

Chorionic Villus Sampling (CVS)

What is Chorionic Villus Sampling?

Chorionic villus sampling (CVS) is a prenatal diagnostic technique performed in first trimester at 10-12 weeks (vaginally) or throughout pregnancy (abdominally). In CVS, a few cells from the developing placenta or "Chorion" are obtained which allow for the genetic assessment of the fetus. CVS can therefore determine if the baby has a genetic or chromosomal problem such as Down's Syndrome. However, it cannot identify whether or not the baby has a neural tube defect such as spina bifida.

The genetic makeup of the cells of the placenta is usually the same as the baby since they both came from the same cell created at conception.

What happens during the procedure?

The procedure takes approximately 20 minutes followed by a 20 minute rest period afterward.

Under ultrasound guidance, the sample is obtained either by passing a small catheter through the vagina and cervix into the uterus, or by inserting a fine needle through the abdominal wall.

What can the results tell me?

The cells taken at CVS come from the developing placenta and originate from the same fertilized egg as the fetus. The chromosome findings in the chorionic villi are usually the same as in the fetus. However, abnormal cells may be found in the placenta which are not found in the fetus. This is called "mosaicism". The predictive accuracy of CVS is 98% which is less than that of amniocentesis.

The major advantage of CVS is timing. The test can be done as early as the 10th week of pregnancy, and results can be obtained by the 13-14th week of pregnancy.

Chromosome problems such as Down's Syndrome can be detected by CVS. In addition, obvious chromosome rearrangements can be detected by CVS. In cases where there is a family history of a specific genetic condition, special genetic testing can also be ordered on the chorionic villus sample in addition to routine chromosome testing.

What are the risks involved?

Miscarriage - Although CVS is considered to be a safe procedure, it is recognized as an invasive diagnostic test that does pose potential risks.

Miscarriage is the primary risk related to CVS and is estimated to be about 1%.

Injury to Baby - There have been a few reports in the literature suggesting an association between CVS and certain types of limb abnormalities in the fetus. In

1992 the WHO (World Health Organization) reported no significance in the incidence of limb abnormalities in women having CVS compared with the incidence in the general population when the CVS is performed by experienced physicians at 10 weeks of pregnancy or later.

Spotting or cramping - Some patients having CVS may have some spotting or bleeding following the procedure. If bleeding is heavy or persistent call your physician or go to the emergency room of the hospital closest to you.

Infection - Infection following the procedure is extremely rare. However if you develop fever, have chills, cramps or bleeding call your doctor immediately.

Repeat testing - Some patients may have to have an amniocentesis following CVS if the CVS sample obtained was not adequate or it is difficult to interpret the results.