

Information for Parents about Fetal Echocardiograms

Your obstetrical caregiver has requested a special ultrasound study on your baby's heart and blood vessels. This type of ultrasound is called a fetal echocardiogram or fetal echo and uses equipment similar to that used in routine ultrasound studies. A complete fetal echo involves three methods of investigation: a 2-dimensional echo is where we can see the fetal heart beating in real time; an M-mode echo is where we can directly measure the dimensions of the heart in systole and diastole to show the function of the pumping chambers and the movement of the valves, and, to check the physiology, we use color and pulsed Doppler blood flow studies to measure the velocity of the blood coursing through the heart, arteries and veins.

We perform early studies transvaginally or transabdominally after 12 weeks through 17 weeks gestation and will typically repeat early studies around 22 weeks. Usually, we can see all of the structures best at about 22 weeks. We may repeat a fetal heart study in the third trimester. The complete study can take 30 to 45 minutes, depending on the position and movement of the fetus and our ability to obtain clear views of the heart. The study tells us about the major anatomical structures and function of the heart, but not whether there are chromosomal abnormalities such as trisomy 21 or Down syndrome. Even if we know that your fetus has Down syndrome, we cannot always completely rule out some congenital heart conditions seen in newborns. Please feel free to ask questions during the study.

Common reasons for having a fetal echo include:

1. A close family member born with congenital heart disease.
2. The baby's heart was difficult to image or not well seen on a previous ultrasound examination.
3. Exposure to certain medications or viruses early in pregnancy.
4. Irregular fetal heart rhythms heard at a routine office visit.
5. The possibility of an abnormal cardiac or other organ structure seen on a routine ultrasound study.
6. Maternal factors such as diabetes, lupus, Sjogren's disease or age.
7. Chromosomal abnormalities detected from cell free DNA or CVS or amniocentesis
8. Assisted Reproductive Technology Pregnancy (IVF)
9. Increased bubble of tissue at the fetal neck on a first trimester scan (increased nuchal translucency).

The heart functions differently in the fetuses as compared to newborn babies and this will be explained to you during the examination. Although we will never be able to detect every possible congenital heart defect, it is extremely valuable for your physician to be aware of as many details as possible in your particular pregnancy. A written report will be sent as soon as possible to your obstetrical caregiver. Please help us by supplying any pertinent information you may have.

Your fetal echo will be performed by a sonographer and will be read by a physician who specializes in maternal-fetal medicine (a perinatologist) or in pediatric cardiology. Although this may be a long study, we will try to minimize your discomfort. Please do not hesitate to tell the sonographer of any problems you may be having during the examination. At the end of the study, we will review the preliminary results with you and, if a fetal heart problem is detected, begin to form a management plan with you and your physicians. Your care giver will explain the need for any future studies or special counseling. You may be asked to have further testing after a later review of your study by the perinatal physicians. If we do find an abnormality of the fetal heart, a final diagnosis will be made after the baby is born by the pediatric cardiologist. Please ask questions!

Some patients are concerned about the use of ultrasound, which is an energy source. The type of ultrasound used in fetal echocardiography is well within the limits of safety established by the American Institute of Ultrasound in Medicine. After more than 60 years of experience with obstetrical ultrasound, no negative effects have been detected in the mother, the infant or in the offspring of the infant. Nevertheless, we will only use equipment and techniques designed to minimize the exposure to diagnostic ultrasound energy.

Please feel free to ask any questions you might have about the fetal echo and remember to tell us if you become uncomfortable during the study. If we do find an anomaly of the fetal heart or cardiovascular system, it will be explained to you to the best of our ability and to your satisfaction.

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Maternal-Fetal Medicine - Fetal Cardiology