

## Nuchal Scan: An Overview

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### Abstract

A nuchal scan or nuchal translucency (NT) scan/procedure is a sonographic prenatal screening scan (ultrasound) to detect cardiovascular abnormalities in a fetus, though altered extracellular matrix composition and limited lymphatic drainage can also be detected. Since chromosomal abnormalities can result in impaired cardiovascular development, a nuchal translucency scan is used as a screening, rather than diagnostic, tool for conditions such as Down syndrome

**Key words:** Nuchal Scan; Pregnancy.

### Introduction

The nuchal translucency screening is a test done during pregnancy. It uses ultrasound to measure the thickness of the fluid buildup at the back of the developing baby's neck. If this area is thicker than normal, it can be an early sign of Down syndrome, trisomy 18, or heart problems. The test is done between 11 and 14 weeks of pregnancy. It may be done as part of the first trimester screening test or the integrated screening test. This test shows the chance that a baby may have a certain problem. It can't show for sure that a baby has a problem. The mother needs a diagnostic test, such as chorionic villus sampling (CVS) or amniocentesis, to find out for sure if the baby actually has a problem.<sup>1</sup>

### Why It Is Done

A nuchal translucency test is done to find out the chance that the developing baby (fetus) may be at risk for having Down syndrome or other problems.

### How to Prepare

The mother needs to be with full bladder for the nuchal translucency test. Mother will be asked to drink more water or other liquids just before the test and to avoid urinating before the test. Talk with the doctor about any concerns regarding the need for the test, its risks, how it will be done, or what the results will mean. Most often, a nuchal translucency test is done by a specially trained ultrasound technologist. But it may be done by a radiologist or an obstetrician who has received special training to do this test.

### During the Test

- Lie down on the back or on the side on an exam table.
- A gel will be spread on mother's belly.
- A small, handheld device called a transducer will be pressed against the gel on the skin and moved over the belly. Images of the baby are displayed on a monitor. The technologist or doctor will look

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(Recived on 31.10.2017, Accepted on 23.11.2017)

for and measure the thickness of the fluid buildup at the back of the baby's neck.

When the test is done, the gel is wiped off from the skin. The mother is asked to urinate as soon as the test is done. The test usually takes about 15 to 20 minutes.

### Risks

There are no known risks linked with a nuchal translucency test, either to the mother or the baby. But the mother feels anxious if the test shows there is an increased chance that the baby may have a problem. Ultrasound is a safe way to check for problems and get information about developing baby. It doesn't use X-rays or other types of radiation that may harm the baby.

### Results

The doctor will look at the results of the nuchal translucency test to see if the area at the back of the baby's neck is thicker than normal.

Nuchal translucency test

Normal      2.5 millimeters (mm) or less

Abnormal    More than 2.5 mm

### *How accurate is the test?*

The nuchal translucency test can find out if the developing baby (fetus) is at higher-than-normal risk for problems. The accuracy of this test is based on how often the test correctly finds a problem. For example:

- The nuchal translucency test correctly finds Down syndrome in 64 to 70 out of 100 fetuses

who have it. It misses Down syndrome in 30 to 36 out of 100 fetuses.

- First-trimester screening (nuchal translucency combined with blood tests) correctly finds Down syndrome in 82 to 87 out of 100 fetuses who have it. But these tests miss it in 13 to 18 out of 100 fetuses.
- The integrated screening test (first-trimester tests plus the triple or quad screening blood tests in the second trimester) correctly finds Down syndrome in about 95 out of 100 fetuses who have it. This means that the test misses Down syndrome in 5 out of 100 fetuses [2].

### *What Affects the Test?*

Nuchal translucency test results may be affected by:

- Being overweight or obese.
- Stool (feces) or air in the intestines or rectum.
- An abnormally low amount of amniotic fluid.
- Not being able to lie still during the test.
- The fetus being in certain positions during the test.
- A very active fetus [3].

### References

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