

## Chorion Villus Sampling

### Consumer Information

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### What is Chorion Villus Sampling?

Chorion Villus Sampling (CVS) is a test offered to women who are at a high risk of their foetus or unborn baby being born with Down syndrome or other chromosomal or inherited disorders. CVS also shows the gender of the baby, which can be important in identifying X-chromosome linked inherited disorders. This test can be performed from week 11 of the pregnancy, and is best done between week 11 and week 13.

The test involves a needle being inserted into the abdomen just below the belly button or navel, to obtain a small sample of tissue from the developing placenta (the organ that develops inside the uterus, (or womb) to supply food and oxygen, through the umbilical cord, to the foetus or unborn baby). The tissue in the placenta has the same genetic or inherited material as the foetus and can be used to test for chromosome and some genetic (inherited) diseases.

CVS is definitive in the exclusion of chromosomal abnormalities.

There is a similar test called amniocentesis that is also used to test for chromosomal abnormalities such as Down syndrome and also the gender of the unborn baby. Instead of testing tissue sample from the placenta, amniocentesis tests the fluid in the sac surrounding the unborn baby inside the uterus (see [Amniocentesis](#)).

### How do I prepare for a Chorion Villus Sampling?

Prior to having the CVS test, it will be arranged that you have a blood test to identify your blood group and see whether, within your blood group, you are what is called Rhesus positive or negative. If you have a different blood type from your foetus and you have Rhesus negative blood, you may form antibodies that can affect the foetus. This can cause you to have an illness such as low blood count, which can range from mild to severe. You will need to be immunised so that your body does not form antibodies against itself during this and any future pregnancies.

If your blood group is Rhesus negative a small injection of Anti-D is required after the procedure to prevent any antibodies from passing to you from the foetus.

No further preparation is needed but a moderately full bladder is required so that the inside of your abdomen can be clearly seen on the ultrasound scan that will guide the procedure. The facility where you are having the test will provide information about this.

### What happens during a Chorion Villus Sampling?

Prior to any testing the specialist doctor performing the test will fully explain the procedure and inform you of the risks and reasons for the test being performed. You will usually be given a consent form to read and sign. In some cases you will already have been referred to a genetic counsellor who will have discussed the test with you and the reasons you need the test as well as the benefits and risks. If you have any questions feel free to ask either the counsellor or the doctor at this time.

At the start of the procedure an ultrasound examination is performed. Ultrasound is the term used for high frequency soundwaves. A smooth, hand-held device called a transducer which produces sound waves (see [Ultrasound](#)) is moved across the skin to produce an image or picture onto a screen. There is no ionising radiation, which means that it is very safe.

The ultrasound confirms the age of the foetus, assesses the position of the placenta and examines the anatomy or structure of the foetus for any signs of abnormality. The ultrasound will also allow the doctor to assess where the safest position is to insert the needle for the CVS.

The skin is then cleaned with antiseptic solution and you will be given an injection of local anaesthetic to numb the skin and the deeper layers of the abdomen where the needle taking the sample will be inserted.

The CVS needle is then gently inserted into the abdomen just below the belly button or navel, using ultrasound pictures or images on a screen for guidance. The ultrasound examination is performed in "real time", which means that the images you see on the screen show what is happening inside your body at that moment like a movie. This allows the doctor to guide the needle position as it is inserted into the abdominal wall and uterus and then into the placenta.

The discomfort associated with entry of the needle is fairly minimal and short-lived (a few seconds during actual needle insertion).

A small sample of tissue from the placenta is removed through the biopsy needle. It may be necessary to take more than one sample to ensure there is enough tissue for testing. The needle is only inserted once. A portal is used, that is, there is an outer bigger needle inserted once, and a small inner biopsy needle is used to obtain each sample, which you will not feel. The amount of tissue required for

testing is very small, about the size of a small grain of rice.

During the procedure you may feel discomfort or a "dragging" type feeling in the lower abdomen.

You may also experience some leg pains. This is quite common and generally settles within a short period of time.

It is important that you remain still while the needle is being inserted and the sample taken so that the needle can be accurately placed and clearly seen by the doctor performing the test.

It is recommended you go home after the procedure and rest for a couple of hours in bed or on a couch. You may do normal (non-strenuous) activities at home for the rest of the day but avoid any strenuous exercise or lifting.

### **Are there any after effects of a Chorion Villus Sampling?**

You may experience crampy period-like pain but this normally settles with paracetamol, which is safe for you to take.

You may also experience slight vaginal bleeding. This is expected but should settle in 24-36 hours. If you have a large amount of vaginal bleeding, for example, fresh red blood like a period bleed, you should contact the practice where the procedure was performed or attend your doctor (or the nearest hospital emergency department if this occurs on a weekend or at night).

### **How long does a Chorion Villus Sampling take?**

The whole procedure usually takes about 30 minutes from beginning to end in order to check the foetus, prepare your skin with antiseptic and anaesthetic, and to find the best place to insert the CVS test needle. The actual CVS needle test takes only a few minutes.

### **What are the risks of a Chorion Villus Sampling?**

CVS is an invasive test where a needle is inserted into the cavity of the uterus. The main risk is MISCARRIAGE.

There is a 1% risk of miscarriage. On average 1 in 100 patients will miscarry and lose the pregnancy. This is why the procedure is reserved for women who have a higher than average risk of genetic or chromosomal abnormalities in the foetus they are carrying. Older age in the mother carries with it a gradually increasing risk of having a baby with genetic or chromosomal problems.

There is small risk of infection. If you have symptoms of fever, chills or are leaking fluid from your vagina after the procedure you should see your doctor (or the nearest hospital emergency department if this occurs on a weekend or at night).

While CVS is able to identify Down syndrome and genetic or inherited disorders, it needs to be noted

that there are some chromosomal disorders for which there are no tests currently available.

### **What are the benefits of a Chorion Villus Sampling?**

The benefit of CVS is to allow definitive exclusion of Down syndrome and a wide variety of other chromosomal and some genetic abnormalities.

CVS can also determine some inherited conditions such as cystic fibrosis and determine the paternity (the identity of the father) of a foetus.

You will need to weigh the benefits of the test, such as finding out if an unborn baby has abnormalities, against the risks of miscarriage and not knowing about these abnormalities until much later in the pregnancy or after the baby is born.

Some patients wish to know about abnormalities so that they can decide whether to continue the pregnancy or not. Other patients may prefer not to know about these matters before the baby is born.

### **Who does the Chorion Villus Sampling?**

The test is always performed by a specialist doctor, either a radiologist who has experience in the procedure or more commonly an obstetrician – ultrasonologist who has had additional training in the area of obstetric and foetal ultrasound.

### **Where is a Chorion Villus Sampling done?**

The examination is performed in a radiology department of a hospital, private radiology practice or at a specialist clinic for obstetric and gynaecological imaging. The examination is performed in the privacy of an ultrasound room, which may be dimly lit to allow the images on the ultrasound machine to be clearly seen by the person performing the test.

### **When can I expect the results of my Chorion Villus Sampling?**

The tissue sample from the placenta is sent to a special laboratory which will perform a number of tests. The foetal cells are placed in culture medium and allowed to grow in a warm incubator for 7-10 days. The cells are then examined for chromosomes that indicate an abnormality. There are 23 pairs of chromosomes, all of which are examined in detail. This process takes about 10 - 14 days, when the results are available to your doctor.

A written report will be sent to your referring doctor and you will generally need to go back to your referring doctor or specialist clinic for the results of the test.

Some specialist centres may offer a rapid result in 24 hours (called a FISH test). This is an interim report and is at an additional cost to the patient, for which there is no rebate.

**Please note:**

This information is of a general nature only and is not intended as a substitute for medical advice. It is designed to support, not replace, the relationship that exists between a patient and his/her doctor. It is recommended that any specific questions regarding your procedure be discussed with your family doctor or medical specialist

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