New guidelines set to change the way clinicians diagnose type 1 diabetes

June 25 2024, by Jessica Stanley

Credit: Pavel Danilyuk from Pexels

Type 1 diabetes (T1D) diagnoses could soon be transformed with newly released guidance, developed with input from a University of Adelaide expert, outlining how to detect and monitor early-stage T1D before the

point of symptom onset.

The chronic autoimmune condition is traditionally diagnosed when elevated blood glucose levels result in the symptoms of thirst, weight loss, tiredness, and increased urination. At this point, exogenous insulin is already required, meaning diagnosis often occurs at the point of critical illness with hospital admission and diabetic ketoacidosis (DKA), particularly in children.

However, years of research have shown that the condition starts months or even years before overt symptoms are present. This is called early-stage or pre-symptomatic T1D. Importantly, evidence shows that identifying T1D in these early stages has significant health benefits, including preventing DKA and long-term health complications and improved blood glucose control.

Prior to the guidance document, there was no standard advice on how to detect, follow up, or support people with early-stage T1D. The newly released guidance has caught up to the evidence. A team of 66 international T1D experts have co-authored a consensus document published in *Diabetologia* and *Diabetes Care*.

The team included Australian researchers Professor Jennifer Couper from the University of Adelaide's Robinson Research Institute, Dr. Kirstine Bell from Charles Perkins Center at the University of Sydney, Professor Maria Craig, from UNSW and Associate Professor John Wentworth from the Royal Melbourne Hospital and WEHI.

The guidance document has been endorsed by numerous key diabetes organizations including the American Diabetes Association, the European Association for the Study of Diabetes, and the Australian Diabetes Society. The document outlines the best methods and recommended frequency for monitoring the progression of T1D across

pre-symptomatic stages, as well as the point at which insulin should be introduced.

The recommendations address adults, children, and pregnant individuals. It also outlines the types of partnerships required among health care practitioners to ensure pre-symptomatic detection and follow up is successful and identifies the educational needs and psychosocial support that individuals and families may require.

Professor Jennifer Couper, an endocrinologist, and co-author of the consensus document, says there is a real need for this guidance. "There has been a push internationally to introduce screening for type 1 diabetes in the general population, before symptoms develop, but no guidance on how to care for individuals who are identified at these early stages.

"We know that early detection is important to prevent DKA at diagnosis and to better support families so that the transition to treatment is less stressful for them. Early detection also identifies people who are eligible to enter clinical trials testing immune therapies which show promise in slowing down type 1 diabetes progression.

"However, until now, there has been little information on how best to detect individuals in the early stages of type 1 diabetes, how to monitor them, and the role of different health care providers in this process. This consensus document fills that gap with the overall goal to greatly improve the lives of those with type 1 diabetes."

With two screening programs aimed at early-stage T1D detection, Australia is on track to become one of the first countries in the world to adopt childhood general population screening for the condition. These programs are led by Dr. Kirstine Bell and Associate Professor John Wentworth respectively, co-authors of the guidance document.

Dr. Dorota Pawlak, JDRF Australia's Chief Scientific Officer, says the newly published guidance and progress in early-stage T1D screening represent a paradigm shift in how we think about and diagnose the condition. "The evidence from the last couple of decades of research revealed a long asymptomatic stage of T1D before the first signs of symptoms begin. Years of JDRF's investment have been directed into understanding the markers of pre-symptomatic type 1 diabetes.

"To see this investment come to fruition through the publication of this consensus guidance is incredibly exciting for us. We are proud that we have not only been able to fund the initial research in this area, but also push it through the research pipeline by driving and coordinating the development of this guidance document.

"This has only been possible through JDRF's Type 1 Diabetes Clinical Research Network (CRN), which has received continued support from the Australian government to enable ongoing investment in groundbreaking type 1 diabetes research."

More information: Moshe Phillip et al, Consensus guidance for monitoring individuals with islet autoantibody-positive pre-stage 3 type 1 diabetes, *Diabetologia* (2024). DOI: 10.1007/s00125-024-06205-5

Moshe Phillip et al, Consensus guidance for monitoring individuals with islet autoantibody-positive pre-stage 3 type 1 diabetes, *Diabetes Care* (2024). DOI: 10.2337/dci24-0042. diabetesjournals.org/care/arti … ing-Individuals-With

Provided by University of Adelaide

25) retrieved 29 June 2024 from https://medicalxpress.com/news/2024-06-guidelines-clinicians-diabetes.html