

# Delayed care for juvenile new-onset type 1 diabetes

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Four out of ten children and adolescents who were admitted with new-onset type 1 diabetes and diabetic ketoacidosis did not receive hospital treatment the same day as contacts were taken with primary care. This is

shown in a study from the University of Gothenburg. In severe cases, a delay before hospital care begins can lead to life-threatening conditions.

The study, published in the journal *Pediatric Diabetes*, comprises 237 individuals aged up to 18 with new-onset type 1 diabetes. At some point in the years 2015–17, these children and adolescents were admitted to hospital in Sweden with acid poisoning (diabetic ketoacidosis, DKA), a condition that can arise if the patient does not receive insulin in time.

The [study data](#) derive from questionnaires filled out by either parents or other guardians, jointly with the juveniles if they had reached age 15, or by [hospital care](#) staff. The questionnaires were supplemented with register data from the Swedish national quality registry for diabetes in children and adolescents (Swediabkids), part of the National Diabetes Register.

In cases where hospitalization was preceded by contact with [primary care](#), and where it was feasible to ascertain the course of events, treatment proved not to have been provided in hospital on the same day, as guidelines prescribe, in 43 percent (48 of 112) cases.

## **More knowledge needed**

A delay in providing emergency [hospital treatment](#), or its failure to materialize, was also a feature of cases where parents or guardians had already suspected type 1 diabetes before the first contact with the care services. These suspicions were present in 39 percent (92/237) of the cases studied.

Without administration of insulin, patients with type 1 diabetes, regardless of age, will suffer from diabetic ketoacidosis (DKA) sooner or later. As the DKA becomes increasingly severe, symptoms—nausea, vomiting, and lethargy, for example—get worse. Eventually, the

condition can lead to loss of consciousness and, at worst, death.

The researchers behind the current study conclude that improved awareness of the symptoms of new-onset type 1 diabetes and of the importance of rapid treatment, both among the general population and in primary care, is necessary.

## Hospitalization crucial

The study's first author, Dr. Johan Wersäll, is a Ph.D. student at Sahlgrenska Academy, University of Gothenburg, and specialist in anesthesia and intensive care at Sahlgrenska University Hospital.

"Acid poisoning, or [diabetic ketoacidosis](#), is a potentially life-threatening complication of diabetes that can be entirely avoided if insulin treatment starts in time. So if diabetes is suspected, immediate [hospital](#) admission is paramount," he says.

Symptoms to be aware of include bedwetting in a child who has previously been dry at night, thirst and a need to drink unusually much, fatigue, nausea, vomiting, abdominal pain, strained breathing, and weight loss.

"Children and adolescents showing symptoms that may be related to new-onset [diabetes](#) should get their blood glucose checked regularly in primary care. Where the level is elevated, the patient should be immediately referred to the nearest pediatric emergency ward," doctor Wersäll concludes.

**More information:** Johan H. Wersäll et al, Delayed referral is common even when new-onset diabetes is suspected in children. A Swedish prospective observational study of diabetic ketoacidosis at onset of Type 1 diabetes, *Pediatric Diabetes* (2021). [DOI: 10.1111/pedi.13229](https://doi.org/10.1111/pedi.13229)

Provided by University of Gothenburg

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