

How diabetes disrupts the immune system

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The Harry Perkins Institute of Research study was part of a worldwide investigation involving over 4000 families. Credit: Pixabay

New findings into how type 1 diabetes disrupts the immune system and impacts a person's risk of developing the condition have been uncovered by a team of researchers from the Harry Perkins Institute of Medical Research – findings that could help focus the search for a cure.

Professor Grant Morahan, Director of the Centre for Diabetes Research,

said the study revealed that, unlike many other [genetic diseases](#), the genes that caused type 1 [diabetes](#) did so by regulating the expression levels of other genes, rather than making changes in proteins.

"Some genetic diseases, for example cystic fibrosis, are caused by a mutation in one gene where the mutation makes a [faulty protein](#). These diseases are referred to as simple genetic diseases," Professor Morahan said.

"People thought complex genetic diseases, such as diabetes, would also be due to variants that changed proteins. However, we found that is not the case."

"Our finding suggests the cure for this condition will most likely involve treatments that regulate the whole of the immune response, not just a specific part of it."

"This is a [medical research](#) game changer in that it alters our understanding not only of how type 1 diabetes is caused but likely also other complex genetic diseases such as cancer, type 2 diabetes and heart disease," he said.

The study was part of a worldwide investigation involving over 4000 families.

The published results were highlighted for their importance in the April edition of the leading *Journal of Immunology*.

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