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FREQUENTLY ASKED QUESTIONS ABOUT PEDIATRIC ECHOCARDIOGRAPHY

Q: Why is my child having an echocardiogram?
A: An echocardiogram gives information on the structure and functions of the heart and associated blood vessels. Most children undergo an echocardiogram to look for congenital heart defects, which are abnormalities of the heart that may be present at birth.

A congenital heart defect may exist if the pediatrician or pediatric cardiologist hears a murmur (which is an abnormal sound made by the heart pumping blood). Some children undergo echocardiograms to look for causes of chest pain, shortness of breath, or fainting.

Most echocardiograms are suggested after an evaluation by a pediatric cardiologist. Some children may undergo routine studies to look at how well the heart is pumping if they have a particular condition that affects the heart or if on certain medications.

Q: What preparation is required?
A: You should tell your child that he/she might be asked to undergo painless test to examine his or her heart.

Young children between the ages of 4 weeks to 3 years of age often require sedation in order to sleep through the echocardiogram. If sedation is needed, your scheduler will inform you when your child should last be given something to eat or drink. Usually this time is about two hours before the echocardiogram will be performed.

Q: What should the child expect during the examination?
A: The examination room will contain a bed to lie on, an ultrasound machine, transducers and monitoring equipment. A nurse or doctor will be present to monitor a sedated child. An older child may watch television or a movie in the room while undergoing this procedure

The examination room is dimly lit, to improve viewing, and motion pictures of the heart are obtained with ultrasound transducers, which look like wands, that are placed on his/her chest. Ultrasound gel is used to get better pictures. Your child will be asked to remain still during the examination.

Someone with special training in childhood heart disease will perform the examination. In North America, a sonographer most often performs the echocardiogram under the supervision of a doctor.

Your child will be asked to remove his or her clothing above the waist. A gown is offered to older children. Three ECG electrodes will be attached to the chest. The room lights will be dimmed to improve the image quality on the video screen.

The sonographer will apply ultrasound gel to a transducer. The transducer is a wand-like device that sends and receives the harmless ultrasound waves. The gel makes it possible to “see” the heart.

Images will then be taken from several locations on the front of your child’s torso. Most examinations will include images taken from the upper abdomen, the left side of the chest next to the breastbone, near the left armpit, above the breastbone underneath the chin, and on the right side of the chest.

Q: What will we see and hear on the echocardiography machine during the exam?
A: Ultrasound waves used in performing the echocardiogram are not audible to the human ear, so you will not hear the sound waves.

Structures will be displayed in “real-time” and appear as white moving objects on the screen. For example, the valves of the heart will look like white flap-like moving structures. Areas of the heart where there is fluid or blood look black on the screen.
During the exam, you will notice the sonographer placing marks on the screen with small computer calipers. The sonographer uses the calipers to perform various measurements of the size, function and blood flow of the heart.

An echocardiogram exam usually includes a Doppler recording of the blood movement or flow within the heart. When color flow Doppler is used in the exam it will appear as different colors moving within the white and black images on the monitor. The different colors represent the different speeds and directions of blood flow in the heart.

Doppler examinations often also include an audio signal of the blood flow. These audio signals can be heard and seen. During the audio Doppler recording, you will hear the sound of the blood moving through the heart and the sound of the heart valves opening and closing. The audio signals are also displayed as a graph on the monitor. These graphic recordings help the physician to determine valve function and heart pressures.

Q: What happens after the echocardiogram?
A: Following the recording of the images, the sonographer will remove the ECG electrodes and wipe off the ultrasound gel from your child’s chest. If sedated, your child will be woken up and assessed by the nurse or doctor before he/she is allowed to leave the laboratory. The sonographer will, in general, not provide you with any results of the examination since he/she is conducts the procedure, but is not familiar with reading and interpreting the images. However, your doctor will be able to explain the preliminary results to you.

Please note that sometimes it may be necessary to perform additional measurements during the review of the study. A final written report is usually prepared within a day. We thank you for your patience while we conclude our examination

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