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# Amniocentesis: risks, benefits, and accuracy

If you are pregnant or know someone who is, you may have heard of an amniocentesis test. We explore what this test is used for, how it is performed, and how to make an informed decision about what is right for you.

# What is amniocentesis?

Amniocentesis is an optional test that is usually performed during the 15th-20th weeks of pregnancy. Doctors take a small sample of amniotic fluid that surrounds the baby that can then be tested for chromosomal abnormalities in the fetus. There is a small (around 0.5%) risk of miscarriage as a result of the procedure which involves the insertion of a thin, hollow needle into the amniotic sac.

For the purpose of this article, a pregnant person includes women, cisgender women, non-binary and genderfluid people, intersex, and transgender men.

# Who is offered amniocentesis?

In the 10th-14th week of pregnancy, all pregnant people are offered a combined screening test to diagnose the chance of chromosomal abnormalities. This is a non-invasive test which involves a blood sample and an ultrasound scan. The combined results of this test will then predict the likelihood of Down's syndrome, Edwards' syndrome, and Patau's syndrome in the baby as well as other genetic disorders and conditions.

In the past, a higher chance result would have led to the offer of an amniocentesis. However, now if your result reveals your pregnancy has a higher chance of these abnormalities (1 in 150 or less), you will be offered a new test known as NIPT (non-invasive prenatal test) – a blood test that can predict the occurrence of these syndromes with a high level of accuracy – up to 91% in Down's syndrome, 84% in Edwards' syndrome, and 87% for Patau's syndrome.

While the NIPT offers a high level of accuracy, it is important to stress that none of the available screening tests can deliver 100% accuracy.

This means the amniocentesis (or a similar test, CVS, which can be performed earlier in pregnancy) remains an important tool for those who receive a positive NIPT result and for those at greater risk of having a baby with chromosomal abnormalities or a genetic condition. You may also be offered amniocentesis if a suspected abnormality in the fetus is picked up via ultrasound.

#### How accurate are amniocentesis results?

Amniocentesis is accurate up to 98-99%, although it cannot test or exclude every potential condition. Rarely, pregnant people will receive an 'inconclusive' result.

### Should you have the amniocentesis test?

Due to the risk of miscarriage, many parents-to-be struggle to decide the best course of action when being offered an amniocentesis.

Like all pregnancy screening, the choice as to whether to have this test remains a personal one. Some pregnant people elect to go forward with the test as they would not wish to continue the pregnancy if a condition is identified. Others may want the accurate result for peace of mind, or to potentially prepare for a baby with a genetic condition.

Deciding whether to go ahead with the procedure can be difficult: "It can feel alien to pregnant people when, after doing everything to protect the pregnancy, they find themselves putting the pregnancy at risk," explains Jane Fisher, Director of Antenatal Results and Choices (ARC), an organisation that supports parents with information and is on hand to talk to parents about their concerns. "Some decide to go ahead because the information might be significant in terms of caring for the baby's needs or making a decision about the future of the pregnancy. Others may simply want the peace of mind of knowing exactly what to expect," she says.

#### **Emotional impact**

As well as the pressure of having to make a difficult choice in pregnancy, choosing whether or not to go ahead with the amniocentesis can have an impact on a pregnant person's stress levels as they negotiate the rest of their pregnancy.

"Some may feel guilty for opting for or even considering amniocentesis. Others might worry about anomalies, having chosen to opt out of further testing. All these feelings are normal and natural," says Fisher.

Equally, having the test results may relieve stress and anxiety associated with having an uncertain prognosis.

"Some pregnant people just know that they will put a lid on the box of worry - they want to feel calm and know that having the information will reduce stress," explains Fisher.

### Can amniocentesis cause miscarriage?

The risk of miscarriage in amniocentesis is around 0.5%. However, if you do decide to go forward with the test when offered, it's important to do your research.

"Practitioner skill is a key element in reducing the risk, so we always tell people considering an invasive procedure to find out about a practitioner and check they are doing these procedures regularly. The Royal College of Obstetricians and Gynaecologists recommends a practitioner should be performing 30 procedures a year, better if it's more," she says.

#### How do I decide?

As with many decisions during pregnancy, the ultimate choice remains with the mother. But, talking to others - from your doctor to family members may be helpful. Helpline staff at ARC are also available to talk through various issues in an impartial manner. "We advise, but we're impartial. We help people to work out what is right for them," explains Fisher.

When it comes to prenatal testing, the process can be emotional and stressful. Amniocentesis remains a useful test, but the risk of the procedure makes the decision of whether or not to go ahead a difficult one for many expectant parents.

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