NT-plus

Early Pregnancy Assessment for Fetal Wellbeing

NEWCASTLE ULTRASOUND *for* WOMEN

Safety, Knowledge and Reassurance

Safety, knowledge and reassurance are important factors for pregnant women. At Newcastle Ultrasound for Women we address these factors with a range of advanced scanning and testing processes. NT-*plus* is an innovative procedure that can help detect chromosome abnormalities that may occur during pregnancy.

What are chromosomes ?

Our bodies are made up of millions of cells. Each cell contains a complete copy of a person's genetic blueprint. The genetic material is packaged into long strands called chromosomes that are made up of DNA. There are 46 chromosomes in all cells except egg and sperm cells.

What happens when chromosomes are abnormal ?

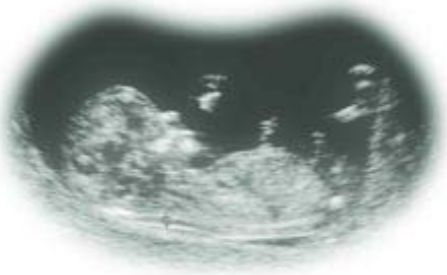
Sometimes the number or arrangement of chromosomes is abnormal. This can happen when the egg or sperm are formed, or at conception. About 50% of miscarriages are caused by chromosome abnormalities. There are more than one hundred syndromes associated with chromosome problems. The most common of these is Down Syndrome.

Who is likely to be affected ?

Any woman who falls pregnant can have a child with a chromosome problem but the risk increases with age. It is lowest at 20 years of age (1 in 600 babies) and greatest at 50 (1 in 5). There is usually no family history. Most chromosome abnormalities occur in women under 35 as this group has 90% of all babies.

What is a Nuchal Translucency scan ?

A Nuchal Translucency ultrasound scan is performed at approximately 11-13 weeks gestation. Ultrasound measures the fluid that normally accumulates under the skin behind the baby's head and neck. Too much fluid in this space has been associated with chromosome abnormalities such as Down Syndrome. The scan is usually transabdominal, but around 1 in 10 women will require a vaginal scan to obtain the clearest images.



12 week fetus with a normal NT measurement

What is NT-plus ?

The combination of an ultrasound test called a Nuchal Translucency (NT) scan and a simple blood test at around 12 weeks, is revolutionising the way we test for fetal abnormality. The two tests combined are called NT-*plus*. The addition of the blood test improves detection of Down Syndrome compared with NT ultrasound alone. Nuchal Translucency measurement alone can detect 75 - 80% of Down Syndrome pregnancies. If you also have the special blood test, this detection rate increases to 85 - 90%.

What are the benefits of NT-plus ?

• Highest detection rate of any "no risk" test for chromosome abnormality

• Accurate dating of the pregnancy

• Diagnosis of multiple pregnancy

• Diagnosis of early pregnancy failure

• Detection of many physical abnormalities is possible at this early stage

What is the blood test for ?

The blood test measures two chemicals that are produced by the placenta and cross into your bloodstream. In Down Syndrome pregnancies the levels of these chemicals tend to be abnormal. The chemicals measured are free-ßhCG and PAPP-A.

When should I have the blood taken ?

The blood should be taken between 10 weeks and 13 weeks of pregnancy. It is preferable to have your blood taken the week before your NT scan. This ensures that all results are available when the Down Syndrome risk is calculated. You can have your blood taken at NUFW before your NT scan and the results will be available by the time the scan is completed.

Assessment of chromosome abnormality risk ...

A combination of your age, the size of the baby, the thickness of the nuchal translucency measurement and the levels of blood chemicals allow us to calculate a numerical risk estimate for Down Syndrome in this pregnancy.

If the test gives a low risk result...

A calculated risk less than 1 in 300 suggests a low risk for Down Syndrome in this pregnancy. As not all fetuses with chromosome abnormalities can be detected by this screening test, a LOW risk result is not the same as NO risk.

What if the test gives a high risk result ?

A risk estimate of greater than 1 in 300 is considered an increased risk for Down Syndrome but it DOES NOT mean that the baby will definitely have the condition. You will be counselled about this result and whether you wish to proceed

to prenatal testing (by chorionic villus sampling or amniocentesis).

The Nuchal Translucency program at Newcastle Ultrasound for Women has been established in association with Sydney Ultrasound for Women. It is part of both the first and largest NT screening program in Australia. The combined program has assessed more than 15,000 pregnancies in the past 4 years. 79% of the fetuses with Down Syndrome and 88% of other major chromosome abnormalities have been detected by Nuchal Translucency scan assessment alone (without the blood test).

NUFW personnel have been trained to rigorous standards. The scanning performance and screening test results are regularly audited.

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