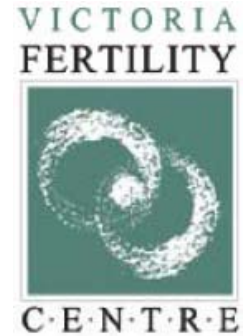


## AMNIOCENTESIS

Amniocentesis is a procedure whereby a small amount of amniotic fluid (fluid surrounding the developing baby) is removed from the uterus using a thin needle under ultrasound guidance. The procedure typically is performed between 15 and 20 weeks of gestation. It can be done as early as 12-14 weeks and as late as near term. However, earlier amniocentesis does carry a slightly higher incidence of complication, so we prefer to do the procedure between 15 and 18 weeks.



The fluid around the baby at this stage is largely baby's urine. The average volume of fluid around the baby at 15 weeks is approximately a teacupful. For the procedure, we generally take around 15-20 cc of fluid, which represents less than 10% of the fluid volume around the baby. Floating in the amniotic fluid are cells from the baby's skin and bladder – which we collect and then culture.

Although having an amniocentesis may be scary – the discomfort is usually no more than having blood taken. Most women say that they feel a pressure or cramp during the procedure. If the needle needs to be passed close to the pubic bone, it can be a little more uncomfortable. We generally recommend that women rest for 24 hours after the procedure.

### **WHAT TESTS CAN BE PERFORMED ON THE AMNIOTIC FLUID?**

1. Chromosome analysis to detect abnormalities such as Down's syndrome.
2. Alpha-fetoprotein measurements. Increased levels of alpha-fetoprotein occur in association with neural tube defects such as spina bifida and anencephaly. Increased levels may also be seen if there is any break in the skin of the baby – such as an omphalocele or gastroschisis.
3. Genetic diseases that may be diagnosed prenatally – including cystic fibrosis, fragile X syndrome, hemophilia, sickle cell disease, thalassemia and Tay-Sachs disease.
4. Infectious diseases.

### **WHO SHOULD CONSIDER HAVING AN AMNIOCENTESIS?**

1. In British Columbia, the provincial government will pay for any woman over the age of 35 years to have an amniocentesis.
2. Abnormal triple marker test. A triple marker screen, which includes measurements of certain hormones and proteins in the maternal blood at between 15 and 20 weeks, is available as a screening test for both spina bifida and Down's syndrome. Although it is useful, it is just a screening test. If the risk is evaluated at being greater than 1 in 200, an amniocentesis is an option.
3. If either parent is a carrier of a chromosomal rearrangement.
4. A previous child with a chromosome abnormality.
5. Parents who are carriers of prenatally diagnosable genetic disorders.
6. Women with abnormal ultrasound findings. When the ultrasound examination suggests an abnormality, an amniocentesis for diagnostic testing may be recommended.
7. Women who have a family history of neural tube defects or certain high risk medication exposure.

**HOW SAFE IS AMNIOCENTESIS?**

The risk of losing the pregnancy from a complication of the procedure is around 1 in 200. Things to watch out for are vaginal bleeding, leaking of fluid, cramping, signs of infection such as fever and pain, or any other symptoms which are worrisome.

**HOW ACCURATE ARE AMNIOTIC FLUID TESTS RESULTS?**

The accuracy of chromosome analysis in the amniotic fluid is around 99.9%. Amniotic fluid testing can detect approximately 97 to 98% of all neural tube defects.

**HOW LONG DOES IT TAKE TO GET THE TEST RESULTS?**

The complete analysis, which would include alpha-fetoprotein measurement and chromosome analysis, is usually available within about 12 days.