



Common tests during pregnancy

Prenatal tests can provide information about your well-being and your baby's. You and your clinician should talk about which tests will be best for you, and what benefits and risks may be associated with them. Below you'll find some information on common tests and when they are performed during pregnancy. Some tests are offered to all pregnant women. Other tests are offered only when women have certain conditions.

Tests offered to all pregnant women

Routine lab tests

Several lab tests are recommended for all women and usually take place at your first or second prenatal visit. Some of these tests will be done more than once during the course of your pregnancy. Routine lab tests include:

- blood tests:
 - blood type and Rh-factor
 - hematocrit and hemoglobin (tests for anemia)
 - syphilis
 - rubella (German measles)
 - hepatitis B virus
 - human immunodeficiency virus (HIV)
- urine test
- Pap smear

Glucose screening

Pregnancy can change the way your body handles sugar. Some women develop a sugar intolerance called **gestational diabetes** (a form of diabetes that occurs during pregnancy). Clinicians test all women for this problem between the 24th and 28th week of pregnancy.

When you go for your test, you will drink a sweet liquid and have a blood test one hour later. You should not have anything sweet or starchy (like bagels or potatoes) for at least two hours before the test.

One in seven women have an abnormal test result, but most of them will not have gestational diabetes. A three-hour follow-up test is done to confirm diabetes. If you do have it, you may need to change your diet and check your blood sugar daily to prevent problems. Some women may need to take insulin during their pregnancies.

Group B streptococcus (GBS) screening

Group B streptococcus (GBS) is bacteria commonly found in the bowel, bladder, vagina or throat. It can be found in 10-30% of pregnant women, though most do not feel sick or have symptoms. You can pass

GBS to your child during birth. GBS can cause a severe infection and lead to pneumonia or meningitis in babies, and may be fatal for newborns.

You can't necessarily avoid GBS, but your doctor will test for it between 35 and 37 weeks of pregnancy. Your doctor will take a swab of the vagina and rectum and send the sample to a lab. If the results are positive, your doctor will give you IV antibiotics during labor. Antibiotics reduce the chances of your baby becoming exposed and infected. If you have a cesarean birth, you will not need antibiotics during delivery, even if you test positive for GBS.

Ultrasound

Although many women have ultrasound exams during pregnancy, not all experts recommend this as part of routine care.

You might have a routine ultrasound to:

- help estimate when the baby is due
- determine if you are having twins or triplets
- measure the size and growth of the baby
- look for physical abnormalities
- check the baby's well-being if you are past your due date

During the ultrasound, you may also learn if you are having a boy or girl. However, clinicians **do not** order ultrasounds just for that reason. **If you do not want to know the sex of the baby, be sure to tell the technician before the exam begins.**

Ultrasound uses sound waves to form a picture of tissues and organs. It is not an X-ray, so there is no radiation. During the exam, you lie on your back on a padded table. A technician puts gel on your abdomen so that the tool that sends the sound waves (transducer) moves easily across the skin. The gel also helps sound waves move through the body. Sometimes in early pregnancy, a wand-like transducer is gently inserted into the vagina. This brings the sound waves closer to the uterus, which makes the picture clearer.

An ultrasound takes 10-30 minutes and is painless. (Sometimes the exam requires a full bladder, which may be uncomfortable.) Ultrasound exams may be done in a hospital, office or at a diagnostic center.

Multiple marker screening test, or quad screen

The multiple marker screening test, or quad screen, is a blood test used to evaluate your risk for having a baby with certain genetic or chromosomal abnormalities.

The quad screen evaluates the risk for:

- certain birth defects of the brain and spinal cord called neural tube defects, such as spina bifida (open spine) and brain abnormalities
- chromosomal abnormalities, such as Down syndrome

The quad screen is done at 15-20 weeks of pregnancy and measures the levels of alpha-fetoprotein (AFP), unconjugated estriol (UE), human chorionic gonadatropin (hCG) and inhibin-A. A small sample of blood is taken from the mother's arm, so there is no risk to the baby.

The quad screen is a screening test designed to identify possible problems, and is not a diagnostic test. It cannot tell for sure if a baby has one of the problems listed above, and an "abnormal" result does not always mean the baby has a birth defect or another problem. It may mean that the pregnancy is more or

less advanced than estimated or that a woman is carrying twins. If your test shows a higher risk for problems, your clinician may suggest a repeat test, an ultrasound or amniocentesis (described below).

First trimester combined screening

First trimester combined screening is done between 11 and 14 weeks of pregnancy and can identify babies who may be at risk for Down syndrome and trisomy 18. It is about as accurate as the quad screen but results can be obtained earlier in the pregnancy and, unlike amniocentesis, first trimester combined screening does not carry a risk of miscarriage.

First trimester combined screening is not recommended for women who would have amniocentesis as part of their routine prenatal testing.

The screening includes a maternal blood test and an ultrasound test:

- A blood test by a fingerstick measures the levels of two proteins, beta-human chorionic gonadotropin (β -HCG) and pregnancy associated plasma protein-A (PAPP-A). These proteins are normally found in the blood of pregnant women but have normal and abnormal ranges.
- An ultrasound measures the thickness of the fold of skin and fat in the fetal neck, called nuchal translucency (NT). The size of this part of the neck is increased in fetuses with chromosomal abnormalities, cardiac defects and many genetic syndromes.

The levels of these two proteins combined with the NT measurement and the mother's age allow her risk for Down syndrome and trisomy 18 to be calculated.

First trimester combined screening is not a diagnostic test and cannot tell for sure if a baby has one of these fetal abnormalities. If the screen is positive (showing an increased risk), an obstetrician may recommend diagnostic tests such as chorionic villus sampling (CVS) or amniocentesis. If the screen is negative (not abnormal), women who will be age 35 or older at the time of delivery would have a quad screen or ultrasound to test for neural tube defects. First trimester combined screening is not available everywhere, but it's becoming more common. If you are interested in first trimester combined screening, talk to your doctor.

Additional Screening and Diagnostic Tests

The tests below provide you and your doctor with additional information about the well-being of your baby. These tests are offered to women in certain situations, such as when a mother is over 35 years old, has health problems or other risks during pregnancy.

Genetic tests

Genetic tests may be a simple blood test or a more complex procedure like amniocentesis (described below). These tests look for abnormal genes and chromosomes that may cause health problems or birth defects. Certain genetic health problems run in a family, like cystic fibrosis and Huntington's disease. For more information on genetic diseases, see *Planning for a Pregnancy*.

Whether or not to have genetic tests is a personal decision.¹ If you and your partner would choose to continue the pregnancy no matter what the test results, some of these tests may not be worth the risks.

Amniocentesis

Amniocentesis is often used to look for chromosome problems like Down syndrome. It also tests for other genetic disorders, such as sickle-cell anemia and Tay-Sachs disease. Unlike ultrasound, amniocentesis cannot show physical problems like a cleft palate or heart defect. While some tests (such as the multiple marker) are only screening tools that indicate your risk for certain problems, amniocentesis can actually confirm a diagnosis.

¹ If these tests are not covered by your insurance plan, you may still choose to have them. However, you must pay for them yourself.

You may be offered amniocentesis if:

- you will be 35 or older when you give birth
- your multiple marker test result was abnormal
- you or your partner carry a chromosomal abnormality or had an earlier pregnancy affected by a chromosome abnormality
- you or your partner have a strong family history of a genetic disease that can be diagnosed prenatally
- you and your partner are carriers for certain genetic diseases, such as Tay-Sachs or sickle-cell anemia
- an ultrasound test showed certain abnormalities

Amniocentesis is usually done at 15-18 weeks of pregnancy. It can be done earlier at 11 or 12 weeks, but the risks are greater.

During the test, a clinician puts a thin needle through the abdominal wall and into the uterus. An ultrasound helps the clinician choose a safe spot for the needle. A small amount of amniotic fluid, the fluid in the sac that surrounds the baby, is removed and examined at a lab.

Amniocentesis may be slightly uncomfortable but usually is not painful. Some women have cramping, spotting or leaking of amniotic fluid after the procedure. The most serious risk is miscarriage, which happens with routine amniocentesis less than 1% of the time (about one miscarriage in 200-400 women). When a woman is 35 or older, the risk of having a baby with Down syndrome is higher than the risk of miscarriage from the procedure. The risk of other injury to the baby is very small.

Chorionic villus sampling (CVS)

This test can find genetic and chromosome disorders early in pregnancy such as Down syndrome, cystic fibrosis, Tay-Sachs disease or sickle cell anemia. (It cannot test for certain birth defects of the brain and spine such as neural tube defects.) CVS can be done earlier in pregnancy than amniocentesis.

You might consider CVS if:

- You will be 35 or older when you give birth
- You or your partner carry a chromosomal abnormality, or had an earlier pregnancy affected by a chromosome abnormality
- You or your partner have a strong family history of a genetic disorder that can be diagnosed prenatally

CVS is usually done between weeks 10-12 of pregnancy. Guided by an ultrasound, a clinician threads a thin plastic tube through the cervix, or puts a needle through the abdominal wall, and into the uterus. A small piece of the tissue that is part of the developing placenta is removed and examined in a lab.

CVS carries a slightly higher risk of miscarriage than amniocentesis, and test results may be harder to interpret than an amniocentesis. The risk of miscarriage is roughly 1% (one miscarriage in 100 women tested). Also, there is a small risk of infection in the uterus. And some studies link CVS with limb defects in babies.

Fetal testing

Fetal testing is done as needed to check on your baby's well-being. It is usually performed when a mother has health problems like diabetes or high blood pressure, a baby isn't growing enough, or a mother has passed her due date. The results of these tests will indicate whether you need special care before or during delivery, or if your baby should be delivered early.

- **Kick count:** You can do this at home. Just count the number of times you feel the baby move in a given time period. Your doctor will tell you when and how to do this test.
- A **non-stress test** measures your baby's heartbeat in response to its own movements. A fetal monitor attached to your abdomen records your baby's movements. If the result of the test suggests a problem, your doctor will order additional tests.
- A **contraction stress test** measures your baby's heartbeat in response to uterine contractions. A fetal monitor is attached to your abdomen and mild contractions are started by giving you small amounts of the drug oxytocin intravenously or nipple stimulation. The contraction stress test indicates if the baby is getting enough oxygen and will tolerate contractions during labor.
- An **ultrasound** is used to measure your baby's heartbeat, growth and health. (See "ultrasound" information to learn more about how it works.)
- A **biophysical profile** checks the baby's heartbeat, breathing, movement, muscle tone and the amount of amniotic fluid. Ultrasound and external monitors are used to perform this test. Each of these items is given a score, and they are then added together. The higher the score, the better the baby's condition.

Prenatal tests help to ensure your well-being and your baby's. This information sheet has given you an overview of some of the more common tests and when they are performed. If you have specific questions about any of these tests, talk to your doctor.

For more information

- www.harvardpilgrim.org/pregnancy
- March of Dimes www.marchofdimes.com
- You can also speak confidentially to a Harvard Pilgrim maternal and child health nurse about any pregnancy questions you have: (800) 742-2423