easier. This will help you to heal faster. You may not be pain free, but your pain should be tolerable.
- It may take up to 60 minutes for you to feel relief after you take them.
- Talk with your doctor about drinking alcohol when taking any medicines. This is especially important with medicines that contain a narcotic.
- Know how much acetaminophen is in each of your pain medicines. Do not take more than a total of 4000 mg of acetaminophen each day.
- Side effects are:
  - Constipation
  - Dizziness or lightheadedness
  - Upset stomach or vomiting
  - Rash

### **Irregular Heart Beat (Arrhythmia) Medicines:**

#### **Amiodarone (Cordarone®)**

- Amiodarone is a medicine used to prevent or treat irregular heartbeats. Irregular heartbeats are caused by a problem in the heart's electrical system.
- Call your doctor immediately if you have any of the following:
  - Bluish skin color
  - Shortness of breath
  - Fainting or lightheadedness
  - Blurred vision
  - Eyes become more sensitive to light
  - See halos
  - Yellowing of the whites of the eyes
- Many medicines interact with amiodarone. Tell your doctor about all other medicines you are taking, especially those for heart conditions and antibiotics.
- Do not eat grapefruit or drink grapefruit juice at all while you take this medicine. Grapefruit could lead to toxic levels of this medicine.
- If you have vision changes, call your eye doctor. A yearly eye exam is recommended if on this medicine long term.
- Your doctor may also order tests to check your liver, thyroid and lung function.
- Avoid direct sunlight or tanning beds when taking this medicine. If you need to be in the sun, wear protective clothing and sunscreen.

### **Beta Blockers:**

**Metoprolol (Lopressor<sup>®</sup>, Toprol<sup>®</sup>)**

**Carvedilol (Coreg<sup>®</sup>)**

- Beta blockers work by slowing your heart rate, which results in more effective heart beats. They are used to prevent heart attacks or irregular heartbeats after open-heart surgery.
- Beta blockers are also used to treat high blood pressure, heart failure, abnormal heartbeats and chest pain.
- If you were taking these medicines before surgery, you may be on a different dose or brand after surgery. The dose may change as you continue to recover.
- Common side effects of beta blockers include:
  - Diarrhea
  - Dizziness or lightheadedness
  - Drowsiness
  - Shortness of breath
  - Swelling of hands or feet
- Do not suddenly stop taking this medicine.

### **Angiotensin Converting Enzyme (ACE) Inhibitors:**

**Lisinopril (Zestril<sup>®</sup>), Ramipril (Altace<sup>®</sup>),**

**Benazepril (Lotensin<sup>®</sup>)**

**Enalapril (Vasotec<sup>®</sup>)**

**Quinapril (Accupril<sup>®</sup>)**

### **Angiotensin Receptor Blockers (ARBs):**

**Valsartan (Diovan<sup>®</sup>)**

**Olemsartan (Benicar<sup>®</sup>)**

**Losartan (Cozaar<sup>®</sup>)**

**Irbesartan (Avapro<sup>®</sup>)**

- ACE Inhibitors and ARBs are used to treat high blood pressure and heart failure. These medicines also improve survival rates after a heart attack. They are used in patients who have a low ejection fraction (EF).
- ACE Inhibitors and ARBs increase the blood flow in the kidneys. This helps protect the kidneys for patients who have diabetes.
- Common side effects when starting to take these medicines:
  - Dizziness and lightheadedness
  - Cough (with ACE inhibitors)
  - Diarrhea
  - Headache
  - Sun sensitivity

- Call your doctor or go to the emergency room right away if you have any swelling of the tongue, lips or nose with sudden trouble breathing or swallowing.
- Call your doctor if you are taking an ACE inhibitor and develop a chronic dry cough.

### **Calcium Channel Blockers:**

**Amlodipine (Norvasc®)**

**Diltiazem (Cardizem®)**

- Calcium channel blockers slow the heart rate and open blood vessels. They are used to treat chest pain and high blood pressure. They also prevent atrial fibrillation and rapid heartbeat.
- Common side effects are:
  - Constipation
  - Dizziness
  - Flushing
  - Headache
  - Muscle cramps
  - Shortness of breath
  - Swelling of hands or feet
- Call your doctor or pharmacist if you have shortness of breath, low blood pressure, feel dizzy or have an irregular heartbeat.

### **Lipid-Lowering Medicines:**

**Atorvastatin (Lipitor®)**

**Lovastatin (Mevacor®)**

**Simvastatin (Zocor®)**

**Rosuvastatin (Crestor®)**

**Pravastatin (Pravachol®)**

**Ezetimibe (Zetia®)**

- These medicines are used to lower cholesterol and triglycerides in your body. They prevent the buildup of plaque in your arteries. Along with a healthy diet and exercise, these medicines may prevent heart attacks and strokes.
- Common side effects are:
  - Mild muscle pain or soreness
  - Dizziness
  - Headache
  - Rash
- Call your doctor right away if you have severe or increasing muscle pain. This could be a serious side effect.
- Grapefruit juice interacts with lipid-lowering medicines. Discuss with your doctor or pharmacist if you regularly eat grapefruit or drink grapefruit juice.
- Tell your pharmacist about any other medicines you are taking. There are some medicines like antibiotics that can have harmful interactions with these medicines.
- Your doctor may order liver function tests on a regular basis.





## Cardiac Rehabilitation and Activity

Your heart surgery providers want you to start your Cardiac Rehab Program while you are in the hospital. An occupational therapist and occupational therapy assistant trained in cardiac rehab will meet with you. You will learn about activities that will improve your recovery in the hospital and at home.

Follow these guidelines until your appointment with your heart surgeon after your surgery. At that time, you will get instructions for increasing your activity.

### DO

- DO take at least 3-4 walks every day
- DO your cardiac rehab exercises 2 times every day
- DO take turns between rest and activity
- DO check your pulse
- DO rest after meals

### DO NOT

- DO NOT pull or push with your arms
- DO NOT use your arms to get out of a chair or bed
- DO NOT lift more than 5 pounds
- DO NOT hold your arms overhead for a long period of time
- DO NOT take tub baths
- DO NOT drive until your surgeon says it is okay
- DO NOT do household duties such as vacuuming, laundry, mopping, hammering, sawing or sanding
- DO NOT lay on your side

### Your Exercise Program

- Continue your walks and exercises the first full day you are home.
- Walk 3-4 times a day and do your standing exercises 2 times every day.
- Take your pulse before starting activity. Write it down. This is your baseline or resting pulse rate.
- Do not begin exercise or walking if your resting pulse is at 110 or more. Call your heart surgery providers if your resting pulse rate is 110 or more.
- After you exercise, check your pulse.
  - Your pulse should not be more than 30 beats above your resting pulse rate.
  - If your heart rate is too fast, rest.
  - After 5 minutes of rest, your pulse should be within 10 beats of your resting pulse.
  - If it is not, rest longer. Then take your pulse again.
  - If your heart rate was too fast, start your activities at a slower pace the next time.

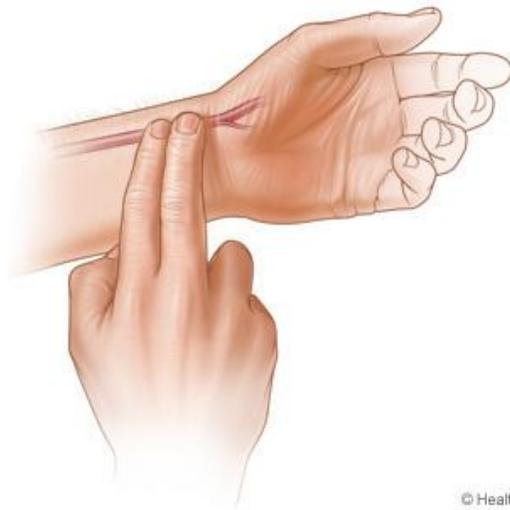
- Stop if you feel short of breath, lightheaded or have chest pain during or after any activity. Rest until you feel better. Then start your activities again at a slower pace. If your symptoms do not go away with rest or prescribed medicines, call your heart surgery providers or call 911.
- Plan your walks so that you have a place to stop and sit down if you need to.
- Remember to keep your pulse within 30 beats of your resting pulse rate!

### Exercise Do Nots

- Do not:
  - Take hot showers after exercise. “Cool off” at least 20 minutes before you shower.
  - Exercise when you are sick. Go back to exercising gradually. Take as much time as you missed to work up to the level you were at before you got sick.
  - Go “all out” during exercise.
  - Stair-climb as part of your exercise.
  - Walk alone outside for the first 2 weeks after coming home.
- Avoid walking outdoors:
  - If it is really windy.
  - If it is very warm and humid, or cold.
  - In areas with lots of hills.
  - On uneven ground.

### How to Take Your Pulse

1. Place your palm up.
2. Use the first two fingers (not the thumb) of the opposite hand to feel the beat.
3. Place your fingers on your wrist just below the base of your thumb.
4. Now find your pulse while you look at a watch with a second hand. Count the beats for 1 minute or count the beats for 15 seconds and multiply by 4. This number is how many times your heart beats each minute.



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## Signs that Your Heart is Working Too Hard

Pay attention to how your body responds to activity. Any activity is too much for you if:

- You become short of breath for more than 10 minutes or when you are not walking or exercising.
- Your pulse rate does not return to resting rate in 5 minutes.
- Your heart pounds or beats with an irregular rhythm.
- You become unusually tired.
- You become sick to your stomach or vomit.
- You develop severe leg cramps.
- You become lightheaded, dizzy or faint.

Stop the activity right away if you have any of these symptoms. Call your heart surgery providers if the symptoms don't go away. If you have chest discomfort, heaviness or pressure like the symptoms you had before surgery and it doesn't go away, call your heart surgery providers. If the symptoms get worse, call 911.

## Restrictions after Open Heart Surgery

Following the restrictions below helps protect your breastbone from injury and prevents infection of your incisions. You will receive more details before you leave the hospital. **If not listed below, ask your heart surgery provider when you can start other sports and activities.**

### Lifting Limits

- 5 pound limit for 4-6 weeks
- 5-10 pounds for 6-10 weeks
- 15 pounds for 10-12 weeks
- No restrictions after 12 weeks unless your surgeon gives you restrictions.

### Bathing and Swimming

- No soaking tub baths for 2 months. You can shower daily.
- No hot tubs for 3 months.
- No swimming for 3 months.

### Driving

- No driving for about 4 weeks. Your surgeon will tell you when you are okay to drive.

### Housework

- Vacuuming after 2 months
- Changing sheets after 2 months

### Yardwork

- Raking or leaf blowing after 3 months
- Snow shoveling or blowing after 3 months
- Riding mower after 2 months

- Push power mower after 3 months
- Non-power mower after 4 months

#### Golfing

- Putting after 1 month.
- Chipping after 2 months.
- Driving after 3 months.

#### Sexual Activity

- Avoid for at least 1 month.
- When you resume do not put pressure on your chest incision.
- Do not use erectile dysfunction medicine, such as Viagra<sup>®</sup>, for 1 month.

#### Boating and Fishing

- No boating for 3 months.
- No casting for at least 6 weeks.

#### Shooting

- Pistols or small caliber after 2 months.
- Shotguns or large caliber after 3 months.
- No archery for 3 months.

#### Seat Belt Use

- Michigan law requires that you wear a seat belt if you are a front seat passenger. Injuries from an accident could be worse than the damage to your breastbone or incision from wearing a seat belt. Seat belt pads are available at most stores. You may try using a pillow under the shoulder strap. **To learn more, visit [bronsonhealth.com/heart](http://bronsonhealth.com/heart).**

## Outpatient Cardiac Rehab Programs

Your doctors would like you to participate in outpatient cardiac rehab. You may be able to begin outpatient rehab in as few as 4 weeks.

You may choose any of the outpatient cardiac rehab programs listed below. Call to schedule your first (assessment) appointment the first week you are home.

The program you choose will check to see if your insurance plan will cover your appointments. They may also contact your heart doctor if needed. Outpatient cardiac rehab includes monitored exercise, education and support.

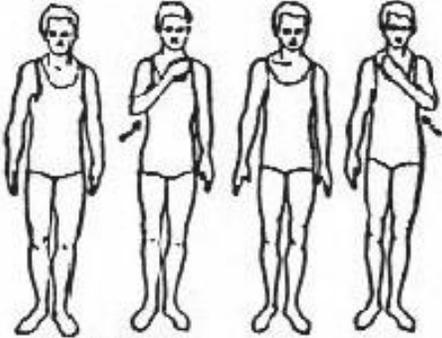
<b>Bronson Cardiac Rehabilitation at the Bronson Lifestyle Improvement &amp; Research Center (LIRC), Oshtemo</b> .....	(269) 544-3220
<b>Bronson Battle Creek Cardiac Rehabilitation</b> .....	(269) 245-8199

Other programs:

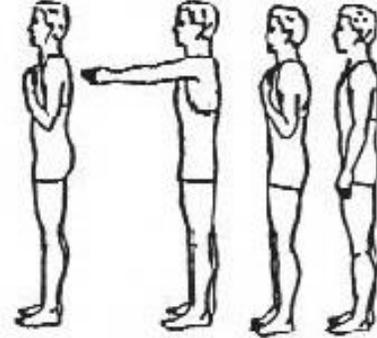
Allegan General Hospital .....	(269) 686-4377
Allegiance Health, Jackson .....	(517) 788-4908
Borgess Cardiac Rehab .....	(269) 552-2200
Community Health Center of Branch County, Coldwater .....	(517) 278-8596
Lakeland Medical Center, Niles .....	(269) 687-1405
Lakeland Medical Center, St. Joseph .....	(269) 983-8893
Oaklawn Hospital Cardiopulmonary Rehab, Marshall .....	(269) 789-8990
South Haven Community Hospital .....	(269) 639-2796
Sturgis Hospital .....	(269) 659-4384
Three Rivers Health .....	(269) 273-9758

## Post Cardiac Surgery Exercises

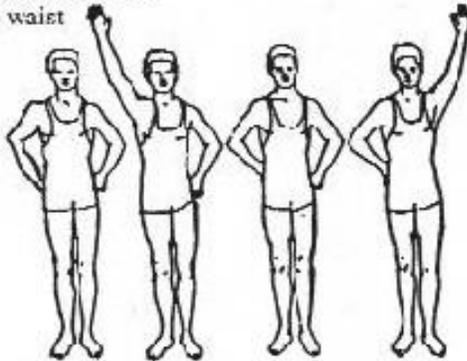
1. Arms at side  
Left hand to right shoulder  
Left hand down  
Right hand to left shoulder  
Right hand down



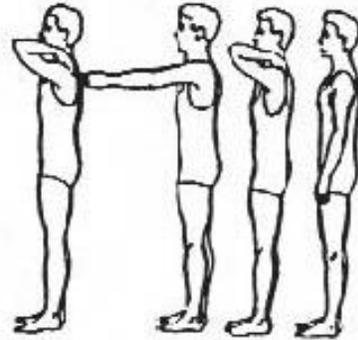
2. Bring both hands to chest  
Straighten arms in front  
Both hands back to chest  
Arms down at side



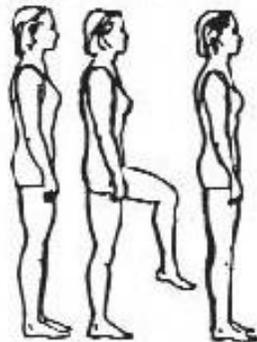
3. Hands on hips  
Raise right arm over head  
Return to waist  
Raise left arm over head  
Return to waist



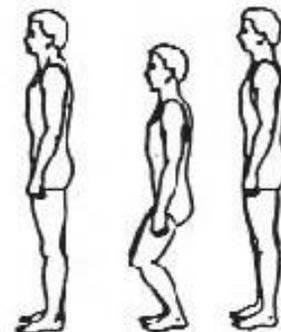
4. Bring both arms to shoulders  
Straighten arms in front  
Both arms back to shoulders  
Arms swing down to sides



5. Raise right knee level with hip  
Lower right leg  
Repeat with left leg  
(Use chair for support if necessary)



6. Half knee bends  
Keep heels on floor  
(Use chair for support if necessary)



Rehab/BM1101/Post Cardiac Surgery Exercises.doc

## Energy Conservation and Work Simplification Techniques

**Work Simplification:** completing a task in the most effective way, using the least amount of effort and the shortest possible time

**Energy Conservation:** using your energy wisely to do the tasks that you have to do and still have energy to do the activities you enjoy

### Main Principles of Energy Conservation and Work Simplification:

#### Plan ahead:

- Decide what time of day is best for you and plan more things to do at that time.
- Space things to do evenly throughout the day and the week.
- Vary hard and easy tasks appropriately.
- Stay organized - keep all needed items for a task in one place.

#### Set priorities:

- Decide which tasks are most important.
- Ask others to do some tasks if they are able.
- Take enough time for what you are doing so that you do not have to rush.

#### Pace yourself:

- Plan rest times in your day (10-15 minutes).
- Many short rest breaks may be better than one long rest break.
- Make sure to stop and rest before you become tired.

#### Body mechanics:

- Sit, instead of stand, when you can.
- Lift using your legs and not your back.
- Try not to twist – move your feet when turning.
- Carry things close to your body using both hands.

#### Simplify:

- Limit stair climbing – it takes seven times more energy than walking on flat surfaces.
- Replace heavy items with lighter ones.
- Break up daily tasks into separate steps that can be done throughout the day (for example: soaking dishes before washing).

#### Equipment:

- Evaluate all areas of your home for equipment that would make things easier.
- Use bathroom equipment if needed.

## Daily Energy Conservation Techniques

### Bathing:

- Place grab bars where needed.
- Gather all needed items ahead of time.
- Put non-skid mat or strips in tub.
- Wash hair in shower to limit bending over.
- Consider using:
  - Bath bench
  - Handheld shower head
  - Long-handled sponge
  - Soap on a rope

### Grooming:

- Keep a chair or stool in bathroom.
- Store all needed items on counter, not under sink.
- Squeeze toothpaste by pushing tube with the palm of your hand.

### Dressing:

- Wear front closure bras or fasten back closure bras in front, then turn around.
- Sit to dress lower body.
- Loose fitting clothes are easier to put on and take off.
- Wear pants with elastic waistbands.
- Lower the clothing rod in the closet if clothes are hard to reach.
- Use a reacher, dressing stick, sock aid and long handled shoehorn.
- If you have a weak or sore arm or leg, dress that limb first.

### In the kitchen:

- Set up cupboards so the things you use most are up front.
- Store items where they are easy to reach.
- Get out all supplies before you start a project.
- Sit while you cook or do dishes.
- Slide pots and pans on the counter.
- Put sugar and flour in containers. Scoop out the amount you need.
- Do not lift heavy bags. Put small amounts in more bags.
- Install long handles on faucets and doorknobs.
- Install pull out shelving in cabinets.
- Soak your dishes before washing.
- Wear an apron with pockets to carry utensils or tools.
- Cook in larger quantities and freeze extra portions for later.
- Consider using:
  - Larger-handled utensils
  - Lazy susans

- Electric appliances
- Scissors to open packages
- Liquid soap dispensers
- Both handles on pots and pans
- Handheld sink sprayer
- Wheeled cart to move several items
- Both hands to carry groceries
- Put groceries into multiple bags
- A cart to move items to and from the car

### **Shopping:**

- Call ahead to make sure the store has the items you want.
- Use motorized carts at store if available.
- Ask cashier to put only a few things in each bag.
- Go to a store that will carry your groceries to your car.
- Write out your list in the order of how the store is setup.
- Consider curbside pick-up or delivery.

### **Laundry:**

- Do not make more than one trip up and down the stairs.
- Iron while sitting or wear wrinkle-free clothing.
- Pre-measure small amounts of laundry detergent or use ultra-concentrated brands.
- Sit at a table to sort and fold clothes.
- Wash smaller loads to avoid heavy lifting.
- Put basket on a chair to reduce bending when loading and unloading.
- Raise frontloading washer and dryer onto a platform to avoid bending.
- Consider using:
  - Both hands to lift and move clothes
  - Both hands to pour detergent

### **Cleaning:**

- Make the bed one entire side at a time.
- Walk with vacuum – keep it close instead of pushing and pulling.
- Store cleaning supplies on both ends of your home or in the room where they will be used.
- Store cleaning products in handy, easy to reach locations.
- Hire someone to do the cleaning or lawn service.
- Throw shower curtain in the wash to clean.
- Clean small parts of your home at a time and take short breaks.
- Get rid of clutter.
- Consider using:
  - A lightweight vacuum
  - Tongs or a reacher to pick up items off the floor
  - Slow, steady movements

- Long-handled brushes, sponges and dusters

**Miscellaneous:**

- Take things out of your purse to keep it lighter.
- Ask your pharmacist to not put childproof caps on medications.
- Stop doing tasks that are not important to you.
- Consider using:
  - A speaker phone
  - Automatic garage door opener
  - Electric scissors

## Healing Phase: Eating to Heal

- You need good nutrition in order to heal. You may prefer 5 to 6 small, soft meals rather than eating large meals.
- Limit foods high in sodium to help avoid fluid weight gain.
- Foods high in fiber can help keep your bowels moving.



### Foods High in Protein:

Milk Products	<ul style="list-style-type: none"><li>• Skim, ½% or 1% milk.</li><li>• Low-fat natural cheese (like Swiss and Mozzarella).</li><li>• Unsweetened Greek yogurt or regular yogurt.</li></ul>
Eggs, meats, poultry, and fish	<ul style="list-style-type: none"><li>• White meat chicken or turkey, fish, lean pork or beef.</li><li>• Eggs or egg substitutes.</li></ul>
Beans, legumes, nuts, and seeds	<ul style="list-style-type: none"><li>• Soy products: Tofu, soy milk and edamame.</li><li>• Lentils and beans.</li><li>• Unsalted nuts and seeds.</li><li>• Natural nut butters.</li></ul>

### Foods High in Fiber:

Fruits and Vegetables	<ul style="list-style-type: none"><li>• Fresh fruits with the skin on.</li><li>• Raw vegetables or cooked vegetables with the skin on.</li></ul>
Grains and Legumes	<ul style="list-style-type: none"><li>• Whole grains such as: brown rice, whole wheat bread or pasta, quinoa, farro, or barley.</li><li>• Unsalted nuts and seeds.</li><li>• Legumes such as: lentils, black beans, edamame, chickpeas, pinto, and kidney.</li></ul>

## LIMIT Foods High in Sodium:

Milk Products	<ul style="list-style-type: none"><li>• Cottage Cheese.</li><li>• Processed cheeses: Velveeta, Cheese Whiz, American, or anything labeled “processed cheese food”.</li></ul>
Meats, poultry, and fish	<ul style="list-style-type: none"><li>• Regular canned meats, poultry, or fish.</li><li>• Smoked or cured meats, poultry, or fish such as: ham, sausage, bacon, smoked fish and jerky.</li><li>• Processed lunch meats such as: salami, bologna, ham, bratwurst, and hot dogs.</li><li>• Packaged/Canned meals or frozen dinners.</li></ul>
Vegetables	<ul style="list-style-type: none"><li>• Regular canned vegetables.</li><li>• Frozen vegetables with a sauce.</li><li>• Regular vegetable juices.</li><li>• Vegetables preserved in brine such as: sauerkraut, olives and pickles.</li></ul>
Grains	<ul style="list-style-type: none"><li>• Packaged foods such as: seasoned noodles, macaroni and cheese, rice dishes, or stuffing mix.</li><li>• Pancakes, waffles, biscuits, cornbread.</li></ul>
Condiments	<ul style="list-style-type: none"><li>• Mustard, regular ketchup, dips, salad dressings, and relishes.</li><li>• Sauces such as: barbeque, cheese, chili, hot sauce, pizza, soy, steak or Worcestershire,</li><li>• Gravies and packaged sauces.</li></ul>
Soup	<ul style="list-style-type: none"><li>• Soups: canned, frozen, or instant soups including those that are labeled “lower in sodium” or “reduced sodium”.</li></ul>
Other foods	<ul style="list-style-type: none"><li>• Mixes such as: cake mixes or pie crust.</li><li>• Salted snacks such as: crackers, pretzels, potato chips, corn chips, nuts, or popcorn.</li></ul>
Alcohol	<ul style="list-style-type: none"><li>• Avoid for at least 4 weeks. Speak with your doctor prior to using.</li></ul>
Added sugars	<ul style="list-style-type: none"><li>• Sugar, brown sugar, honey, molasses, and syrup.</li><li>• Sweets like candy, cookies, cake, ice cream, and pie.</li><li>• Beverages like pop, lemonade, Kool-aid®, and juice drinks.</li></ul>

### **Post-Surgery Meal Planning Tips**

To increase protein intake:

- Make oatmeal with skim or low fat milk in place of water.
- Add nut butters or unsalted nuts to oatmeal.
- Have hard-boiled eggs available for snacks or chop into salad for additional protein.
- Add leftover meats to soups, salads, casseroles and omelets.
- Add unsalted beans, nuts, and seeds to soups, salads or casseroles.
- Add natural nut butter or Greek yogurt to smoothies.
- Add low-fat natural cheese (like Swiss or Mozzarella) to sandwiches, salads, and vegetables.

Add fiber to your meal by:

- Adding flax, chia, or wheat germ to smoothies, yogurt, or hot/cold cereals.
- Using unsweetened dried fruit and unsalted nuts or seeds in salad.

### **General Guidelines for Heart-Healthy Living**

- Take your medicines as directed.
- Stop smoking. A stop-smoking program may be helpful.
- Maintain a healthy body weight.
- Get moving!
- Follow a heart healthy diet like the Heart Healthy Mediterranean Lifestyle Diet below.
- Control your blood sugar.
- Control your blood pressure.
- Follow up routinely with your primary care provider and cardiologist.

## Heart Healthy Mediterranean Lifestyle

These guidelines can help improve your heart health by:

- Lowering cholesterol and triglyceride levels.
- Improving your blood pressure.
- Helping you achieve and maintain a healthy weight.

<b>Main Points</b>
Consume more food from plant sources including grains, vegetables, fruits, nuts and seeds.
Limit processed foods in favor of seasonal fresh and locally grown food as able.
Olive oil should be the main source of fat used to cook, bake, and sauté. Limit use of butter and margarine.
Consume low fat cheese and unsweetened yogurt daily.
Choose fish, poultry and eggs more often than red meat; trim visible fat.
Use herbs and spices to flavor food instead of salt or fat.
Limit intake of added sugars, desserts and fried foods.
Limit alcohol intake and talk to your doctor.

### Suggested Foods

Food Group	Recommended Intake	Tips
Vegetables (Non-starchy)	<ul style="list-style-type: none"> <li>• 4 or more servings each day.</li> <li>• 1 portion each day should be raw.</li> </ul>	<ul style="list-style-type: none"> <li>• Make half of your plate non-starchy vegetables (carrots, green beans, summer squash)</li> </ul>

		<ul style="list-style-type: none"> <li>• A serving is 1 cup raw or ½ cup cooked.</li> </ul>
Fruits	<ul style="list-style-type: none"> <li>• 2-3 servings each day.</li> </ul>	<ul style="list-style-type: none"> <li>• Eat the skin when possible.</li> <li>• Choose fresh fruit for dessert.</li> <li>• A serving is 1 small piece, 1 cup of fresh fruit, or ½ cup dried fruit.</li> </ul>
Grains	<ul style="list-style-type: none"> <li>• 4-5 servings each day.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose mostly whole grains.</li> <li>• 1 serving = 1 slice of bread or ½ cup of cooked pasta or grain (like oatmeal).</li> </ul>
Fats/Oils	<ul style="list-style-type: none"> <li>• Olive oil 1-2 servings per meal.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose extra virgin olive oil and use in dressings and for cooking.</li> <li>• Choose avocado or natural nut butter instead of butter or margarine.</li> </ul>
Beans/Nuts/Seeds	<ul style="list-style-type: none"> <li>• 3 or more servings each week.</li> </ul>	<ul style="list-style-type: none"> <li>• One serving of legumes is ½ cup cooked.</li> <li>• Serving sizes of nuts and seeds vary, check label for actual serving size.</li> <li>• Try adding these foods to salads or soups.</li> </ul>
Fish and Seafood	<ul style="list-style-type: none"> <li>• 2-3 times each week.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose fish such as salmon and tuna, which are rich in Omega-3 fatty acids.</li> </ul>
Low-Fat Dairy	<ul style="list-style-type: none"> <li>• 1-3 servings each day</li> </ul>	<ul style="list-style-type: none"> <li>• Skim, ½ %, or 1 % milk.</li> <li>• Natural and hard cheeses that are “reduced fat”, “low fat”, or “part skim.” Make sure to check sodium content on nutrition facts label.</li> <li>• Low-fat or non-fat unsweetened yogurt.</li> </ul>

Egg and Poultry	<ul style="list-style-type: none"> <li>• Daily to weekly.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose skinless chicken or turkey in place of red meat.</li> <li>• Egg whites are unlimited; limit egg yolks to 4 per week.</li> </ul>
Red Meat	<ul style="list-style-type: none"> <li>• Limit intake, consume only a few times per month. Each portion should be limited to 3-5 ounces.</li> </ul>	<ul style="list-style-type: none"> <li>• Includes beef and pork.</li> <li>• Choose lean cuts such as tenderloin and sirloin. Trim all visible fat as able.</li> </ul>
Herbs and Spices	<ul style="list-style-type: none"> <li>• Use daily.</li> </ul>	<ul style="list-style-type: none"> <li>• Season foods with herbs, garlic, onions, and spices instead of salt.</li> </ul>

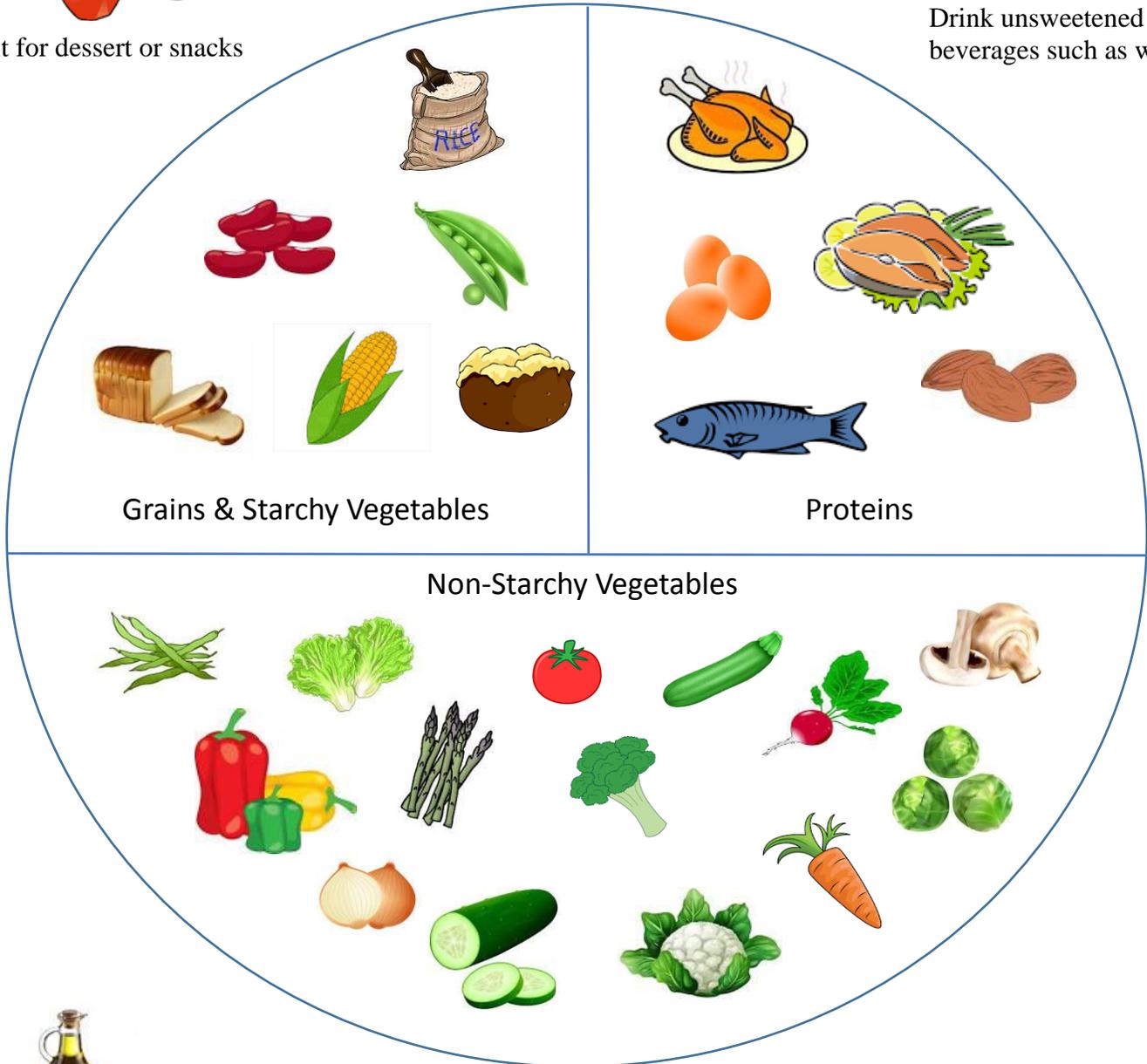
# Mediterranean Plate



Fruit for dessert or snacks



Drink unsweetened beverages such as water,



Grains & Starchy Vegetables

Proteins

Non-Starchy Vegetables



Flavor your food with spices, herbs, onions, garlic and olive oil



Choose non-fat and low-fat dairy



## Resources

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Bronson Cardiothoracic, Vascular and Endovascular Specialists: (269) 341-7333

Bronson Outpatient Nutrition Service: (269) 341-6860

Form #8005440

Bronson Center for Learning  
As You Recover from Cardiac Surgery, 36  
Revised 11/2020

