

# Acute Coronary Syndrome

**A Guide for Patients and Their Families**



**SAMUEL AND JEAN FRANKEL CARDIOVASCULAR CENTER**  
MICHIGAN MEDICINE

## Welcome to Michigan Medicine

All of the faculty and staff at the Samuel and Jean Frankel Cardiovascular Center are committed to ensuring your care is patient and family centered. You are a valued patient and a very important member of your health care team. We understand you and your family will have questions and concerns about your diagnosis and treatment. This booklet is designed to answer many of them. However, we encourage you to ask for further information or assistance at any time.

### Understand your Heart

This teaching booklet has been designed to provide you and your family with useful information about your heart, procedures performed, your hospital stay, new medications, and changes you can make after your hospital stay.

### Your Doctor's Name is:

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Bring this booklet with you to  
all follow-up appointments.



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# Table of Contents

## Chapter 1

How Your Heart Works .....	1
----------------------------	---

## Chapter 2

Your Hospital Stay .....	13
--------------------------	----

## Chapter 3

Medications .....	20
-------------------	----

## Chapter 4

After You Leave the Hospital.....	28
-----------------------------------	----

## Chapter 5

Promoting a Healthy Lifestyle.....	46
------------------------------------	----

## Chapter 6

Reference Information .....	65
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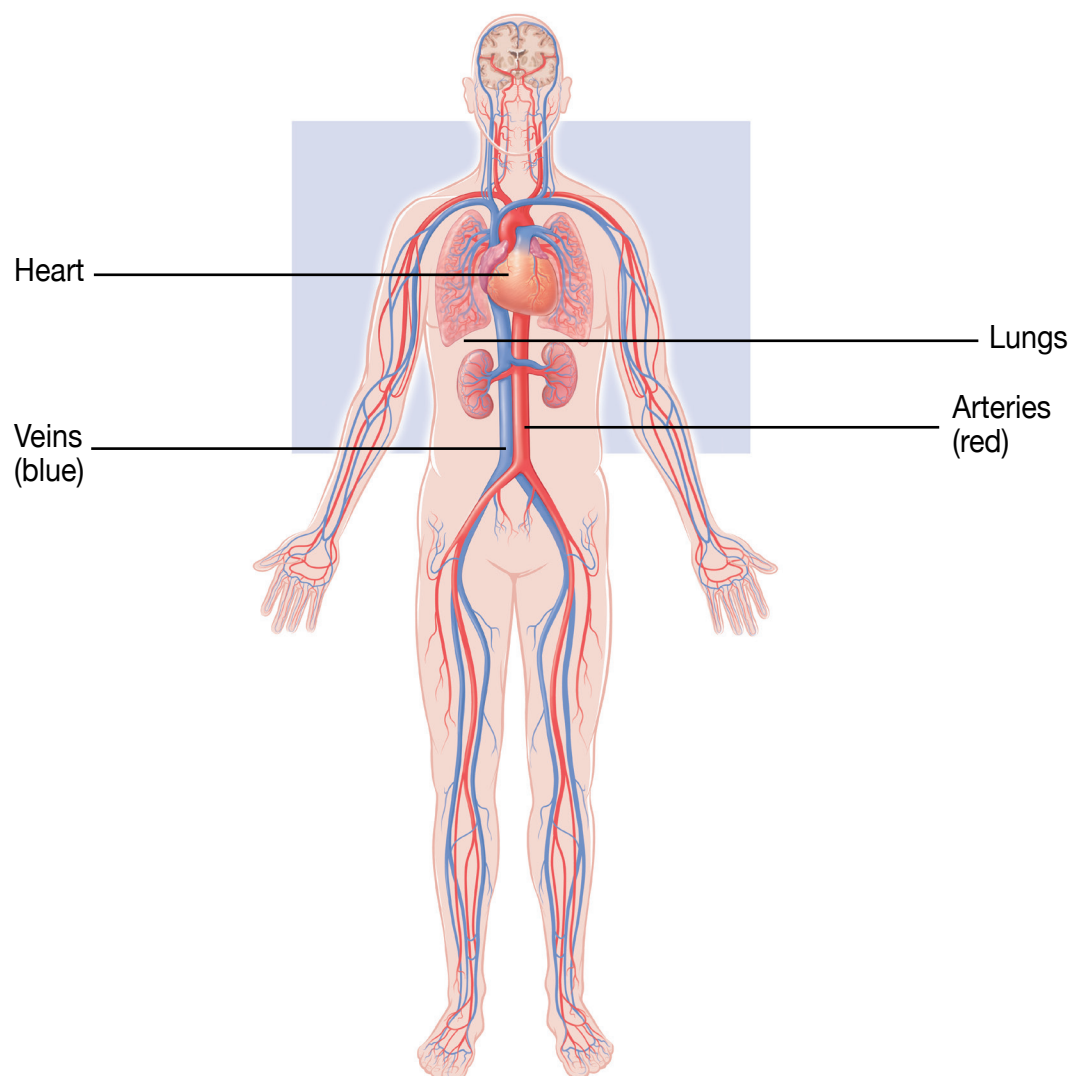
## Notes

# How Your Heart Works

**Y**our heart is a muscular pump about the size of your fist, located slightly to the left and behind your breastbone. Its function is to pump blood throughout your body. As your heart beats, the walls of the heart squeeze, sending nearly 12 pints of blood throughout your body every minute. In a normal heart, it takes less than one minute for blood to travel from your heart to your big toe and back. In that minute, your heart will beat 60 to 80 times.

The illustration below shows the body's circulation. The heart pumps oxygen-rich blood throughout the body via arteries (shown in red); veins (shown in blue) bring oxygen-poor blood back to the heart.

## Circulation Throughout Your Body





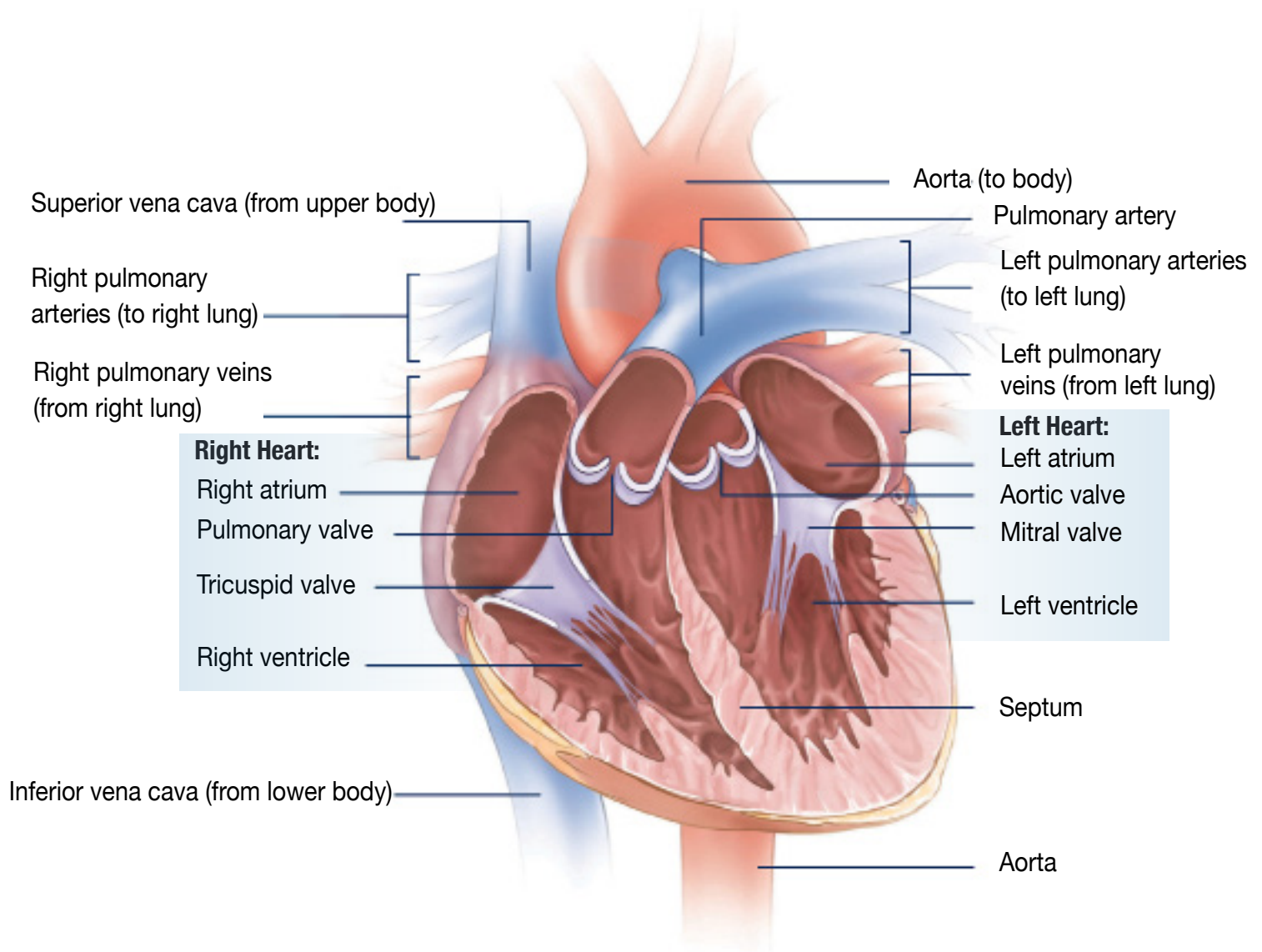
# Heart Anatomy

The heart has two sides, separated by an inner wall called the **septum**. The right side of the heart pumps blood to the lungs to pick up oxygen. The left side of the heart receives the oxygen-rich blood from the lungs and pumps it to the body.

The heart has four chambers and four valves and is connected to various blood vessels. **Veins** are blood vessels that carry blood from the body to the heart. **Arteries** are blood vessels that carry blood away from the heart to the body.

*The illustration shows a cross-section of a healthy heart with its inside structures.*

*The explanations of these structures are listed on the next page.*

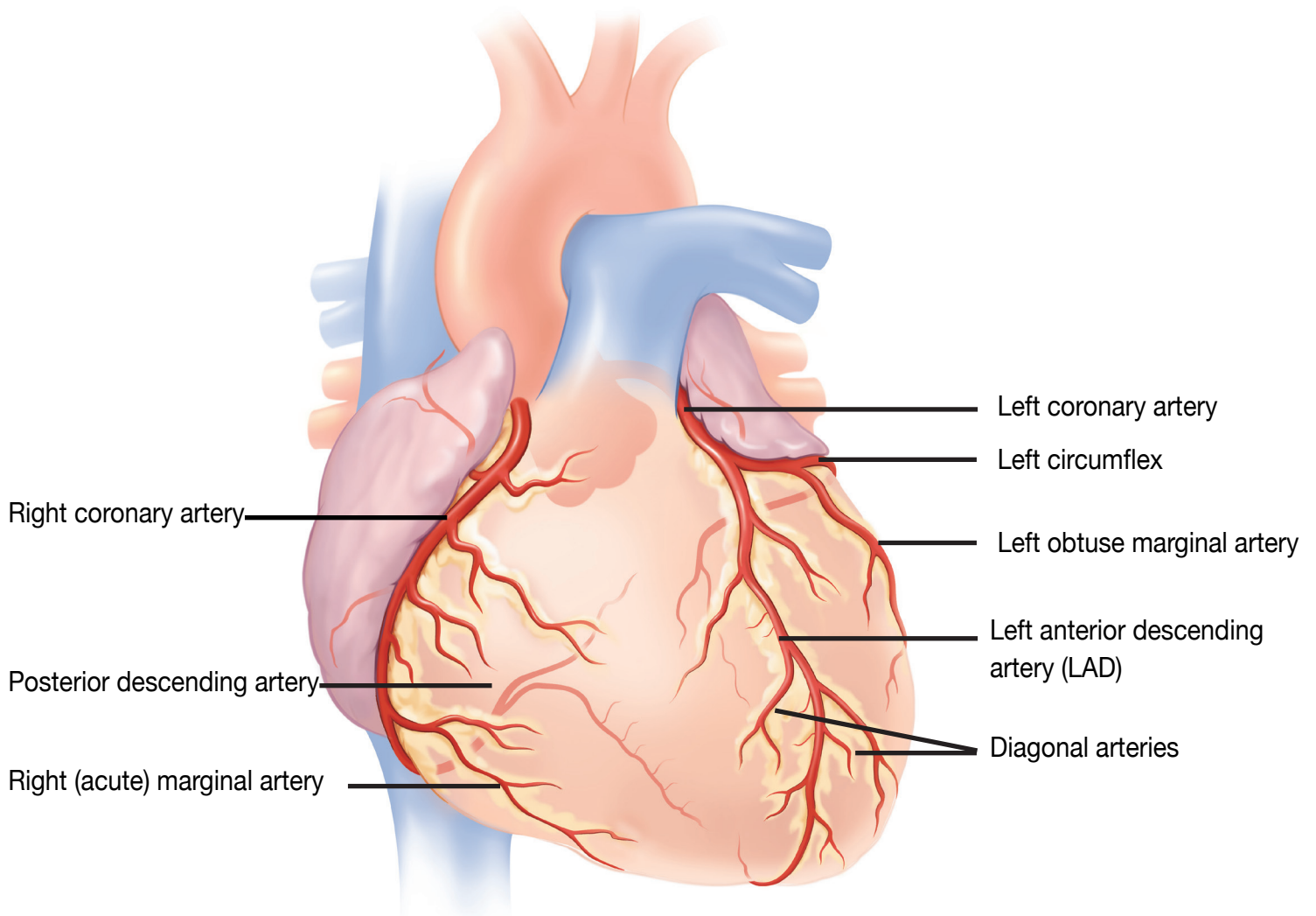


<b>Heart Chambers</b>	<p>Your heart has four chambers.</p> <p>The two upper chambers are called atria (<b>left atrium</b> and <b>right atrium</b>) and the two lower chambers are called ventricles (<b>left ventricle</b> and <b>right ventricle</b>).</p>
<b>Heart Valves</b>	<p>Four valves control the flow of blood from the atria to the ventricles and from the ventricles into the two large arteries connected to the heart. These one-way valves have either two or three tissue flaps called leaflets that act as doors that open and close to ensure that blood flows only in the proper direction.</p>
Right Side	<p>The <b>tricuspid valve</b> allows blood to move from the right atrium into the right ventricle.</p> <p>The <b>pulmonary valve</b> allows blood to move from the right ventricle to the lungs to get oxygen.</p>
Left Side	<p>The <b>mitral valve</b> allows blood to move from the left atrium into the left ventricle.</p> <p>The <b>aortic valve</b> allows blood to move out of the left ventricle into the aorta and then to the rest of the body.</p>
<b>Veins</b>	<p>The veins are major blood vessels connected to your heart.</p> <p>The <b>superior and inferior vena cavae</b> are large veins that carry oxygen-poor blood from the body back to the heart.</p> <p>The <b>pulmonary veins</b> carry oxygen-rich blood from the lungs to the left side of the heart so it can be pumped to the body.</p>
<b>Arteries</b>	<p>The arteries are major blood vessels connected to your heart.</p> <p>The <b>pulmonary artery</b> carries blood from the right side of the heart to the lungs to pick up a fresh supply of oxygen.</p> <p>The <b>aorta</b> is the main artery that carries oxygen-rich blood from your heart to the rest of your body.</p> <p>The <b>coronary arteries</b> (see illustration on next page) are the other important arteries attached to the heart. They carry oxygen-rich blood from the aorta to the heart muscle, which must have its own blood supply to function.</p>



# Coronary Arteries of The Heart

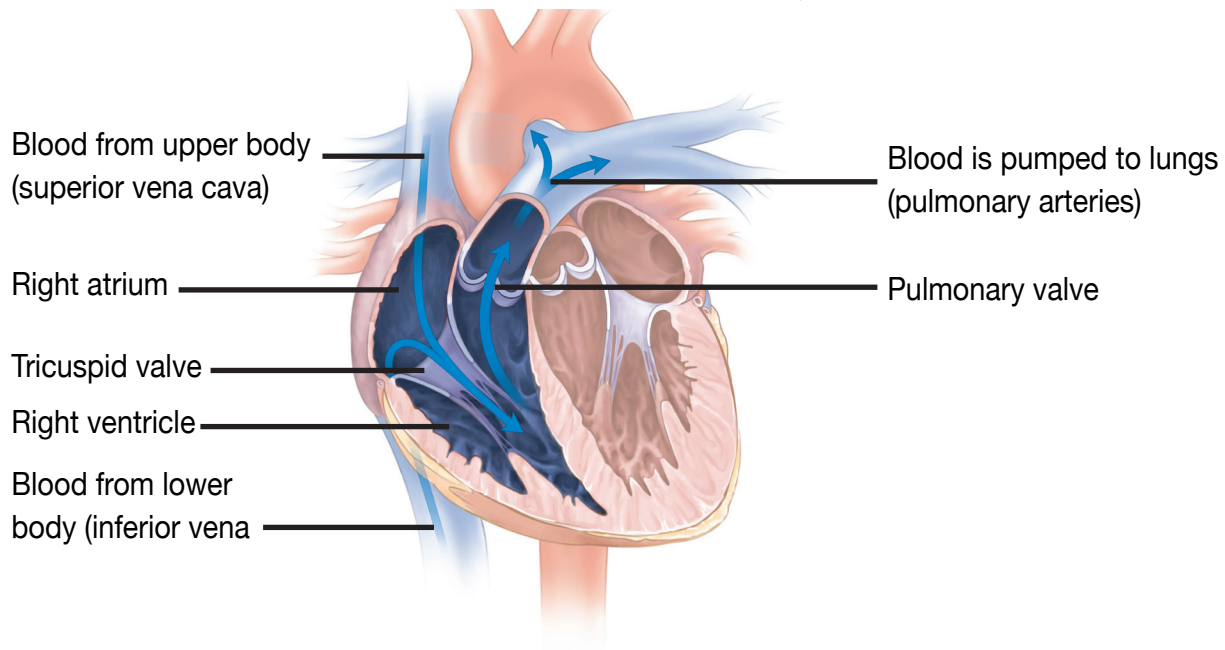
*The illustration shows the largest of the coronary arteries.*



# Heart Function

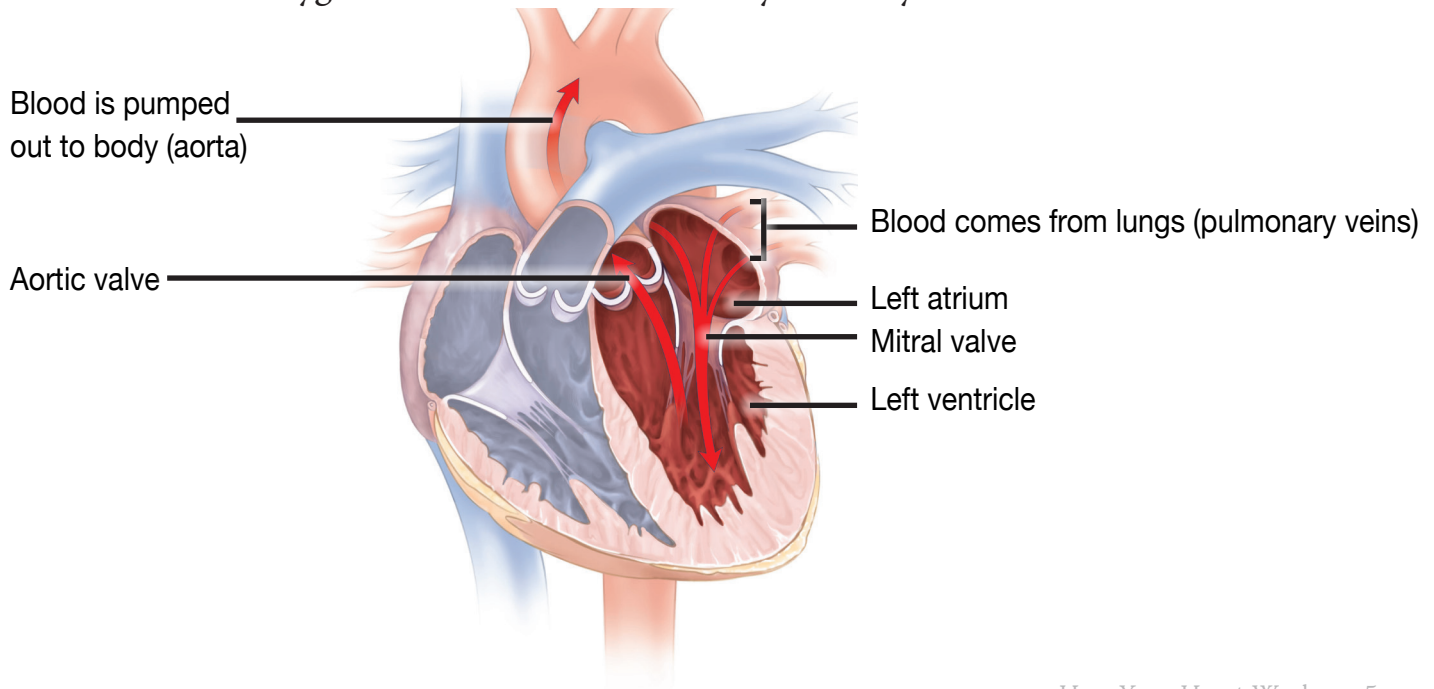
## A. The Right Side of Your Heart

The right side of your heart takes in **oxygen-poor blood (blue)** from the body and pumps it into the lungs to receive oxygen. Blue arrows in the illustration below show the path of the oxygen-poor blood through the right atrium, tricuspid valve, right ventricle, and pulmonary valve to the lungs where the blood will receive oxygen.



## B. The Left Side of Your Heart

The left side of your heart takes in **oxygen-rich blood (red)** from the lungs and pumps it out to the body. Red arrows in the illustration below show the path of the oxygen-rich blood through the left atrium, mitral valve, left ventricle, and aortic valve to the aorta. The aorta delivers this oxygen-rich blood to the rest of your body.





# Types of Heart Problems and Surgical Procedures

## Acute Coronary Syndrome: Heart Attack and Unstable Angina

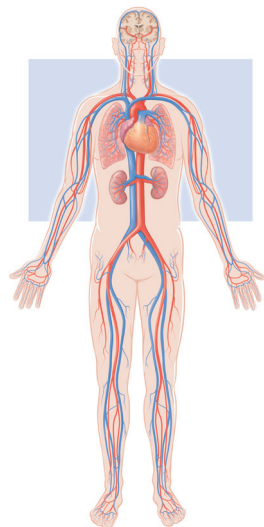
The following section provides you with information about heart attacks and unstable angina, two well-known heart problems that fall under the term acute coronary syndrome (ACS).

### What is acute coronary syndrome?

Acute coronary syndrome is a medical term used to describe a condition where the blood flow to the heart muscle is severely reduced or suddenly stopped. When blood cannot flow to the heart, the heart muscle can become damaged. Heart attack and unstable angina are both conditions of acute coronary syndrome (ACS).

### What causes acute coronary syndrome?

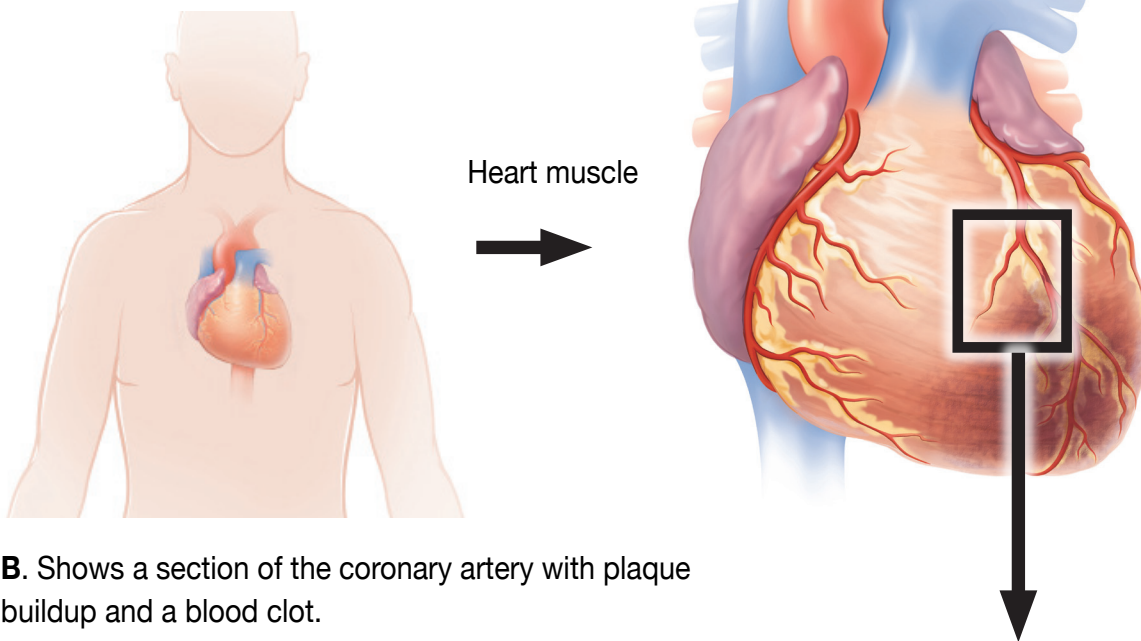
Acute coronary syndrome usually results from the buildup of fat, cholesterol, or other substances (called plaque) inside the coronary arteries. Coronary arteries are small vessels on the outside of your heart. These arteries supply blood to your heart muscle. If plaque builds up inside these arteries, they may narrow and lose their ability to deliver blood and oxygen to your heart. This condition is called **atherosclerosis**, hardening of the arteries, or coronary artery disease.



Your heart muscle  
needs blood  
to function.

## Heart Damage from a Blocked Coronary Artery

**A.** Location of the heart in the body.



**B.** Shows a section of the coronary artery with plaque buildup and a blood clot.

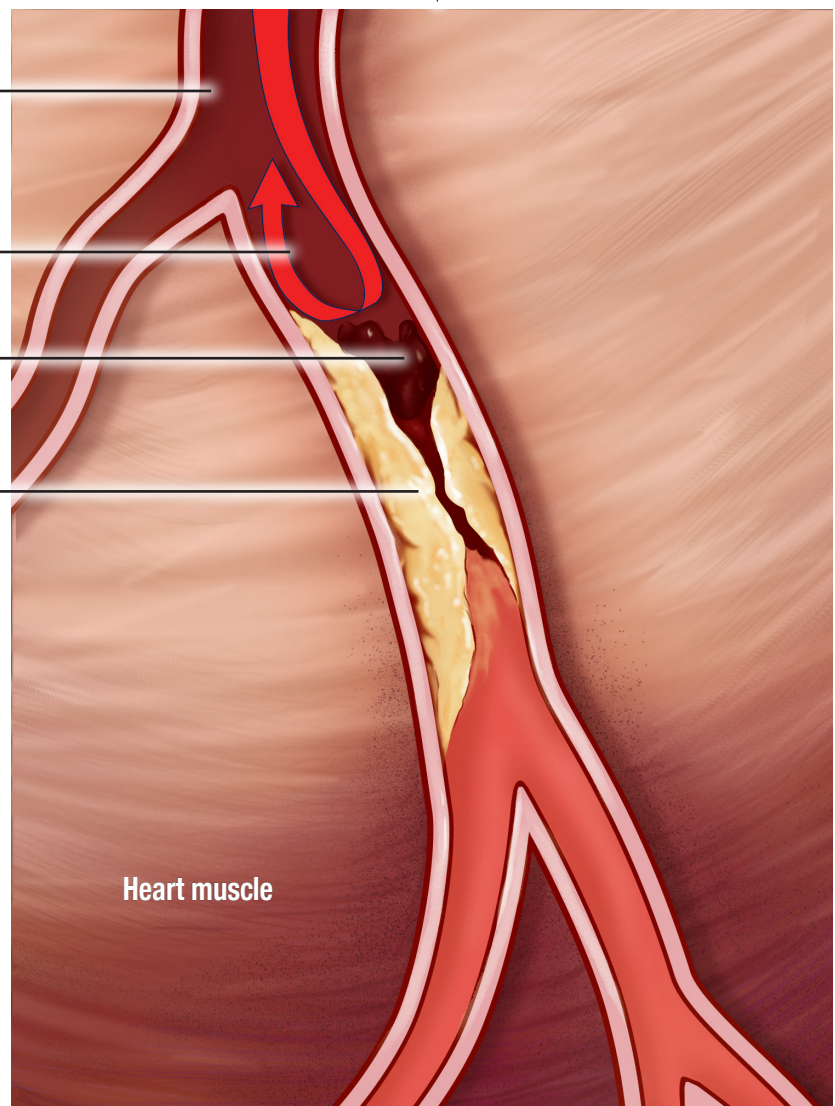
Coronary artery

Blood flow blocked

Blood clot blocks artery

Plaque buildup

*Plaque is a build-up of fat, cholesterol, and other substances.*

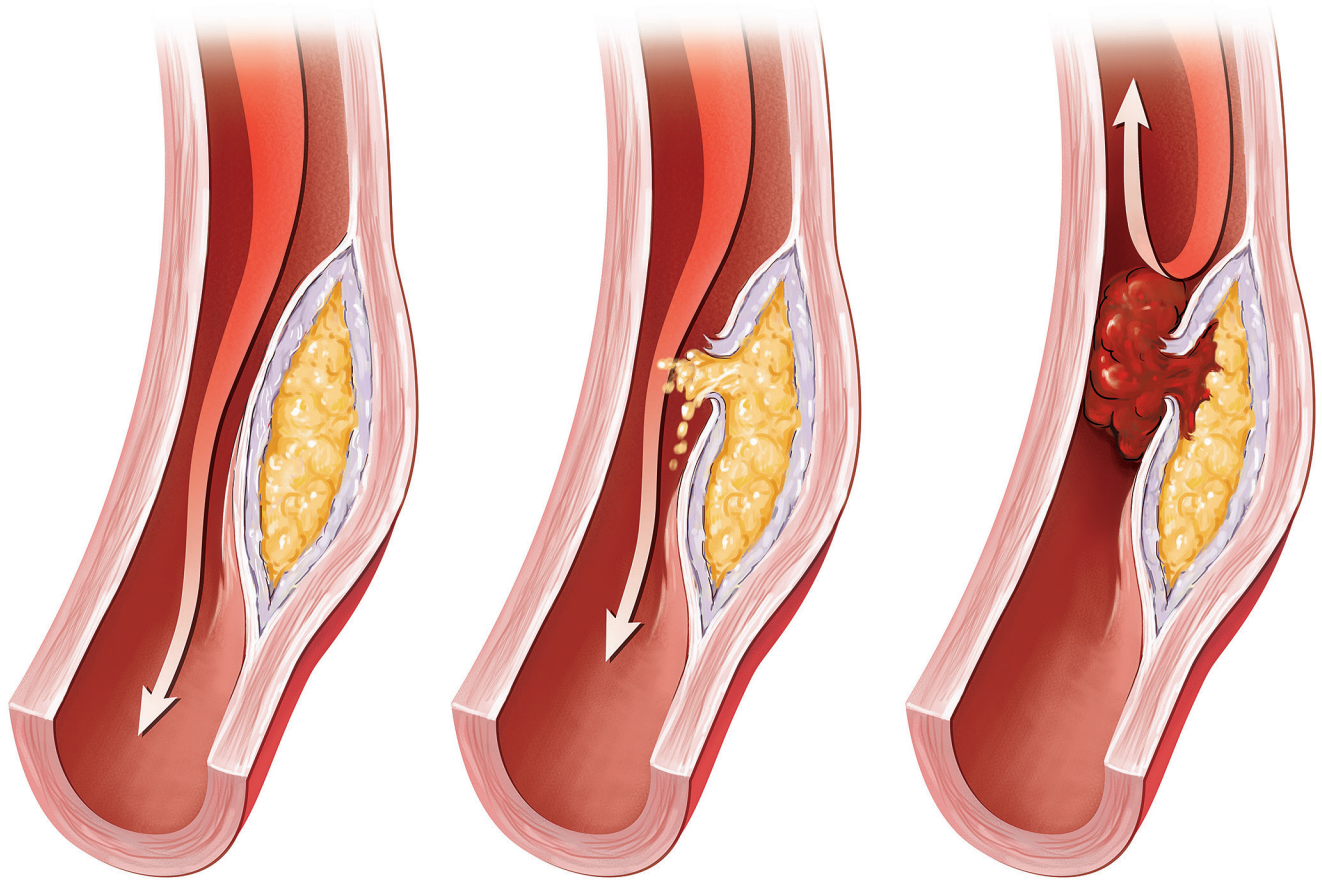


## Heart Attack or Acute Myocardial Infarction (AMI)

A heart attack occurs when the blood flow to the arteries in your heart is blocked. This happens when plaque builds up in your heart arteries and blocks blood flow. Your heart muscle needs blood to function. If your heart arteries are blocked, the heart muscle beyond the blockage doesn't get enough oxygen.

Without oxygen, your heart muscle gets damaged or could even die. This is called a **heart attack** or acute myocardial infarction.

Plaque inside your heart artery can also break or rupture. When this happens, a blood clot forms around the plaque and can also block the blood flow to your heart.



## Unstable angina

You may have had stable angina (chest pain) before. You may have known when to expect your symptoms, like while you are exercising. Stable angina usually goes away when you rest or take your angina medicine (nitroglycerine).

Unstable angina happens when blood flow to the arteries in your heart is suddenly slowed by:

- Plaque that narrows the arteries in your heart.
- Small blood clots that form in these arteries

Unstable angina symptoms are similar to those of a heart attack. The following is important information to know about the symptoms of unstable angina:

- You may experience unexpected chest pain or discomfort that usually occurs while you are resting.
- The symptoms **may not** go away when you rest or take your angina medicine (nitroglycerin).
- The symptoms may get worse or happen at times that it didn't before.
- The symptoms may mean you are having a heart attack.

## How is acute coronary syndrome diagnosed?

A doctor will ask you about your symptoms, health history and complete a physical exam. You will have several tests to find out what is causing your symptoms. The following common tests are used to tell whether you have unstable angina or have had a heart attack:

- **Electrocardiogram (EKG or ECG)**- measures the electrical signals that control the way your heart beats.
- **What will happen?** Small sticky pads or patches will be placed on your chest, arms, and legs. Wires connected to a machine will be attached to these patches. These wires connect to the EKG machine, which graphs the electrical activity of your heart. Your doctor will look for certain changes on the graph to see if your heart is not getting enough blood or if you are having a heart attack.



Blood tests often are repeated to check for changes over time.

- **Blood tests-** Commonly used blood tests include troponin tests, CK or CK-MB tests, and serum myoglobin tests.

**What will happen?** A technician will take samples of your blood. Your doctor will look for an increase in cardiac proteins in your blood. The heart releases these protein substances into your blood when it is damaged. Blood tests often are repeated to check for changes over time.

- **Cardiac catheterization (Heart Cath)-** is a procedure used to check the heart and its blood supply. This test can help your doctor:
  - See narrowed or plaque build-up in the arteries of your heart
  - Measure blood pressure within your heart
  - Evaluate how well your heart muscle is working
  - Decide whether further treatment, such as stenting, is needed

**What will happen?** To perform a cardiac catheterization, a thin flexible tube called a catheter is put into an artery in your groin (femoral artery) or wrist (radial artery). The catheter is then slowly guided through your arteries by a heart doctor who can see the progress on a computer screen. Once the catheter has reached your heart, a small amount of dye is injected. Your heart doctor is able to see the dye move through your heart. This helps show any blockages in your heart, and whether further treatment is needed.



### **How is acute coronary syndrome treated?**

The priority for treating a heart attack or unstable angina is to restore blood flow to your arteries to minimize the amount of damage to your heart muscle. The following are commonly used treatment options:

- **Coronary Angioplasty-** is a procedure used to widen heart arteries that have become partially or completely blocked. It is done by inserting a catheter-guided balloon through a small opening in your leg or arm. The balloon is guided to the blockage, where it is inflated. As the balloon inflates, it pushes the plaque against the artery wall. The balloon is then deflated and removed. This will improve blood flow to your heart. Often a stent (described in the section below) is then placed to keep the heart artery open.
- **Stent Procedure-** a stent is a small wire-mesh tube placed in an artery to keep it open after angioplasty. Some stents are coated with medication that is slowly released into the artery to help prevent scar tissue from causing a blockage in the future. These are called drug-eluting stents (DES).

The priority for treating a heart attack or unstable angina is to restore blood flow to your arteries to minimize the amount of damage to your heart muscle.

## Notes

# Your Hospital Stay



## Your Care Team

### Nursing Staff

- Nurse to Nurse bedside report is performed every shift.
  - During the report, your outgoing nurse discusses with the oncoming nurse how you are doing. They will discuss the plan for the day or any test you are scheduled for during that shift. This helps us to provide consistent care.
  - We encourage patients and families to listen and participate.
  - Questions are welcomed and encouraged.

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### Medical Staff

- Your care may be directed by a group of doctors that work together to care for you. The group will consist of a heart doctor and possibly an internist, intensivist, graduate medical trainees (fellows and residents), and medical students.
- They meet several times a day to review your changing conditions and needs.
  - Starting around 8:00 a.m., the doctors and other team members begin making “rounds” to see how you are doing. This is a good time to discuss your medical care, progress and steps toward discharge.

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### Care Management Team

- **Nurse Case Manager** (discharge planner): Our case managers help to ensure a smooth transition between your inpatient stay and home care needs. They will visit you during your stay and arrange any medical needs you may have after discharge. You and your family will be given their contact information.
- **Social Work:** If needed, a social worker will meet with you and your family to ensure that the proper support system is in place at home to assist in your recovery.

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**Patient Care Technicians (Tech)**

- The Patient Care Technician will assist your nurse with your daily care.
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**Dietician**

- A dietitian is available to answer questions about your dietary needs and preferences. Please ask your nurse if you are interested in information about specific diets.
- 

**Occupational Therapist**

- Occupational Therapists are trained in all aspects of anatomy and physiology related to functional activities of daily living.
  - Occupational Therapists assist you in achieving goals related to:
    - returning to work
    - improving your ability to perform daily activities
  - During treatment, they help you regain skills in tasks such as bathing, dressing, grooming and leisure.
  - Additional information may be provided regarding home modification, task modification and energy conservation with these activities to promote health.
- 

**Physical Therapist**

- Physical therapists are trained in all aspects of anatomy and physiology related to normal function, with an emphasis on movement.
  - They can assist you in regaining strength, coordination, balance, and control of movement.
  - After an evaluation, your physical therapist will create a rehabilitation program that is based on your specific needs, with the goal of regaining functional independence.
  - During treatment you will practice specific exercises to promote your ability to move. You will also rehearse complex movements that require more coordination and balance, such as walking or moving up or down stairs.
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**Pharmacist**

- A pharmacist reviews your medications daily while you are in the hospital. A pharmacist is available to answer questions about your medications. If you are interested in speaking with the pharmacist, please let your nurse know.

## What can I expect on the inpatient floors?

### Visitation Policy

Family members are welcome to visit anytime. Family, for purposes of visitation, is defined by you and is usually one or more individuals who play a significant role in your life. “Family” members may be related in any way—biologically, legally, or emotionally. Thus, a patient’s family member may include a person(s) who is not legally related to the individual.

We do encourage “Quiet Time” during the day from 1pm-3pm and 9pm-5am at night. This is a designated time dedicated to promote rest and healing. We may ask your family to use the lounge to visit during this time.

“Family” members are welcome to visit anytime.

### How do I regain my independence?

The staff will provide you and your family with the skills needed to prepare you for discharge. They will encourage you to do as much for yourself as you can. This independence helps you to take control of your recovery. Some people may need more of a guiding hand than others. The nursing staff will be there to assist you and reassure you as needed.



### **What type of monitoring will I need during my stay?**

When you arrive on the floor a portable heart monitor, called a telemetry unit, will be attached to your chest. This unit will transmit your heart rate and rhythm to monitors located at your bedside and at the nursing station. This portable monitor allows you to walk in the halls freely. You may not shower with the telemetry unit on. Please ask a nurse or patient care tech for assistance.

- The nurses and techs will regularly check your blood pressure, heart rate, and temperature.
- You will have your blood drawn for lab tests and chest x-rays taken if needed.
- Staff will measure how much you drink and urinate. Staff will provide a container for you to urinate into for measurement. Staff will also ask you to keep track of the amount of fluid you drink and report it to your nurse or tech.
- You will be weighed daily.
- A nurse or tech will enter your room to assess your needs on a regular basis.

### **How will I care for myself while in the hospital?**

- Wash your hands frequently or use the hand sanitizer/sanitary wipes that we provide to assist you. Hand hygiene is very important to decrease the risk of infection.
- Bathe daily with the assistance of a staff or family member. As a reminder, you may not shower with your telemetry unit on.
- Continue to wear your compression stockings (sometimes referred to as TED hose); these will help with swollen and achy legs. They should be removed at night and when you bathe.

Your procedure site will be observed and cared for each day. It will be kept clean and dry.

## What can I expect on the day of discharge?



### Setting Expectations

- Ask a family member or friend to be present for your discharge teaching and to review final discharge instructions with you and your nurse.
- Your nurse case manager will be in contact with you to explain your final discharge plans.
- Your nurse will review all discharge instructions with you. During this time, ask any questions you may have about your care after discharge.
- Be sure you understand:
  - ☐ Your medications and prescriptions
  - ☐ Procedure Site Care
  - ☐ Activity/Restrictions
  - ☐ Diet
  - ☐ Reasons to call your doctor
  - ☐ Follow up appointment information

**Discharge Tips:**

Please make sure all items that you brought with you to the hospital are taken home.

Some examples may be:

- ☐ Glasses, dentures and hearing aids.
- ☐ CPAP machine
- ☐ Walker or cane
- ☐ All technology devices and chargers
- ☐ All medication

**Recommended Home Essentials:**

- ☐ Blood Pressure Cuff
  - ☐ Working Thermometer
  - ☐ Scale
- 
- At home, you will need to monitor your blood pressure, heart rate, temperature, and weight until your follow up visit. Please make sure that you have the proper equipment to do so prior to discharge.
  - If you have a long drive home, it is important to get up and stretch your legs at least once per hour. This helps to prevent blood clots.

## Notes

# Medications



Your prescriptions can be filled by your home pharmacy or by the Michigan Medicine Taubman Center outpatient pharmacy.

## **What do I need to know about medications after my heart attack?**

When you are discharged, your nurse will provide you a medication list and prescriptions for your medications. It is very important to learn about all your medications: why you are taking them, potential side effects, the dose, and when you should take them. The list given to you will include:

- The name of the medication
- The times you should take it

Some medications will be taken for about 1 year and others will be needed life-long. When you go home, take only the medications your doctor has prescribed for you.

Bring your medication list with you to your return visit with your heart doctor. Your heart doctor will review your medicines and may make updates.

## **Where can I get my prescriptions filled?**

Your prescriptions can be filled by your home pharmacy or by the Michigan Medicine outpatient pharmacy located on the first floor of the Taubman Center. Discuss with your nurse where you will be filling your prescriptions. If you wish to fill them at the hospital, be sure to remind staff to send your prescriptions to the pharmacy the day you go home. A family member or friend must go down to pick them up for you.

☐ I have a reliable pharmacy.

Name:

Location:

☐ My Care Team knows where to send my prescription.



## What do I need to know about each type of medication?

Medicine	Why do I need this medicine?	How does this medicine work?	How do I take this medicine?	What are the side effects?
<b>Antiplatelet medicines</b>				
<ul style="list-style-type: none"> <li>• Aspirin</li> </ul>	Aspirin lowers your chance of death, stroke, and another heart attack.	Aspirin helps stop blood clots in the vessels of your heart. It lowers the ability of the platelets to stick together.	Aspirin 81 mg tablet or a “baby aspirin” is taken once daily. Do not stop taking this medicine unless your doctor tells you to do so.	<p>This medicine may raise your chance of bleeding.</p> <p>If aspirin upsets your stomach, take with food.</p>
<ul style="list-style-type: none"> <li>• Clopidogrel (Plavix®)</li> <li>• Prasugrel (Effient®)</li> <li>• Ticagrelor (Brilinta®)</li> </ul>	These medicines lower your chance of death, stroke, and another heart attack.	Like aspirin, these medicines stop platelets from sticking together and helps prevent blood clots. However, these medicines work differently than aspirin.	Do not stop taking this medicine unless your doctor tells you to do so.	This medicine may raise your chance of bleeding. Tell your doctor if you have any planned surgeries or dental work.
<b>Cholesterol lowering medicines or “statins”</b>				
<ul style="list-style-type: none"> <li>• Atorvastatin (Lipitor®)</li> <li>• Rosuvastatin (Crestor®)</li> <li>• Pravastatin (Pravachol®)</li> <li>• Simvastatin (Zocor®)</li> </ul>	These medicines lower your chance of death and another heart attack.	This medicine lowers the amount of cholesterol in your blood. Cholesterol can build up in blood vessels and cause heart attacks. A statin medicine stops this from happening. It also reduces inflammation in your blood vessels.	This medicine works best when you take it at night.	Muscle pain may happen with this medicine. If this happens, talk to your doctor.

Medicine	Why do I need this medicine?	How does this medicine work?	How do I take this medicine?	What are the side effects?
<b>Beta blockers</b>				
<ul style="list-style-type: none"> <li>• <b>Atenolol (Tenormin®)</b></li> <li>• <b>Carvedilol (Coreg®)</b></li> <li>• <b>Metoprolol (Lopressor® or Toprol XL®)</b></li> <li>• <b>Labetolol (Trandate®)</b></li> </ul>	These medicines lower your chance of death, another heart attack, and reduces chest pain.	Beta-blockers slow your heart rate and decrease how hard your heart has to work. By slowing your heart, beta-blockers also help blood flow to the vessels of your heart muscle.	Take these medicines as prescribed by your doctor.	<p>These medicines may lower your heart rate and blood pressure. If you feel lightheaded or dizzy, tell your doctor.</p> <p>You may feel tired and weak when you start taking this medicine. This will stop if you continue to take this medicine.</p>
<b>ACE inhibitors</b>				
<ul style="list-style-type: none"> <li>• <b>Lisinopril (Prinivil®, Zestril®)</b></li> <li>• <b>Enalapril (Vasotec®)</b></li> <li>• <b>Ramipril (Altace®)</b></li> </ul>	These medicines lower your chance of death, another heart attack, and heart failure after a heart attack.	These medicines lower blood pressure by making your blood vessels wider. This helps blood flow away from your heart easier.	<p>Take these medicines as prescribed by your doctor.</p> <p>When you get up for a sitting or lying position, please do so slowly to prevent lightheadedness or dizziness.</p>	<p>A side effect of these medicines is dry cough. If this happens, you can talk to your doctor about switching to another medicine called an ARB (for example, losartan [Cozaar®] or valsartan [Diovan®]).</p> <p>Low blood pressure may happen with these medicines. If you feel lightheaded or dizzy, talk to your doctor.</p>

Medicine	Why do I need this medicine?	How does this medicine work?	How do I take this medicine?	What are the side effects?
<b>Aldosterone antagonist</b>				
<ul style="list-style-type: none"> <li>• <b>Spironolactone (Aldactone®)</b></li> <li>• <b>Eplerenone (Inspra®)</b></li> </ul>	In certain patients, these medicines lower your chance of death.	These medicines are a weak diuretic, but it has other benefits for your heart, as well.	<p>Take these medicines as prescribed by your doctor.</p> <p>It is best to take these medicines in the morning.</p>	<p>These medicines may increase potassium levels. Your doctor will monitor this with blood tests.</p> <p>Spironolactone may cause breast tenderness. If this happens, let your doctor know.</p>
<b>Diuretics or “water pills”</b>				
<ul style="list-style-type: none"> <li>• <b>Furosemide (Lasix®)</b></li> <li>• <b>Bumetanide (Bumex®)</b></li> <li>• <b>Torsemide (Demadex®)</b></li> </ul>	These medicines help you feel better by decreasing fluid build-up.	These medicines help your body get rid of extra fluid by making you urinate.	<p>It is best to take these medicines in the morning. Do not take your diuretic before going to bed.</p> <p>If you take a diuretic twice daily, take your first dose early in the morning and take the second dose around 6 to 8 hours later. This helps prevent your need to get up at night to urinate.</p>	<p>These medicines may cause low potassium. You may need to take a potassium pill with your diuretic. Your doctor will let you know if you need to.</p> <p>Low blood pressure may happen with these medicines. If you start to feel dizzy or lightheaded, call your doctor.</p>

## What are some Do's and Don'ts when it comes to your medications?

### DO:

- ☐ Learn both the generic and brand names of all your medicines.
- ☐ Keep a list of all your prescription and over-the-counter medicines, dosages, and purposes.
- ☐ Keep this list up to date and carry with you at all times.
- ☐ Take this list to all of your appointments and show it to your healthcare providers.
- ☐ Take your medicines exactly as directed. Using them the wrong way can make you feel worse instead of better.
- ☐ Take only what is prescribed for you.
- ☐ Refill your prescriptions on time. If your prescription is running low, call your doctor for a refill at least 1 week before you run out of the medicines.
- ☐ Call your healthcare provider or pharmacist right away if you have any problems.
- ☐ Read and save written information that comes with your prescriptions and over-the-counter medicines. This written information will tell you what kind of side effects may occur.

### DON'T:

- ☐ Don't stop taking your prescribed medicine, even if you are feeling better.
- ☐ Don't stop, skip, or take an extra dose of your medicines without checking with your doctor.
- ☐ Don't drink alcohol while taking a medicine unless your doctor says it's okay.
- ☐ Don't be afraid to contact your healthcare provider or pharmacist if you have any questions!

Don't stop taking your  
prescribed medicine,  
even if you are  
feeling better

# Nitroglycerin

**N**itroglycerin widens the blood vessels to your heart. This increases blood flow and helps relieve chest pain. There are many different types of nitroglycerin. Long-acting nitroglycerin can prevent chronic chest pain and is usually taken every day. Fast-acting nitroglycerin helps stop sudden-onset chest pain and should only be used when needed.

Below are the different types of nitroglycerin:

- Fast-acting:
  - > Sublingual tablet (Nitrostat®)
  - > Sublingual spray (NitroMist®, Nitrolingual®)
- Long-acting:
  - > Patch (Nitro-Dur®, Minitran®)
  - > Tablets (isosorbide mononitrate - Imdur®, isosorbide dinitrate - Isordil®)
  - > Ointment (Nitro-Bid®)

The fast-acting nitroglycerin should be used if you have a sudden-onset of chest pain. One dose is 1 tablet or 1 spray. **It is important to always read the instructions included with your medication when you pick it up from the pharmacy.** As a reminder, follow the steps on the next page when you take your fast-acting nitroglycerin.

## Reminders:

- Carry nitroglycerin with you at all times. Keep it at room temperature (do not keep in your pocket). Keep it in the container it came in. Always keep the container tightly closed.
- Make sure to check the expiration date. Do not use if the medication has expired. Call your doctor for a refill if the nitroglycerin has expired.
- Talk to your doctor if you use medications for erectile dysfunction or pulmonary hypertension when you are prescribed nitroglycerin.

## Side effects:

- Headaches
- Low blood pressure – always sit down prior to taking short-acting nitroglycerin



## How do I take my fast-acting Nitroglycerin sublingual spray or tablet?

1. Sit down before you take your nitroglycerin.

2. **Spray:**

Spray once under your tongue or onto your tongue. Close your mouth after spray.

- > Do not inhale spray.
- > Do not rinse your mouth or drink/eat/spit for at least 5-10 minutes after taking.

**Tablet:**

- Place the tablet under your tongue and let it dissolve completely.
- Do not swallow the tablet.

3. Wait 5 minutes then:

- > If your chest pain is relieved, contact your doctor. You do not need to call 911.
- > If your chest pain lasts longer than 5 minutes or gets worse, Call 911.

4. If you call 911, take a second spray or tablet of nitroglycerin.

5. Wait another 5 minutes.

6. If the chest pain still doesn't go away, take a third spray. You can take up to 3 sprays or 3 tablets in 15 minutes.

Medication List

It is important to have a list of all your medications (including any over-the-counter medications or supplements). It may be helpful to photograph the list with your phone, so you can easily access it. It is important to update this list if any changes are made. Bring this list to all medical appointments.

Medication Name	How do you take this medication?	When do I take this medication?				This medication is for...
		Morning ____AM	Afternoon ____PM	Evening ____PM	Bedtime ____PM	
Example: Clopidogrel (Plavix®)	75 mg (1 tablet) once daily	X				Prevents blood clots

# After You Leave the Hospital



## What Is My Follow Up Care After A Heart Attack?

After you leave the hospital, you will have a follow up appointment scheduled with a Heart Doctor or a Nurse Practitioner at a Michigan Medicine Clinic. It is very important you keep this appointment.

### What happens at my follow up appointment?

You can expect to spend at least 1-hour at your follow-up appointment. During your visit your health care provider will do the following:

- Perform a physical exam
- Review the blood pressure readings you recorded on your log sheet (on the following pages)
- Review and adjust your medications (if necessary)
- Explain your health status
- Listen to your concerns
- Provide education and counseling

### How can I keep track of my appointments?

A log can help you keep track of the dates and times you need to see your doctor or other health care providers. Use the log included in this booklet to help you keep track of your upcoming appointments.

You can use the log below to keep track of your upcoming appointments.

Date	Time	Location	Provider Name
1/1/2018	9:00am	Domino's Farms	Dr. Smith

## How will I monitor myself at home?

You play an active role in monitoring your health at home. It's important to track your condition carefully after you leave the hospital. Be sure to write down the results of your blood pressure self-checks on the log sheet so you can share the results with your health care team.

You will need to perform and record the following self-checks daily:

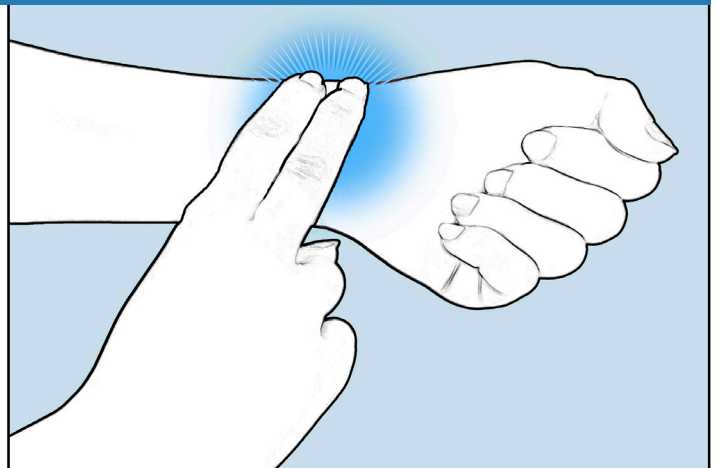
- Check your blood pressure in the morning 2 hours after you have taken your morning medication.
- Check your pulse (heart rate) in the morning 2 hours after you have taken your morning medications.

### Checking your pulse

You can measure your pulse on either your wrist or your neck. Follow these steps below to count your pulse:

1. Place your index and middle finger on the palm side of your wrist just below the base of your thumb, or, place your index and second fingers on your neck midway between your Adam's apple and your ear lobe, just below your jawbone on either side of your windpipe.
2. Press **lightly** with your fingers until you feel the blood pulsing beneath your fingers. You may need to move your fingers around slightly up or down until you feel the pulsing.
3. Use a watch with a second hand, or look at a clock with a second hand.
4. Count the beats you feel for 30 seconds. Multiply this number by 2 to get your pulse (heart beats per minute).

Count your pulse:  beats in 30 seconds x 2 =  beats/minute



# What Steps Should I Take When Checking My Blood Pressure (BP) at Home?

## Before

**2  
Hours**

2 hours before your BP is taken:



No Alcohol



No Eating

**30  
Min**

30 minutes before your BP is taken:



No Tobacco



No Caffeine



No Exercise

**5  
Min**

5 minutes before your BP is taken:



Have log sheet ready to record BP



Sit still and relax in a chair with a back and don't talk for 5 minutes

## During (When taking your BP)

- Use correct cuff size for your arm
- Put cuff on bare upper arm
- Sit in a chair with your back straight and feet flat on the floor
- Support arm at heart level on a flat surface
- Do not talk while taking your BP



## After (After checking your BP)

- Wait 1 minute and measure a 2nd time
- If your blood pressure is high you may repeat the reading a 3rd time and record the lowest of the two readings
- Record measurements in your BP log





# Daily Blood Pressure Log

Record your blood pressure and pulse on this sheet and show it to your doctor at every visit.  
Fill out the log below:

Name: \_\_\_\_\_ Goal Blood Pressure \_\_\_\_\_

Date	Time (AM)	Pulse	Blood Pressure	Time (PM)	Pulse	Blood Pressure	Comments
Example: 1/1/19	9:00am	72	129/81	5:00p	88	135/83	Felt stressed out today

## When Do I Need to Seek Medical Help and Who Do I Call?

### What symptoms are considered an emergency?

Call 911 immediately if you have any of the following signs and symptoms. They need to be treated right away.

### Signs and symptoms of heart attack:

- Pain, discomfort, squeezing, fullness, or pressure in your chest
- Pain in 1 or both arms, back, shoulders, neck, or jaw
- Shortness of breath or trouble breathing
- Feeling light-headed, dizzy, or breaking out in a cold sweat
- Stomach pain, bloating, or diarrhea
- Extreme fatigue
- Racing heart even when resting
- Fainting or passing out

Remember, some heart attacks are sudden while others occur more slowly. Even if symptoms go away and return, **you must call 911 now.**

### Signs and symptoms of stroke:

- Sudden confusion or trouble speaking or understanding others
- Sudden trouble seeing in 1 or both eyes
- Sudden numbness or weakness of the face, arm, or leg, usually on 1 side of the body.
- Sudden trouble walking, dizziness, or loss of balance or coordination
- Sudden or severe headache with no known cause

**Signs and symptoms of changes at your procedure site:**

- Sudden or large amount of bleeding or swelling
  - > Apply firm pressure to the site, lie down, and call 911
- Significant numbness or tingling in your hand or leg
- Hand or leg becomes cold
- Tightness, significant swelling, or a lump at your procedure site.
- Unusual pain in your groin, leg or arm

Do not try to drive yourself to the hospital. An ambulance will arrive as quickly as possible.

**What symptoms are considered urgent?**

The following signs and symptoms need to be treated before they become an emergency. Call your doctor if you have any of the signs or symptoms listed below:

- Temperature above 100.5°F taken under the tongue
- Bleeding, increased bruising, redness, swelling, increased pain, yellow or green drainage, or foul smelling drainage near your procedure site
- Increased swelling in your legs or ankles
- Weight gain of more than 5 pounds in 3 days or weight loss of more than 7 pounds before your follow up clinic visit
- Trouble urinating
- Nausea, vomiting, or diarrhea
- Stomach pain or bloating
- Chills or excessive sweating
- A vague feeling that something is wrong

**What is the number to call?**

Monday through Friday from 8am to 5pm: **Call (888) 287-1082** and ask to speak to a cardiology nurse if you have any of the signs or symptoms listed above.

After 5pm or on weekends or holidays: **Call (734) 936-6267** and ask to speak with the cardiology resident on call.

# Instructions for Care after a Heart Procedure

If you had a heart procedure performed during your hospital stay, the information below will help you care for yourself when you go home.

## What can I expect after my heart procedure?

Your procedure was performed in the femoral artery in your groin (the area at the top of your thigh) or the radial artery in your arm. It is normal to experience the following at your procedure site:

- Tenderness or discomfort
- Bruising (may take 2-3 weeks to go away)
- A small lump or knot (about the size of a quarter) that should go away after 7 to 10 days.
- A small amount of bleeding from the site for 48 hours after the procedure

## How do I care for my procedure site?

- Wash your procedure site daily with soap and water.
- Remove the bandage over the site after 24 hours, unless there is drainage.
- Keep the area clean and dry when you are not showering.
- **Do not** use creams, lotions, powders, or ointment on the site until it heals.
- **Do not** soak in a bath, hot tub, or swim in a pool or lake for one week after your procedure. If your wrist was used for the procedure, **do not** wash dishes by hand for the first 7 days.

## What are my activity instructions after my procedure?

- Avoid strenuous activities for the first 4 days. This includes most sports - jogging, golfing, playing tennis, and bowling.
- Support your procedure site with your hand when coughing or sneezing.
- If the doctor put the catheter in your arm:
  - > **Do not** lift, push, or pull more than 3 pounds for the next 7 days and then 10 pounds for the next 5 weeks.
- If the doctor put the catheter in your groin:
  - > **Do not** lift, push or pull more than 10 pounds for the next 6 weeks.

## When can I resume my normal activities after I go home?

Before you leave the hospital, your health care team will discuss with you when you can resume different types of exercise or activity. Your ability to return to normal physical activity will be based on the amount of damage to your heart, complications from your hospital stay, and procedures or treatments you received. Once you return to the clinic, your health care team can provide more detailed advice about a recommended plan to increase your activity level.

Some people will be able to do more after a heart attack. Others may have to start more slowly. Increase your activity level gradually by following the instructions below.

### Walking

- Start by walking up to 10 minutes twice a day. Increase the amount you walk each day by one or two minutes until you are able to do 20 minutes per walk.
- Only move to the next stage when you meet your walking target without discomfort.
- Once you can walk 20 minutes, walk once a day for 20-30 minutes. Increase the length of time you walk by a few minutes every day.
- If walking causes chest pain, shortness of breath, or any of the symptoms you had before or during your heart attack, **stop** right away.
- **Do not** walk outside if it is very cold or very hot. Go to a shopping mall and do your walking inside.

### Return to Work

Returning to work is a very important part of your overall recovery. Most patients go back to work 2 weeks to 3 months after they go home from the hospital. Your return to work depends on how fast you recover and the type of work you do. If you have a physically demanding job, you may need to build up your strength first. Do not return to work until you have seen your provider at the first follow up clinic visit.

## Household Activities

Until your first follow-up appointment limit household chores to only light activities, such as meal preparation, dusting, or washing dishes. **Do not** do any work outside if it is very cold or very hot. **Do not** lift, push, or pull anything heavier than 10 pounds for the first 6 weeks after you go home. If you had a heart procedure performed through the radial artery in your wrist, **do not** lift, push, or pull more than 3 pounds for the next 7 days and then 10 pounds for the next 5 weeks.

## Climbing Stairs

You can climb stairs as soon as you go home, unless you have been told differently in the hospital. Limit the number of trips you take up and down the stairs until your first clinic appointment.

## Traveling

**By car (passenger):** You can start this immediately. Avoid sitting for more than 2 hours at a time. Stop often and walk for a few minutes.

**By air:** You can usually start this right away, but ask your health care team if you have any restrictions before leaving the hospital. Remember, air travel often involves a lot of lifting, standing, and walking. These may limit your ability to travel by air.

## Driving

You may be able to resume driving soon after you have been discharged home. Your doctor will discuss with you when you can drive again.

## Sexual Activity and Intimacy

After a heart attack, you are usually able to resume sexual activity after 1-3 weeks. The exertion needed to perform sexual intercourse is similar to climbing stairs or walking around the block at a brisk pace. If these activities are not difficult for you, you may resume sexual activities whenever you feel ready. It is normal for both partners to be worried about resuming sexual activity after a heart attack. Many people worry sexual intercourse may cause discomfort and/or strain on the heart. Your best indicator is how you feel both physically and emotionally.



### **Some general guidelines for resuming sexual activity include:**

- Choose a time when you are well rested and not stressed.
- Wait 1 to 3 hours after a meal so that digestion can take place.
- If you are not ready for sex, there are other intimate activities that you can do such as kissing, holding hands, or massage to express your feelings for your partner.
- Talk to your provider if you have any concerns.

## **How can I save energy while performing daily activities?**

It is important to make the most of the energy you have after a heart attack. **Energy conservation** is one method you can use. Energy conservation involves changing the way you perform everyday activities so you do not become tired or weak.

### **The Key Principles of Energy Conservation:**

#### **Prioritizing:**

- When you have several things to accomplish, make a list and decide what is most important.
- Use your energy to perform the most important task first. Then perform the rest of your list, as your energy allows.

#### **Planning:**

- Plan to get a good night's sleep.
- Develop a complete mental plan before performing an activity.
- Determine how long activities will take and what supplies you need to complete them.

#### **Pacing:**

- Rest before you feel over-tired.
- Practice abdominal breathing during rest breaks.
- Inhale through your nose while expanding your belly and exhale through your mouth while relaxing your belly (“Smell the roses, blow out the candles”)

#### **Positioning:**

- Store items between your eye and hip level.
- Store items where you use them most.
  - > For example: Place reading material within reach of your chair.

Energy conservation involves changing the way you perform everyday activities so you do not become tired or weak.

### **How can I apply energy conservation into my daily routine?**

#### **Scheduling activities**

- Simplify your tasks and set realistic goals.
- Do not schedule too many activities in one day.
- Do not plan activities for immediately after a meal.
- Do the activities that take more energy when you are feeling your best.
- Rest before and after activities.

#### **Showering**

- Use a shower chair or tub bench.
- Use lukewarm water, since hot water and steam may make you short of breath and drowsy.
- Keep the shower door open slightly to help eliminate steam.
- Use prescribed oxygen, if you find showering to be too tiring.
- Wear a terry cloth robe to dry your body.
- Sit while shaving, brushing your teeth, etc.

#### **Getting dressed**

- Wear clothes that have zippers and buttons in the front so you do not have to reach behind yourself.
- Dress your lower body first as this uses more energy.
- Bring your feet up to you, rather than bending down.

#### **Moving Items**

- Push or slide items rather than lifting.
- Use a cart or wagon to avoid making multiple trips.

#### **Other tips**

- Ask for help.
- Use assistive devices and tools such as walkers, handheld shower heads, or long handled tools for dressing.

# Cardiac Rehabilitation

## What is Cardiac Rehabilitation?

Cardiac Rehabilitation is a program designed to teach you how to be more active and make lifestyle changes that can lead to a stronger heart and better health. Your cardiac rehabilitation program will be tailored to your needs and based on the amount of damage to your heart and health status. We use a patient and family centered approach to empower patients towards better health.

## What happens in Cardiac Rehabilitation?

In Cardiac Rehabilitation you will learn how to:

- Exercise safely under the supervision of a certified exercise physiologist.
- Eat a heart-healthy diet under the supervision of a registered dietitian.
- Reduce your risk factors.
- Reduce stress and depression.

## What are the benefits of Cardiac Rehabilitation?

The benefits of a Cardiac Rehabilitation program include:

- Improvement in risk factors.
- Improvement in symptoms.
- Lower risk for a heart attack or dying from heart disease.
- Better overall health and a better quality of life.
- Improvement in energy level and ability to return to usual activities.
- Improvement in taking medications correctly and safely.
- Prevention of future hospital stays.
- Feeling more hopeful and less depressed, stressed, or worried.

**The 1-year death rate was reduced by nearly 60% in patients who participated in Cardiac Rehabilitation vs. patients who did not.**

Research studies have found that people who completed a cardiac rehabilitation program after having a heart attack had lower death rates compared to those who did not. This improvement was seen even 5 years after participation.

### **How can I enroll in Cardiac Rehabilitation?**

Your doctor will order this for you while you are still in the hospital.

### **How will a heart attack effect my emotional health?**



Recovering from a heart attack also involves your emotional healing. The recovery process uses both emotional and physical energy. While everyone's reaction to a heart attack differs, you may feel:

- Sad
- Angry
- Frustrated
- Guilty
- Fearful
- Worried
- Irritable
- Uncertain
- Disappointed
- Surprised
- Weepy
- Lonely
- Grateful
- Contemplative
- Relieved
- Enlightened
- Motivated

Approximately 20-30% of people experience symptoms of depression after a heart attack.

While having a range of emotions is normal, sometimes having a heart attack can lead to depression. Approximately 2-3 out of 10 people who had a heart attack experience depression. Depression can impact your ability to recover and may put you at risk for future health concerns.

**Symptoms of depression may include:**

- Feeling sad, depressed, angry, anxious, or overwhelmed
- Not feeling up to doing things you used to enjoy
- Eating too much or too little
- Not sleeping well, sleeping too much, or being unable to fall asleep
- Crying frequently or easily
- Being unable to focus or concentrate
- Having inconsistent or unpredictable moods
- Feeling agitated or irritable
- Feeling restless or nervous
- Thinking about death or not wanting to live
- Having little or no energy
- Being forgetful
- Being uninterested in sex or intimacy

It is okay to  
ask for help.

Call  
734-232-1559

If you experience any of these symptoms for **longer than two weeks**, contact your heart doctor or primary care doctor for help and support.

Please remember that it is okay to ask for help. You have been through a lot. Your primary care doctor or heart doctor can:

- Evaluate your emotional recovery
- Determine if further support is needed
- Connect you to extra support services so you can feel your best

Social workers can also help you cope with your emotions. We have social workers in both the inpatient and outpatient settings at Michigan Medicine. You can contact the Frankel Cardiovascular Center social worker at **734-232-1559**.

Remember, you are never alone. If you find yourself thinking about not wanting to live anymore, contact the National Suicide Prevention Lifeline. This service is available 24 hours a day, 7 days a week and provides free and confidential support. Their phone number is **800-273-8255**. Chat options are also available through their website <https://suicideprevention-lifeline.org/>.



### **How do I handle my emotions after I get home?**

Once you are home, even though you may feel drained physically and emotionally, it's important for you to follow guidelines for good self-care.

#### **Here are some things you can do to help yourself recover:**

- Get dressed daily.
- Walk daily within your limits.
- Get plenty of rest.
- Resume hobbies and social activities you enjoy.
- Visit with others.
- Make sure you have a support system in place that can help with your physical and emotional needs. Discussing your fears, frustrations, pain, concerns, and successes with someone is an important part of the healing process.
- Join a support group.
- Ask for help when you need it.

As you resume your normal activities, you will notice gradual improvement in your mood and outlook.







Your family and friends need to balance their own feelings while trying to support your recovery.

Heart attacks are stressful for all people involved, not just the patient. Friends and family may have additional responsibilities helping with your care while managing things inside and outside of the home. Because of this, it is important for your loved ones to take care of themselves physically and emotionally.

**If you are a family member or friend, here are some tips:**

- Don't neglect your own needs. Eat well, stay active, and get plenty of rest.
- Be patient – it is not unusual for your loved one to have good or bad days.
- Share your feelings with a close friend.
- Ask for help if you feel overwhelmed. Be specific about your needs such as meals, chores, pet-sitting, time alone, etc.
- Talk to your family doctor if you have feelings that are concerning.
- Do something you enjoy and find relaxing.

## Notes

# Promoting a Healthy Lifestyle



There are many factors that increase the likelihood of you having another heart attack. Many of these risk factors can be controlled. These risk factors include, but are not limited to:

- Smoking
- High Blood Pressure
- Overweight/Obesity
- Diabetes
- High Cholesterol
- Metabolic Syndrome diagnosis
- Poor Diet
- Stress

Decreasing your risk of heart attack depends largely on your lifestyle. By taking action you can significantly reduce your chance for a second heart attack. We recommend the following actions to reduce your risks and get you started on the path to better health.

## Quit Smoking

Quitting smoking will improve your heart health. Smoking has many harmful health effects:

- Increases your heart rate and blood pressure
- Decreases the oxygen supply to your heart muscle
- May cause damage to the walls of your arteries
- Lowers your good cholesterol (HDL)
- May cause your heart to beat too fast, too slow, or irregularly

**Quitting smoking is the single most important step you can take to enhance the length and quality of your life.**

## Your hospital stay is a good time to create a plan to become tobacco-free.

It is never too late to quit smoking. Your hospital stay is a good time to create a plan to become tobacco-free.

- Get expert assistance. Contact MHealthy Tobacco Consultation Service at (734) 998-6222, [quitsmoking@med.umich.edu](mailto:quitsmoking@med.umich.edu), or ask your nurse to place a consult with them.
- **Other resources:**
  - > The Michigan Tobacco Quitline: **1-800-QUIT-NOW**
  - > The Truth Initiative: [www.becomeanex.org](http://www.becomeanex.org)
  - > US Department of Health and Human Services: [www.smokefree.gov](http://www.smokefree.gov)

### **Motivations to Quit**

A crucial part of quitting smoking is staying motivated. As you take on the challenge of quitting, you need to understand the benefits you'll get when you kick the habit. Benefits from quitting include:

- Improvement in your health- as soon as you stop smoking your body begins to repair itself.
- Money savings- smoking is expensive.
- Being a positive role model for your children or grandchildren.
- More energy and more money to spend on your family.
- Protecting your friends and family from harmful secondhand smoke.

The decision to quit smoking is one that only you can make. Others may want you to quit, but the real commitment must come from you. Consider these benefits to move your motivation along!

## **How can I quit smoking?**

You can quit with a strong desire and by following a plan. Below are helpful tips to help you get ready to quit.

### **Getting ready:**

- Set a quit date
- Begin to decrease the amount of tobacco you use
- Tell family, friends, and co-workers you are quitting and ask for their support
- Begin an exercise program
- Stock up on healthy meals and snacks

### **On and after your quit date:**

- On your quit date, get rid of all tobacco related items
- Avoid alcohol
- Avoid second-hand smoke
- Keep busy with projects, hobbies, pleasurable activities, etc.
- When stressed, take a few deep breaths
- Get plenty of rest
- Drink water
- Pamper yourself

## **Medications can help you quit**

Medications used to quit smoking can double your chances of quitting for good. Below are some helpful tips to help you use them correctly:

- If you choose to use the nicotine patch, nicotine gum, nicotine lozenge, nicotine inhaler, or nicotine nasal spray, begin using on your quit date and use as prescribed by your doctor.
- If you choose to use Varenicline or Bupropion hydrochloride, contact your doctor two weeks prior to your quit date for a prescription and use as prescribed by your doctor.
- Ask your doctor or nurse how to use these medications.

## Control blood pressure

High blood pressure can put added stress on your heart and arteries and lead to blockages in your arteries.

The table below shows what a healthy blood pressure is:

	Systolic (top number)		Diastolic (bottom number)
Normal	Less than 120	AND	Less than 80
Elevated	120-129	AND	Less than 80
Stage 1 Hypertension	130-139	OR	80-89
Stage 2 Hypertension	>140	OR	>90

**To control your blood pressure, it is important to:**

- Get your blood pressure checked on a regular basis
- **Do not** stop taking any blood pressure medication unless your physician tells you to
- Follow all of your doctor's orders
- Follow a low salt diet and avoid adding salt to your food (find more information in the Diet section - page 51)
- Exercise regularly and lose weight if needed (find more information in the Activity section - page 60)

Use relaxation techniques to decrease stress (find more information in the *Understanding Your Emotions* section - page 41)



## Control weight

Extra weight puts added strain on your heart and raises your blood pressure. It is important to control your weight. However, do not begin a weight loss program without talking with your doctor. Find more information on how you can control your weight in the Diet and Activity sections (pages 51 and 60).

## Control diabetes

Diabetes directly affects your heart and blood vessels. Good control of your blood sugar is important to help with wound healing and preventing infection. It is important to follow a strict diet to try to reduce the amount of damage to your vital organs. If you have any questions about a proper diabetic regimen, please ask your nurse or hospital dietician for diabetic diet education materials. Dieticians can help you choose healthy foods and develop meal plans to promote blood sugar control.

## Control cholesterol

High cholesterol can lead to increased plaque in your arteries which can slow or block the blood supply to your heart. There are 2 kinds of cholesterol: LDL and HDL. LDL causes plaque, while HDL helps reduce it. Find more information on how you can change your diet to reduce your cholesterol in the Diet section (page 51).

## Control metabolic syndrome

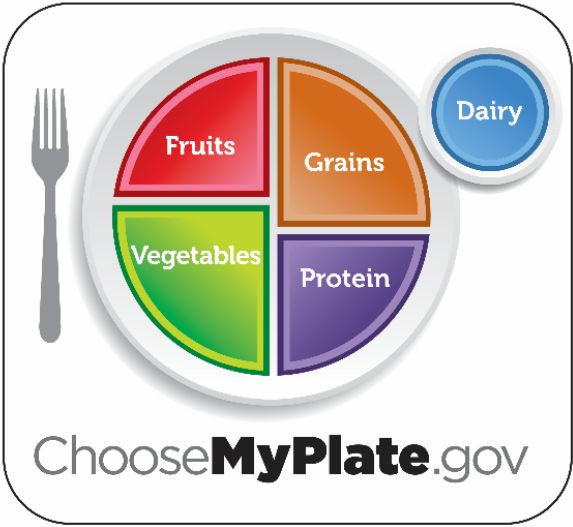
Metabolic syndrome is a group of risk factors that can place people at a higher risk of heart disease, stroke, and diabetes. Some of the contributing risk factors are:

- High blood pressure
- High blood sugar
- Unhealthy cholesterol
- Excess abdominal fat

By making aggressive lifestyle changes, you can reduce your risk of heart disease, stroke, and diabetes.

# Heart Healthy Eating

Many heart disease risk factors are linked to what and how much you eat. Choosing healthier options, more often, can help you improve blood pressure, cholesterol and overall lead to better health. Healthy changes can also contribute to weight loss or maintaining a healthy weight. Additionally, healthy eating can help manage diabetes if you have it. Take a look through the following information to start making steps towards a heart healthy diet **without giving up all the foods you love!**







First, let’s start by thinking about where you are in terms of healthy eating. Have you started making changes? Do barriers get in your way? Take a moment to think about why you want to eat healthier, what usually gets in your way, and ways you can set yourself up for success despite these barriers.

Motivation to eat healthier:	
Barriers to change:	
Strategies to overcome barriers:	


## What is a healthy eating style?

The right mix of food is just as important as how much you eat! The key is choosing a variety of foods and beverages from each food group- and making sure that each choice is limited in saturated fat, sodium, and added sugars for heart health. Start with one change at a time and monitor your progress to reach your heart healthy goals! On the following pages are the food group targets for a 2,000 calorie\* diet.

**Below are the food group targets for a 2,000 calorie\* diet:**

Food	Equivalents	Amount per day	What are your food choices?	Did you reach your goal?	If not, what could you change to reach it?
	<b>1 cup vegetables count as</b> <ul style="list-style-type: none"> <li>• 1 cup raw or cooked vegetables</li> <li>• 2 cups leafy salad greens</li> <li>• 1 cup 100% vegetable juice</li> </ul>	<b>2 cups</b>			
	<b>1 cup of fruits counts as</b> <ul style="list-style-type: none"> <li>• 1 cup raw/cooked fruit</li> <li>• ½ cup dried fruit</li> <li>• 1 cup 100% fruit juice</li> <li>• 1 small apple</li> <li>• 1 large banana, orange, peach, etc.</li> </ul>	<b>2 ½ cups</b>			
	<b>1 ounce of grains counts as</b> <ul style="list-style-type: none"> <li>• 1 slice bread</li> <li>• 1 ounce ready-to-eat cereal</li> <li>• ½ cup cooked rice, pasta, or cereal</li> </ul>	<b>6 oz. (Aim for at least half to be whole grains)</b>			
	<b>1 ounce of protein counts as</b> <ul style="list-style-type: none"> <li>• 1-ounce lean meat, poultry, or sea-food</li> <li>• 1 egg</li> <li>• 1 Tbsp peanut butter</li> <li>• ¼ cup cooked beans or peas</li> <li>• ½ ounce nuts or seeds</li> </ul>	<b>5 ½ oz.</b>			

**\*Go to [www.choosemyplate.gov/MyPlate-Daily-Checklist](http://www.choosemyplate.gov/MyPlate-Daily-Checklist) to find out your personalized food group targets**

 <p>Dairy</p> <p>ChooseMyPlate.gov</p>	<p><b>1 cup of dairy counts as</b></p> <ul style="list-style-type: none"> <li>• 1 cup milk</li> <li>• 1 cup yogurt</li> <li>• 1 cup fortified soy beverage</li> <li>• 1 ½ ounces natural cheese or 2 ounces of processed cheese</li> </ul>	<p><b>3 cups</b></p>			
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### Can fats be part of a healthy diet?

Yes, just remember to choose foods that provide “good” fats (mono-saturated and polyunsaturated fats).

- **Monounsaturated fats**
  - > Olive Oil, canola oil
  - > Peanut oils
  - > Avocados, nuts (almonds, peanuts, pecans, pistachios, hazelnut)
- **Polyunsaturated fats/Omega-3 Fats**
  - > Fish (albacore tuna, salmon, anchovies, herring, shad, sardines, Pacific oysters, trout, white fish, catfish, halibut, cod, Atlantic and Pacific mackerel) or Fish Oil (Ask your doctor about a fish oil supplement)
  - > Fish is the best way for your body to absorb polyunsaturated fats/Omega-3 Fats
  - > Flax seeds
  - > Eggs from chickens fed a diet high in flax seeds
  - > Foods fortified with Omega-3
  - > If you are unable to get enough omega-3 by diet alone, you may want to talk to your doctor about supplements.
- **Polyunsaturated fats**
  - > Corn oil, safflower oil, sunflower oil, sesame oil, and soybean oil

### Why are Omega-3 Fatty Acids important?

They may reduce the risk of heart disease. The National Heart Association recommends to consume two **4-oz portions** of fatty fish weekly.

## Avoid Saturated Fat and Trans Fat

The American Heart Association recommends limiting saturated fats to **less than 5-6%** of total calories (11-13 grams/day on a 2,000 calorie diet).

### Saturated fats

- > Fatty meat (beef, pork, lamb), skin of poultry
- > Lard
- > Whole milk, 2% milk, cream and butter
- > Fatty cheese
- > Palm kernel oil, palm oil, coconut oil
- > Cocoa butter
- > Many processed food products



### How much sodium can I eat each day?

Reducing the amount of sodium in your diet may help reduce blood pressure, decrease heart failure exacerbation, and prevent fluid retention in the abdomen, legs and arms. The dietary guidelines for Americans recommends limiting salt intake to less than 1,500 mg (milligrams) per day or no more than 2,300 mg.

**\*1 teaspoon salt = 2,300 mg sodium**

To start: stop adding salt to your food

### How can I make food taste good without salt?

- > Use herbs, spices and spice blends in place of salt (ex. Mrs. Dash)
- > Vinegar (dark balsamic, white balsamic, apple cider vinegar, etc.), cooking wine, vinegar/oil salad dressing (low sodium), flavored oils
- > Lemon or lime juice, grated rind, dried lemon or citric acid
- > Purees of bell peppers
- > Low sodium condiment



## What Can I Choose Instead?

Use the easy swap out tips below in order to reduce saturated fat and sodium in your meals. Start by making one change a week and then work up to using the ones you like more often. Put a star by the ideas you'd like to try and add additional ideas you have.

	If you often eat these:	Try this instead:
<b>BREAKFAST</b>	Bacon/sausage	Turkey bacon/sausage
	Peanut Butter	Unsalted peanut butter
	Eggs fried in butter	Egg cooked in olive oil or olive oil spray
	Bagel	English Muffin or low sodium bread
	Sweet rolls, muffins, donuts	Raisin toast with jam
	Whole Milk	Nonfat or low-fat milk; soymilk or almond milk
<b>LUNCH</b>	Coleslaw	Salad with vinaigrette, roasted veggies in olive oil and herbs
	Canned soup	Homemade low-sodium soup
	Lunch meat	Roasted turkey or chicken, low sodium tuna
	Chips	Unsalted or lightly salted pretzels, nuts or chips
	Dill Pickles	Cucumber slices with vinegar
<b>DINNER</b>	Ground beef, pork, lamb, skin of poultry, fried meat	Ground turkey, >90% lean ground beef, poultry, cut off fatty pieces, baked or broiled
	French Fries	Roasted potatoes with herbs and olive oil
	Packaged soups, pastas, rice, meals with flavor packets	Dry noodles/rice with olive oil and salt-free seasonings
	Canned beans and veggies	Fresh, frozen, or low-sodium canned vegetables or beans (and/or rinsed)

Start by making one change a week and then work up to using the ones you like more often.

	If you often eat these:	Try this instead:
<b>CONDIMENTS/ SEASONING</b>	Sour Cream	Plain Greek Yogurt
	Cream Cheese	Fat free cream cheese
	Mayo	Avocado (or half the mayo + avocado)
	Salsa	Homemade Pico de Gallo
	Bouillon Cube	Low-sodium or home-made broth
	Salad Dressing	Olive oil, vinegar and herbs
	Canned or bottled spaghetti sauce	Homemade or low-sodium premade sauce
	Processed cheese (American), feta, blue cheese	Natural Cheese, Swiss, Mozzarella, Farmers, Emmental, Wensleydale, Ricotta, Parmesan
<b>DESSERT</b>	Ice Cream	Frozen Yogurt
	Pie	Fruit with Whipped Cream
	Cookies/Brownies	Dark Chocolate square



## Tips for Eating Healthy:

- Choose a smaller plate (9-10 inches over 12 inches).
- Use smaller serving utensils.
- Keep the extra food off the table (out of sight, out of mind) at mealtime.
- Keep the salt shaker off the table. Add a little less salt each time you eat in order to gradually reduce the amount you use. (it can take ~2 weeks for your taste buds to adjust).
- Make healthy foods easy to reach and keep less healthy foods out of the house
- When you feel hungry/bored for a snack, try a healthy one first to see if it satisfies you.
- Eat more vegetables- aim for half your plate.
- Enjoy more meatless meals by incorporating dried beans, split peas, lentils, tofu or tempeh in place of meat in dishes.
- Choose lean cuts of poultry/meat (chicken breast, skinless chicken thigh, ground turkey, venison, bison, pork loin chops, beef round or loin over chuck (choice/select over prime)), >90% lean ground beef.
- Eat less processed foods and more whole foods.

## What are the recommended serving sizes?



Sources:  
<http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2000/2000DGBrochureHowMuch.pdf>  
<http://www.healthy.arkansas.gov/programsServices/chronicDisease/Nutrition/Pages/ServingSizes.aspx>

[www.GuardYourHealth.com](http://www.GuardYourHealth.com)

## Tips for reading food labels

The food nutrition labels can help you make healthier choices. Here's what to look for:

### 1 Pay attention to serving size.

The information on the label is based on one serving of the food. A package of food often contains more than 1 serving.

Nutrition Facts	
4 servings per container	
Serving size 1 1/2 cup (208g)	
Amount per serving	
<b>Calories</b>	<b>240</b>
	% Daily Value*
<b>Total Fat</b> 4g	<b>5%</b>
Saturated Fat 1.5g	<b>8%</b>
Trans Fat 0g	
<b>Cholesterol</b> 5mg	<b>2%</b>
<b>Sodium</b> 430mg	<b>19%</b>
<b>Total Carbohydrate</b> 46g	<b>17%</b>
Dietary Fiber 7g	<b>25%</b>
Total Sugars 4g	
Includes 2g Added Sugars	<b>4%</b>
<b>Protein</b> 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

### 2 Limit these nutrients

#### Fats

Look for foods with no more than 1 gram (g) of saturated fat per serving.

This is the definition of a Low Saturated Fat Food.

Choose foods that have 0g Trans-fat.

#### Sodium

Eat foods that have no more than 200-300 milligrams (mg) of sodium per serving.

Choose foods that have 140 mg or less of sodium per serving- this is the definition of a Low Sodium Food.

#### Sugar

Choose foods with less added sugars to decrease the amount of sugar you eat each day.

The goal is to limit your daily added sugar to no more than 25g (6 teaspoons) for women, or 36g (9 teaspoons) for men.

### 3 Get Enough Fiber

Fiber aids in digestion, helps control cholesterol, blood sugars and body weight.

Foods with 2.5 g Fiber or more per serving are a good

Foods with 5g Fiber or more per serving are an excellent source.

### Healthy Eating Out:

- Look for grilled chicken or fish (without breading) instead of fried
- Ask to have your food prepared without salt
- Choose a salad or baked potato instead of fries
- Choose oil and vinegar or vinaigrette for dressings
- Try eating half your meal and package the rest for home
- Ask for sauces/gravies on the side- drizzle or dip in order to use less
- Ask to hold the cheese, or for lower sodium cheese choices such as Swiss
- Look up the menu online before for lower fat and sodium options or talk to the waiter/waitress about available options or accommodations offered

### My Healthy Eating Goals:

Take a moment to reflect on the education you just received and choose two or three goals that you would like to work towards. You can start by choosing the ones listed or come up with your own. Then outline a few steps that you can make towards reaching that goal. Remember, little changes can add up to big changes for heart health over time.

### Goals:

- Add in fruits and vegetables to my meals/snacks
- Choose lean meats more often than red and processed meats
- Eat out one day less per week
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### Steps I will take:

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Ask your doctor for a referral to an Outpatient Dietitian if you are interested in further help making diet and lifestyle changes

## Exercise regularly

After a heart attack, it is important for you to be active every day to help you recover and lower your chance of having additional heart problems. Talk with your doctor or health care provider about how to safely build up your activity.

### Why should I exercise?

It will help you:

- Recover better from your heart attack or other heart problems
- Reduce your risk of more heart problems
- Improve your long-term health
- Reduce your stress levels
- Have more energy to move around your home, perform activities of daily living like bathing, dressing, and perform household chores
- Manage your weight more easily
- Improve your cholesterol levels
- Lower your blood pressure
- Manage your blood sugar (glucose) levels if you have diabetes.

## What if ...?

### ... I am a healthy weight and I feel fine already?

As people age, even if they are healthy, they experience a decline in the amount of activity they can do, which leads to decreasing independence and ability to move.

Exercise will help you to continue to feel good and maintain your independence as you age.

Lack of fitness is a big risk factor for cardiovascular disease, even in healthy people.

### ... I am overweight and have tried to lose weight but I just can't do it?

The rate of death from cardiovascular disease is lower for people who are obese but have a high activity/exercise level, than it is for people who are thin but inactive.

**... I already have high blood pressure or high cholesterol or diabetes?**

Lack of fitness is a bigger risk factor for cardiovascular disease than high blood pressure, high cholesterol, or diabetes.

**... my heart is bad and the doctor says there is nothing to make it better?**

Research shows that exercise training in moderate to severe congestive heart failure patients caused deaths (mortality) to decrease by 63% and also decreased hospital admissions by 71%.

Even if you cannot improve your heart, exercise can improve flexibility, strength, balance, and overall function. If the body is stronger, it can do more activity with less stress on the heart.

## **How soon after a heart attack should I start exercising?**

We recommend you wait until you've started cardiac rehabilitation. It is important to have an assessment appointment with a cardiac rehabilitation specialist. During this appointment the specialist will take your medical history, do a physical exam, and perform testing to determine the best exercise program for you.

If you received prompt treatment after a heart attack, you may feel better quickly and want to get back to your normal physical activity. You must remember your heart is still healing and it needs time to recover.

### **How do I start getting active after a heart attack?**

Returning to exercise after a heart attack can be challenging or anxiety provoking. The key to becoming more active is to do a little more activity each day, and gradually build up how long you exercise for and how often. Take small steps to gradually build up what you do. A cardiac rehabilitation program will provide you with the support you need to get on a heart healthy path.

**You must remember your heart is still  
healing and it needs time to recover.**



## What type of exercise can I do after a heart attack?

A variety of exercises are recommended by the American Heart Association (AHA):

- **Aerobic Activity**- exercise that increases your heart rate and breathing rate, but still allows you to carry on a conversation. Some good examples include: walking, biking, swimming, using a Nustep®.
- **Muscle-Strengthening Activity**- weight- bearing exercises that use free weights, machines or your body's own resistance.
  - > Weight Lifting
- **Stretching**- decreases muscle soreness after activity and increases your flexibility.

## How much exercise can I do after a heart attack?

The American Heart Association recommends the following:

### Aerobic Activity

- At least 30 minutes of moderate-intensity aerobic activity at least 5 days per week for a total of 150 minutes
- OR**
- At least 25 minutes of vigorous aerobic activity at least 3 days per week for a total of 75 minutes
- OR**
- A combination of moderate- and vigorous-intensity aerobic activity

### Muscle-Strengthening Activity

- At least 2 days per week of moderate-to high-intensity muscle strengthening activity for additional health benefits.
  - > **Weight Training**
    - Do not do 2 days in a row, alternate days.
    - Aim for high repetitions (reps) with light weights.
    - Start with 1 set of 10 reps per muscle group (legs, back, chest, shoulders, and arms).
    - Strength training should only be done after some form of aerobic warm-up.
    - Do not hold your breath while lifting weights. Keep breathing!

## Stretching

- Stretch after you finish all aerobic or strengthening activities.
- Hold each stretch for up to 30 seconds (as tolerated) without moving.
- Do not hold your breath while stretching. Keep breathing!

## What are easy ways I can add more activity into my daily life?

- Each time you go to the bathroom, take a lap around your house
- Park your car further away and walk to the store
- Take the stairs instead of the elevator
- Go for a walk around your neighborhood after dinner
- Walk to see your coworker instead of calling or emailing them
- Do something active during commercial breaks
- Try workout videos on YouTube
- Walk around a museum, instead of going to the movies

## What else should I know before exercising?

Talk to your doctor before starting an exercise program.

Exercise may result in fluid loss (dehydration), so drink fluids to prevent low blood pressure after exercise. Patients on fluid restriction should ask for more specific advice from their doctor.

If you have any of these symptoms before or during exercise, stop exercising immediately and contact your doctor:

- Chest pain
- Rapid heart rate
- Shortness of breath
- Lightheadedness
- Anything that feels different than usual

The goal is to exercise for **time** not for intensity.



## What are 2 exercise goals you have, and how can you start working on them?

Example

**Goal:**

*I will walk for 30 minutes per day*

**How will you reach this goal?:**

*I will walk my dog in the morning (15 minutes); I will only take the stairs at work (5 minutes); I will walk around the block after dinner (10 minutes)*

**Goal 1:**

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**How will you reach this goal?:**

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**Goal 2:**

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**How will you reach this goal?:**

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# Phone Numbers

## Michigan Medicine

Billing .....	855-855-0863
	734-615-0863
Call Center .....	888-287-1082
CVC Check-in Desk .....	734-232-4547
Office of Clinical Safety (comments) .....	877-285-7788
Emergency Department .....	734-936-6666
Guest Assistance Program (GAP) (accommodations) .....	800-888-9825
Hospital Operator .....	734-936-4000
Lost & Found .....	734-936-7890
Mardigian Wellness Resource Center .....	734-232-4120
Parking & Transportation .....	734-764-7474
Registration & Insurance Verification .....	866-452-9896
Patient & Visitor Accommodations .....	800-544-8684
Tobacco Consultation Services .....	734-938-6222
Social Work .....	734-232-1559

## Units (Patient Care)

UH-7A .....	734-936-8088
UH-7B .....	734-615-0467
UH-7C .....	734-936-4646
UH-7D .....	734-936-4744
UH-8B .....	734-936-4674

## Other

Michigan Quit Line (Smoking) .....	800-784-8669
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## **Address - mail**

Frankel CVC (room number/unit if known)

or UH (room number/ unit if known)

Person's Name

Michigan Medicine

1500 E. Medical Center Drive

Ann Arbor, MI 48109

## **Building Location - visiting**

Samuel and Jean Frankel Cardiovascular Center

1425 E. Ann St.

Ann Arbor, MI 48109

University Hospital

1500 E. Medical Center Drive

Ann Arbor, MI 48109



## **Clinic Locations**

### **Ann Arbor**

#### **Cardiology Clinic at U-M Frankel Cardiovascular Center**

1500 E. Medical Center Dr. Level 3

888-287-1082

#### **Cardiovascular Medicine at Briarwood Health Associates**

325 Briarwood Circle, Building #5

Ann Arbor, MI 48108

888-287-1082

#### **Cardiovascular Medicine at Domino's Farms**

4008 Ave Maria Dr.

Lobby A, Suite 300

Ann Arbor, MI 48105

888-287-1082

### **Brighton**

#### **Cardiology at Brighton Center for Specialty Care**

7500 Challis Rd.

Brighton MI 48116

810-227-9510

### **Canton**

#### **Cardiology at Canton Health Center**

1051 N. Canton Center Rd.

Canton MI 48187

734-844-5400

### **Chelsea**

#### **Cardiology (Heart Care) at Chelsea Health Center**

14700 E. Old US 12

Chelsea MI 48118

888-287-1082

### **Northville**

#### **Cardiology at Northville Health Center**

39901 Traditions Drive, Suite 210

Northville, MI 48168

248-888-9000

## Hospital Services and Facilities

Michigan Medicine offers a variety of special amenities and services. If you have any questions about the following services and facilities, please ask your nurse for additional information.

### Online Patient Portal (MyUofMHealth.org)

To create an account, **visit [www.myuofmhealth.org](http://www.myuofmhealth.org)**

Follow the instructions on the web site to set up an account.

MyUofMHealth.org is a secure way to manage your health online, offering a 24/7 connection to Michigan Medicine and important health information.

Our online patient portal gives you secure access to health information anywhere, at any time.

### Guest Assistance Program (GAP)

The Guest Assistance Program (GAP) is a program of the Michigan Medicine Department of Social Work and provides assistance with non-medical needs and resources to patients who are actively receiving medical care (in-patient and out-patient). Our dedicated social workers problem-solve, research community resources, and assist with the coordination of various needs that arise during medical treatment.

- The Guest Assistance Program office is open Monday – Friday, from 9 a.m. – 5 p.m;
- GAP staff is available on-call (only) Saturdays and Sundays from 8:30-5:00pm.

Patients or family may refer themselves (telephone or walk-in) or request any hospital staff member contact the Guest Assistance Program office at **(800) 888-9825** or **(734) 764-6893**. The GAP office is located in University Hospital, Room 2B203, near the gift shop and Cashiers Office.

Our social workers focus solely on barriers to care needs that would keep patients from maintaining treatment or appointments that would impact their health. Services include emergency financial needs, parking and transportation, lodging assistance, meals, community resources, assistance with medication and supplies, and a free Wig Bank.

### Care After You Leave the Hospital (Continuing Care)

Prior to your hospital discharge, a discharge planner will be available to assist you with planning for your continuing care needs. Should you need visiting nurse follow-up, physical or speech therapy or services at home, this can be arranged for you.

### **Patient and Visitor Accommodations**

The **Med-Inn** is a 30 room hotel connected to Michigan Medicine. Single and double units, suites and family units are available. Free cribs, cable television and continental breakfast are included. Microwaves and refrigerators are also available for an additional fee.

Michigan Medicine has agreements with other hotels that provide shuttle service to the medical campus. To learn more, contact the Guest Assistance Program at (800)-888-9825.

**Mennonite Guest House:** is a small Bed and Breakfast, only 3.5 miles from the hospital that is funded exclusively by contributions. There is no charge to stay but donations are greatly appreciated. The guest house provides private rooms, daily continental breakfast, a separate kitchen for guests to use, laundry facilities and shuttle services to and from the hospital. To check availability, please call (734)-222-6233.

### **Families and Visitation**

Family, as designated by the patient, is welcome at all times throughout the recovery process.

**Family, as designated by the patient, is welcome at all times throughout the recovery process.**

### **Spiritual Care**

Spiritual Care is available as needed, 24-hours a day, for spiritual ministry, prayer and sacraments for patients of all denominations. A chapel is also available. Catholic and Protestant services are available. Quiet Rooms for reflection or meditation are available in the CVC.

### **Mardigian Wellness Resource Center - Level 2, CVC**

The Mardigian Wellness Resource Center (MWRC) is a resource for patients and families. The center offers a full-service library on cardiovascular health, fax/copier, wireless internet access as well as devices such as iPads and computers for checkout.

## **Dining Facilities**

University Hospital (Level 2) options include a cafeteria, a vending area, and eateries located in front of the cafeteria. Atrium Healthy Heart Café is located in the Cardiovascular Center (Level 2).

## **FRIENDS Gift Shops**

The gift shops are operated by the FRIENDS of Michigan Medicine. The shops sell candy, cosmetics, magazines, paperback books, toys, stuffed animals, apparel, gift items, games, greeting cards, writing supplies, jewelry, accessories, infant items and much more.

For patients who are unable to go to the gift shop, a gift cart circulates around the patient floors on weekdays. A small gift shop is located within the Mardigian Wellness Resource Center on CVC Level 2.

## **Pharmacy**

Prescriptions can be filled at the Patient/Visitor Pharmacy on the first floor of the Taubman Center. Non-prescription medications are also available. The Pharmacy accepts most credit cards and participates in many insurance programs. Prescriptions can be transferred to or from other pharmacies. Mail order prescription service is also available. Prescriptions may take up to three hours to fill. Please be prepared for this delay.

## **Electronic Equipment**

Use of head phones/earbuds can reduce noise. You can ask your nurse for a set of headphones/earbuds or bring some from home.

To avoid loss, consider the security of any electronic devices that you bring to the hospital. Label all items you bring from home with your name and phone number.

Because of the complex and critical nature of the health system's electrical systems, and for safety reasons, we do not permit the use of personal TV sets or electric radios.

## **Billing**

All billing correspondence will be mailed directly to your home address. Please feel free to ask any questions about your bill by calling the Patient Accounts office (855)-855-0863 or the telephone number shown on your hospital bill. Patient financial counselors are available to address concerns regarding insurance or cost of care (877)-326-9155.



# Glossary of Terms

**aneurysm** ( \ 'an-yə-ri-zəm \ )

A bulge or weakness in the walls of a blood vessel.

**angina** ( \ an-'jī-nə )

Chest pain - often associated with blockage of the arteries that serve the heart.

**aorta** ( \ ā-'or-tə \ )

The large artery that carries oxygen-rich blood from the left ventricle of the heart to the rest of the body.

**aortic valve** ( \ ā-'or-tik \ )

The valve that controls blood flow between the left ventricle of the heart and the aorta (as blood exits the heart).

**arterial line** ( \ är-'tir-ē-əl \ )

A tube inserted into an artery, e.g., in the leg or wrist.

**atherosclerosis** ( \ ,a-thə-rō-sklē-'rō-səs \ )

A buildup of plaque within arteries that can lead to narrowing or blockage of blood flow.

**atria** ( \ 'ā-trē-ə \ )

The upper (filling) chambers of the heart. The right atrium receives un-oxygenated blood from the body, and the left atrium receives oxygen-ated blood from the lungs.

**autologous** ( \ au-'tä-lə-gəs \ )

The patient's own blood.

**blood pressure**

The pressure of moving blood on artery walls.

**Bridge clinic appointment**

A type of cardiology follow-up appointment where you will be seen by a nurse practitioner for 60 minutes. During this time, the nurse practitioner will assess your status, treatment, provide education, and adjust medications, if necessary.

**coronary angiogram** \* ( \ 'k r-ə-,ner-ē) ( \ 'an-jē-ə-,gram)

A medical procedure used to diagnose and treat some heart conditions. A long, thin, flexible tube called a catheter is put into a blood vessel in your arm, groin (upper thigh), or neck and threaded to your heart. Through the catheter, your doctor can do diagnostic tests and treatments on your heart.

\* <http://www.nhlbi.nih.gov/health>

**catheter** ( \ 'ka-thē-tər)

A thin flexible tube placed into the body.

**cholesterol**

Found in cell walls throughout the body; used to make hormones, bile acids, vitamin D, and other substances. There are 2 kinds of cholesterol:

**HDL** \*

High density lipoprotein (or “good” cholesterol) takes cholesterol from the tissues to the liver, which removes it from the body. A low level of HDL cholesterol increases your risk for heart disease.

**LDL** \*

Low density lipoprotein (or “bad” cholesterol) carries cholesterol to tissues, including the arteries. Most of the cholesterol in the blood is the LDL form. The higher the level of LDL cholesterol in the blood, the greater your risk for heart disease.

\* <http://www.nhlbi.nih.gov/health>

**chordae** ( \ 'k r-də \

Tendon-like cords which connect the edges of heart valves to the papillary muscle thereby restricting how far the valve leaflets can open or close.

**coronary arteries**

The large blood vessels that supply the heart with oxygen-rich blood.

**Coumadin®**

The commonly used trade name for the drug warfarin, an anti-coagulant (blood thinner) often prescribed to reduce the chances of stroke.

**diabetes**

A metabolic disease that prevents the body from producing insulin (necessary to break down glucose) and regulating glucose levels in the blood.

**echocardiogram\***

A painless test that uses sound waves to create moving pictures of your heart. The pictures show the size and shape of your heart. They also show how well your heart's chambers and valves are working.

\* <http://www.nhlbi.nih.gov/health>

**hypertension**

A greater than normal blood pressure.

**IV**

Abbreviation for intravenous - a catheter inserted into the veins used to dispense medications and fluids.

**leaflets**

The small flaps on the valves of the heart which serve as “doors,” allowing or preventing the passage of blood.

**mechanical valve**

An artificial device implanted in the heart to take the place of a natural valve.

**mitral valve** ( \ 'mī-trəl \ )

The valve between the left atrium and left ventricle.

**monounsaturated fats** ( \ ,mä-nō-ən-'sa-chə-rā-təd \ )

Fats that tend to be liquid at room temperature and can lower LDL (low density lipoprotein, or bad) cholesterol when used in place of saturated fats in the diet; good sources are olive, canola and peanut oils.

**plaque**

A substance made up of fat, cholesterol, and other substances that can buildup and block the blood flow in an artery.

**polyunsaturated fats**

Much the same as monounsaturated fats, as they can also lower LDL; good sources are corn, soybean and safflower oils; fish and flax.

**pulmonic valve** (\ pul-'mä-nik)

The heart valve between the right ventricle and the blood vessels that lead to the lungs (where blood is pumped to pick up oxygen).

**saturated fats**

Fats that tend to be solid at room temperature and can contribute to elevated levels of LDL; taken mostly from animal sources.

**stenosis** (\ stə-'nō-səs \)

Narrowing or blockage of an artery or heart valve opening.

**trans fat**

Fats that are made during a process called hydrogenation, which turns a liquid oil into a solid or semi-solid fat at room temperature; these fats can increase LDL and decrease HDL; avoid foods with partially-hydrogenated or hydrogenated oils.

**tricuspid valve** (\ (,)trī-'kə-spəd \)

The heart valve between the right atrium and the right ventricle.

**urinary catheter**

A drainage tube inserted into the bladder to drain urine.

**ventricle** (\ 'ven-tri-kəl \)

A lower (pumping) chamber of the heart. The right ventricle pumps oxygen-poor blood to the lungs for oxygenation, and the left ventricle pumps oxygen-rich blood to the body.