

# Type 1 diabetes is tougher on girls than boys: Study

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Girls with type 1 diabetes may fare worse than boys when it comes to

blood sugar control and other critical aspects of their health, a new research review finds.

[The review](#) of 90 published studies by researchers in the Netherlands found some consistent patterns in how girls and boys with [type 1 diabetes](#) differed. In general, girls tended to have higher blood sugar levels, were more likely to be overweight, and reported an overall poorer quality of life.

The reasons are not clear, experts said. But the findings bring attention to the fact that girls with [type 1 diabetes](#) may face particular challenges that need attention.

Type 1 diabetes differs from [type 2](#), which is mostly diagnosed in adults and is often associated with obesity.

Type 1 usually strikes in childhood, and affects more than 1 million children and teenagers worldwide. It's caused by a misguided immune system attack on pancreatic cells that produce insulin—a hormone that moves sugars from food into body cells to be used for energy.

Without insulin, sugars build up in the blood, and body cells are starved. So people with type 1 diabetes need to take synthetic insulin in order to survive. That can be done through injections, taken multiple times a day, or by wearing a "[pump](#)" that delivers insulin throughout the day via a small tube just under the skin.

It's a big burden for kids, and experts said there could be multiple reasons—ranging from biological to psychological and social—that girls tend to fare worse than boys in some respects.

One difference is that girls tend to develop type 1 diabetes earlier than boys do, said Sanjoy Dutta, vice president of research at the nonprofit

JDRF (Juvenile Diabetes Research Foundation). Longer duration of diabetes can mean more complications.

Then there's [puberty](#). The hormonal surges kids experience cause blood sugar levels to rise, and both girls and boys need to start taking more insulin.

But those [hormonal changes](#) typically have a greater impact on girls' blood sugar control than boys', Dutta said.

Girls' insulin needs even change during the course of the monthly [menstrual cycle](#), said Dr. Kimber Simmons, a pediatric endocrinologist with the Barbara Davis Center for Diabetes at the University of Colorado Anschutz Medical Campus.

Beyond biology, kids with type 1 diabetes are dealing with the anxieties and [social pressures](#) of growing up, which can make the meal planning, insulin tweaking and other aspects of managing the disease even harder.

And, Simmons said, research shows that girls are typically harder hit, facing more issues with body image, "disordered eating" and depression.

An estimated 30% of girls with type 1 diabetes have depression, Simmons noted. When teens with type 1 have depression, their blood sugar levels tend to be higher, and they face a greater risk of [diabetic ketoacidosis \(DKA\)](#), according to JDRF.

DKA refers to a dangerous buildup of acids in the blood due to very high blood sugar. It happens when a person does not take enough insulin, or has an illness that drives up blood sugar levels.

Girls, the research review found, have a higher risk of DKA than boys.

The new findings are based on an analysis of 90 published studies worldwide involving children and teenagers with type 1 diabetes.

Across the studies, the researchers found, girls generally showed higher A1C levels—a measure of [blood sugar](#) control over the previous three months—versus boys. They also had a higher rate of obesity and high cholesterol, along with lower scores on surveys gauging quality of life.

The study is looking at averages, and the results do not mean that any one girl with type 1 diabetes is doomed to fare poorly, both Dutta and Simmons noted.

But, they said, the findings bring needed attention to the fact that girls do face some higher risks.

That includes issues that extend beyond [blood sugar control](#), into [girls'](#) mental and emotional well-being, Simmons pointed out. It's important for parents and doctors to pay attention to the whole picture, she said.

The American Diabetes Association recommends routine [depression screening](#) for adolescents with type 1 diabetes. As for what families can do, Simmons said that showing your support goes a long way.

"I hope that kids with diabetes never feel they are alone in this," she said. "As they get older, we want them to become independent, but they'll always need a support person."

Lead researcher Silvia de Vries, of Amsterdam University Medical Centers in the Netherlands, presented [the findings](#) Wednesday at a meeting of the European Association for the Study of Diabetes, in Stockholm. Research presented at meetings is typically considered preliminary until published in a peer-reviewed journal.

**More information:** JDRF has more on living with [type 1 diabetes](#).

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