

Type 1 diabetes testing may be cheaper, faster

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Work by researchers at The University of Western Australia could revolutionise testing for Type 1 diabetes around the world.

The research, led by Professor Grant Morahan of UWA's Centre for Medical Research, has been published in the top journal in the field, *Diabetes*.

Lead author Research Assistant Professor Cao Nguyen, said the new method would make testing much cheaper and quicker to determine what [genetic risk factors](#) have for [Type 1 diabetes](#). In this disease, the person's own immune system destroys the cells that make insulin.

The strongest genetic risk factors for Type 1 diabetes are the [HLA genes](#) known as HLA-DR3 and HLA-DR4.

"Currently a blood sample is collected and sent to specialist laboratories where it can cost \$300 per sample to test HLA types by the conventional method," Research Assistant Professor Nguyen said.

"With this new method, it will cost less than \$50 to find a person's HLA risk type. The process will be more affordable and will make it easier for more researchers to investigate type 1 diabetes."

Asst. Professor Nguyen tested more than 200,000 genetic markers in the DNA of over 10,000 people as part of the international Type 1 Diabetes Genetics Consortium.

Using advanced computational methods, Asst. Professor Nguyen discovered as few as three [genetic markers](#) can predict all the HLA risk types that are relevant to Type 1 Diabetes.

The overall accuracy of his [prediction method](#) was 99.3% - which is more accurate than existing methods.

Now that the research has been published, clinicians and researchers across the world can start using the method, providing faster results for people with a family history of Type 1 diabetes.

Provided by University of Western Australia

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