The American College of
Obstetricians and Gynecologists

FREQUENTLY ASKED QUESTIONS
FAQ098
PREGNANCY

Special Tests for Monitoring Fetal Health

What is special fetal testing?

Special fetal testing ("fetal" refers to the developing offspring in the ***uterus*** from the ninth week of pregnancy until the end of pregnancy) helps check the health, activity level, and growth of the baby during pregnancy. It most often is done when health problems in the mother or problems that occur during pregnancy increase the risk of ***stillbirth***. If test results show that there might be a problem, you may need more tests, or you may need special care. Sometimes, the baby may need to be delivered sooner than expected.

Why might I need special fetal testing?

If you have certain medical conditions, you may need frequent testing throughout your pregnancy to check the health of your baby. These conditions include the following:

- Blood disorders
- Thyroid disease
- Heart disease
- Lupus
- Kidney disease
- Diabetes
- High blood pressure

Special testing during pregnancy also is done when problems during pregnancy occur. The following pregnancy-related problems may signal the need for more frequent testing:

- High blood pressure during pregnancy

- Decreased fetal movement
- Too much or too little ***amniotic fluid***
- Fetal growth problems
- ***Postterm pregnancy***
- ***Rh sensitization***
- Prior fetal death
- ***Multiple pregnancy***, if there are complications

What are the types of special fetal tests?

The tests used to monitor fetal health include fetal movement counts, ***ultrasound***, Doppler ultrasound of the umbilical or other artery, nonstress test, biophysical profile, and contraction stress test.

When are special fetal tests done?

Special fetal testing usually is started when a problem is suspected or after 32 weeks of pregnancy. Your health care provider decides when to begin testing based on the following factors:

- Whether the baby can survive if delivered early
- Severity of the mother's condition
- The risk of stillbirth

What are fetal movement counts?

If you have felt your baby moving less often, your health care provider may ask you to keep track of fetal movement counts (also called "kick counts"). One way to do kick counts is to lie on your side and note how long it takes the baby to make 10 movements. If it takes fewer than 2 hours, the result is "reassuring" (which means that for now, it does not appear that there are problems).

What is an obstetric ultrasound exam?

Ultrasound is a way to examine the baby using sound waves. It may be performed by a health care provider or a specially trained technician. During this test, sound waves are produced by a device called a ***transducer***. This device is gently rolled over your abdomen or inserted in your vagina while you are reclining or lying down. The sound waves create images that are displayed on a computer screen for the technician to view. If results are "nonreassuring" (which means that more information is needed to make sure all is going well), other tests may be done.

What is a Doppler ultrasound exam of the umbilical artery?

Doppler ultrasound is used to check the blood flow in the umbilical artery, a blood vessel located in the ***umbilical cord***. It is used with other tests when the baby is not growing well or in cases in which the baby is at risk of ***anemia***, such as Rh sensitization.

How is Doppler ultrasound done?

A transducer is rolled gently over your abdomen to project sound waves. An image of the artery that is being examined is shown on a computer screen. If the test shows problems with the blood flow in the ***placenta***, it can mean that there is a decrease in the amount of nutrients and oxygen being delivered to the fetus.

What is a nonstress test?

The nonstress test is the most common special fetal test. It measures the baby's heart rate in response to the baby's own movements. It is done to assess the health of the baby.

How is the nonstress test done?

For this test, two belts are placed across your abdomen: one belt has sensors that measure the fetal heart rate and the other belt has sensors to detect uterine contractions. You are asked to note when the baby moves by pressing a button, which indicates on the fetal heart rate record when a movement has occurred.

What is a biophysical profile (BPP)?

A biophysical profile may be done if a woman is past her due date or if she has a condition that causes fetal growth or amniotic fluid problems. It helps assess fetal well-being in these five areas:

1. Fetal heart rate
2. Fetal breathing movements
3. Fetal body movements
4. Fetal muscle tone
5. Amount of amniotic fluid

What is a modified BPP?

The modified BPP combines a nonstress test with an amniotic fluid assessment that is performed using ultrasound. The fetal heart rate is monitored in the same way it is done in the nonstress test. Ultrasound is used to measure the depth of the amniotic fluid in the uterus. If the amniotic fluid level is low, it could mean that there is a problem with blood flow in the placenta.

What is a contraction stress test?

The contraction stress test assesses how the fetal heart rate reacts when the uterus contracts. It sometimes is used if a nonstress test result is nonreassuring. In this test, belts with sensors that detect the fetal heart rate and uterine contractions are placed across your abdomen. To make your uterus contract mildly, you may be asked to rub your nipples through your clothing or you may be given ***oxytocin*** through a vein. Your uterus may contract on its own, especially if the test is done late in pregnancy. A decrease in heart rate after most contractions is a nonreassuring result.

Are there risks associated with the contraction stress test?

For some women, this test may increase the risk of complications. The contractions could cause labor to start if you are at risk of ***preterm*** delivery. Also, the test may cause bleeding if you have a condition called ***placenta previa*** or other conditions.

Glossary

Amniotic Fluid: The liquid in the sac surrounding the fetus in the woman's uterus.

Anemia: Abnormally low levels of blood or red blood cells in the bloodstream. Most cases are caused by iron deficiency, or lack of iron.

Multiple Pregnancy: A pregnancy in which there are two or more fetuses.

Oxytocin: A hormone used to help bring on contractions of the uterus.

Placenta: Tissue that provides nourishment to and takes away waste from the fetus.

Placenta Previa: A condition in which the placenta lies very low in the uterus, so that the opening of the uterus is partially or completely covered.

Postterm Pregnancy: A pregnancy that extends beyond 42 weeks.

Preterm: Born before 37 weeks of pregnancy.

Rh sensitization: A condition in which an Rh-negative mother makes antibodies against Rh proteins. These antibodies can react against the baby's Rh-factor if the baby is Rh-positive, causing anemia, jaundice, and other problems.

Stillbirth: Delivery of a baby that shows no sign of life.

Transducer: A device that emits sound waves and translates the echoes into electrical signals.

Ultrasound: A test in which sound waves are used to examine internal structures. During pregnancy, it can be used to examine the fetus.

Umbilical Cord: A cord-like structure containing blood vessels that connects the fetus to the placenta.

Uterus: A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

If you have further questions, contact your obstetrician–gynecologist.