

## Cardiac Catheterization and Angiogram

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A cardiac catheterization is a procedure that allows the pediatric cardiologist to get direct information about the blood pressures and patterns of blood flow within your child's heart. An angiogram is an X-ray movie that's taken while special fluid (called contrast) that's visible by X-ray is injected into a cardiac chamber or major blood vessel.

Your pediatric cardiologist or nurse will explain the reason for this procedure and how it will help in the care of your child. They will also explain the test's possible risks, which fortunately are rare. After you've heard about the test and have had a chance to ask questions, you'll be asked to sign a consent form for your child to have the test. Since a catheterization and angiogram require special X-ray equipment that's only found in hospitals or large medical facilities, the test must usually be scheduled in advance.

Many children are admitted to the hospital on the day of the catheterization, but some may need to be admitted the day before. For several hours before the catheterization, you'll be told not to give your child anything to eat or drink. Before the test is done, your child will likely be given a sleeping medicine by mouth or in a small shot under the skin. An intravenous line (IV) is sometimes placed in one of the veins.

During the catheterization your child will be cared for by a team of nurses, doctors and technicians. You won't see your child at this time, but the staff will make every effort to keep your child completely comfortable. The catheterization test usually causes little discomfort and your child will sleep through most of the test. In some cases the procedure will be done under general anesthesia.

The catheterization involves placing small IV tubes in the vein and artery of a leg, arm or the neck. Through the special IV tubes the cardiologist can pass thinner tubes (called catheters) into the circulation. Catheters are small, hollow plastic tubes that are the size of spaghetti noodles. The catheter is slowly moved through the circulation until it reaches the heart. From there it can be passed to different chambers of the heart and to the veins and arteries connected to the heart. Your cardiologist can learn very important information about your child's heart condition from the blood samples and blood pressures that are measured through the catheter at different places in the circulation.

During the catheterization an angiogram is usually performed. This is done by injecting special fluid (called dye or contrast) through the catheter into a blood vessel or a chamber of the heart. Since the dye is visible by X-ray, an X-ray movie of the circulation can be recorded. An angiogram requires much more X-ray than is needed for a simple chest X-ray. For this reason

the test is performed only when it's definitely necessary for your child's care. Be reassured that many studies have been done that show no long-term effect in people who had cardiac catheterization and angiography in childhood.

Sometimes a child's heart defect can be treated during the cardiac catheterization. This is called an interventional or therapeutic catheterization. These treatments include opening up a hole in the wall between the upper chambers, opening up a blocked valve or vessel, plugging off the unnecessary vessel or closing unnecessary holes in the heart. Your pediatric cardiologist will discuss these treatments with you before the catheterization.

After the catheterization and angiogram, the small catheter tubes and IV lines will be taken out of your child's leg or arm and a pressure bandage will be placed over the area. Your child will return to the room and will likely be sleepy for several hours. There may be a slight fever or an upset stomach after the test, but these symptoms usually go away in a few hours.

After the catheterization, your cardiologist will discuss the results of the test with you. Your child will be able to go home later that day or the next morning, depending on the details of the procedure.