

Cardiac Catheterization/Angiography

The purpose of this test is to evaluate the arteries of the heart for blockages, assess the pressures inside the heart, the integrity of the heart valves, and the strength of the heart muscle. This is usually done after an abnormal stress test or echocardiogram. It is sometimes done prior to surgery on the heart to make sure heart bypass is not necessary while repairing other abnormalities of the heart.

Preparation usually involves an overnight fast or at least **4 hours** prior to the procedure if it is being done in the afternoon. If your procedure is being done in the afternoon you may have a light breakfast such as toast and coffee. If you are diabetic, you should ask your doctor for instructions regarding your insulin or diabetic medications on the day of the procedure. Typically these medications are held or the doses lowered. You should present to the procedure area **two hours** prior to your scheduled time to allow for registration and preparation. You will need to bring someone with you who can drive you home after the procedure is complete. You are not allowed by law to operate any machinery after the injection of a sedative for at least **24 hours**. In addition driving may open up the blood vessel where the procedure was performed and cause bleeding.

Informed consent is required prior to performing the procedure. The risks involved with this procedure are bleeding, damage to the blood vessel, heart attack, stroke, and rarely death. An allergic reaction may occur from the dye if you are allergic to iodine, and/or shellfish. Notify your physician if you have any dye or other allergies. Medications can be given before hand to prevent an allergic reaction to the dye. Any questions that you have regarding the procedure and the risks involved should be discussed with your physician prior to scheduling the procedure. Although this procedure is invasive and carries some risk it is the only way to determine for certain if you have any blockages in the arteries.

This test is typically not done in **pregnant** women to avoid exposing the fetus to x-ray radiation. If you are pregnant or there is a possibility of being pregnant, notify your physician immediately. It is customary for a pregnancy test to be done in women of childbearing age prior to the procedure.

The procedure is typically done in a sterile, x-ray lab of a hospital with your doctor, several technicians, and a nurse. Prior to the procedure blood work and chest x-ray is performed. Sometimes the blood work and chest x-ray are done as an outpatient prior to the day of the procedure. An intravenous (IV) line is placed. You are brought into the procedure room and placed on a narrow table. ECG leads, blood pressure cuff, and oxygen monitor are placed to assess your heart rhythm, blood pressure and oxygen level before, during, and after the procedure. A mild sedative is given through the IV line to help you relax. A local anesthetic is given over the area where the catheter is placed. If you feel any pain or discomfort, notify the physician immediately. A catheter is inserted into a blood vessel typically one in the right leg or right arm and passed into the heart. The left leg or arm is sometimes used. Through this catheter, dye is injected into the

arteries of the heart and the heart chambers. Occasionally, a rash may develop from the dye due to an allergic reaction. Notify your physician immediately if you feel warm and itchy. Warmth alone is common with injection of the dye and is not a sign of an allergic reaction. With x-rays, pictures of the heart are taken in multiple views. After the arteries are visualized, a burst of dye is passed through the heart chambers. This typically makes you feel warm all over, like a shot of whisky. Sometimes it can make you feel like you want to urinate. This warmth passes very quickly. The entire procedure lasts **30-45 minutes**.

Once the procedure is complete, the blood vessel is either sealed with a collagen plug or sutured if possible. Manual pressure is applied to the area if a sealing device cannot be used. Bed rest is **2-6 hours** depending on whether a sealing device is used. If the arteries and heart muscle are normal, then you may go home later that day if no complications develop. If abnormalities are found, further procedures or heart bypass surgery may be needed. Your physician will discuss the options with you. If further procedures are needed such as balloon angioplasty or heart bypass, you may be admitted to the hospital afterwards.

Once you are at home, you should take it easy for the rest of the day. Avoid going up and down stairs. Drink plenty of fluids to help flush the dye through the kidneys. The puncture site should be monitored frequently for bleeding, or puffiness. If this develops, put pressure on the site and call your physician immediately. Mild bruising and discomfort in the area is not uncommon. If you develop severe leg pain, back pain or tingling or numbness in the leg notifies your physician immediately. When you return to work depends on your type of work, and the findings of the procedure; typically this is a couple of days.