



# Chorionic Villus Sampling

## What is chorionic villus sampling?

Chorionic villus sampling is a test mainly used to learn about the chromosomes of a developing baby. Also called “CVS,” the test is usually performed between 10 and 13 weeks of pregnancy. CVS is done by removing a sample of the developing placenta (chorionic villi), and analyzing it for chromosome abnormalities.

Chromosomes are the packages of genetic information that we inherit from our parents and pass on to our children. Many chromosome abnormalities cause mental retardation and birth defects. Although it is possible for a woman of any age to have a baby with a chromosome abnormality, such as Down syndrome, the chance is greater as she gets older.

CVS can find chromosome abnormalities before birth. CVS is not a test for all birth defects or types of mental retardation.

## How is it done?

We will ask you to drink water before your appointment, because you need a full bladder for the test. The test begins with an ultrasound exam. Ultrasound uses sound waves directed at the developing baby to show a picture or “image” on a video screen. The ultrasound will measure the size of the baby, and will also locate the developing placenta.

A trained doctor performs the CVS test. Ultrasound is used to guide the doctor during the whole test. A tiny sample of the placenta can be removed in two different ways, depending on where the placenta is located. The doctor decides which method is best. You may feel some discomfort during the test, but the baby will not feel any pain.

In transabdominal CVS, a needle is put through your abdominal wall and into the placental tissue. A small bit of the placental tissue is removed.

In transcervical CVS, a thin, flexible tube (catheter) is put into your vagina, goes through your cervix, then into the placental tissue. A small bit of the placental tissue is removed. When there is an active herpes infection, the transcervical method is not used.

The CVS sample contains cells from your baby. It is sent to the laboratory in a labeled test tube. At the lab, the tissue is processed and placed into a cell culture to grow. After about 10 to 14 days, the chromosomes from the baby’s cells can be studied and counted. Results are available about 2 weeks after the CVS test.

A CVS appointment lasts less than an hour, but the procedure itself takes only a few minutes. Most of the appointment is spent looking at the baby with ultrasound and preparing for the CVS.

## **Is CVS safe?**

In every pregnancy, there is a risk for a problem such as a miscarriage, or loss of the pregnancy. CVS, although considered safe, adds a small additional risk for a problem that may lead to miscarriage. The added risk for these complications after CVS is less than 1 in 300.

After the test, you will receive an instruction sheet with information about what to expect. We recommend that you do not do any heavy lifting, exercise, or have sexual intercourse for 24 hours. Mild cramping and tenderness where the needle was inserted are common and not a cause for concern. If you experience painful cramping, leakage of fluid, bleeding, or fever please contact your doctor, nurse practitioner or nurse midwife right away.

## **Are the results accurate?**

Yes, CVS results are considered more than 99 percent accurate. In other words, pregnancies with extra or missing chromosomes (or parts of chromosomes) are detected with accuracy by CVS. These include Down syndrome, which is caused by an extra chromosome #21 in all of the cells.

Sometimes, CVS results may be difficult to interpret. In a small percentage of CVS tests, a follow-up amniocentesis test will be recommended due to unclear CVS results. (Amniocentesis involves taking a sample of the amniotic fluid to study the baby's chromosomes).

CVS is not a good test for a specific kind of birth defect known as a "neural tube defect," like spina bifida, an abnormality of the spinal column. For this reason, second trimester blood screening is recommended between 15 and 20 weeks of pregnancy for women who have had a CVS test.

There are many kinds of birth defects that are not detected by CVS; some of these include other forms of mental retardation, heart defects, cleft palate, and others.

## **Most CVS results are normal!**

Most women who have CVS learn that the baby's chromosomes are normal. We will call you with this information. You may ask the sex of the baby, or you may choose to wait until the baby is born to find this out. It is your choice.

Normal CVS results are not a guarantee that the baby has no health problems or birth defects.

## What if the CVS results are abnormal?

Rarely, a CVS result reveals that the developing baby has a chromosome abnormality. Chromosome abnormalities are not curable. If this happens, genetic counseling will be offered to you and your partner immediately. This may include discussion with one or more of the following people:

- Your doctor, nurse practitioner, or nurse midwife
- Your genetic counselor
- A geneticist
- A perinatologist
- Another pediatric specialist

All available treatments and options for continuing or ending the pregnancy will be discussed with you. The decision to continue or end a pregnancy is entirely your decision. Genetic counselors offer ongoing support to families regardless of the options they choose. Abnormal results can be confirmed following the birth.

## Should I have CVS?

Before deciding if you want CVS, you may want to explore other options, such as prenatal screening tests like:

- Serum Integrated Screening
- Full Integrated Screening
- Quad Marker Screening (for women 14 weeks or later in pregnancy)

Or you may choose an alternative diagnostic procedure to test the baby's chromosomes such as amniocentesis.

Your doctor, nurse practitioner, or nurse midwife can review these options with you.

If you decide that you want CVS, you will have the chance to meet with a genetic counselor who will review all the pros and cons of the procedure, and answer your questions.

Knowing about a chromosome abnormality during pregnancy can be useful. You may use the information to decide whether or not to continue the pregnancy. Even if you would not choose to end your pregnancy, knowing about a birth defect before delivery may help you feel more prepared when your baby is born. In some cases, information about the baby's condition may be beneficial to the medical professionals involved in your prenatal care.

Ultimately, the decision to have a CVS procedure is entirely yours.

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### Other Resources:

- Connect to the Genetics Web site at **<http://genetics.kp.org>** to learn more about prenatal testing for birth defects.
- Connect to our Web site at **[kp.org](http://kp.org)** to access health and drug encyclopedias, interactive programs, health classes, and much more.
- Check your *Kaiser Permanente Healthwise Handbook*.
- Contact your Kaiser Permanente Health Education Center or Department for health information, programs, and other resources.

This information is not intended to diagnose health problems or to take the place of medical advice or care you receive from your physician or other health care professional. If you have persistent health problems, or if you have additional questions, please consult with your doctor.