Screening for Down’s syndrome in Multiple Pregnancy

When you are expecting twins, triplets or more

July 2007

Provided by the

NSC
UK National Screening Committee

THE MULTIPLE BIRTHS FOUNDATION

MBF
# Screening for Down's syndrome in Multiple Pregnancy

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Diagnostic tests for Down's syndrome
What can you tell me about diagnostic tests?

What is chorionic villus sampling?

Are there any risks with chorionic villus sampling?

What is amniocentesis?

Are there any risks with amniocentesis?

Are these procedures painful?

How long does it take to get the results?

How will I get my results?

What are the possible results from diagnostic tests?
The babies do not have Down's syndrome

One baby has Down's syndrome

Both babies have Down's syndrome

Further information and contact details

References
Screening for Down's syndrome in Multiple Pregnancy

All pregnant women are now offered tests for Down's syndrome. This booklet gives you some information about Down's syndrome and testing for it when you are expecting twins, triplets or more, so you can decide whether to have the tests.

The screening process is different in multiple pregnancy and the booklet explains this in more detail.

Choosing whether to have the tests is an important decision, for you and for your babies. You need to make the decision that is right for you.

What is Down's syndrome?

There is no such thing as a typical person with Down's syndrome. Like all people, they vary a lot in appearance, personality and ability. People with
Down's syndrome have learning difficulties. Some have more serious difficulties than others.

It is hard to tell in babies how much they will be affected as children, or when they are grown up. Some adults with Down's syndrome are able to get jobs and live fairly independent lives.

However, most people with Down's syndrome need long-term help and support.

A number of health problems are linked to Down's syndrome. But again, people vary, and some people with Down's syndrome enjoy good health. Problems which are linked with Down's syndrome include heart problems and reduced hearing and vision. Many of the problems can be treated, and frequent health checks can make sure that any problems are picked up as early as possible. Most people with Down's syndrome live to be 50 years of age and some live to be over 70. Alzheimer's disease (a form of senile dementia) may affect people with Down's syndrome at an earlier age than other people.

What causes Down's syndrome?

Inside all the cells of our bodies are tiny structures called chromosomes. These chromosomes carry the genes that determine how we develop. Most people
have 23 pairs of chromosomes in each of their cells. When our bodies produce the special cells needed to make babies, the chromosome pairs divide and rearrange themselves. Sometimes these pairs of chromosomes do not divide correctly, and this causes the baby's cells to have an extra copy of chromosome number 21. This causes Down's syndrome (and is the reason why one of the medical names for Down's syndrome is Trisomy 21). The extra chromosome cannot be removed from cells, so there is no cure for the condition.

**Diagnosis of a multiple pregnancy**

You will have been told that you are expecting twins, triplets or more at your first ultrasound scan.

**How identical (monozygotic) and non identical (dizygotic) twins arise:**
One of the first things to be looked at is whether your twins have one or two placentas, and whether they might be identical (monozygotic) or non identical (dizygotic or fraternal). This is called establishing the chorionicity.

Whether the babies are identical or non identical, and whether they share one placenta, is very important in understanding your options for Down’s syndrome screening.

Identical Twins

Identical twins are also known as monozygotic (MZ) because they come from a single fertilised egg (zygote) which divides. The two babies will be the same sex and both will have the same genes.

Non Identical twins

Non identical twins are known as dizygotic (DZ) or fraternal. They come from two separate eggs being fertilised by two separate sperm. Non identical twins are genetically no more alike than other single born brothers and sisters and they can be either the same sex or a boy and girl.
If the fertilised egg divides around 0 to 4 days after fertilisation the babies will each have their own placenta (afterbirth). There will be two inner sacs (amnions) and two outer sacs (chorions). This may be written in your notes as DCDA (Di Amniotic Di Chorionic).

If the division happens around 4 to 8 days the babies will share a single placenta. There will be one outer sac but each will have its own inner sac and waters (amniotic fluid). This may be written in your notes as MCDA (Mono Chorionic Di Amniotic).

If the division happens around 8 to 12 days the babies will share one inner sac, one outer sac and are both in the same water. This will be written as MCMA (Mono Chorionic Mono Amniotic).

### Placentation of twins

**Monozygotic or Dizygotic**
- Separate placentas
  - 2 inner sacs
  - 2 outer sacs
- Fused placentas
  - 2 inner sacs
  - 2 outer sacs

**Monozygotic**
- Single placenta
  - 1 inner sac
  - 2 outer sacs
  - Fused placentas
  - 1 inner sac
  - 1 outer sac
How common is Down’s syndrome in multiple pregnancy?

If they are non identical, then the risk of Down’s syndrome for each baby individually is the same as for a single baby. This is around 1 in 800 pregnancies. If they are identical (monozygotic), because the twins have the same genes, the risk to both of having Down’s syndrome is the same as if you were having a single baby.

Around 2% of pregnancies affected by Down’s syndrome are twins.

As explained above, the majority of twins with two placentas are non identical but some (approximately one third) of identical twins can also have two placentas.

Testing for Down’s syndrome during pregnancy

What is a screening test?

A screening test is a test offered to all women that carries no risk of miscarriage. The test is usually a scan, a blood test, or a combination of both, that will give a risk or chance of the baby or babies being affected by Down’s syndrome. The result is usually expressed as “higher risk” or “lower risk”. Sometimes a number is