
Percutaneous Coronary Intervention (PCI)/Angioplasty: Information for Patients



SOUTHLAKE
REGIONAL HEALTH CENTRE



The purpose of this booklet is to provide you with information about Percutaneous Coronary Intervention (PCI) or angioplasty.

Your heart problem is the result of an obstruction in a coronary artery, which is a blood vessel that feeds oxygen to your heart. Your doctor has recommended that you undergo a PCI/angioplasty to open this obstruction. The aim of PCI/angioplasty is to open the blockage and restore normal blood flow to the heart.

It is very important that you understand what will happen and what you need to do to prepare for your procedure. This booklet will help you better understand what to expect before, during and after your angioplasty.

How the Heart Works

The human heart is an amazing piece of engineering. The heart is a muscle that lies slightly to the left, under the ribs in the chest cavity. The heart pumps oxygen-filled blood to all parts of the body, but the heart muscle itself also needs a good blood supply to keep contracting (pumping). The arteries that supply the heart muscle with blood are called the coronary arteries.

Coronary Artery Disease (CAD)

Coronary artery disease (CAD) is a condition in which one or more of the coronary arteries narrow so that the heart muscle does not receive enough oxygen. This is due to a slow build up of cholesterol, calcium and other substances within the artery's inner lining. The technical term for this blockage is called plaque. Blood clots may form on the plaque causing the artery to narrow even faster.

Why Do You Have Coronary Artery Disease?

It is still not clear what triggers coronary artery disease (CAD), but several factors have been shown to increase the build up of plaque. We call these “risk factors”. Some of these risk factors, such as a family history of heart problems, cannot be changed. The good news is that you can modify or change some risk factors, which can improve your future health considerably.

Risk Factors

Your doctor/nurse may recommend that you take steps to help reduce your risk factors by:

- Not smoking
- Controlling your diabetes
- Controlling your blood pressure with regular check-ups and/or medication
- Choosing foods low in fat and cholesterol
- Exercising regularly
- Maintaining an ideal body weight
- Having a yearly influenza shot

If you do not correct “risk factors”, such as smoking, obesity, lack of exercise and a high-fat diet, your other vessels may become blocked in the future.

What is PCI/Angioplasty?

An angioplasty is a procedure used to open blocked arteries. A catheter with a special balloon is inserted into the coronary artery at the site of narrowing. By inflating the balloon, it opens and stretches the artery slightly, allowing blood to flow freely once more.

What is a Stent?

Stents are metal coils or tubes that are used to try and improve the results of your angioplasty procedure. Placement of the stent is a continuation of the angioplasty. As the balloon inflates, the stent enlarges and presses up against the sides of the blood vessel. Once the balloon is deflated and removed from the blood vessel, the stent is left behind to hold the walls of the blood vessel fully open. Once the stent is embedded in the wall of the artery, it will not move and you will not be aware of its presence. However, some discomfort or angina is normal as the stent is deployed/expanded. Make sure to inform your doctor or nurse if you are having any symptoms during your PCI.

Before Your Procedure

- Take a shower or bath.
- Skin prep will be done on admission to the hospital.
- With the following exceptions, continue to take all of your medications as usual the morning of your procedure with a sip of water:
 - Stop Coumadin 5 days prior to your procedure. Your doctor may prescribe an alternative medication.
 - Stop Metformin before and after your procedure as instructed by your doctor or nurse.
 - Do not take your water pill(s) (diuretics)
- You may have a light meal (example – tea, coffee or juice, toast or muffin) up to 4 hours before your scheduled procedure.
- Bring all of your prescription medications in their original container(s).
- Please bring your Ontario Health Card.
- Bring your glasses and dentures.
- DO NOT bring valuables (such as jewellery and money) to the hospital.
- Bring some reading material from home if you wish to help the time pass.

Medication before Your Procedure

Blood clots when platelets (tiny cell fragments in the blood) and special blood proteins bind together. Blood clotting is a natural process that is a lifesaver at times, but should this occur during angioplasty, the blood clot could block the vessel and cut off blood flow, causing a heart attack. You will therefore be given a blood-thinning medication to better ensure that your blood does not clot during the procedure.

You may already be taking aspirin (ASA), a very common blood-thinner. Although ASA is effective in preventing most blood-clotting problems that happen after balloon angioplasty, it is less effective when a stent is used. Approximately 3 to 5 per cent of stents will block suddenly in the first week after angioplasty due to the formation of blood clots inside the stent. To reduce the chances of this happening, additional antiplatelet, or blood-thinning, drugs such as Plavix™, will be given to you. It is extremely important that you not stop these medications without direct instructions from the PCI program.

Admission to the Hospital

You will be scheduled to arrive at the hospital about 2 hours before the time of your procedure. You will be contacted with this information. Please check in at the Welcome Centre. Then proceed to the Cardiac Short Stay Unit, Central, Level 5.

- An intravenous line will be started in your left arm.
- You may be given a mild sedative to help you relax, but you will be awake during the procedure so that you can let us know how you are feeling.
- Skin preparation will be done by the nurse.
- Your wait time after admission can vary from 1-4 hours, depending on emergencies.
- We ask that only 1-2 family members come with the patient.

The majority of patients who undergo angioplasty are admitted the morning of their procedure and discharged either the same day or the following day. Be sure to pack everything you will need to stay in the hospital overnight. Remember to make arrangements to be driven home from the hospital because you will not be permitted to drive yourself home.

During PCI/Angioplasty

Once you get to the catheterization laboratory you will be asked to lie on a narrow table under a x-ray camera. The x-ray camera will rotate over your head in various positions during the procedure.

The area where the catheter is inserted will be cleaned with a cold antiseptic solution. It is important that you not touch this area in order to avoid possible infection. Next, the nurses will cover you with sterile (clean) sheets.

The doctor will put some freezing medication in your groin or wrist, wherever your catheter is being inserted. You may feel a sharp sting. After the freezing starts to take effect you will only feel occasional pressure. If you begin to feel discomfort, let your doctor know and more freezing can be given.

You may be asked to do several things during the procedure. You will need to move your head to the left or right for help with camera positioning. The doctor may ask you to cough or take a deep breath and hold it. You may also be told to move your arms behind your head. It is important that you listen for and follow these instructions in order to help the team.

Insertion of the Guide Wire

The first important step is passing a hollow tube, called a catheter, through the artery in your leg or arm up to your heart. Then, a long wire, called a guide wire, helps direct equipment such as balloons and stents into your narrowed blood vessel.

Your doctor will insert the balloon along the guide wire and into your narrowed blood vessel. The balloon will sit in the middle of the blockage. The balloon will then be inflated and deflated, using a hand held pump. You may have some angina (chest pain/discomfort) briefly when the balloon is inflated. Angina is common at this stage of angioplasty; however, you should let the team know if you begin to have angina because you can be given medication to decrease the discomfort. If the doctor is satisfied that your artery has been successfully opened, the balloon and wire will be removed and some final x-rays will be taken. The procedure usually takes about an hour.

After Your PCI/Angioplasty

After your angioplasty is complete you will be transferred back to the cardiac short stay unit or another unit for your recovery. You may be discharged home later the same day, or you may stay overnight at the hospital and be discharged home the next morning. A nurse will want to check your blood pressure, ECG, temperature, pulse and your catheter insertion site (groin or wrist) many times during your stay. You may be allowed to have something to drink. Your normal diet will resume later in the day.

The sheath (a short catheter) will usually stay in your leg for about 2-4 hours. With the sheath left in place, you will be kept flat on your back in bed for 4 hours. You will need to keep your leg straight to prevent bleeding. Once your sheath is removed, you will have to stay in bed for a further period of up to 4 hours.

If you had your PCI/angioplasty done through an artery in your wrist, the doctor will remove the sheath in the catheterization room, but you will still have a compression device on your wrist for about 1.5 hours, and you will have to keep your wrist immobilized overnight.

Going Home

The physician will determine the discharge date following the procedure. You may be discharged the same day or the following morning between 6:30 and 7:30 a.m. Please arrange for someone to pick you up to take you home. You will not be able to drive a car for 48 hours. You will need to go home with a responsible adult who will stay with you for 24 hours. Take your medications and eat as your normally would. Avoid physical exertion, heavy lifting and straining for a week. This includes lifting grocery bags or children over 10 pounds. Also, avoid straining with bowel movements for 1 week (you may need to take a stool softener).

Most people can return to work and resume normal activities within a few days. If you have been off work for some time, or have had a recent heart attack, your health care team will provide more specific instructions related to work and exercise.

You will be referred to a cardiac rehabilitation program. The program is a combination of education sessions and personalized exercises to help assist you achieve and maintain a healthier heart lifestyle.

Follow-Up

Once you are home you should book an appointment to see your family doctor in 1 to 2 weeks or as instructed by your health care team. It is very important that you continue your blood-thinning medication during this time. Call your regular cardiologist's office and book a follow-up appointment.

We hope this booklet has been helpful to you, and your family. Your concerns about PCI/ angioplasty are normal. Please feel free to ask your nurse or doctor about anything that is concerning you.

If you have any further questions after you are discharged from the hospital, please call the Angioplasty (PCI) Coordinator at 905-895-4521, ext. 2707 during office hours.

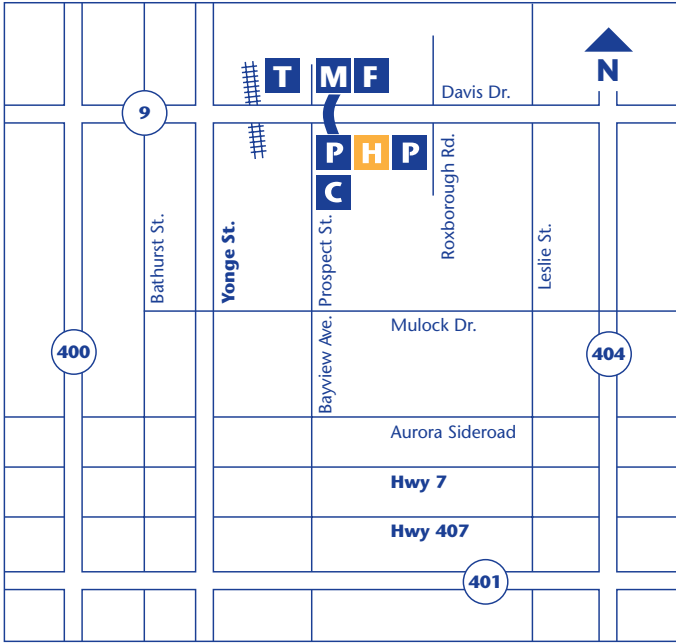
We would like to thank St. Mary's Regional Cardiac Care Centre, Kitchener, Ontario for their assistance in the development of this booklet.

Reminder Notes

I need to tell my doctor:

Questions I would like to ask my doctor:

How to find us:



- T** The Tannery Mall, 465 Davis Drive
- M** Medical Arts Building, 581 Davis Drive
- F** Southlake Foundation, 615 Davis Drive
- P** Parking
- H** Southlake Regional Health Centre
- C** Stronach Regional Cancer Centre
-  Bridge crossing Davis Drive. Accessible from P3 of the Parking Garage and Level 3 of the Medical Arts Building.

For more information, please contact:

Southlake Regional Health Centre
Angioplasty (PCI) Coordinator
596 Davis Drive
Newmarket, Ontario L3Y 2P9
Tel: 905-895-4521 ext. 2707
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