



Day after Day, Forever: Living with Type 1 Diabetes

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Nearly everyone with a chronic condition has a story of an appalling interaction with a medical professional. For me, that was when, as an adult, my family physician told me I no longer had type 1 diabetes and he would be treating me as he treated his other patients with type 2. When I tried to protest that I did, indeed, still have type 1, he said I couldn't possibly be type 1 because "you aren't exactly a juvenile anymore, are you?"

I didn't know if it was terrifying or hilarious that my doctor thought that children with type 1 diabetes grow up to be adults with type 2. That was my last time in his office.

While this may have been a rare encounter, the truth is, it is hard to find general physicians who understand the complexities of living with chronic conditions like type 1. While most children with type 1 diabetes will have an endocrinologist that looks after their care and management, they also need treatment for more common problems: strep throat, sprained ankles, spider bites, a mysterious rash. Problems—and treatments—that may wreak havoc with their blood glucose levels (and often do).

The *Pediatrics in Review* Chronic Conditions feature this month, Management of Type 1 Diabetes in Children in the Outpatient Setting ([10.1542/pir.2020-001388](https://doi.org/10.1542/pir.2020-001388)), offers an overview of the epidemiology, pathophysiology, diagnosis, and management of type 1 diabetes for the general pediatrician. It also touches on the critical mental health aspect of managing a condition that is ever-present and never-ending, and for which, on most days, the words "management" and "control" can seem laughable.

We have come a long way treating patients with type 1 diabetes in the hundred years since insulin was discovered. When my sister was diagnosed as a child, there was the once-a-day insulin shot, and she had to time her meals to coincide with the peaks of effectiveness. There was no way to test her blood glucose or adjust to its lows and highs. My parents were told to expect nerve damage, blindness, amputation, a shorter life expectancy. By the time I was diagnosed, glucose monitors and short-acting insulin gave me flexibility to live more normally.

Though not perfect, our current closed-loop insulin pumps that work with continuous glucose monitors try to mimic a healthy pancreas, increasing and decreasing insulin as blood glucose increases and decreases. This “artificial pancreas” is at the same time a miraculous and a frustratingly flawed substitution. Insulin is only one of the hormones the pancreatic beta cells produce (the role of amylin, for example, is nearly ignored by researchers and doctors), and the alpha cells and liver continue to create and pump glucose through the body, even without food.

A pediatric patient can eat the same food at the same time with the same insulin injections every day and still have wildly different glucose levels from day to day. Stress, illness, medicine, growth spurts and puberty, and activity are all at play. It’s not uncommon for a few dramatic hypoglycemic episodes to discourage affected children from participating in sports—or from the parents allowing them. At the same time, they are pressured to eat and drink the way their peers do, experiment with alcohol and marijuana, follow rigid schedules. They may have largely absent or unsupportive families, face food insecurity, not be able to afford enough test strips or insulin to be proactive. The mental and emotional strain of walking the tightrope of glucose highs and lows is exhausting. Day after day. Every day. For as far into the future as they can imagine.

As a patient, my favorite doctor was the one whose sister had type 1 diabetes and who understood that every infection, every steroid, every antibiotic, every attempt at sports was a challenge to glucose control. He understood there were days I felt like just giving up because nothing worked. He listened to my frustrations, advised how prescriptions would affect me, explained when certain diagnoses would necessitate changing a few diabetes-managing demands temporarily. He was the one who said the words I most appreciate from any doctor before or since: “You are doing an amazing job with the tools you have; I think I can help you do even better.”

Pediatric in Review’s Chronic Conditions feature is for the general practitioner who may not be the pediatrician primarily treating the asthma, the type 1 diabetes, the Cystic Fibrosis, or the condition requiring gastrostomy tubes or catheters, but who is treating the child whose life is affected by these hurdles and gadgets every day. You have been doing an amazing job. We think we can help you do it even better.