

# Prenatal Testing Chorionic Villus Sampling (CVS)





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## **Chorionic Villus Sampling (CVS)**

# **You just want your baby to be healthy.**

Prenatal (before birth) diagnosis can provide valuable information and insight. Prenatal diagnosis finds out if a baby has a chromosome abnormality or other specific inherited disorders. This brochure can help you learn about a prenatal diagnostic procedure called chorionic villus sampling (CVS). It can also help you decide if this procedure is right for you.

### **Who should consider prenatal diagnosis?**

The American College of Obstetricians and Gynecologists recommends making prenatal diagnosis available to all pregnant women, regardless of their age.

Prenatal diagnosis via CVS is most often performed following an abnormal prenatal screen for a chromosome abnormality or an abnormal ultrasound. It is also an option when there is a family history of an inherited disorder or when the mother and/or father is a carrier of an inherited disorder.

### **Do I have to have a prenatal diagnosis?**

You should discuss your options with your healthcare provider, but the decision about whether to have prenatal diagnosis is up to you.

### **What is the difference between prenatal screening and prenatal diagnosis?**

Prenatal *screening* provides information about a baby's risk of having a chromosome abnormality, such as Down syndrome, trisomy 18, trisomy 13, or some other inherited disorder. Prenatal *diagnosis* will tell if the baby does have that disorder.

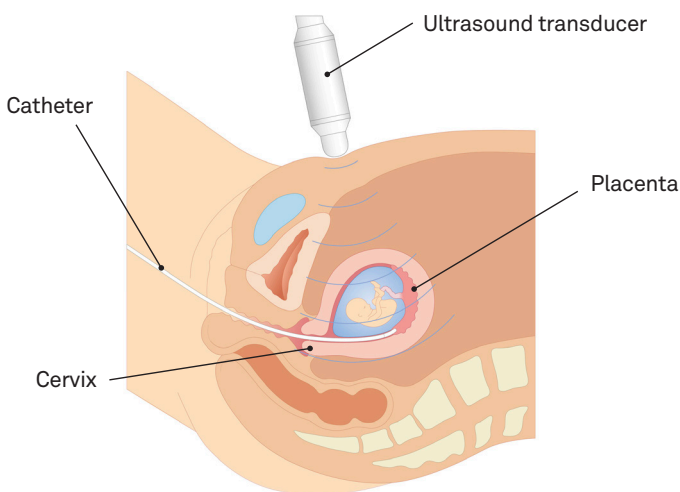
## What is CVS?

CVS is a diagnostic test that is usually performed as an outpatient procedure between the 10th and 13th weeks of pregnancy. It tests for the presence of a chromosome abnormality in a baby. CVS can also test for a number of other inherited disorders. Cystic fibrosis, sickle cell, and Tay-Sachs disease are examples of these. Diagnostic tests for these inherited disorders are usually only recommended when there is an increased risk of the disorder due to family history, carrier screening results, or other special circumstances.

## How is CVS performed?

Under ultrasound guidance, a thin flexible tube called a catheter is gently inserted through the vagina and cervix and up into the placenta. The placenta surrounds the developing baby and is made up of chorionic villi. With a gentle suction, a small amount of the chorionic villi is removed. This is called *transcervical CVS*.

In some instances, transcervical CVS cannot be performed, usually because of the position of the placenta and/or baby. In these cases, CVS can be done by inserting a thin needle through the abdomen and uterus and then into the placenta. This is called *transabdominal CVS*. The lab tests the chorionic villi for chromosome abnormalities or other specific inherited disorders.



## **How accurate is CVS?**

CVS can detect greater than 99% of chromosome abnormalities. The results for other inherited disorders are also very accurate.

In 1 to 2 cases per 100, however, a mixture of normal and abnormal cells may be seen. Additionally, there is a small chance that cells from the mother may be present in the sample. When these occur, the chromosome results may be more difficult to interpret, and a follow-up test (amniocentesis) may be needed.

It is important to emphasize that a negative (normal) result does not guarantee a healthy baby.

## **What are the risks of CVS?**

When performed by an experienced physician, CVS is considered very safe. As with any procedure, there is a risk of complications. Miscarriage, bleeding, or infection may occur. There is also a small risk (less than 1 in 3,000<sup>1</sup> pregnancies) of harm to the baby, such as underdeveloped fingers, toes, or limbs. You should discuss the risks and benefits of the procedure with your healthcare provider.

## **What are the advantages of CVS?**

The primary advantage of CVS is that if a chromosome abnormality or other inherited disorder is present, it can be diagnosed early in pregnancy.

## **What if the result is abnormal?**

If your results are abnormal, you should discuss their meaning and your options with your healthcare provider. Genetic counseling can help you learn more and help you make decisions in the best interest of yourself and your family.

## **What information is not provided by CVS?**

Major structural or genetic birth defects affect approximately 3% of births in the United States.<sup>2</sup> CVS only provides information about chromosome abnormalities and any other inherited disorder that was specifically studied. Unlike amniocentesis, CVS does not test for neural tube defects.

CVS does not test for all possible congenital disorders, such as heart conditions or intellectual disabilities.



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**Reference:**

1. Friedrich E, Porto M. Aneuploidy screening. In: Di Saia PJ, Chaudhuri G, Giudice LC, Moore TR, Porto M, Smith LH, eds. *Women's Health Review: A Clinical Update in Obstetrics-Gynecology*. Elsevier Inc; 2012:57-70.
2. Update on Overall Prevalence of Major Birth Defects, 1978-2005. Accessed February 5, 2023. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5701a2.htm>

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