



# Understanding *Heart Attacks*



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Medical Center®



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In collaboration with



**American Heart Association**

**Hospital Accreditation**



# Patient Information

Name \_\_\_\_\_

Complete this form with your nurse before you leave the hospital.

### Contact Numbers

#### Primary Care Doctor

Name \_\_\_\_\_

Phone \_\_\_\_\_

#### Cardiologist

Name \_\_\_\_\_

Phone \_\_\_\_\_

#### Pharmacy

Name \_\_\_\_\_

Phone \_\_\_\_\_

My target weight is \_\_\_\_\_ pounds\*

My anticoagulant is \_\_\_\_\_

My antiplatelets are \_\_\_\_\_

Procedure performed \_\_\_\_\_

### FOLLOW-UP APPOINTMENT

Dr. \_\_\_\_\_

Date \_\_\_\_\_

Time \_\_\_\_\_

### MY HEART

My heart pumps at \_\_\_\_\_ %

I have systolic / diastolic heart failure (circle one)

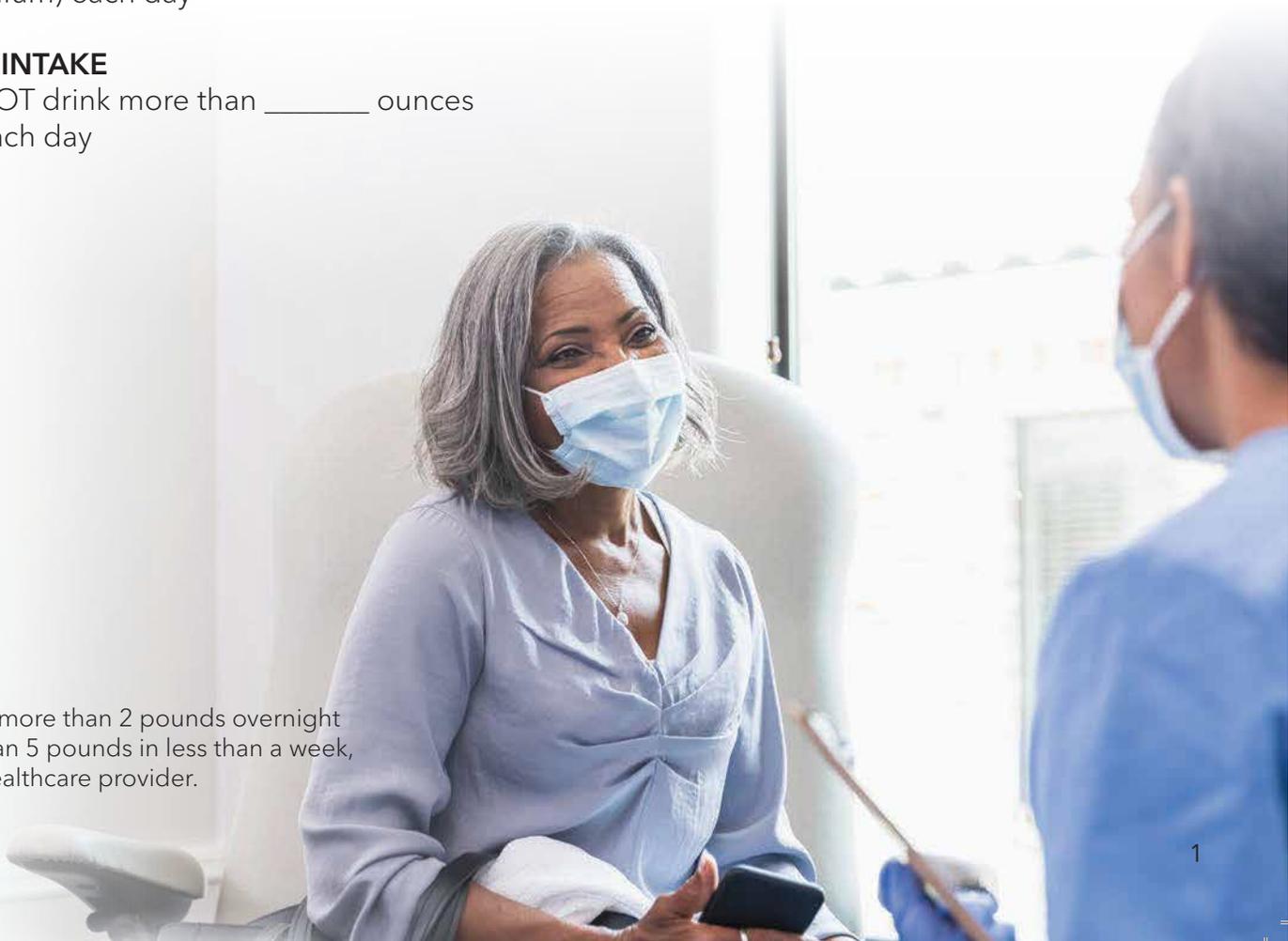
### MY SALT INTAKE

I should NOT eat more than \_\_\_\_\_ mgs  
of salt (sodium) each day

### MY FLUID INTAKE

I should NOT drink more than \_\_\_\_\_ ounces  
of fluids each day

\* If you gain more than 2 pounds overnight  
or more than 5 pounds in less than a week,  
call your healthcare provider.



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## Section 1: What Is a Heart Attack?

A heart attack most commonly results from fatty buildups (atherosclerosis) in the arteries that carry blood to the heart muscle. Plaque buildup narrows the inside of the arteries, making it harder for blood to flow.

If plaque in a coronary (heart) artery ruptures, a blood clot can form and further block the blood flow. When it completely stops blood flow to part of the heart muscle, a heart attack occurs. Then the section of the heart muscle supplied by that artery begins to die. Damage increases the longer an artery stays blocked. In some cases, it may even die. Once muscle dies, the result is permanent heart damage.

The amount of damage to the heart muscle depends on the size of the area supplied by the blocked artery and the time between the injury and treatment. The blocked artery should be opened as soon as possible to reduce heart damage.

### Heart Attack Warning Signs

Atherosclerosis develops over time. It often has no symptoms until there is enough damage to lessen the blood flow to the heart muscle. You should know the warning signs of a heart attack so you can get help right away, either for yourself or someone close to you.

Some heart attacks are sudden and intense, but most start slowly with mild pain or discomfort. Some of the signs of a possible heart attack include:

- ♥ Uncomfortable pressure, squeezing, fullness or pain in the center of your chest (lasts more than a few minutes or goes away and comes back).
- ♥ Pain or discomfort in one or both arms, your back, neck, jaw or stomach.
- ♥ Shortness of breath with or without chest discomfort.
- ♥ Other signs, such as cold sweat, nausea or lightheadedness.

### After a Heart Attack

Depending on the extent of your heart attack and the treatment you receive, you may only be in the hospital a few days. When you return home, your heart muscle will continue to heal, but your recovery is just beginning.

Follow your healthcare provider’s recommendations about your weight, diet, physical activity, medicine and other lifestyle changes. This will give you a better chance at improving your health and avoiding future attacks.

If you are eligible, your healthcare provider will recommend a cardiac rehabilitation program in your area. Cardiac rehab is a medically supervised program designed to improve your cardiovascular health. It has three equally important parts:

- ♥ Exercise counseling and training
- ♥ Education for heart-healthy living
- ♥ Counseling to reduce stress

**If you or someone you are with has chest discomfort, especially with one or more of the other signs, immediately call 911 or the emergency response number (fire department or ambulance) in your area. Get to a hospital right away.**

## Section 2: Cardiac Catheterization

### Hygiene

- ♥ Keep the puncture site clean and dry. Leave it covered with the bandage currently in place until the next day.
- ♥ You may shower, but do not take a bath, swim or go in a hot tub for one week.
- ♥ Gently clean the site with mild soap and water and pat dry.

### Activity Restrictions

- ♥ You may sit as a passenger for the ride home.
- ♥ Do not drive or operate heavy machinery for the next 24 hours.
- ♥ For the first 48 hours after your procedure, please follow these restrictions:
  - Do not lift more than 10 pounds.
  - Limit the activity of the affected wrist.

### Diet

- ♥ A diet low in cholesterol and fat and high in fiber is recommended. Avoid fried foods. A low-sodium diet (less than 2000 mg/day) will help to avoid fluid retention. If you are diabetic, you should continue your diabetic diet to avoid high blood sugar.

### What to Expect

- ♥ There may be a small amount of blood on your wrist bandage.
- ♥ Bruising is common. It may be a small area around the puncture site or may extend to a large area above or below the puncture site.
- ♥ You may experience some mild discomfort, slight swelling or aching in your wrist for approximately two days.
- ♥ For minor discomfort, you may take Tylenol®.

### When to Seek Help

- ♥ For any unusual or sudden swelling or severe pain, numbness or tingling, contact your cardiologist immediately or call 911.
- ♥ Bleeding from the site is NOT normal. If you experience active bleeding, immediately apply pressure to the site, lie down and call 911.
- ♥ For chest pain, call 911.

## Section 3: Coronary Angioplasty

Angioplasty opens blocked arteries and restores normal blood flow to your heart muscle. It is not major surgery. People with blockages in their heart arteries may need angioplasty if they experience significant chest pain or if the blockages put them at risk of a heart attack or dying.

### How Angioplasty Is Done

1. A doctor numbs a spot on the groin or arm and inserts a catheter into an artery.
2. The catheter is threaded through the arterial system until it gets into a coronary artery.
3. Watching a special X-ray screen, the doctor moves the catheter into the artery and threads a very thin wire through it and across the blockage.
4. Over this wire, a catheter with an expandable balloon on the end is passed to the blockage.
5. The balloon is inflated to push plaque to the side and stretch the artery, so blood can flow more easily. This may be done more than once.
6. In many patients, a stent mounted on a special balloon is moved over the wire to the blocked area. As the balloon is inflated, it opens the stent against the artery walls. The stent locks into this position and helps keep the artery open.
7. The balloon and catheters are removed. The artery is now open and can properly deliver blood to the heart.

## Section 4: Stents

A stent is a tiny, wire mesh tube permanently placed in a coronary artery to help keep it open and reduce the chance of a heart attack. They are only used in certain cases, depending on factors such as artery size and blockage location. In some patients, they can reduce the re-narrowing that sometimes occurs after balloon angioplasty or other procedures that use a catheter.

### How Stents Are Used

When a stent is inserted, it is collapsed and put over a balloon catheter. It is then moved into the area of the blockage. As the balloon is inflated, the stent expands, locks in place and forms a scaffold. The stent stays in the artery and holds it open. This improves blood flow to the heart muscle and helps relieve symptoms such as chest pain.

### Can Stented Arteries Reclose?

For many patients who have had angioplasty without a stent, the artery that was opened begins to re-narrow within months of the procedure. This is called restenosis. Stents can help prevent this.

There are two types of stents. Stents that are covered with drugs that help keep the blood vessel from reclosing are called drug-eluting stents. Stents not coated with drugs are called bare metal stents.

## Section 5: Reducing Your Risk of Heart Attack

Even if you have heart disease, there is a lot you can do to improve your heart health. Work with your healthcare provider to set goals to reduce your risk:

- ♥ Do not smoke and avoid secondhand smoke.
- ♥ Treat high blood pressure if you have it.
- ♥ Eat a heart-healthy diet that is low in saturated and trans fats, sodium (salt) and added sugars.
- ♥ Get at least 150 minutes of moderate-intensity physical activity a week.
- ♥ Reach and maintain a healthy weight.
- ♥ Control your blood sugar if you have diabetes.
- ♥ See your doctor for regular check-ups.
- ♥ Take your medicines exactly as prescribed.

### LEARN MORE

- 1 Call **1-800-AHA-USA1** (1-800-242-8721) or visit **heart.org** to learn more about heart disease and stroke.
- 2 Sign up to get **Heart Insight**, a free monthly e-newsletter for heart patients and their families, at **heartinsight.org**.
- 3 Connect with others sharing similar journeys with heart disease and stroke by joining a support network at **heart.org/supportnetwork**.

### Questions for Your Doctor or Nurse

Take a few minutes to write down your questions for the next time you see your healthcare provider.

#### For example:

*How soon can I return to work after my heart attack?*

*Is there a cardiac rehabilitation program in my area?*

**MY QUESTIONS:**

## Section 6: Reducing Your Risk of a SECOND Heart Attack

### *Take Medications as Prescribed*

Following your doctor's directions regarding your medication can help you avoid another heart attack. Missing a dose or refill can cause serious health issues.

### *Keep Seeing Your Doctor*

Working together with your doctor and other care providers will help ensure your recovery goes well. You should visit your doctor within six weeks of your heart attack to maintain progress.

### *Take Cardiac Rehab Seriously*

Cardiac rehabilitation can help you increase your physical fitness, develop a heart-healthy lifestyle and address the sources of your stress. It is essential to your physical and emotional recovery.

### *Manage Your Risk Factors*

Diabetes, high blood pressure, high cholesterol and smoking are all common risk factors. You can reduce your risk of another heart attack through medication and heart-healthy lifestyle changes.

### *Establish a Support System*

The road to recovery is easier to travel with friends, family and other heart-attack survivors. Knowing you are not alone can help reduce the fear and stress you may feel.

## Section 7: Dual Antiplatelet Therapy

Platelets are small particles in the blood that can clump together to form blood clots, which can lead to heart attack and the sudden clotting of a coronary stent. Antiplatelet agents are a class of drugs that inhibit the platelets from clumping together and forming blood clots.

Many heart attack and stroke patients - and people at high risk for these events - are treated with two types of antiplatelet agents to prevent blood clotting. This is called dual antiplatelet therapy (DAPT). You may have been prescribed DAPT if you had a heart attack, were treated with stents in your coronary arteries or had coronary artery bypass graft surgery (CABG).

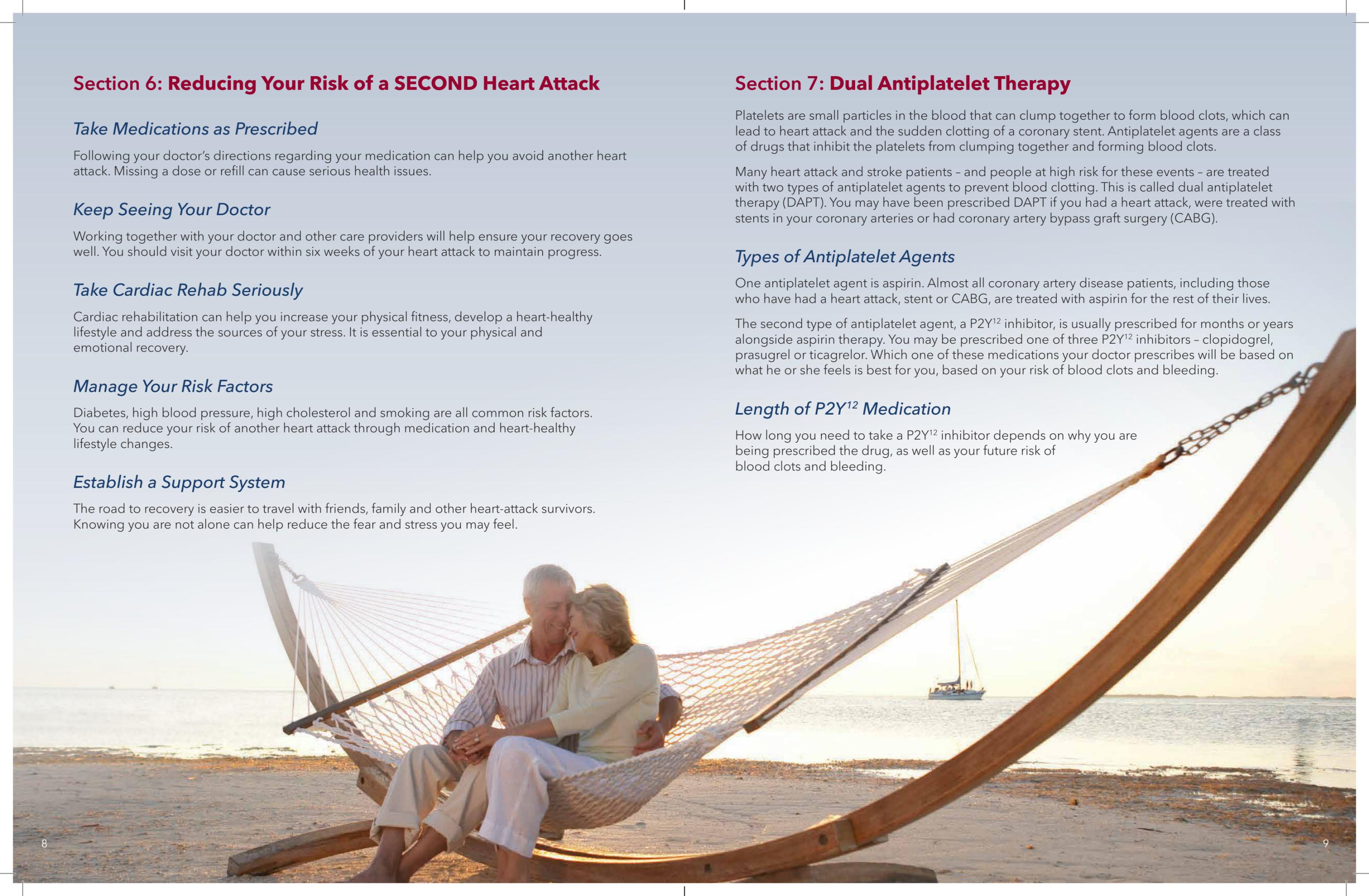
### *Types of Antiplatelet Agents*

One antiplatelet agent is aspirin. Almost all coronary artery disease patients, including those who have had a heart attack, stent or CABG, are treated with aspirin for the rest of their lives.

The second type of antiplatelet agent, a P2Y<sup>12</sup> inhibitor, is usually prescribed for months or years alongside aspirin therapy. You may be prescribed one of three P2Y<sup>12</sup> inhibitors - clopidogrel, prasugrel or ticagrelor. Which one of these medications your doctor prescribes will be based on what he or she feels is best for you, based on your risk of blood clots and bleeding.

### *Length of P2Y<sup>12</sup> Medication*

How long you need to take a P2Y<sup>12</sup> inhibitor depends on why you are being prescribed the drug, as well as your future risk of blood clots and bleeding.



## Section 8: Reducing Blood Pressure

Many people have high blood pressure without realizing it. Once you are aware of your condition, you can make lifestyle changes that can reduce your risk of heart attack and allow you to enjoy a healthier life. It may be difficult, but it is well worth it.

Addressing high blood pressure can not only reduce your risk of heart attack, but also heart failure, kidney failure and stroke. There are many ways to reduce your blood pressure:

- ♥ Reach and maintain a healthy weight.
- ♥ Establish a heart-healthy diet of vegetables, fruits, low-fat dairy products, poultry, fish, legumes and non-tropical vegetable oils and nuts. Limit your consumption of sodium, sweets, sugary beverages and red meats. Eat foods that are high in potassium.
- ♥ Increase your level of physical activity.
- ♥ Do not smoke and avoid secondhand smoke.
- ♥ If you are a man, drink no more than two alcoholic drinks a day. If you are woman, drink no more than one alcoholic drink a day.
- ♥ Take your heart medication as prescribed by your doctor.
- ♥ Know what your blood pressure should be and work to keep it at that level.



## Section 9: Cholesterol Levels

High cholesterol can increase your risk of heart attack and stroke. If you are 20 years old or older, it is important to have your common heart attack risk factors (including cholesterol) checked every four to six years. If certain factors put you at risk or you already have heart disease, your doctor may recommend you check these risk factors more often.

### Know Your Appropriate Cholesterol Levels

Your doctor will run a blood test to determine your cholesterol levels. This may be either a “fasting” or “non-fasting” lipoprotein profile. It assesses several types of fat in the blood, measured in milligrams per deciliter (mg/dL). The test gives four results: total cholesterol, HDL cholesterol, LDL and triglycerides.

#### HDL Cholesterol

HDL cholesterol is also known as “good” cholesterol. A healthy level of HDL cholesterol can help reduce your risk of heart attack and stroke. HDL takes cholesterol away from your arteries and returns it to the liver, where it is processed so any excess can be removed from your body. HDL can also remove cholesterol from plaque in the arteries.

#### LDL Cholesterol

LDL cholesterol is also known as “bad” cholesterol. The body uses this type of cholesterol to build cells, but too much of it can cause fatty build-ups in your arteries. It and other substances can come together to form plaque (a thick, hard, fatty deposit). Plaque narrows the arteries and reduces blood flow. This is known as atherosclerosis. If the plaque build-up ruptures, a blood clot may form or a part of it may break off and travel in the bloodstream. This can cause a heart attack or stroke.

When it comes to LDL, less is better. If you are at high risk of heart attack and stroke, lowering your LDL can help reduce those risks.

## Triglycerides

Triglycerides are the most common type of fat in your body. They come from food, and your body also makes them. They store excess energy from your diet. A high triglyceride level in conjunction with high LDL (bad) cholesterol and low HDL (good cholesterol) can cause fatty buildup in your artery walls. This increases your risk of heart attack and stroke.

### Track Your Numbers

Use the table below to keep track of your cholesterol levels each time you have a test. Discuss the numbers and how they affect your overall heart attack risk with your doctor.

	FIRST VISIT	SECOND VISIT	THIRD VISIT	FOURTH VISIT
HDL (good) Cholesterol				
LDL (bad) Cholesterol				
Triglycerides				
Total Blood Pressure				



## Section 10: Improving Cholesterol Levels

Build-up of cholesterol, plaque and other fatty deposits in the artery walls is the cause of most heart and blood vessel diseases. When your arteries become blocked to the point that blood flow is reduced, it can result in chest pain. If a blood clot forms and blocks the artery, it may cause a heart attack.

Fortunately, there are lifestyle changes you can make to improve your cholesterol levels. You can eat heart-healthy foods, reach a healthy weight and maintain it, increase your physical activity and avoid smoking. Some people may also require medication.

Your doctor will work with you to develop a plan for improving your cholesterol levels. Following your plan and improving your cholesterol levels will reduce your risk of a heart attack.

### Heart-Healthy Foods

- ♥ Fruits and vegetables
- ♥ Whole grain foods (brown rice, whole-grain bread, whole-grain cereal, whole-grain pasta)
- ♥ Fat-free, low-fat and 1% milk products
- ♥ Lean meats and skinless poultry
- ♥ Fatty fish (albacore tuna, sardines, salmon, trout)
- ♥ Unsalted legumes, nuts and seeds
- ♥ Non-tropical vegetable oils (canola, corn, olive, safflower)

### Foods to Avoid

- ♥ Foods that are high in sodium (salt)
- ♥ Sweets and sugary beverages
- ♥ Red meats and fatty meats
- ♥ Processed meats (bologna, salami, sausage)
- ♥ Full-fat dairy products (butter, cheese, cream, whole milk)
- ♥ Baked goods with saturated and trans fats (cakes, cookies, donuts)
- ♥ Foods that list "hydrogenated oils" in the ingredients
- ♥ Saturated oils (coconut oil, palm oil, palm kernel oil)
- ♥ Solid fats (lard, shortening, stick margarine)
- ♥ Fried foods

## Section 11: Increasing Physical Activity *with Cardiologist's Recommendation*

The American Heart Association® advises adults to engage in a minimum of 150 minutes of moderate-intensity physical activity per week. Not getting enough exercise can make you more likely to develop a health problem. Regular, moderate-intensity aerobic physical activity can reduce your risk of not just a heart attack, but also diabetes, high blood pressure, high cholesterol, obesity and stroke.

### Moderate-Intensity Physical Activity

You do not have to buy a gym membership or expensive equipment to reduce your risk of a heart attack. If you engage in these moderate-intensity physical activities most days, you will bolster your heart-healthiness:

- ♥ Brisk walking
- ♥ Gardening and yard work
- ♥ Moderate to heavy housework
- ♥ Recreational dancing and home exercise

### Vigorous Physical Activity

The more intense the physical activity is, the more it improves your heart health. If you are ready for something more challenging than moderate-intensity exercise, start slowly and build up as your heart gets stronger. Be sure to spread your exercise sessions throughout the week.

Before starting more vigorous physical activity, talk to your doctor about what activities might be best for you. Once you have done this, try one of these vigorous physical activities:

- ♥ Aerobic dancing
- ♥ Bicycling
- ♥ Cross-country skiing
- ♥ Hiking or jogging
- ♥ Stair climbing



## Section 12: Quit Smoking

Smoking tobacco is harmful to every tissue and organ in the body, including the heart and blood vessels. If you smoke, your risk of heart attack is much higher than that of a non-smoker. Quitting smoking is no easy task and choosing to quit is a major step in the right direction.

### Tips on How to Quit

Your chances of quitting successfully will most likely increase if you mentally prepare yourself for your last cigarette and the cravings and urges that come with quitting. It may help to think about quitting in five steps:

#### 1. Set a Quit Date

Select a day within the next week to quit smoking or vaping. Tell your family and friends who are most likely to support you in your efforts to quit.

#### 2. Choose a Quitting Method

There are various ways to quit smoking, such as:

- ♥ Stop smoking all at once on your quit day (going cold turkey)
- ♥ Reduce the number of cigarettes you smoke in a day or the amount of vaping until you completely stop.
- ♥ Smoke only part of each cigarette. Using this method, you will have to count how many drags you take from each cigarette and reduce that number every two or three days.

#### 3. Determine if you need medicines or other help to quit.

Talk with your healthcare provider to decide if there is a medicine right for you and learn how to properly use it. Options include nicotine alternatives (gum, lozenges, sprays, patches or an inhaler) and prescription medicines (bupropion hydrochloride or varenicline). You can also ask for a referral to a smoking cessation program.

#### 4. Prepare for Your Quit Day

Get rid of all your cigarettes, matches, lighters, ashtrays and tobacco products in your home, workplace and car. Find healthy alternatives to smoking. Start going for walks. Keep sugarless gum or mints with you in case of cravings. Eat healthy snacks, such as carrots and celery sticks.

#### 5. Stop Smoking on Your Quit Day

### What to Do If You Relapse

Quitting for good is no easy task, and it is important to try your hardest to avoid smoking or vaping after you have begun your efforts to quit. If you end up having a cigarette or vaping after you quit:

- ♥ It does not mean you are a smoker again. Take action to get back on track.
- ♥ Do not blame or punish yourself. Remind yourself that you are still a nonsmoker.
- ♥ Consider what triggered the urge and determine what you should do differently the next time it happens.
- ♥ Sign a contract to stay tobacco-free.

### Benefits of Quitting

In addition to the obvious health benefits, there are many ways that quitting smoking or vaping will improve your life:

- ♥ Your senses of smell and taste will return.
- ♥ Your smoker's cough will go away.
- ♥ You will be able to breathe more easily.
- ♥ You will no longer smell like smoke or burn holes in your clothing.
- ♥ You will increase your likelihood of living longer and reduce your risk of heart disease and stroke.



## Section 13: Cardiac Rehabilitation

After a heart attack or other heart-related problem, you will most likely need to participate in a cardiac rehabilitation program. This type of program is intended to improve your heart health to avoid another hospitalization. It may take place within the hospital or as an outpatient program.

Cardiac rehab allows you to join a group to exercise and receive special help in making lifestyle changes. The program typically includes 36 sessions over 12 weeks, but it may vary based on your condition and the doctor's recommendations.

It is a group effort that may include doctors, nurses, exercise coaches, dietitians, nutritionists and others. Ask your doctor if you are eligible for a cardiac rehab program.

### Appropriate Candidates for Cardiac Rehab

You may benefit from a cardiac rehab program if you have had a:

- ♥ Heart attack in the past year.
- ♥ Heart condition, such as coronary artery disease, stable angina or heart failure.
- ♥ Peripheral artery disease.
- ♥ Heart procedure or surgery, including:
  - Coronary artery bypass graft surgery
  - Angioplasty and stenting
  - Heart valve repair or replacement
  - Pacemaker or implantable cardioverter defibrillator
  - Heart transplant

### Components of Cardiac Rehab

While in a cardiac rehab program, you will:

- ♥ Receive a medical evaluation to determine your needs and limitations. The program staff will develop a progress plan that meets your needs.
- ♥ Exercise on a treadmill, bike, rowing machine or walking track.
- ♥ Be monitored by a nurse or another program staff member for any change in symptoms.
- ♥ Follow a physical activity program that will gradually improve your strength.
- ♥ Gradually move into a more intensive program that allows you to work longer and harder.
- ♥ Start strength training (if your doctor approves).
- ♥ Have your heart rate, blood pressure and EKG monitored.

### Other Benefits of Cardiac Rehab

- ♥ It may include a smoking cessation class.
- ♥ A nutritionist will help you create a healthy diet plan.
- ♥ You will improve your fitness level.
- ♥ You can learn relaxation skills to help reduce stress.
- ♥ You may meet others going through a similar situation.

### After Cardiac Rehab

Once you have completed the program, you may feel a lot better. It is very important to continue making lifestyle changes after you leave the program. Cardiac rehab can help you return to an active lifestyle and reduce your risk of further heart problems, but you will need to keep yourself on track afterward.



## Section 14: Importance of Follow-Up Appointments

### *Why Is It Important To Follow-Up With My Cardiologist And Primary Care Physician And Keep My Lab And Testing Appointments?*

- ♥ To make sure your medications are working well and make adjustments if necessary.
- ♥ To check your physical condition and make sure you are staying at your optimal level of health.
- ♥ To answer any questions that have come up since you began your routine at home.
- ♥ To provide recommended lab and tests results that help your physician make decisions about your care.

### *Is There Anything Else I Should Know About Follow-Up Appointments?*

- ♥ Always bring your log book with you to your doctor appointments.
- ♥ Make your appointments on the same days you are asked to see the doctor. Ensure you are available on that day and make transportation arrangements in advance if needed.

## Section 15: Helpful Resources and References

*Are there other helpful resources I can contact to learn more about living with Heart Failure? Yes there are! Here is a list you may find useful.*

### **American Heart Association®**

www.heart.org  
1-800-AHA-USA-1  
(1-800-242-8721)

www.mendedhearts.org  
1-888-HEART-99  
(1-888-432-7899)

### **Heart Failure Society of America**

www.hfsa.org  
1-888-213-4417

### **Needy Meds**

www.needymeds.org  
1-800-503-6897

### **The Mended Hearts, Inc.**



# Lakewood Ranch Medical Center<sup>®</sup>

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For language assistance, disability accommodations and the nondiscrimination notice, visit our website. 22842550-882871 5/22