Providence St. Vincent Heart Clinic – Cardiology

Tests and Procedures

ASD/PFO Closures

Description

An atrial septal defect (ASD) is an opening between the upper two chambers of the heart. Patent foramen ovale (PFO) is a term used to describe a small hole or potential communication in the section of the atrial septum called the foramen ovale. An atrial septal defect may lead to symptoms such as shortness of breath or fatigue. Either ASDs or PFOs may also be associated with strokes and transient ischemic attacks. Recent research has suggested that PFO's may also play a role in migraine headaches. This relationship is still controversial. These holes are often easily closed percutaneously, eliminating the need for open heart surgery.

Length

This test will take approximately 2-3 hours.

Preparation

- Do not eat or drink for 6-12 hours prior to the study, unless directed otherwise by your physician.
- Please discuss with your physician which medications you should take on the day of the test.

Biventricular Pacing

Description

Biventricular pacing is a promising new procedure that improves the pumping function of the heart by aligning (or "synchronizing") the function of the left and right ventricle. In general, this procedure is very similar to the Pacemaker Implantation. However, an additional pacemaker electrode is directed to the left side of the heart and placed into a vein behind the left atrium (the coronary sinus). This allows pacing from both the right and left side of the heart.

Length

This procedure will take approximately 2-4 hours to complete. Most patients will be observed overnight in the hospital.

Preparation

- Do not eat or drink for 12 hours prior to the procedure.
- Please discuss with your physician which medications you should take on the day of the test.

Cardiac Catheterization

Description

Small catheters are inserted into an artery and/or vein close to the groin and are advanced to the heart under x-ray guidance. These catheters are used to inject dye into the coronary arteries and the left ventricle while taking x-ray video images, and to measure pressures in and around the heart and the vessels of the lungs. The video images are used to assess for narrowing (stenoses) within the coronary arteries, and is referred to as Coronary Angiography. Significant stenoses may be responsible for episodes of chest discomfort (angina) but can sometimes cause congestive heart failure, shortness of breath and heart attacks (myocardial infarction).

Length

This test itself takes typically less than 30 minutes, but including test preparation and recovery, the entire process will typically take 4-6 hours to complete.

Preparation

- Do not eat or drink for 6-12 hours prior to the study. Unless otherwise directed, you
  should take all of your regular medications except diuretics and diabetic medications
  (with only as much water as needed to do so) the morning of the test. Please bring any medicines you take with you in their original bottles

Cardiac MRI

Description

Magnetic Resonance Imaging (MRI) of the heart allows a detailed examination of the heart, including heart function. This test is usually done if questions remain after initial testing or in specific diseases such as cardiomyopathies (heart muscle diseases) or pericardial disease (the outer lining of the heart). This study cannot be done if you have a permanent pacemaker.

Length

This test takes approximately 1-2 hours to complete.

Preparation

- If you are scheduled for this test, you will fill out a separate form especially for MRI
  procedures.
- There are no food or drink restrictions for this test

Carotid Artery Ultrasound

Description

This test uses ultrasound to evaluate the arteries on each side of your neck leading to your head. During the test you will lie flat on your back while a small probe with a clear gel on its surface is moved up each side of you neck from the collar bone up to just below your ear.

Length

This test will take approximately 30 minutes to complete.

Preparation

- There is no preparation necessary for this test.

Dobutamine Nuclear Imaging Study

Description

This test is similar to the Exercise Nuclear Imaging Test, only you will not be walking on the treadmill. A drug, Dobutamine, which raises your heart rate and blood pressure, will be administered through an IV in your arm by a Registered Nurse as a substitute for the treadmill portion of the test. The pre- and post-stress images will be compared and the results sent to the ordering physician.

Length

This test will take approximately 3-4 hours to complete.

Preparation

- You are not to eat or drink for at least 6 hours prior to your test.
- Absolutely no caffeine or decaffeinated products for at least 24 hours prior to the study.
- Please discuss with your physician which medications you can take the day before and the day of your test.
- Please wear loose, comfortable 2-piece clothing.

Dobutamine Stress Echocardiogram

Description

This test is similar to the Exercise Stress Echocardiogram, only you will not be walking on the treadmill. A drug, Dobutamine, which raises your heart rate and blood pressure, will be administered through an IV in your arm by a Registered Nurse during your test as a substitute for the treadmill portion of the test. The pre- and post-stress images will be compared and the results sent to the ordering physician.

Length

This test will take approximately 90 minutes to complete.

Preparation

- You are not to eat or drink for 2 hours prior to your test.
- Please discuss with your physician which medications you can take the day before and
  the day of your test.
- Please wear loose, comfortable 2-piece clothing.

Echocardiogram

Description

This test uses high frequency sound waves to look at your heart. You will need to remove your clothes from the waist up and put on a gown. While the test is being performed you will need to lie on you back and left side. During the exam a small probe with clear gel on its surface is rubbed over the center of your chest and left side.

Length

This test will take approximately 60 minutes to complete.

Preparation

- There is no preparation necessary for this test.

Electrocardiogram (EKG or ECG)

Description

This test records the electrical activity of your heart. You will need to lie down and electrodes (small sticky patches) will be placed on your chest. Then a chart of the heart's electrical activity will be recorded.

Length

This test is very brief and will take approximately 15 minutes to complete.

Preparation

- There is no preparation necessary for this test.

Event Monitor

Description

This test involves getting fitted with a series of electrodes and a monitoring device. While wearing the device you must activate the monitor by pushing a button anytime you feel symptoms.

Length

Getting fitted with the monitor will only take a few minutes. You will need to wear it for a length of time determined by your physician.

Preparation

- There is no preparation necessary for this test.

Exercise Nuclear Imaging Study

Description

This test is composed of three parts. First, an IV is started in your arm through which you will be injected with a radiopharmaceutical for the resting image of your heart. After this image is acquired, the second portion of the test starts with a Stress Test. At peak exercise you will be injected through your IV with another dose of radiopharmaceutical for the stress image of your heart. The third part of the test is the acquisition of the stress image of your heart. The pre- and post-exercise images will be compared and the results sent to the ordering physician.

Length

This test will take approximately 3-4 hours to complete.

Preparation

- You are not to eat or drink for at least 6 hours prior to your test.
- Absolutely no caffeine or decaffeinated products for at least 24 hours prior to the study.
- Please discuss with your physician which medications you can take the day before and the day of your test.
- Please wear loose, comfortable 2-piece clothing.

Exercise Stress Echocardiogram

Description

An Echocardiogram will be performed before you walk on the treadmill gathering a set of specific images of your hearts squeezing function and then another set of images will be gathered after you get finished on the treadmill. The pre- and post-exercise images will be compared and the results sent to the ordering physician.

Length

This test will take approximately 60 minutes to complete.

Preparation

- You are not to eat or drink for at least 2 hours prior to your test.
- Please discuss with your physician which medications you can take the day before and the day of your test.

- Please wear loose, comfortable 2-piece clothing.

Holter Monitor

Description

This test involves getting fitted with a series of electrodes (small sticky patches) and a monitoring device that you will need to wear for 24-48 hours. You will need to come into the office to start the test and once again to turn in the device.

Length

Getting fitted with the monitor will only take a few minutes. You will need to wear it for 24-48 hours.

Preparation

- There is no preparation necessary for this test.

Pacemaker Implantation

Description

Sometimes the cause for recurrent dizziness or fainting is an erratic, slow heart rhythm that requires implantation of a permanent pacemaker. A small incision is made just below the collar bone and small wires (electrodes) are advanced to the heart under x-ray guidance. These wires are then hooked up to a small, battery-powered pulse generator under the skin and pace the heart if needed.

Length

This procedure will take approximately 2 hours to complete. Most patients will be observed overnight in the hospital.

Preparation

- Do not eat or drink for 12 hours prior to the procedure.
- Please discuss with your physician which medications you should take on the day of the test.
- If you are on warfarin (blood thinner), special preparation is needed.

Regadenoson/Adenosine Nuclear Imaging Study

Description

This test is similar to the Exercise Nuclear Imaging Test, only you will not be walking on the treadmill. A drug, Regadenoson / Adenosine (which is a vasodilator), will be injected

by a Nuclear Medicine Technologist through an IV in your arm to mimic exercise. The pre- and post-stress images will be compared and the results sent to the ordering physician.

Length

This test will take approximately 3-4 hours to complete.

Preparation

- You are not to eat or drink for at least 6 hours prior to your test.
- Absolutely no caffeine or decaffeinated products for at least 24 hours prior to the study.
- Please discuss with your physician which medications you can take the day before and the day of your test.
- Please wear loose, comfortable 2-piece clothing.

Rotational Atherectomy

Description

Some coronary artery blockages are very calcified and resistant to routine strategies, such as balloon angioplasty. Rotational atherectomy is very useful in these situations. A tiny olive-shaped burr partially coated with diamond particles is used to "drill" through the blockage in the artery, typically spinning between 160-180,000 rpm. Typically the vessel is then treated with balloon angioplasty and stenting.

Length

This procedure will take approximately 60-90 minutes to complete.

Preparation

- Do not eat or drink for 6-12 hours prior to the study, unless directed otherwise by your physician.
- Please discuss with your physician which medications you should take on the day of the test

Stent / PTCA

(Percutaneous Transluminal Coronary Angioplasty)

Description

Once a significant stenosis has been detected, it is usually opened up by inflating a small balloon at the site of the narrowing, usually followed by placement of a tiny metal scaffold, called a stent, to prevent the artery from re-narrowing. Frequently these stents are coated with specific drugs that greatly reduce the risk of re-narrowing at the stent site.

Length

Generally, the procedure itself takes less than 2 hours. Most patients will be observed overnight in the hospital.

Preparation

- Do not eat or drink for 6-12 hours prior to the study, unless directed otherwise by your physician.
- Please discuss with your physician which medications you should take on the day of the test.

Stress Test (Exercise EKG)

Description

This test is an Electrocardiogram (EKG) in conjunction with walking on a treadmill. The treadmill will increase in speed and elevation every 3 minutes until either you can go no further or the Nurse or Cardiology Technician says it is time to stop. Blood pressures and electrocardiograms will be taken throughout the exam.

Length

This test will take approximately 1 hour to complete.

Preparation

- You are not to eat or drink for at least 2 hours prior to your test.
- Please discuss with your physician which medications you can take the day before and the day of your test.
- Please wear loose, comfortable 2-piece clothing, including walking or tennis shoes.