

Advantages of OSCAR

1. High detection rate (90%);
2. Ultrasound examination is safe to the baby;
3. Suitable for women of any age;
4. It can be performed in early gestation and hence there is plenty of time to make decision should the results be positive;
5. If the baby is confirmed to be affected, there is still enough time to consider all management options;
6. If a termination of pregnancy is chosen for an abnormal baby, it carries less risks to the women when performed in early gestation.

婦產科中心 Obstetrics & Gynaecology Centre

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Closed on Sundays and Public Holidays

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First Trimester One Stop Clinic for Assessment of Risk for Down's Syndrome



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What is Down's syndrome?

Down's syndrome is one of the commonest genetic disorders, caused by the presence of an extra chromosome 21 in each cell. Affected individuals are characterised by distinctive facial features and mental retardation. There may also be other structural defects, such as congenital heart diseases and defects in the bowel. Individuals with Down's syndrome usually can live to adulthood. Some of them may be able to perform simple tasks after training but long-term care is usually required.

What is the relationship between the maternal age to the risks of having babies with Down's syndrome?

Down's babies are not confined to women over 35 years of age. In fact, all pregnant women may be at risk of giving birth to an affected baby. However, the older the woman, the higher the probability her baby is affected.

| Maternal age at childbirth | Chance of baby with Down's syndrome |
|----------------------------|-------------------------------------|
| 20 | 1 in 1500 |
| 25 | 1 in 1300 |
| 30 | 1 in 900 |
| 35 | 1 in 350 |
| 40 | 1 in 100 |
| 45 | 1 in 25 |

Antenatal diagnosis of Down's syndrome

Accurate diagnosis of Down's syndrome can be made in the antenatal period by sampling either the placental tissue (chorionic villous sampling) or the amniotic fluid (amniocentesis) to count the number of chromosomes. For details of each procedure, please refer to the pamphlet on these procedures.

Both procedures are very safe in general, although they carry a small miscarriage rate of 0.5-1% even under experienced hands. As a result, they are usually offered only to women with increased risks of having babies with chromosomal anomalies.

Traditionally, only women aged 35 or above are offered the option of these procedures. However, such screening can only pick up 30% of all Down's babies since younger women may also carry Down's babies. The medical profession has been striving for accurate diagnosis of women who have high risks for giving birth to a Down's baby.

What is OSCAR?

One Stop Clinic for Assessment of Risk for Down's syndrome (OSCAR) is a screening method performed at 11-14 weeks of gestation. The following parameters are obtained to calculate the risks of having a Down's baby for each individual woman:

1. the woman's age
2. her serum level of pregnancy-associated plasma protein-A (PAPP-A)
3. her serum level of free beta human chorionic gonadotrophin (free-beta hCG)
4. thickness of the baby's neck-fold (nuchal translucency thickness)

What procedures are involved in this test?

The test involves:

1. An ultrasound examination measures the size of the fetus and the nuchal translucency thickness (Figure 1);
2. Taking blood from the pregnant woman for assessment of the serum hormonal levels;
3. Calculation of the risk via a computer software based on the parameters

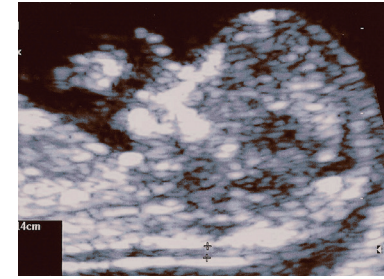


Figure 1: Fetal nuchal translucency thickness measurement by ultrasound

What does it mean if the test result shows "increased risk"?

An "increased risk" or "positive" result does not mean that the baby is necessarily affected by Down's syndrome. It merely indicates that further confirmatory tests need to be considered. After doctor assessment, you may consider to have non-invasive analysis of fetal DNA (SafeT21) or confirmatory invasive test. The confirmatory tests include, chorionic villous sampling (to be performed between 11-14 weeks of gestation) or amniocentesis (to be performed at 16-20 weeks of gestation). These tests help to confirm or refute the diagnosis of Down's syndrome.

What does it mean if the test result shows "low risk"?

A "low risk" or "negative" result means the chance of a Down's baby is low. If the pregnant woman accepts such low risk, there is no need for invasive prenatal diagnosis procedure, such as chorionic villous sampling or amniocentesis. However, it is also important to point out that OSCAR remains a screening test. A result showing "low risk" cannot completely exclude the possibility of having a baby with Down's syndrome or other chromosomal anomalies.