

Type 2 diabetes

in children and adolescents

Type 2 diabetes was previously seen only in middle age or older adults. However, with the rise of overweight and obesity in children, it is now being increasingly diagnosed in young people, particularly indigenous youth and children with non-European backgrounds.

Sometimes a young person with type 2 diabetes will be initially mistaken as having type 1 diabetes, until a complete assessment can be done.

How is type 2 diabetes different to type 1 diabetes?

- **Type 2**

Although there is a stronger inherited tendency to developing type 2 diabetes compared to type 1, type 2 diabetes in young people is largely due to lifestyle habits.

- **Type 1**

The development of type 1 diabetes is not usually related to lifestyle habits, obesity or insulin resistance, but to a problem with immunity.

Which young people are at risk?

Children and adolescents most at risk of developing type 2 diabetes are those who:

- are overweight or obese

AND have any two of the following:

- blood relatives with type 2 diabetes
- an Aboriginal or Pacific Islander background or other high risk ethnic groups
- signs of insulin resistance diagnosed by the doctor

How does type 2 diabetes develop?

Type 2 diabetes in young people is thought to result from insulin resistance, which means insulin does not work properly. The hormone insulin is made in our bodies by an organ called the pancreas and has an important role in regulating blood glucose levels.

Young people with insulin resistance need to make more insulin than is 'normally' required to regulate their blood glucose levels. Overweight and obese young people are most likely to have insulin resistance which alone can cause health problems.

Insulin resistance can progress to type 2 diabetes if the young person's pancreas cannot continue to make enough insulin to overcome their insulin resistance. Blood glucose levels then start to rise to higher than 'normal' levels. During puberty, hormonal changes can add to insulin resistance and type 2 diabetes is more likely to be diagnosed at this time.

Are there any symptoms of type 2 diabetes?

A young person with type 2 diabetes may have no symptoms. If there are symptoms, these are usually mild and in most cases develop gradually. High blood glucose levels may cause symptoms like thirst and passing lots of urine.

How is type 2 diabetes diagnosed?

- Diagnosis needs a comprehensive medical assessment by a doctor who will ask about risk factors and any symptoms, and look for signs of insulin resistance.
- A fasting blood glucose or an oral glucose tolerance test may also be done. Fasting insulin levels may also be tested.
- From the age of ten years, young people at risk of type 2 diabetes should have a fasting blood test done every two years.

For more information about fasting blood tests and oral glucose tolerance tests refer to Diabetes Australia's *Pre-diabetes* information sheet.

How is type 2 diabetes treated?

Treatment initially depends on how unwell the young person is at the time they are diagnosed.

- In some young people who have no symptoms, lifestyle changes such as healthy eating and keeping physically active may be the only treatment they require. The whole family needs to be involved in reviewing their food and exercise habits, and in making changes where needed to bring these family habits more in line with the Australian Healthy Eating and Physical Activity Guidelines.
- If adopting a healthy lifestyle is not enough to control the young person's diabetes, there are medications that can also help to reduce insulin resistance. For some overweight young people with type 2 diabetes, this can be very effective in combination with healthy eating and keeping physically active and may therefore be prescribed by their doctor.
- In most cases, insulin therapy ultimately may be needed.

Is type 2 diabetes serious?

Yes. Whether or not treatment includes tablets or insulin injections, type 2 diabetes is serious and can potentially cause long-term complications.

With more young people developing type 2 diabetes, complications such as heart disease and kidney disease are also likely to occur at a younger age.

Proper treatment including maintaining a healthy lifestyle and having regular checkups is essential to staying well and preventing the development of long-term health problems.

Can anything be done to prevent type 2 diabetes in young people?

Yes. Unlike type 1 diabetes, the early development of type 2 diabetes in young people is preventable with healthy lifestyle changes as outlined in the first bullet point under 'How is type 2 diabetes treated?' above.



Type 2 diabetes in children and adolescents continued

For more information about type 2 diabetes in children and adolescents, contact Diabetes Australia on 1300 136 588.

Ref: American Diabetes Association. Consensus Statement. Type 2 Diabetes in Children and Adolescents. Diabetes Care 23:381-319, 2000

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