

Illinois Heart & Lung Associates - Patient Services

Cardiac Catheterization with Coronary Angiogram

What is an Angiogram?

An angiogram is a remarkable type of procedure that allows doctors to use an X-Ray camera outside your body to see how blood circulates within the walls of your heart. This is accomplished with only one small incision, typically at the very top of your leg. Through this incision, a very small tube - a catheter - is threaded to your heart. When the tube is exactly in place at the openings to each of the coronary arteries, X-ray dye is released. The X-ray camera outside of your body will show exactly where the dye reaches, and where it doesn't. If the dye doesn't make it to part of the heart wall, it indicates that there's a blockage in the vessel feeding that portion of the heart wall muscle.



Heart Anatomy

Your heart is your body's hardest-working muscle - a hollow shape about the size of your fist, pumping blood throughout your body, day after day. Like any muscle, the heart needs a constant supply of oxygen and nutrients. These reach the heart walls via the three coronary arteries. In spite of all the blood passing through your heart every minute, your heart muscle can starve when any of the three coronary arteries become too clogged. Unfortunately, partially blocked arteries are not uncommon - over 7 million Americans have this condition, known as coronary heart disease (CHD).

Coronary Heart Disease

CHD is caused by a thickening of the inside walls of the coronary arteries. This thickening, called atherosclerosis (ath a row skle row sis), narrows the space through which blood can flow, decreasing and sometimes completely cutting off the supply of oxygen and nutrients to the heart.

Atherosclerosis usually occurs when a person has high levels of cholesterol, a fat-like substance, in the blood. Cholesterol and fat, circulating in the blood, build up on the walls of the arteries. The buildup narrows the arteries and can slow or block the flow of blood. When the level of cholesterol in the blood is high, there is a greater chance that it will be deposited onto the artery walls. This process begins in most people during childhood and the teenage years, and worsens as they get older.

Right now your symptoms suggest that you have coronary heart disease. If that is the case, your doctor will recommend changes in your lifestyle, possibly medications, and possibly procedures to reestablish blood flow to the heart muscle that needs it. But first it's important to confirm that your symptoms are caused by blockages in your coronary arteries. If there are blockages, it's important to see just how serious the blockages are. All this can be done with an angiography.

Before Your Catheterization

Your catheterization is not a surgical procedure, but a few guidelines need to be followed:

- Do not eat or drink anything after midnight the night before your procedure
- If your test is scheduled later in the day, go at least six hours without eating or drinking
- You may take necessary medications with a sip or two of water

- Prior to your test a chest X-ray, blood tests and an EKG will be performed
- You will be asked to sign an informed consent to undergo this procedure
- The floor nurse will obtain a brief history, start an IV and prepare your catheterization site
- You may wear your glasses, dentures, and rings to the Cath Lab
- The only clothing allowed is a hospital gown and sock or slippers

During the Procedure

You will be brought to the Cath Lab by wheelchair or stretcher. Once in the Cath Lab, the nurses and technicians will assist you onto the X-ray table, attach you to a monitor and start IV fluids. The arm or groin will be painted with an antiseptic solution and draped with sterile sheets. You will be asked to keep your hands at your side unless the staff helps you reposition them. You will be given a local anesthetic where the catheter will go in. Once the anesthetic has taken effect, a needle is inserted into the blood vessel. Using a tiny, flexible wire, the needle is removed over the wire and is replaced by a small, hollow tube called a sheath. The catheter is placed through the sheath and guided up to the heart.

When the doctor is ready to take the X-ray pictures, he/she will ask you to take in a deep breath and hold it. Since your cooperation is needed for this, you will be awake during the procedure, though perhaps mildly sedated. You may experience slight chest discomfort when asked to take a deep breath, but this should go away when you resume normal breathing. Please report if this feeling does not go away. You may also be asked to cough several times during the test.

A picture of the ventricle (the heart's main pumping chamber) will cause you to feel a warm, flush sensation. The procedure will last approximately 30-60 minutes, depending on each individual's anatomy.

Once the procedure is completed, the catheters and sheaths are removed and pressure is applied to the site to prevent bleeding.

Your family will be notified when the procedure is completed, and may be asked to join you for the viewing of the films.

Following the Procedure

You will be returned to your room by cart. The majority of patients will remain on bedrest for six to eight hours to prevent any bleeding from the catheterization site. In selected patients a wound sealer called an Angio-Seal may be used which would reduce the bed rest time by several hours. However, use of this sealer cannot be determined until the test is over. During the bed rest phase you will be asked to keep your leg straight and to report any bleeding or swelling at your catheterization site to the nurses. If you should feel any bleeding or swelling, you should apply pressure with your hand and call for a nurse. The nurses will routinely check your vital signs and your cath site. You will be asked to keep the head of your bed elevated no more than 30 degrees. Since your head cannot be raised, you may need assistance to eat and drink. You will need to drink plenty of fluids while you are on bed rest.

Obtaining Your Test Results

Your cardiologist will discuss the findings of your catheterization with you following the procedure. He/she will talk with your primary care physician, and together they will make recommendations on your follow-up care.

Your Recovery

Your physician will discuss with you how soon you can take part in physical activities and when you will be able to resume driving. If you have any questions regarding your test, call the office where you scheduled your test.