

Doppler Assessment of the Fetal Cerebral Circulation

Patient Information Series – What you should know, what you should ask.

What is the importance of the evaluation of the fetal cerebral circulation?

Examination of the blood flow through the fetal brain is an important tool to help doctors understand changes in the baby's physiology in certain fetal conditions, it has been used as clinical guidance in small for gestational age fetuses to differentiate those with fetal growth restriction secondary to placental insufficiency and in those fetuses at risk for anemia. Doctors look at the flow of blood through a prominent blood vessel in the brain called the Middle Cerebral Artery (MCA) which is easily seen at the time of ultrasound examination in pregnancy.

How is this study performed?

A transverse view of the fetal head is obtained by obstetric ultrasound, the middle cerebral artery is observed by applying a special ultrasound technology, called colour Doppler to the area. With this Doppler technology the speed and direction of blood flow in the brain can be assessed.

Is this study harmful for my baby?

Because it is an ultrasound tool, the fetus is not exposed to radiation and there are standardised safety limits governing how this technology is applied. Fetal Doppler can even be performed every day without adverse effects neither to the baby or the mother. Your doctor will discuss with you whether your baby requires serial or multiple tests of this nature, depending on the indication.

What other questions should I ask?

- Is my baby growing as expected?
- How often will I have ultrasound examinations done?
- Where should I deliver?
- Where will the baby receive the best care after it is born?
- Can I meet the team of doctors that will be assessing my baby when it is born in advance?

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