This teaching booklet is designed to introduce you to cardiac catheterization. In the following pages, we will try to answer questions that are frequently asked about the procedure and its purpose. We also encourage you to ask questions of your physician and other health care personnel who are involved in preparing you for the procedure. Before your cardiac catheterization is performed, your doctor will discuss the procedure and any possible risks with you. Following the discussion, you will be asked to sign a legal consent form. Staff will provide you with any additional assistance or information you may require.

Some of the best heart care in the nation is found at St. Peter’s Hospital, named one of America’s Top 100 Cardiovascular Hospitals. Some of the best heart care in the nation is found at St. Peter’s Hospital, named one of America’s Top 100 Cardiovascular Hospitals. Independent healthcare quality experts have repeatedly honored St. Peter’s Hospital for its documented excellent performance in caring for patients with heart disease. Furthermore, St. Peter’s has received awards for patient safety, stroke care and overall clinical services. St. Peter’s has also received nursing’s highest honor – national Magnet™ Hospital status – for consistent excellence in nursing services. While we are grateful for and humbled by the prestigious awards and accolades, we are even more proud of what they represent – dedicated people a commitment to a culture of excellence.
The Anatomy of the Heart

The heart is a muscle located under the breast bone. It acts as a pump moving blood throughout the body. Due to the circulatory demands of the body, the heart muscle requires its own direct supply of oxygen-rich blood. This blood is supplied by the coronary arteries which branch off from the aorta, the great artery leaving the left side of the heart. The coronary arteries branch off into smaller vessels, transporting oxygenated blood throughout the entire heart muscle.
The Catheterization Procedure

Cardiac catheterization is the insertion of a catheter (a long, narrow, flexible tube) through an artery, a vein or both, to the heart. The procedure makes it possible to determine the ability of the coronary arteries to deliver oxygenated blood to the heart muscle, and to examine the heart muscle function itself.

You will be mildly sedated before the procedure begins. During the procedure, your doctor will insert one or more catheters into an artery located in either your groin or arm (at the physician’s discretion). Your physician will use an X-ray monitor to guide the catheter toward your heart. The catheter has a specially-shaped tip that helps the doctor guide it into its proper position. You may occasionally be asked to assist the doctor by breathing, holding your breath or coughing.

One of the most important aspects of cardiac catheterization is coronary angiography, or the injection of radiopaque dye (contrast material) through the catheter, allowing the physician to view the heart and coronary arteries X-rays. Radiopaque dyes injected through the catheter, and the resulting X-ray images, can locate blockages within the coronary arteries. Angiography can also show the motion of the heart wall and any leakage of blood back through the valves.
Before Your Procedure

What Is Required

• There is a possibility that the dye may cause nausea, therefore, an empty stomach is advised. If your procedure is scheduled in the morning, do not eat or drink anything after midnight on the night before the procedure. Prior to the procedure, your physician will instruct you regarding daily medications. Based on the physician’s instructions, you may continue to take any prescribed medications with sips of water. If your procedure is scheduled in the afternoon, we suggest a clear liquid breakfast such as apple or cranberry juice, tea or ginger ale.

• Please arrive at St. Peter’s Hospital one hour prior to your scheduled time. Report to the registration office on the fifth floor of the McAuley Building (Elevator A). Registration personnel will then direct you to the designated patient care area.

• One of our nurses will show you to your room and help you with your hospital gown. During this time, the nurse will ask you some questions regarding your general health. Please bring a list of the medications you take with you. You will be allowed to wear your glasses, dentures, contacts, rings, hearing aids and socks during the procedure, if you desire. If you have any questions, please consult your physician.

• You will be asked to empty your bladder by urinating prior to the procedure.

• A sedative may be given to you in your room or in the lab prior to the catheterization. A sedative is given instead of general anesthesia because you will need to assist during the procedure by breathing, holding your breath and coughing.

• The procedure will take approximately two hours. However, it is important to note that the length of these procedures varies. Afterward, you will be brought back to your room.

• Your family may visit with you before and after the procedure. They will be instructed where to wait during the procedure. The physician will speak with you and your family following the procedure.

• Please make arrangements for someone to drive you home.

• We also ask that someone stay with you at home on the night following the procedure in the event you need any assistance.
In the Catheterization Laboratory

The lab itself is a large area with electronic equipment. Not all of the lab’s various cameras, monitors and instruments will be necessary, but they will be set up in the event they may be needed. Medical staff will be dressed in green scrub suits. They will be there to answer your questions and assist your physician with the procedure.

You will be asked to lie on your back on a special table. The nurse will apply special electrodes connecting you to a heart monitor. The small IV catheter in your left arm will allow you to receive any necessary medications or IV fluids during the procedure.

The area of the skin where the cardiac catheter will be inserted will be cleaned with cool solutions and shaved. Sterile drapes will be placed over you to minimize the risk of infection. You will be asked to keep your arms at your sides so that the drapes are not disturbed. The staff will assist you as required.

The preparation for catheterization often takes as long as one half-hour.
What To Expect

- You will be given a local anesthetic where the catheter is to be inserted. This injection creates a stinging sensation and causes only temporary discomfort.

- Traditionally, the femoral approach through the groin is used during catheterization. A needle with a wire is inserted into the groin area. The catheter is slipped over the wire and into the artery leading to the heart.

- Your physician may deem it necessary to utilize the artery in your arm (the brachial approach). In the brachial approach, a small incision is made to expose a blood vessel in the arm. A small amount of heparin, an anti-coagulant, is given. The doctor inserts the catheter directly into the blood vessel leading to the heart.

- You will not experience any pain as the catheter is inserted because there are no nerve endings in the artery. You may, however, feel some pressure in the arm or leg. This is normal and should be expected.

- The X-ray cameras allow for accurate positioning of the catheter within the heart. The lights in the room may be dimmed and you may hear the noise of a camera as it moves. The table you are lying on will also be moved up and down during the procedure to improve the view of the heart and the coronary arteries.

- You will be asked to take deep breaths. Please hold your breath as long as you can, and when you need to breathe, let the air out slowly. You also may be asked to cough at certain times. If you are asked to give a deep and hard cough, it is very important that you do so immediately. This will clear the dye from the heart.
• If you have any chest pain or pressure during the procedure, inform the medical staff immediately.

• Your physician will inform you when the dye is inserted into the catheter. You may experience a warm, flush sensation all over your body that lasts about 15 to 30 seconds. This is a normal reaction to the dye and is not cause for concern.

• After the procedure is completed, the catheter will be removed. If the insertion was in your arm, the incision will be closed with sutures and a snug dressing will be applied. If the catheter was inserted into your groin, the incision will be closed with a “plug,” a material that works with your body’s natural healing processes to seal the artery.

• You will be brought back to your room on a stretcher following the procedure.

• The physician who performed the catheterization will review the results of the procedure with you and your family, if present. He or she will be able to give you and/or your family physician all the pertinent information.
**After Your Procedure**

**What to Expect**

- Once you have returned to your hospital room, you will be carefully monitored by the nursing staff. The length of bedrest will be determined by your physician. Your nurse will bring you a bedpan or urinal if you need one but, even then, you should try to move as little as possible.

- If your procedure was done through the arm, you will need to keep your arm straight and stay in bed for four hours. If you wish to use the bathroom, a staff member will assist you.

- Your blood pressure will be checked frequently. A nurse will also regularly check the point where the catheter was inserted to be sure there is no bleeding. Your physician may wish to check you as well.

- You will be encouraged to drink an increased amount of fluid to help flush the dye out of your system. Because of the effect of the dye and the extra fluids, your urinary output will also increase. With the approval of your physician, you will be allowed to eat as soon as you return to your room.

- As the local anesthetic wears off and normal blood flow returns, you may experience numbness or tingling in your arm or leg. This is normal. Your incision site may be slightly tender. Ask the nurse for pain medication if you feel you need it.

- Following an appropriate recovery period, you may be able to go home. Please arrange for someone to drive you home from the hospital and to stay with you the night after the procedure.

- The nurse will give you written instructions regarding the care of your insertion site.

- We ask that you consult your physician before resuming your normal daily activities and follow the written instructions that your nurse gives you.
Important Notes

Things to discuss with my physician or nurse:
St. Peter’s Health Care Services, a comprehensive, integrated system of care, is the Capital Region’s largest provider of health care services.

St. Peter’s Hospital is proud to be designated a national Magnet™ Hospital for consistent excellence in nursing services. St. Peter’s has also been ranked among an elite group of hospitals nationwide as a Distinguished Hospital for Patient Safety™, Top 100 Cardiovascular Hospital, Top 100 Stroke Hospital and Top 100 Hospital for overall clinical services.

St. Peter’s continues to set the pace for health care innovations. We are 5,000 professionals who know that technology is critical to treatment, but compassion is the key to healing.