

TRANSESOPHAGEAL ECHOCARDIOGRAM (TEE)

At CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC we believe parents and guardians can contribute to the success of this test, and we invite you to participate. Please read the following information to learn about the test and how you can help.

Fast Facts About Transesophageal Echocardiogram (TEE)

- A transesophageal (*TRANS-es-off-a-GEE-ul*) echocardiogram (*eck-o-CAR-dee-oh-gram*) or TEE provides a computerized picture of the heart in action.
- It provides a better view of certain parts of the heart than a chest echocardiogram (echo).
- To do the test, a small wand is placed inside the esophagus (*ee-SOFF-a-gus*), the food pipe that connects the mouth to the stomach.
- Your child's test will be done under sedation (*se-DAY-shun*), which means that he or she will be given medicine to make him or her very sleepy and relaxed during the test.
- Your child will not be able to eat or drink for several hours before the test.
- This test is done through Children's Hospital's Same Day Surgery Center in Oakland.
- You may stay with your child until it is time for the sedation medicine to be given, and may rejoin your child as soon as he or she is in the recovery room after the test.

What Is A TEE?

A transesophageal echocardiogram (TEE) is an important type of echocardiogram that uses "ultrasound" or high-frequency sound waves that echo or "bounce" off the heart to create pictures of the beating heart on a television screen. It gives doctors valuable information about the physical structure of the heart and how well it is working. Using a small wand that is passed down the throat into the esophagus, the TEE provides a direct view of the heart without the ribs and breastbone in the way. The pictures then are recorded onto a computer.

Your child's doctor may order a TEE to:

- Look at the heart's valves and chambers;
- Look for different types of heart disease;
- Check for problems in the left atrium, one of the upper chambers of the heart; or
- See how well the heart is working after valve surgery.



Home Preparation

When sedation is needed, there are **important rules for eating and drinking that must be followed the night before and the day of the test.** One business day before your child's procedure, you will receive a call from a surgery nurse between 1 and 9 p.m. (*Surgery nurses do not make these phone calls on weekends or holidays.*) Please have paper and a pen ready to write down these instructions.

- The nurse will ask you about your child's medical history, current medications and readiness for the TEE. If you have any questions, you may ask the nurse at this time.
- The nurse will tell you what time you should arrive at the Same Day Surgery Center. Allow enough time for travel and parking. Arriving late may delay your child's test or cause it to be postponed.
- The nurse will give you specific instructions for eating and drinking. For children older than 12 months, the instructions usually are:
 - No solid food or non-clear liquids after midnight the night before the test. That includes milk, formula, juices with pulp, and chewing gum or candy.
 - Only clear liquids up to 2 hours before the scheduled arrival time. Clear liquids include water, Pedialyte™, Kool-Aid® and juices you can see through, such as apple juice.
 - No tooth brushing on the morning of the test.
 - Nothing to eat or drink in the 2 hours before the scheduled arrival time.

TRANSESOPHAGEAL ECHOCARDIOGRAM (TEE) cont'd

- Children younger than 12 months may have different eating and drinking instructions. No matter what age your child is, you should follow the specific instructions given to you on the phone by the surgery nurse.
- For the safety of your child, it is important to follow these specific times for eating and drinking. Remember: If your child does eat or drink after the scheduled times, it will delay the test or cause it to be rescheduled for another day.
- Dress your child in comfortable, two-piece clothing or pajamas. If your child is an infant or toddler, please do not dress him or her in a “onesie” or one-piece undershirt on the day of the test.
- You should not use any cream, lotion, powder or baby oil on your child’s chest on the day of the test.
- You may bring along a “comfort” item—such as a favorite stuffed animal or “blankie”—for your child to hold during the test.

The Test

The TEE is done by a cardiology doctor who specializes in the care of patients with heart problems. It is done under sedation because your child needs to be very calm for it. Although not fully asleep, your child will not feel any pain during the test or remember it afterwards.

During the test, your child’s heart rate, rhythm, breathing and blood pressure will be checked carefully. The test takes about 30 minutes and the pictures taken of the heart will be recorded so a doctor can look at them later.

- Your child will be asked to take off all clothes down to his or her underpants and put on a hospital gown.
- A member of the hospital’s anesthesia team will meet with you and your child to make sure he or she has not had any food or liquids before the test and ask you any other important questions about your child’s health.
- The doctor who will do your child’s test will come to meet you and your child before the test begins. At that time, you may ask any questions you may have about the test.
- A nurse will come to get your child when it is time for him or her to move into the room where the test will be done. Parents will be asked to wait in the Same Day Surgery waiting area.
- Once your child is in the testing room, an intravenous (IV) line will be placed into a vein in his or her arm. During the test, medicine will be given through the IV to make your child sleepy.
- To begin the test, small plastic stickers called electrodes (*e-LECK-trodes*) will be placed on your child’s chest. Wires will be attached to the electrodes and then connected to a machine.
- A blood pressure cuff will be wrapped around your child’s arm to measure blood pressure frequently throughout the test.



- A light sensor will be taped to your child’s finger to measure the amount of oxygen in his or her blood.
- Medicine will be sprayed into the back of your child’s throat and mouth to numb the area, and then a medicine will be given through the IV to make your child sleepy.
- To make it easy for your child to breathe during the test, a cannula (*CAN-u-la*) will be placed inside his or her nostrils. A cannula is a connected pair of small, soft plastic tubes that will carry oxygen for your child to breathe during the test.
- Your child will lie on his or her left side and a bite block, a small plastic block with a hole in the center, will be placed between the upper and lower teeth. This block will allow the long, thin wand to be passed through your child’s mouth without being bitten. The wand attaches with a thin cord to the sound wave (ultrasound) machine.
- Your child will be asked to swallow as the wand is passed into his or her mouth through the hole in the bite block. The wand will be covered with a numbing gel to make swallowing easier. Even sleepy children are able to swallow when asked. Swallowing helps the doctor guide the wand into the esophagus. As the wand is passed into the back of the throat, it may cause gagging for a moment.
- After the wand is in place in the esophagus, the doctor will gently move it into different positions to take several pictures of the heart. Some of these pictures will be recorded onto a computer to be looked at later.
- The test may take 30 to 60 minutes, depending on how many pictures the doctor needs of your child’s heart.
- At the end of the test, the doctor will gently pull the wand out of the esophagus and remove the light sensor, blood pressure cuff and electrodes. Your child will not remember what happened during the TEE because of the medicine used to make him or her sleepy.

A Parent’s/Guardian’s Role During the Test

The most important thing parents can do is to keep their child as relaxed as possible before the test.

- It is normal for children to be a little afraid when the time comes to be separated from their parents. The best way to help your child stay calm is for you to stay calm. Try to offer words of comfort to your child when the nurse comes to take him or her to the testing room.
- During the test, one parent or legal guardian must stay in the designated waiting room in case the doctor needs to contact you.

TRANSESOPHAGEAL ECHOCARDIOGRAM (TEE) cont'd

- Your child will need to stay in the recovery room to be watched until he or she is alert and his or her vital signs are stable. The length of time your child will spend in the recovery room will vary because some children take longer than others to wake up after anesthesia.
- Your child may complain of a sore throat. A slightly sore throat is normal after a TEE
- A doctor will look at the results of the test while your child is in the recovery room. The doctor may come to meet with you in the recovery room to go over the results of the test.
- When your child is fully awake, you will need to return to the Same Day Surgery Center to be discharged.
- After your child is discharged and goes home, he or she may still be groggy and should take it easy for the day.
- Your child may resume normal activities at the rate he or she is comfortable with.
- Your child may begin to eat and drink a little at a time and resume normal eating and drinking as long as he or she is feeling well.
- The doctor who ordered the test for your child will receive a report on the results of the test within 2 days.
- You should follow up with the doctor who ordered the test if you have any further questions.

Special Needs

If your child has any special needs or health issues you feel the doctor needs to know about, please call the Heart Institute at Children's Hospital of Pittsburgh **before the test** and ask to speak with a nurse. It is important to notify us in advance about any special needs your child might have.

Heart Institute
Children's Hospital of Pittsburgh of UPMC
One Children's Hospital Drive
4401 Penn Ave.
Pittsburgh, PA 15224
412-692-5115

To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.

