

Answering Your Questions About: Chorionic Villus Sampling

What is chorionic villus sampling?

Chorionic villus sampling (CVS) is a prenatal diagnostic test that can diagnose or rule out chromosome abnormalities such as Down syndrome and trisomy 18 (Edwards syndrome). Prenatal diagnosis for many other genetic conditions (such as Tay-Sachs disease or sickle cell anemia) is also possible through CVS. CVS is usually done between 10-12 weeks of pregnancy.

How is CVS performed?

To perform this test, a small amount of tissue from the developing placenta (called chorionic villi) is obtained. Cells from this tissue are sent to a special laboratory to have the desired tests performed.

The sample of chorionic villi can be obtained by inserting a needle through the mother's abdomen into the placenta or by inserting a thin, hollow tube (called a catheter) through the mother's cervix into the placenta. With both methods, ultrasound guidance is used throughout. A specially-trained doctor will perform the sampling procedure. A single CVS procedure takes approximately 40 minutes, including the ultrasound scan. You may return home immediately after your appointment, or if preferred, you may rest in our office for a while.

The first step of the process is to answer your questions, review the family and pregnancy histories and discuss the risks and benefits of the prenatal diagnostic options. With chorionic villus sampling there is a small risk of miscarriage – approximately 1 in 100 (or 1 percent). Also, in rare circumstances, chromosome results may be unclear and a follow-up amniocentesis would be recommended. These risks are lowest when an experienced physician performs the CVS. The perinatologists at Ohio State have been performing CVS since 1989.

When will results be available?

Final results are available in approximately two weeks. As soon as your results are available, you or your doctor will be notified. Should you wish to discuss your results further, a follow-up appointment can be scheduled.

What are the most common indications for prenatal diagnosis by CVS?

The following are circumstances that might warrant CVS:

- Maternal age of 35 or older at due date
- History of a previous child with a chromosomal disorder or birth defect
- Women with an increased risk of having a child with a birth defect from first trimester screening or an ultrasound
- Personal or family history of a genetic condition for which testing is available
- Either parent is known to carry a chromosome rearrangement (such as a balanced translocation)

Any woman has the option of pursuing CVS. However, many insurance companies will not cover the costs for such testing without a medical indication (like those listed above).

Of the indications listed above, maternal age is the most common reason women are offered CVS. This is because the risk for having a baby with Down syndrome or other chromosome condition increases with maternal age. The following table provides the age-related risk for having a child with Down syndrome and the risk to have a baby with any chromosome problem, including Down syndrome.

Maternal Age	Down syndrome risk	All chromosome abnormalities
25	1/1,205	1/476
30	1/885	1/384
35	1/365	1/178
40	1/109	1/63
45	1/32	1/18

CVS is part of the Prenatal Diagnosis Program at The Ohio State University Medical Center. For additional information you may want to discuss CVS with your physician.

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