Diabetes

Diabetes runs in families to some extent, but not too much is known about the genetic alterations involved.

There are four main types of diabetes:

- Type I, which usually comes on in children or young adults
- Type II, which usually comes on in middle age
- Maturity onset diabetes of the young, which is like type II in character but comes on in younger people
- Gestational diabetes, which appears in pregnancy.

The genetic involvement varies between the four types of diabetes. There is no genetic testing available for types I or II diabetes. Genetic testing is available in some circumstances for people with maturity onset diabetes of the young.

Type I diabetes

Type I diabetes can start at any age – about half the people who develop it are over 20 when they do so.

It seems that there is an inherited likelihood of getting type I diabetes. The child of someone with type I diabetes has a 1 in 15 chance of developing the condition. This is much higher than the average person's chance of 1 in 500. Still, most people in the family of someone with type I diabetes do not develop the condition.

Type II diabetes

This is the most common type of diabetes, affecting about 1 in 20 people. Type II diabetes usually starts some time after the age of 40. It is far more common in people of certain ancestry, such as Indigenous Australians, and is more common in people who are overweight.

There is an inherited likelihood of getting type II diabetes. The child of someone with type II diabetes has a 1 in 5 chance of having the condition themselves.

Type II diabetes can be prevented, to some extent, with a good diet and regular exercise.

People who have type II diabetes in the family should ensure they eat a healthy diet, maintain a healthy weight and exercise regularly. They should also see their doctors to talk about their risk of developing diabetes and what they can do to reduce that risk.

Maturity onset diabetes of the young

This condition looks like type II diabetes in some ways, but it usually comes on before the age of 25 and is not more common in people who are overweight.

Maturity onset diabetes of the young is an inherited condition with an autosomal dominant pattern of inheritance (see fact sheet on '*How do genetic conditions occur?*'). Alterations to at least six different genes can cause the condition.

People who have maturity onset diabetes of the young in the family, or who have type II diabetes in the family in someone who developed it while under the age of 25, should talk to their doctor about a referral for genetic counselling.

Gestational diabetes

Gestational diabetes is diabetes that comes on during pregnancy. It is more common in women:

- Over the age of 30
- Who have diabetes in the family
- Who are overweight
- Who have certain ancestries – Indigenous Australian, Polynesian, Indian, Middle Eastern and Asian.

Most women with gestational diabetes can look after themselves with a healthy diet and regular exercise. A few women may need insulin injections.

Gestational diabetes usually goes away soon after the child is born, although woman who have it are left with a higher than normal chance of developing type II diabetes. Babies do not develop diabetes as a consequence of their mother having gestational diabetes.

Diabetes and pregnancy

Women with diabetes have a higher than normal chance of having a baby with problems. The chances are highest if insulin is needed to control the diabetes. Risks are reduced if there is good control of diabetes in the lead up to, and during, pregnancy. Women with diabetes who are planning to become pregnant should discuss their situation with the doctor treating their diabetes.

Contacts and further information

- Your local genetic service, which you can contact through your nearest community health centre, public hospital or health department.
- Diabetes Australia at **http://www.diabetesaustralia.com.au**
- Australasian Genetic Alliance at **http://www.australasiangeneticalliance.org.au**
- MyDr at **http://www.mydr.com.au**
- HealthInsite at **http://www.healthinsite.com**
- MedicineNet at **http://www.medicinenet.com**
- For other related fact sheets, you can contact the Gene Technology Information Service on **free call Australia-wide 1800 631 276** or email **gtis-australia@unimelb.edu.au** or visit Biotechnology Australia's website at **http://www.biotechnology.gov.au**