

# New research improves screening efficiency for type 1 diabetes

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**DIABETES**



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Melbourne researchers have led a global collaboration to develop a simplified blood test that increases the overall screening efficiency for type 1 diabetes (T1D).

As a disease that requires lifelong treatment of insulin, T1D can affect

individuals of all ages. Current screening methods to identify those who are at risk are costly and logistically difficult.

The study, led by researchers from the Royal Melbourne Hospital (RMH) and WEHI showed that a single finger prick [blood](#) test could be used in place of the current method of multiple venous blood samples during a 2-hour [oral glucose tolerance test](#).

## **Alternative diagnostic method makes testing easier**

In T1D, the pancreas stops making insulin because the cells that make the insulin have been destroyed by the body's immune system. Without insulin, the body's cells cannot turn glucose into energy.

People with type 1 diabetes depend on daily insulin injections to replace the insulin the body cannot produce and must test their [blood glucose levels](#) several times a day.

Researchers analysed data from four different studies, from participants aged two to 45 years and in their first and second stage of the disease.

The group of researchers, from Australia, Sweden, Canada, United States and Germany, compared a large number of oral glucose tolerance tests from 3,500 people throughout the course of many years.

The study, led by RMH endocrinologist and WEHI clinician-scientist Associate Professor John Wentworth found the simple blood test was able to provide the same information and was far less invasive, particularly for young children.

"For several years, we have believed that multiple [blood samples](#) increased the accuracy of the oral glucose tolerance tests," he said.

"What we found, is that the blood sample taken two hours after the glucose drink predicted a [clinical diagnosis](#) with high accuracy."

"Information collected from the study is expected to lead to improved screening efficiency and early diagnosis and treatment for type 1 diabetes."

**More information:** Naiara G. Bediaga et al, Simplifying prediction of disease progression in pre-symptomatic type 1 diabetes using a single blood sample, *Diabetologia* (2021). [DOI: 10.1007/s00125-021-05523-2](https://doi.org/10.1007/s00125-021-05523-2)

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