

# STEP BY STEP THROUGH CARDIAC CATHETERIZATION AND ANGIOPLASTY



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#### The Irish Heart Foundation

The Irish Heart Foundation is the national charity fighting heart disease and stroke. More people in Ireland die from these causes than from cancer, road deaths and suicide combined. We work to bring hope, relief and a better future to Irish families. We support pioneering medical research, campaign for improved patient care and provide vital support and information for patients. In hospitals, schools and workplaces, we support, educate and train people to save lives. As a charity we depend on your ongoing support - through your donations or by giving of your time as a volunteer or on a training course.

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## **Contents**

Introduction	
What is cardiac catheterization?	<b>4</b>
Your heart	4
Your coronary arteries	5
Atherosclerosis	6
Heart attack	6
Coronary artery spasm	6
Heart valve problems	6
Getting ready for a cardiac catheterization	7
The cardiac catheterization (angiogram)	9
After cardiac catheterization	12
Right heart study	15
What is an angioplasty?	16
Stents	19
After the angioplasty	20
Helpful hints	23
An explanation of medical terms used in this booklet	25

## Introduction

This booklet has information about two medical procedures, the cardiac catheterization test (or angiogram) and angioplasty. We have written it for people who are going to have one of these procedures to help you understand why you need to have this procedure, what happens during the process and how you will feel. It adds to the information that you have already from your doctor. It does not replace the advice of your doctor, consultant or nurse.

The booklet explains how your heart works and the problems that can happen to your heart and its arteries. It explains cardiac catheterization which is a test to find out if you have any of these problems. It also explains about angioplasty which is a similar procedure, but one that can treat some of the problems.



## What is a cardiac catheterization?

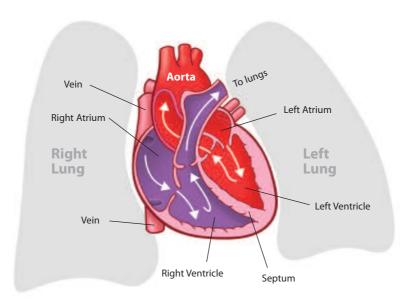
Your doctor feels that you need to have a test called a cardiac catheterization. An angiogram is another name for cardiac catheterization. You may never have heard of it, or if you have, you probably have a lot of questions. A cardiac catheterization is a test using dye and x-ray to see if there are any problems in your arteries, valves or the chambers of your heart.

#### **Your heart**

Your heart is a hollow muscular organ about the size of your fist that is slightly to the left of the centre of your chest. Its main job is to pump blood through arteries and veins to all parts of your body.

There are two sides to your heart, a right side and a left side, which are separated by a muscular band known as the septum. On each side there are two chambers, an atrium and a ventricle, with a valve separating them.

The chambers collect blood, the valves keep it flowing in the correct direction through your heart and your heart's muscular walls squeeze to pump blood to all parts of your body.

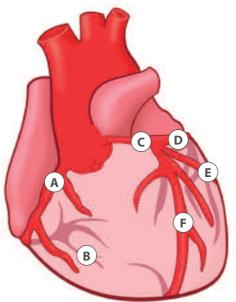


Veins carry blood that has already been pumped around your body and from which some oxygen has been removed. This blood returns to the right side of your heart to the chamber called the right atrium. It then passes through the tricuspid valve into the chamber called the right ventricle. The right ventricle then pumps the blood through the pulmonic valve into your lungs.

The blood gets oxygen in your lungs and then returns to the left side of your heart to the chamber called the left atrium. It passes through the mitral valve into the chamber called the left ventricle. From here the blood is pumped through the aortic valve into your main artery, the aorta, which carries the blood to all parts of your body.

### **Your coronary arteries**

Heart muscle is called myocardium, and like every other muscle in your body, it needs to get the oxygen and nutrients in blood to be able to work properly. So, your heart pumps blood to itself through the coronary arteries. These arteries come from the aorta and spread out over the surface of your heart like the branches of a tree.



A: Right coronory artery

**B:** Posterior descending artery

## **Left coronary artery**

C: Left Main

**D:** Circumflex Artery (Cx)

E: Intermediate Marginal

**F:** Left Anterior Descending (LAD)

There are two large arteries. The right coronary artery mainly brings blood to the right side and lower surface of your heart. The left coronary artery divides into two large branches, the circumflex branch and the left anterior descending branch. These mainly supply blood to the left side of your heart.

#### **Atherosclerosis**

These arteries can become damaged over time by atherosclerosis (pronounced ath-er-o-scler-o-sis). Atherosclerosis comes from the Greek language and means hard porridge. This condition happens when fatty material builds up on the inside wall of your coronary arteries. This fatty material hardens into what is called atherosclerotic plaque, which narrows the artery and reduces the flow of blood to your heart muscle.

This is what is commonly called, hardening of the arteries. It can cause angina. Angina is a tightness or pain in your chest, jaw or arm which is brought on by doing an activity that needs some effort. Your arteries can become very narrow due to the growth of this plaque. The plaque may tear away from the wall of the artery and cause a blood clot. This narrowing of your arteries reduces the flow of blood to your heart muscle and, in some cases, stops the blood from getting through completely.

#### Heart attack

If heart muscle does not get a supply of blood, it becomes damaged and can die. When an area of heart muscle dies, it is called a heart attack. The medical term for heart attack is myocardial infarction or MI.

## **Coronary artery spasm**

Some people's coronary arteries can go into spasm. The reason for this is not fully understood. If the spasm lasts for long enough, blood flow to your heart muscle will be reduced and the muscle may be damaged.

## **Heart valve problems**

The valves in your heart can be damaged by certain conditions such as rheumatic fever or infection. This can make the valves narrow or cause them to leak.

A cardiac catheterization will let your doctor see if you have any of the problems mentioned above. You and your doctor will then decide on the best treatment for your condition.

## Getting ready for a cardiac catheterization

Some people have a cardiac catheterization during a stay in hospital. Most of the time, a cardiac catheterization is done as a day patient. The preparation is the same.

#### What about food?

Sometimes your doctor will ask you to have nothing to eat or drink for about 4 hours before the cardiac catheterization. This will stop you feeling sick or getting sick. You can eat and drink as much as you want after the test. If you have diabetes, be sure to discuss this with your doctor before the day of your test.



#### What about tablets?

If you are taking any type of medicines, you will need to know the name and the amount of each medicine you take. It would be a good idea to take your medicine bottles or an up to date list of your medicines with you to the hospital.



Anticoagulants are medicines that thin your blood and prevent blood clots. It is likely you will need to stop taking these medicines a few days before your test. Discuss this with your doctor as soon as you get your appointment date for the test. There are a numbe rof blood thinning medicines including warfarin, apixaban, dabigatran and rivaroxaban. Aspirin is also a blood thinner, but it is safe to take as usual before the cardiac catheterization.

## Will I have to have any other tests?

Before a cardiac catheterization you will need to have blood tests and an ECG (electrocardiogram) and sometimes a chest x-ray.

## **Your medical history**

At the hospital you will be asked about your past and present health. It is very important that you tell the doctor or nurse if you have any allergies to

medicines or food. If you are waiting to have surgery carried out in the next year, be sure to tell hospital staff before you have the test. A cardiac catheterization is considered to be a safe procedure, but any work done inside your blood vessels carries a small risk of problems.

These include bleeding and rarely heart attack and stroke. Your doctor will discuss any risk that cardiac catheterization might have for you and ask you to sign a consent form giving your permission for the procedure.

#### **Clothes**

To get ready for the test, you have to take off all your clothes, including underwear, and jewellery and put on a hospital gown. The nurse will tell you if you can wear your glasses and false teeth. If you have a hearing aid, leave it in.



## **Preparing your skin**

The doctor will be putting a small tube into a blood vessel in your groin or your wrist during the test. So before the test, the nurse will shave any hair in your groin area and clean your skin with a special soap.

Before the test starts, the doctor or nurse will put a small tube into a vein in your arm. This is called an IV and through the IV any medicine you need during the test can be given into your blood stream. You should go to the toilet before the test. You are now ready for your cardiac catheterization test.

#### The cath lab

Cardiac catheterization tests are carried out in a specially designed room called the cath lab or the angio suite.

## Who are the people in the lab?

A number of people are needed for the cardiac catheterization test:

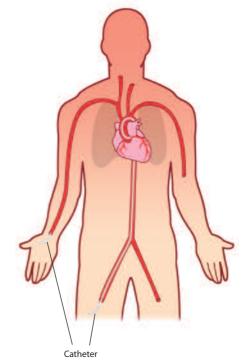
- A doctor performs the test
- A nurse helps
- A radiographer works the x-ray equipment
- A cardiac technician monitors your heart rate and blood pressure.

## Cardiac catheterization

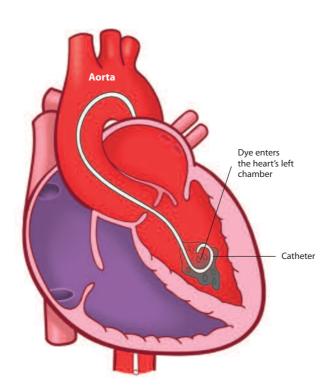
- When you arrive in the lab you will be asked to lie on the procedure table.
  The x-ray camera will be over the table and you will be able to see x-ray screens to the side.
- The cardiac technician will attach sticky pads to your body so he or she can monitor your heart rhythm (this is called an ECG). You may be able to see it on the screen.
- Sometimes you will be given medicine before the test to help you to relax. This can make you sleepy, but won't put you to sleep.
- Although a cardiac catheterization is a test not an operation, the doctor and nurse may be wearing gowns and masks. This helps the equipment to stay germ free.

 Your groin or wrist area will be cleaned with an antiseptic soap. You will be covered with a sterile cloth.

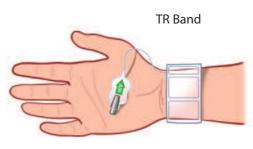
- Your groin or wrist will be injected with local anaesthetic to make the area numb. This injection might sting a little.
- When the area is numb, the doctor will put a needle into the artery in your groin or wrist. Through this needle, a tiny guide wire will be placed into your artery.
- A sheath (a long thin plastic tube open at each end) is threaded over the guide wire. Through the sheath a thin tube called a catheter will be passed into your artery and guided up to your heart.
- Once your groin or wrist is numb, you shouldn't feel the catheter as blood vessels have no pain cells.



- At this point, if the tube is in your groin, you will be asked to put your hands behind your head. The x-ray camera will move close to you and will move around as the doctor carries out the test. The doctor uses an x-ray to see the catheter and move it to the opening of your coronary artery. The doctor will then inject dye into the arteries.
- The x-ray camera takes moving pictures of the flow of dye through the arteries. If there is any plaque in the arteries, the dye will show it.
- When all of the arteries have been examined, a catheter will be placed into your heart's main pumping chamber, called the left ventricle and more dye will be injected. The dye will fill up the chamber and the x-ray camera will take moving pictures of the dye as it is pumped out of the chamber into the aorta, which is your main blood vessel. This part of the procedure is called a **ventriculogram**.



 You will feel warm all over after that injection. This feeling will last for about 20 seconds. Some people may have a sensation that they have passed urine. You may also feel a few extra heart beats or feel slightly sick. These feelings will also pass quickly.



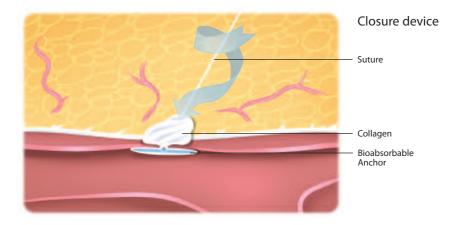
• The cardiac catheterization usually only takes about 30 to 45 minutes.

#### What about the tubes?

After all the pictures have been taken, the catheter will be taken out. If your procedure has been done through your wrist, the doctor will put a small band on your wrist. This band presses on the puncture site and normally stays on for at least 2 hours and sometimes longer.

If your procedure was done through your groin, firm pressure will be applied to the puncture site for about 10 to 20 minutes. This allows a seal to form over the puncture site in your artery.

Some doctors use a little device that plugs the puncture site. This device cuts the amount of time you will need to stay in bed after the test. If your doctor uses this, he or she will explain more about it to you.



## After cardiac catheterization

#### Wrist

If your procedure was done though your wrist, you can sit up straight away and get out of bed after about 1 hour. The length of time you have to staty in bed can vary from hospital to hospital and also depends on how you feel. It is important that you rest your arm for the next few days.

#### Groin

If you have a closure device in your groin, you can usually get out of bed after about 1 hour. As above, then length of time you have to stay in bed will depend on the hospital and how you feel. If you have had any blood thinners you will need to stay in bed longer.

If you don't have a closure device, you will have to rest in bed for up to 4 hours to let the puncture site seal fully. Your movements will be limited during this time. You may wiggle your ankle or toes on the leg that was used for the test. You don't have to keep your leg stiff, just straight. The head of the bed will be raised slightly, but you may not sit up, lift your head off the pillow or turn on your side. If you need to cough or sneeze, put your hand over the puncture site and press it firmly. If you need to go to the toilet you will need to use a bedpan or urinal (bottle), at this time. The nurse will help you with this. It is important that you empty your bladder whenever you need to.

## While you are in bed

The nurse will check your heart rate and blood pressure regularly and also check the puncture site on your groin or wrist, and leg or arm pulses. Please tell the nurse if you have any discomfort in your chest, neck, jaw or arm. If you have any pain, numbness, tingling or pins and needles in your leg or hand, tell the nurse straightaway.

As the numbing medicine wears off, your groin or wrist might be a little sore and bruised, but it shouldn't be swollen. Let the nurse know, as you may be able to get some medicine to relieve the pain.

**Important. You must tell the nurse immediately** if you feel sudden pain or swelling at the puncture site or notice a warm, sticky or wet feeling on the leg or wrist that was used.

#### Remember

Do not bend your leg and do not sit up.

### Time to get up

Normally the nurse will help you when it is time for you to get out of bed. He or she will take your blood pressure and help you to sit and then stand. You have been in bed for a little while and you may feel a little light-headed, so take it easy. The nurse will also make sure that there is no oozing or bleeding from the puncture site. If you are a day patient, you can go home when your doctor has seen you.



## **Leaving hospital**

Your doctor will see you before you go home. He or she may discuss the results of your cardiac catheterization with you at that time, or they may wait until your next appointment.

The nurse will give you information on what to expect after you leave hospital. You may feel a little tired, but unless your doctor tells you otherwise most people return to their normal routine within 2 to 3 days. Your groin or wrist may have a bruise and be a little sore for a few days.

#### What did the cardiac catheterization test show?

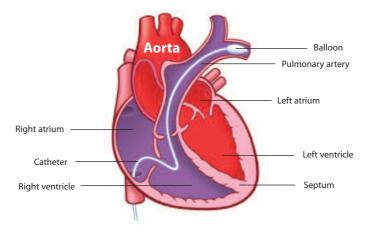
If the cardiac catheterization test shows that there is disease in your heart or coronary arteries, or both, your doctor will discuss treatments with you. Heart disease can be treated successfully with one or a combination of:

- medicines
- · changes in lifestyle
- an angioplasty or a stent; and
- surgery.

If the cardiac catheterization showed that your heart and arteries are normal, it is up to you to keep them healthy. You can do this by not smoking, controlling your blood pressure, monitoring your cholesterol level, taking regular exercise, keeping your weight down and reducing your stress. Ask your doctor for some help with this. For more information see the Irish Heart Foundation's leaflets covering these topics or contact the National Heart and Stroke Helpline on 1890 432 787.

## Right heart study

A right heart study as the name suggests, means that your doctor is looking specifically at the right side of your heart. From shortly after birth, your heart is divided into two halves by a partition called the septum. Normally, there is no communication or link between these two halves. As mentioned earlier the right side of your heart pumps blood from which some oxygen has been removed to your lungs, while the left side of your heart pumps blood that is rich in oxygen and nutrients to the rest of your body.



To look at the right side of your heart, the doctor will put a small tube into the vein in your groin, at the top of your leg. This tube has a small balloon on its tip. Using x-ray, the doctor will guide the tube through the right side of your heart into the pulmonary artery. As the tube moves through your heart, oxygen levels and pressure readings may be taken. By injecting small amounts of fluid through the tube the doctor can tell how much blood is pumped from your heart over a certain period of time.

A right-sided heart study is carried out to diagnose disease of your heart valves and lungs, or poor pumping function of your left ventricle. This test takes about 30 minutes. After the procedure the tube is removed from your groin and pressure is applied to the area for 5 to 10 minutes. This allows the puncture in the vein to seal. You then need to rest in bed for a short time.

## What is an angioplasty?

Your cardiac catheterization has shown that there are fatty build-ups, called atherosclerotic plaques in your coronary arteries, making them significantly narrower than they should be.

Angioplasty is a treatment used to unblock the arteries and increase blood flow to heart muscle.

The angioplasty procedure is very similar to a cardiac catheterization. It is not surgery. Getting ready for angioplasty is the same as for cardiac catheterization. The procedure is carried out in the same room, the cath lab or angio suite.

You will be awake during the procedure and may be given a mild sedative to help you relax. Angioplasty takes about 45 minutes to 1½ hours. Occasionally some people can go home the same day as the procedure. However most people will stay in hospital for at least 1 night.



### **Preparation**

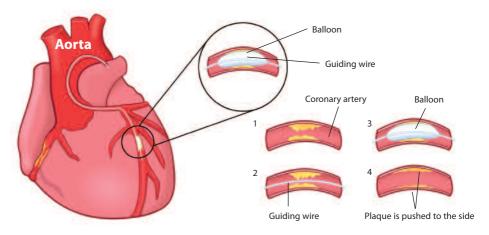
- You will be asked not to eat or drink anything for 4 hours before your angioplasty.
- Bring your medicine bottles or a list of your medicines with you to the hospital.
- You may not need to have another chest x-ray or ECG, so be sure to bring any recent results to the hospital with you.
- It is a good idea to make a list of questions you want to ask the doctor about the procedure or what happens afterwards.
- You may have some blood taken before the angioplasty.
- Remind the doctor of any allergies that you might have.
- Usually you will be given some blood-thinning medicine before your angioplasty to stop the platelets in your blood sticking ogether. It is important to take these before your procedure. However, if you already take blood thinning medicine, it is likely to be stopped a day or two before the procedure. When you get your appointment for this procedure, tell your doctor that you are taking a blood thinner such as warfarin, apixaban, dabigatran or rivaroxaban.
- As with a cardiac catheterization, there are some risks involved in having an angioplasty. The doctor will go through these with you and you will be asked to sign a consent form.
- Some hair will be shaved from your groin or wrist area before the procedure.
- The doctor will put a small needle in a vein in your arm. This IV will allow staff to give you any medication that you might need directly into your blood stream.
- You will be dressed in a hospital gown and you must remove all your jewellery.
- Most hospitals will allow you to keep in your false teeth and leave on your glasses during your angioplasty. Just ask.
- You will be given some medicine to help you to relax. It will make you sleepy, but it will not put you to sleep.

#### In the cath lab

You will lie on your back on the procedure table, surrounded by x-ray equipment. The cardiac technician will attach ECG electrodes to your chest to monitor your heart beat. A sterile cloth will cover you. The doctor will use dye and x-ray in a similar way to a cardiac catheterization to take moving pictures of your artery. Your groin or wrist will be numbed with local anaesthetic. The doctor will put an introducer sheath (a tube which allows the angioplasty catheter to pass into the blood vessel) into your blood vessel.

#### Now here are the differences

Instead of just injecting dye into your arteries, your doctor will pass a tiny wire into the narrowed or blocked artery. Over this, he or she will thread the angioplasty catheter, which has a tiny balloon on the end of it. When the doctor has the catheter in the narrowed area he or she will inflate the balloon.

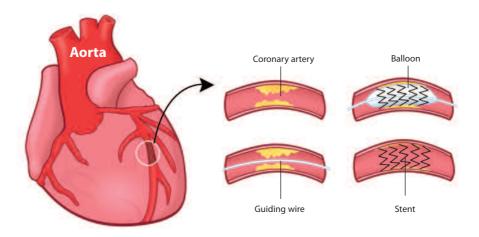


At this point you may feel your original symptoms, such as chest, jaw or arm discomfort. This happens because the balloon stops blood flowing through your artery for a short time. These symptoms are fairly common, but tell your doctor so that he or she can deflate the balloon or give you some medicine to ease the pain. Your doctor may inflate and deflate the balloon several times to flatten the plaque against the walls of your artery and make your artery wider.

The balloon is filled with dye and you may be able to see it on the x-ray screen. It looks like a tiny sausage! The doctor will take some moving pictures while he or she injects dye into the artery to make sure that the opening is big enough to allow blood to flow to your heart muscle.

#### **Stents**

Sometimes one or more pieces of stainless steel mesh or coil are placed in a narrowed artery to keep it propped open. This mesh is called a stent. There are different kinds of stents available and many of them release a drug into your blood to stop it from clotting in the stent.



These are called drug eluting stents. Your doctor or nurse will give you more information on the type of stent you have. Usually the doctor opens the narrowing with an angioplasty before putting in the stent. The stent is put in the same way as an angioplasty balloon. As we have already mentioned, blood can sometimes clot on these stents so you will be given blood-thinning medicines for the next year to prevent this from happening. Your nurse will give you special instructions about your stent and medicine.

## After your angioplasty

Medicines that thin your blood are used during angioplasty to stop clots forming in your artery. Because of this, usually you will have to stay in bed longer after your angioplasty than after a cardiac catheterization, until this special thinning medicine is no longer working in your blood.

#### Wrist

If the angioplasty was done through your wrist you can sit up straight away and may be in bed for a couple of hours. The length of time you spend in bed depends on the reason why you are having your angioplasty, and can vary from hospital to hospital. You will be given specific instructions about how to care for your arm, but it is important that you rest it for the next few days. Avoid using your wrist too much and don't lift or pull anything heavy. You shouldn't drive for 3-4 days after the angioplasty. If you've had an angioplasty because you've had a heart attack, you won't be able to drive for at least 6 weeks. Your doctor will give you more information on when you can start driving again.

#### Groin

If you have a closure device in your groin you may be in bed for up to 4 hours. The length of time you spend in bed depends on the reason why you are having your angioplasty, and can vary from hospital to hospital.



If you don't have a closure device in your groin, you will be in bed for at least 4 hours. It takes this long for blood clotting to return to normal after an angioplasty. The introducer sheath may be left in your groin while you are in bed. You will not be able to move about much during this time. You may wiggle your ankle or toes on the leg that was used for the test. You don't have to keep your leg stiff, just straight. The head of the bed will be raised slightly, but you may not sit up, lift your head off the pillow or turn on your side. If you need to cough or sneeze, put your hand over the puncture site and press it firmly. If you need to go to the toilet you will need to use a bedpan or urinal (bottle). The nurse will help you with this. It is important that you empty your bladder whenever you need to.

#### Remember

- Do not bend your leg or wrist and do not sit up.
- The nurse will check your heart rate and blood pressure regularly and also check your groin or wrist puncture site and leg or arm pulses.
- Please tell the nurse if you have any discomfort in your chest, neck, jaw or arm. If you have any pain, numbness, tingling or pins and needles in your leg or your hand, you must tell the nurse straight away.
- As the numbing medicine wears off, your groin or wrist may be a little sore and bruised, but it should not be swollen. Let the nurse know, as you may be able to get some medicine for any pain or discomfort.

**Important. You must tell the nurse immediately if you** feel sudden pain or swelling at the puncture site on your groin or wrist or notice a warm, sticky or wet feeling on the leg or wrist that was used.

## Time to get up

Usually the nurse will help you when it is time for you to get out of bed. He or she will take your blood pressure and help you to sit and then stand. You have been in bed for a little while and you might feel a little light-headed, so take it easy. The nurse will also make sure that there is no oozing or bleeding from the puncture site. If you are a day patient, you can go home when

your doctor has seen you. Some people may stay overnight in hospital after angioplasty.

## **Leaving hospital**

Your doctor will see you before you go home. He or she may discuss the results of your angioplasty with you then, or they may wait until your next appointment. Be sure to ask any questions you may have before you leave the hospital.

The nurse will give you information on what to expect after you leave hospital. You may feel a little tired, but unless your doctor tells you otherwise most people return to their normal routine within 2 to 3 days. Your groin or wrist may have a bruise and be a little sore, for a few days. If any redness, swelling, numbness or tingling develops at the wound on your wrist or groin, please contact your doctor.



#### Medicine

You will have to take a mixture of blood thinning medicines usually for one year after your angioplasty. It is very important that you take these medicines as prescribed and don't stop them these unless your cardiologist tells you. Check your prescription before you leave the hospital and make sure you know what each of your medicines are for. The pharmacist, doctor or nurse can answer any questions you have. It is a good idea to keep a copy of your prescription and to bring it with you each time you visit the hospital. At your yearly review, one of the blood thinners may be stopped. However you will usually have to keep taking aspirin for life.

## Helpful Hints

Doctors have been carrying out successful coronary angioplasty since 1977. Most people have no problems after their angioplasty. However, for a small number of people, symptoms may return in the first six months after the angioplasty. If this happens a second angioplasty can be carried out. Research is constantly being done to find new ways to prevent arteries from narrowing again.

Because there is a chance that new plaques can develop in other arteries, you need to change your lifestyle to reduce the risk of further problems developing. These changes include:

- · Not smoking
- Controlling your blood pressure with diet, exercise, medicines and by reducing stress.
- Controlling your cholesterol level. There are two kinds of cholesterol, LDL which is bad and HDL which is good. It is very important if you have heart disease to keep your LDL cholesterol level very low. Your doctor will be happy to give you information about cholesterol and how to control the levels using diet, exercise and medicines.
- **Exercising**. Exercise should be built up gradually and should be consistent. Ask your doctor about how much and what kind of exercise is best for you.
- **Losing weight.** If you are overweight your heart has to work harder and it is harder to control your blood pressure. Find out what weight you should be, and, set realistic goals with your doctor or dietitian.
- **Reducing stress**. Learning to relax is not easy, but it can reduce your blood pressure and even reduce cholesterol levels.



If you have reached this point, well done. We hope this booklet was helpful to you. Remember to ask your doctor if you have anymore questions.

## Questions for your doctor or nurse

Keep a note here of questions that you would like to ask your doctor or nurse when you next see them.		

# An explanation of medical terms used in this booklet

## **Angina**

Angina is chest pain or chest discomfort. It happens when not enough oxygen-rich blood gets to your heart muscle.

## **Angiogram**

This is another name for cardiac catheterization. An angiogram is a test using dye and x-ray to see if you have any problems in your arteries, valves or the chambers of your heart.

## **Angioplasty**

Angioplasty is a treatment to unblock your arteries and increase blood flow to your heart muscle. It is performed similar to cardiac catheterization. A small device like a balloon is put into your artery and inflated to flatten the blockage against your artery wall.

## **Anticoagulants**

These are medicines that thin your blood and help prevent blood clots.

#### **Aorta**

The aorta is the main artery in your body. It brings blood from your heart to all parts of your body.

#### **Atherosclerosis**

Atherosclerosis is a condition where fatty material builds up on the inside wall of your coronary arteries. This hardens to make atherosclerotic plaque, which narrows your arteries and reduces blood flow to your heart muscle.

#### **Atrium**

The upper section or chamber of your heart.

## **Coronary artery disease**

Heart problems caused by narrowed heart arteries. When arteries are narrowed, less blood and oxygen reaches your heart muscle.

### **Electrocardiogram (ECG)**

An ECG test measures the rhythm and electrical activity of your heart. Small sticky pads are put on your body connected to wires that link up to the ECG machine. The machine reads and records the electrical signals from your heart.

#### **Heart rate**

A measure of the number of your heartbeats in one minute.

### **Myocardial Infarction (MI)**

This is the medical term for a heart attack. A heart attack is when blood is unable to get to a part of your heart muscle and the muscle dies or is permanently damaged.

## Myocardium

Your heart's muscular wall is called the myocardium.

## Septum

The left and right sides of your heart are separated by a wall called the septum.

#### Stent

A stent is a piece of wire mesh used to keep open part of your coronary artery where there is a blockage. Some stents release medicine into your blood stream to prevent clots forming on the stent. These are called drugeluting stents.

#### **Ventricle**

The lower section or chamber of your heart.

## More information

Useful websites: www.irishheart.ie www.stroke.ie www.iacr.info www.hse.ie www.bhf.org.uk www.heart.org

## **Other Irish Heart Foundation publications:**

Step by step though stroke

Step by step through heart surgery

Step by step through heart medicines

Step by step through inherited heart disease

Step by step through heart failure

Step by step through angina

AF and you, information for people living with atrial fibrillation

Step by step through heart attack

Manage your stress

All about your heart and stroke

Time to cut down on salt

Manage your blood pressure

A healthy cholesterol

Healthy eating

Be active

Quit smoking

Lose weight

## **Heart and Stroke Helpline:**

Locall 1890 432 787 Monday to Friday 10am to 5pm www.irishheart.ie



## Please make a donation today

The Irish Heart Foundation is Ireland's national charity dedicated to the reduction of death and disability from heart disease and stroke. Over 90% of our funding comes from public and business donations. We depend on your goodwill and generosity to continue our work.

If you found this booklet useful, please help our charity to continue to provide heart & stroke information by donating today.

#### You can make your donation today:

By post: Irish Heart Foundation, 50 Ringsend Road, Dublin 4

**Online:** www.irishheart.ie

**By phone:** 01 6685001

Personal Details

- Croonar Details	
Name:	
Address:	
Email:	
Phone:	Mobile:
Credit or debit card (one off dor	nation)
Amount:	€50
Card Number:	
Exp Date: Sec	curity Code**:
Signature:	Date: / /

The Irish Heart Foundation is committed to best practice in fundraising and adheres to the **statement of guiding principles for fundraising** promoting transparency, honesty and accountability. Any personal information you provide will be held in accordance with the Data Protection Acts 1988 and 2003.

<sup>\*</sup> If you donate €250 in one year (or €21 per month) we can claim tax back at no cost to you.

<sup>\*\*</sup> Last 3 digits on the signature strip on the reverse of your card.

#### **SEPA Direct Debit Mandate**

#### **Unique Mandate Reference:**

#### Creditor Identifier: IE02ZZZ306322

Please complete all the fields below marked\*

By signing this mandate form, you authorise (A) the Irish Heart Foundation to send instructions to your bank to debit your account and (B) your bank to debit your account in accordance with the instruction from the Irish Heart Foundation.

As part of your rights, you are entitled to a refund from your bank under the terms and conditions of your agreement with your bank. A refund must be claimed within 8 weeks starting from the date on which you account was debited. Your rights are explained in a statement that you can obtain from your bank.

\*Bank Name: \_ \*Address: \*Account number (IBAN): \* Swift BIC: Creditor Name: IRISH HEART FOUNDATION Creditor Address: 50 RINGSEND ROAD, DUBLIN 4, IRELAND \*Type of Payment: ✓ Recurrent (Monthly) One-off Payment \* Signature: \*Date Signed: Please return completed form to the Irish Heart Foundation. €21\* My monthly instalment amount is: €18 €15 €10 Other € \_\_\_\_\_ per month \*A regular gift of €21 per month could be worth an additional €9 from the Revenue Commissioners per month at no extra cost to vou. Your first contribution will be taken on either the 2nd or the 20th 2nd 20th of the next available month. Please select which date you prefer. You will be notified in writing ten days in advance of your first direct debit. If you wish to cancel within 7 days of a direct debit payment please contact your own bank. **Preferences** I would like to hear about other IHF events, activities, awareness campaigns and appeals. Yes Do you need a postal receipt: Yes Nο

Registered Charity Number: CHY 5507 Source Code: APP00248





## Sponsored by



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Email: info@irishheart.ie

## **Heart and Stroke Helpline:**

Locall 1890 432 787 Monday to Friday 10am to 5pm

#### Web:

www.irishheart.ie www.stroke.ie







The information provided in this booklet was correct and accurate at the time of publication to the best of the Irish Heart Foundation's knowledge.