About Your Child’s Heart Catheterization

Medical City Children’s Hospital
Specialists. In children.
Understanding Your Child’s Heart Catheterization

The purpose of this information booklet is to help you understand what happens when your child has a heart catheterization. A heart catheterization, also called a ‘cath,’ is a routine test. It is performed around the world to identify heart and blood vessel problems in children and adults. Many children with heart problems will have a heart catheterization at some point in their life. Some children need to have this test many times during their lifetime.

The Normal Heart

The heart is a very special muscle that acts like a pump. Blue blood (blood that is low in oxygen) comes from the veins throughout the body into the right atrium of the heart. The blood goes from the right atrium into the right ventricle. The right ventricle pumps the blood to the lungs where oxygen is added to the blood, making it a bright red color. From the lungs, the blood flows back into the left atrium of the heart. The blood goes from the left atrium in to the left ventricle. The left ventricle pumps the blood out of the arteries, pumping red blood (full of oxygen) to the entire body. A child with a heart defect may have blood flow in the heart that is different from what is normal.
Before the Heart Catheterization

When your doctor decides your child needs a cardiac catheterization, the procedure will need to be scheduled first. You will receive an appointment for your procedure from your doctor’s office. They will give you information about the date and time of your heart catheterization. You should learn about your child’s condition and procedure at your office appointment.

About a week before the cath, you should receive a packet in the mail. This packet:

- Reminds you of the date and time of the cath
- Explains the cath procedure
- Includes special instructions about feeding limits the day of cath
- Lists any medications that you must start before the cath, if this relates to your child’s condition

The time and date listed in your packet refer only to the day of cath. **You need to keep this appointment.**

Some cath lab procedures require that blood be available, ready to give to your child in case it is needed. It is very rare that we use blood for any case. Cath lab cases that typically require blood on standby are:

- Aortic balloon angioplasty
- Aortic balloon valvuloplasty
- Intravascular stent placement
- Pulmonary balloon angioplasty
- Pulmonary balloon valvuloplasty
- Ventricular Septal defects (VSD)
- Atrial Septal defects (ASD)

If your child is going to have one of these procedures, it is possible for you and or your family to donate blood. This process is called “Directed Donor Blood.” It usually costs at least $225. The blood must be donated:

- No sooner than 14 business days before the procedure
- No later than 5 business days before the procedure

If you are interested in this program, talk to your cardiologist about it. Carter Blood Care requires a special form from your doctor to collect your blood. For more information, you may call the special donations department at Carter Blood Care at 817-412-5308 or 817 412-5309.
Your Child’s Health History

1-3 days before your heart child’s heart cath, you are asked to call a pre-op nurse to give your health history over the phone. This call may last anywhere from 20 to 40 minutes depending on your child’s health history. We have found that recording the health history over the phone allows families and nursing staff to be more attentive to the child on the day of the cath. It also allows for a smoother process, and lessens anxiety for families and their children. **We kindly encourage you to call the pre-op nurses at 972-566-5012 to provide your health history prior to your procedure.**

The Day of the Catheterization

On the day of the cath you will need to park outside of Medical City Children’s Hospital. Go to the second floor of the children’s hospital and sign in at the desk. This area is the preoperative (pre-op) unit. You will be given an exact time to arrive in pre-op. It is **VERY** important that you are on time. Please allow extra time for morning traffic, bad weather and other travel events. If you are going to be late, please call:

- Pre-op admitting desk :972-566-8830
- Pre-op nurses: 972-566-4190

You may leave a message at either of these two numbers.

In pre-op, you will register your child at the bedside. Please bring your ID card or driver’s license and insurance card for verification. The nurse will come and greet you and your child, measure and weigh your child and take his or her vital signs. Your child will be taken to a room and asked to change into a gown or hospital pajamas. The nurse will get information from you about your child’s medical history and medications. You can bring your child’s medications with you or bring a list that the nurse can go over with you.

In your pre-op room, you will meet the cardiologist who will perform the cath. This doctor will explain the procedure to you. Then you will have to sign the consent form. Any questions or concerns that you have about the cath can be discussed with the cardiologist at that time. It is very important that you clearly understand what will be happening to your child. We encourage you to ask any question, no matter how small it may seem to you.

Most children will require general anesthesia during the cardiac cath. In your pre-op room you will also meet with the anesthesiologist. This doctor will put your child to sleep and monitor him or her during the cath. You will have to sign a second consent form for your child’s
anesthesia. If your child has any loose teeth or wears a dental retainer, please let the anesthesiologist know at this time.

Patients who have a cardiac cath receive a medicine that makes them sleep during the cath. Your child’s stomach must be empty when he or she receives these medicines.

- Your child **may not eat** anything for a minimum of **8 hours** before a cardiac cath. This includes food, gum or candy and thickener for formula or breast milk.
- Your child **may not have milk, formula or dairy products** for a minimum of **6 hours** before a cardiac cath.
- Your child **may take only clear liquids** up to **3 hours** before the cath. This includes clear fluids without pulp.
- If you are **breast feeding**, your baby **may have non-fortified breast milk** up to **4 hours** before the cath.
- For the **3 hours** before the cath, your child may not have anything to eat or drink.

The time you stop feeding your child depends on the time the cardiac cath is scheduled and the age of your child. Your packet will tell you exactly when to stop feeding your child. 1-3 days before the cardiac cath is scheduled, a preoperative nurse will call you to review these times. If you have not received instructions, or if you have any questions, please call:

- Genevieve Wilson at 972-566-2243 or
- The pre-op nurses at 972-566-4190

The night before your cath, feed your child regular food for the evening meal and for nighttime snack. Do not feed your child fried, greasy, spicy foods. These take longer to digest. They can cause nausea and vomiting during and after the procedure.

**It is very important that you do not give your child anything to eat or drink after you have been told to stop feeding. Feeding your child may make it necessary to cancel the cardiac cath.**

Is your child on any medicines? If you have not received any instructions on discontinuing your medicines, call your cardiologist before the day of the procedure to find out whether or not to keep giving your child prescribed medicines. Please continue all respiratory medicines and treatments, if needed, up until the time of the cath.

If your child is a girl 10 years or older, she may be asked if pregnancy is possible. Your child may be asked to take a urine pregnancy test. The cardiac cath requires the use of x-ray and involves exposure to radiation. We want to be sure that there is no chance of pregnancy.
If your child wears:

- Contact lenses
- Removable retainer
- Or any type of dental bridge

Your child will be asked to remove them before the cardiac cath starts. It may be best to leave things at home.

Any makeup, nail polish, hair ornaments, and jewelry must also be removed before the procedure. This includes earrings and posts.

About 15-30 minutes before the cardiac cath starts, your child may be given some medicine by the pre-op nurse. This medicine helps your child relax and is usually in liquid or pill form. The cath lab nurses may take your child to the cath lab drowsy.

Most cardiac caths last between 2-3 hours. You are asked to wait in the Pediatric Cath lab/surgery waiting room while your child has the cardiac cath. If there is an emergency during the cardiac cath, you will be notified immediately. Your cardiologist will come to the waiting room to discuss the findings after the cath is completed.

We very much prefer that at least one family member stays in or near the waiting room. If you absolutely must leave, please let the receptionists sitting at the desk know where you will be.

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**Child Life**

Cardiac procedures can be stressful for children. The way the child deals with stress can depend on the age of the child. It is our belief that if we can lessen stress for the child, we can provide better overall experience for that child. To do that, we provide services through Child Life to help explain procedures to the child. The Child Life therapist uses play therapy along with video games, music, etc. to help reduce stress, distract the child and provide a less fearful experience. Child Life services are available for every patient that needs this service.

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**What Happens During the Catheterization?**

Your child is taken into the cath lab. Your child is asked to lie down on a large x-ray table. Your child will be monitored continuously during the cath for:

- Temperature
- Heart rate
- Blood pressure
- Respirations
- Oxygen saturation
An intravenous line, also called an IV, is started in a vein. This allows us to give fluids and medicines to your child during the cath. The medicine given before and during the cath cause your child to sleep during the entire cath. After your child is asleep, a surgical soap is used to wash the areas of the body where the catheters will be inserted.

Next, the cardiologist injects some numbing medicine into the areas of the skin where the catheters will be inserted. This is usually in the groin area, at the top of the legs. Sometimes the catheters are also placed in the side of the neck.

After the area is numb, small plastic tubes and sheaths are inserted into the large blood vessels. The sheaths are about the size of a piece of spaghetti. Through these sheaths, long plastic tubes, or catheters, are guided into the heart. X-ray helps the doctor guide the catheters into the correct place.

Once the catheters are in place, small amounts of blood are taken through the catheters. Blood is taken from the heart chambers and blood vessels in the heart. This is done to find out how much oxygen is in the blood in different places of the heart. The blood pressure in the heart is also measured.

Next, a special dye, called contrast, is injected through the catheters. The dye goes into the chambers and blood vessels of the heart and shows up as a bright white shadow on X-ray film. This allows your doctor to see:

- the shape of the heart structures
- the flow of the blood through the heart and lungs

Motion X-ray pictures are recorded as the dye passes through the heart.

At the end of the cath, the catheters and sheaths are removed and firm pressure is applied to the cath site for about 10-15 minutes to stop the bleeding. During this time the cardiologist will typically find you in the waiting room to inform you of the findings of the cath. When the bleeding has stopped, cath lab nurses apply a large bandage called a pressure dressing is placed over the puncture site. The pressure dressing helps reduce the chance of any bleeding, swelling or bruising at the cath site. To help reduce the risk of bleeding, your child will also have to lay flat in bed for 4 hours after the bandages are applied to the site.

After the cardiac cath, your child will go the Post Anesthesia Care Unit. This is the recovery room. Usually only two parents are allowed to stay in the recovery room with their child. Other family members may wait in the Pediatric Surgery waiting room, located on the third floor near the Post Anesthesia Care Unit. Once your child is awake enough, he or she can have clear liquids such as Pedialyte®, Sprite®, apple juice or popsicles.
Your child will stay in the recovery room for a couple of hours. If your child is being sent home, he or she will be transferred to another recovery room for approximately 4-6 hours before being discharged. If your child needs to stay in the hospital overnight, he or she will be transferred to an inpatient room from the recovery room.

**At Home**

Once your child is at home, little needs to be done about the cath site. Before you leave the hospital, your doctor will explain:

- When you can take off the dressing
- When your child may take a bath
- Any limits to activity

If you have any questions about these things, please call your cardiologist.

Care of the cath site: A small amount of bruising and slight discomfort at the site are normal. This should lessen within 1 to 2 weeks. Occasionally, there may also be small drops of blood at the site. These are caused by irritation. Keep the site clean and dry. Parents of diapered babies should be especially careful to keep the site from getting soiled. If the site should become dirty, wash the area with soap and water.

**Pain:** Most patients do not need much medicine for pain by the time they go home. Tylenol® or Motrin® may be used if your child has discomfort.

**Diet:** In most cases, a normal diet will be restarted before your child goes home. Clear liquids are usually started in the recovery room once your child is fully awake. When clear liquids are tolerated, your child may have:

- A full liquid diet
- Milk
- Formula
- Regular diet

If any nausea or vomiting happens, all food and liquid are stopped for a couple of hours. Then your child will be started again beginning with clear liquids.
Calling Your Cardiologist

The majority of patients have no problems after a cardiac cath. Occasionally, there may be complications. Please call your cardiologist as soon as possible if any of the following occur:

- An increase in tenderness, swelling, redness, bruising or drainage at the site.
- Fever above 101°F during the first week after the cath.
- Any bleeding which requires changing the dressing more than 2 times an hour. If this happens, have your child lie down flat and place your hand firmly over the bandaged cath site. Hold firm pressure for at least 10 minutes, or until the bleeding stops.
- The leg in which the cath was done becomes cooler or more pale than the other leg.

If you have any questions that have not been answered by the information here, please feel free to call the Cath NP or pre-op nurses. They can be reached between 7:30 a.m. and 6 p.m. Monday through Friday at 972-566-4190 or 972-566-2243. If you get voicemail, please leave a message and your call will be returned as soon as possible.
Notes

Mission statement: Above all else, we are committed to the care and improvement of human life.