Allina Health

Chorionic Villi Sampling (CVS)

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Most babies born in the U.S. today are healthy. But for some couples, genetic problems or birth defects are a unique concern. All pregnancies have a 3 to 4 percent chance of a birth defect and a 2 to 3 percent chance of developmental delay. But, some pregnancies may face higher risks for selected problems if:

- you are 35 years old or older at delivery
- there is a family history of certain genetic disorders or birth defects
- there is an increased concern about unusual ultrasound finding.

A genetic counselor can help clarify what areas, if any, are of increased concern, if CVS is right for you, or if there are other options.

Who Should Have CVS?

Talk with your doctor or genetic counselor about your family history and concerns. CVS may be right for you if:

- you are age 35 or older (at delivery)
- you or your partner are known to carry a chromosome rearrangement or the pregnancy is known to be a risk for a testable genetic disorder
- you and your partner have a family history of someone with an inherited disease such as cystic fibrosis, or Tay Sachs disease and carrier tests indicate the pregnancy is at risk.
- you or your partner have a child with Down syndrome or other chromosome disorder
- an ultrasound suggests an increased risk for chromosome problems or other genetic disorders
- your pregnancy was achieved by certain assisted reproductive technologies
- you have a positive first trimester screen suggesting an increased risk for certain birth defects
- you are concerned about chromosome abnormalities and want to know if your baby has one of these specific birth defects. The American College of Obstetricians and Gynecologists now recommends that all couples, regardless of age, have the option of prenatal diagnosis after careful consultation.

What is Chorionic Villi Sampling?

The chorion is a layer of tissue around the embryo that later becomes part of the placenta (the baby's "lifeline"). The chorionic villi are finger-like projections of tissue that transfer oxygen, nutrients and waste between you and your baby. These cells carry your baby's genetic material (chromosomes and genes).

By testing these cells, your doctor and lab specialist may be able to find or rule out certain genetic disorders or birth defects. Not everyone has a CVS for the same reason. Different tests are done, depending on the specific concerns.

How is CVS Done?

The doctor will use ultrasound (low-frequency sound waves) to guide a catheter (thin plastic tube) into your vagina, through the cervix, into your uterus and to the placenta. He or she will remove (by suction) a small sample of chorionic villi by the catheter. The cells will then be sent to the lab.

(The doctor may need to get a sample of the chorionic villi by injecting a needle through your abdomen instead. The suction is done through the needle, which is guided by ultrasound.)

When is CVS Done?

The procedure is usually done between the 10th and 12th week from the first day of your last menstrual period.

(over)

What Can CVS Find?

CVS can help your doctor diagnose many genetic disorders. Samples can be used for:

- chromosome studies
- biochemical studies to detect some single genes (if the history calls for it)
- DNA studies if family history shows your baby may be at risk for some selected genetic disorder.

CVS is done to find specific disorders and cannot find all birth defects, all mental retardation, nor all genetic disorders.

What Are the Benefits of CVS?

- CVS can be done during the first trimester. Chromosome results are ready within 5 to 10 days of testing. (Specific DNA and some biochemical tests may take longer.)
- Having the test may take away your stress and anxiety about your pregnancy.
- This procedure may be better for you than amniocentesis if you have high anxiety or if an early diagnosis is desired for privacy reasons. (CVS is not safer nor more accurate than amniocentesis.)
- If you choose to end the pregnancy, early CVS results may ease the possible medical- and stress-related problems.

What Are the Risks of CVS (Compared With Amniocentesis)?

- The rate of problems after the procedure is slightly higher than that for amniocentesis.
- There may be a slightly higher risk of miscarriages with transcervical CVS than with amniocentesis. (The risk to pregnancy is low.)
- You may be required to have a follow-up amniocentesis to clarify an unsure result. This is rare. A follow-up maternal serum alphafetoprotein (known as an MSAFP) screening and ultrasound are required at 15 weeks to screen for neural tube defects (such as spina bifida).

  (An amniocentesis is another genetic test that tests the amniotic fluid or the cells from the baby within the fluid. It is an option to the CVS that may be safer and can detect most of the same problems.)

How Does CVS Compare With Amniocentesis Tests?

See the chart below.

	Amniocentesis	CVS
Timing	15 weeks and later	10 to 12 weeks (usually)
How it is done	through abdomen	through cervix or abdomen
What is taken	a small number of cells shed by the baby and amnion	villi cells with the same genetic make-up as the baby
What is studied*	chromosomes/AFP**	chromosomes
Results	10 to 14 days for chromosome	7 to 10 days for chromosome
Risks***	■ miscarriage ■ infection ■ fluid leak ■ premature baby ■ spotting	■ miscarriage ■ infection ■ mother or fetal bleeding ■ performation/placenta detachment ■ possibly birth defects

***More tests for other defects and/or disorders will be done only if family history indicates a risk and if the prenatal diagnosis is possible. **Tested in fluid 13 weeks and later. ***Some of these are rare and will be explained during genetic counseling.**

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