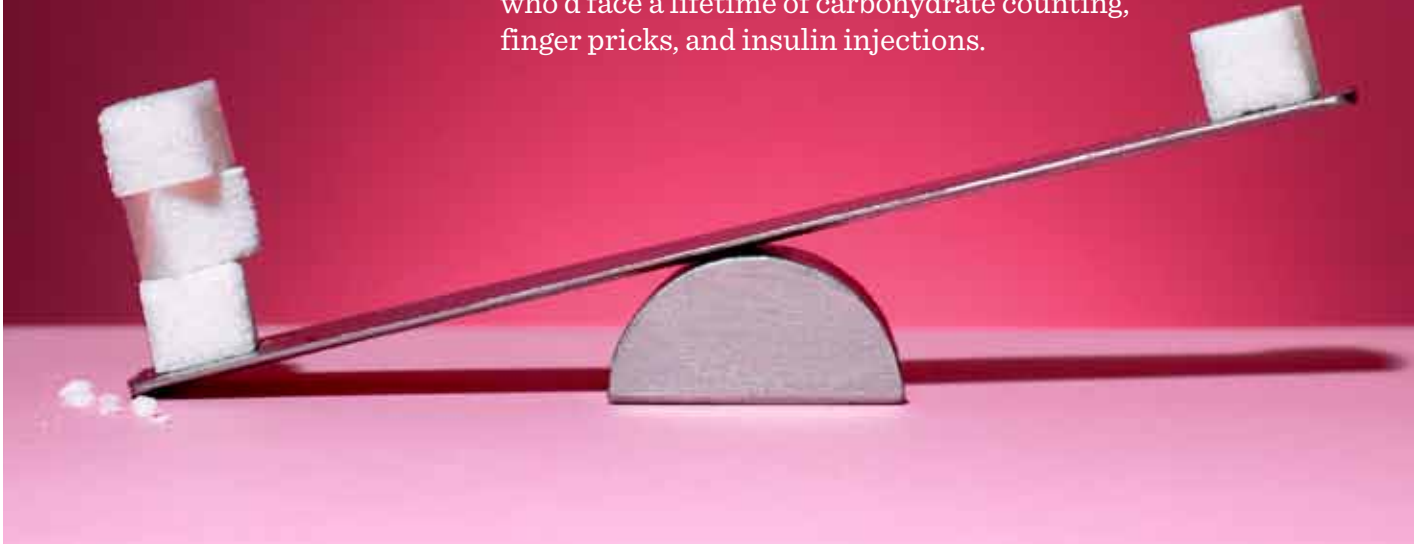
Could Your Child Have Diabetes?

More than 15,000 children are diagnosed with type 1 every year. Make sure you know the telltale signs—they're all too easy to dismiss. *by* JEANNETTE MONINGER

When Chloe Powell started begging for one more drink of water every night, her father, Charles, thought his then 7-year-old was using a common bedtime stall tactic. "I was irritated that she wouldn't go to sleep," admits Dr. Powell, who's a family physician in Dallas. With all she was drinking, he wasn't surprised when she began wetting the bed. But when Chloe couldn't make it through a conversation without having to use the bathroom, he became concerned. "I figured she had a urinary-tract infection, and she'd take some antibiotics and feel better," says Dr. Powell. He wasn't at all prepared for what his daughter's urine test showed: a dangerously high level of sugar that was a clear indicator of type 1 diabetes. In an instant, Chloe, now 10, went from being a kid who never thought twice about the foods she ate or the energy she burned to one who'd face a lifetime of carbohydrate counting, finger pricks, and insulin injections.



JEFFREY WESTBROOK.

A Disease on the Rise

Type 1 diabetes is an autoimmune disorder that causes the body's immune system to mistakenly destroy healthy cells in the pancreas that produce the hormone insulin. (Type 2, on the other hand, occurs when the body doesn't respond to the insulin that's being made.) Insulin ensures that sugar (glucose) in the bloodstream gets into the body's cells where it's needed for energy; without insulin, sugar builds up in the blood, which can be deadly. It's important to begin insulin therapy as soon as possible because high blood-sugar levels can cause permanent vision and nerve problems as well as damage to blood vessels, increasing the risk of heart attack, stroke, and kidney disease.

Since the 1980s, the number of kids being diagnosed with type 1 diabetes has gradually crept up at a rate of about 3 to 5 percent per year. That may not sound like much, but it's startling when you consider that twice as many kids are diagnosed with type 1 diabetes today than were diagnosed 20 to 25 years ago. Although the condition can develop at any age, "we're seeing it at younger ages than ever before and more toddlers and preschoolers are being diagnosed," says *Parents* advisor Lori Laffel, M.D., chief of the pediatric, adolescent, and young adult section at Harvard Medical School's Joslin Diabetes Center. Experts believe that environmental factors like children's reduced exposure to germs may be partly to blame (a theory known as the hygiene hypothesis). "Reduced exposure to early-childhood infections may also alter certain children's immune response, leading to the autoimmune attack on the body's insulin-producing beta cells," says Dr. Laffel. "It could also be that excessive childhood weight may add other stresses to beta cells."

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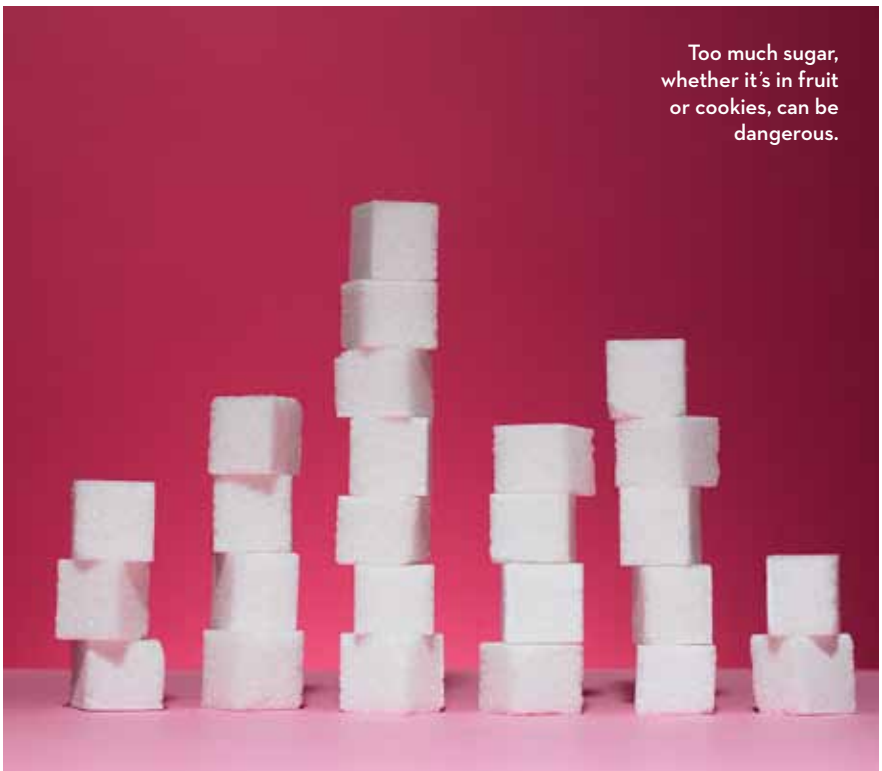
Why some kids get type 1 diabetes is also a mystery. White children and those with a family history of type 1 diabetes are most at risk, but only about 10 percent of those with type 1 diabetes have a family history of the disease. Sometimes, a child develops diabetes after being exposed to a virus like the ones that cause mono (Epstein-Barr) or hand-foot-mouth disease (which includes viruses such as Coxsackie).



Too much sugar, whether it's in fruit or cookies, can be dangerous.

Signs of High Blood Sugar

Chloe's unquenchable thirst and frequent urination were classic signs of type 1 diabetes. "Yet even though I'm a doctor, I missed the symptoms in my own daughter," Dr. Powell says. Other symptoms—including increased appetite, weight loss, lethargy, and irritability—are easily dismissed as kid quirks or chalked up to growth spurts. "Symptoms come on suddenly and can seem obvious after a child's been diagnosed," says Larry Deeb, M.D., past-president of the American Diabetes Association and director of Tallahassee Memorial HealthCare's Diabetes Center, in Florida. "Parents often say their child wasn't herself for weeks, but they couldn't pinpoint why."

Although blood tests are the most reliable way to diagnose diabetes, your child's doctor may first order a glucose urine test because it's easier to have a kid pee into a cup than to draw her blood. If there's sugar in her urine, a random blood-glucose test (one that doesn't require fasting) can confirm the diagnosis, usually while you're still at the doctor's office. A blood-glucose reading of 200 milligrams per deciliter (mg/dL) or higher indicates your child has diabetes and will need to be given insulin multiple times every day to help her body process glucose. Fortunately, there have been great advancements in managing this lifelong affliction.

Intensive Treatment

If your child has diabetes, it's critical that her blood-sugar levels stay in a safe range. This will be determined by a doctor, but it will be slightly higher than the normal blood-sugar level range of

70mg/dL to 120mg/dL. Levels that drop too low or spike too high can lead to seizures, coma, and even death. Whenever your child eats or is physically active, you'll need to take a droplet of blood pricked from her finger and check her sugar level using a handheld blood-glucose meter. To cut down on finger sticks, some families have switched to continuous glucose monitoring systems, devices that constantly check a child's sugar levels through a sensor inserted into her skin for up to six days at a time. But these readings aren't as accurate as metered ones, so kids must still endure a few finger pokes each day.

Blood-glucose monitors determine how much insulin your child's body needs, but they don't actually dispense insulin. For that, most newly diagnosed children with diabetes need their parents to inject insulin into their stomach, upper arm, outer thigh, or buttocks. Eventually, many people with diabetes switch to an insulin pump, a pager-size device that straps to the waistband or adheres directly to skin and delivers a steady supply of insulin via a small tube inserted into the skin. "A pump gives kids more freedom, but shots are cheaper, simpler to use, and more likely to be covered by insurance," says David Repaske, M.D., Ph.D., chief of endocrinology at Nationwide Children's Hospital, in Columbus, Ohio. Children of all ages can use insulin pumps; Meredith Buchwald's daughter Lauren was diagnosed with diabetes at age 2 and endured nearly a year of shots before switching to a pump at age 3. "No child likes to be pricked and poked multiple times a day," says Buchwald, of Weston, Florida.

Parents must be vigilant about their child's diet, though it's a myth that kids with diabetes can't enjoy cookies or cake. "No foods are forbidden," says Laurie Higgins, a pediatric nutrition and diabetes educator at the Joslin Diabetes Center. No child should have lots of sweet drinks and treats, and this also goes for children with diabetes. Carbohydrates are a particular concern because starches (like those found in bread and pasta) and natural sugars (including those in fruits and juices) raise blood-sugar levels faster than sugar does. "Parents need to count carbs and adjust their child's insulin to ensure that their blood-glucose levels don't spike too high," says Higgins.

Promising Advances

One day soon, children and their families may not need to spend as much time crunching numbers. Researchers have been testing an "artificial pancreas," a combination glucose monitor and insulin pump system that's worn like a pager. "The goal is to have one device that automatically adjusts and administers insulin based on the monitor's readings of sugar levels," says Richard Insel, M.D., chief scientific officer for the Juvenile Diabetes Research Foundation. A recent landmark study from the University of Cambridge, in England, showed that these devices kept blood-glucose levels of sleeping kids in the normal range 60 percent of the time—a 20 percent improvement over current treatment options.

This is big news; nighttime can be especially perilous for those with diabetes. "Blood-sugar levels can drop dangerously low and cause a sleeping child to have seizures," says Dr. Laffel. This holds especially true at the end of an active day, if a child hasn't received extra carbs or reduced insulin doses. That's why once or twice a night, Buchwald pricks her daughter's finger and arouses her to drink juice if necessary. "There's no rest when your child has diabetes: You deal with it all day and all night," explains Buchwald, who's optimistic there'll be a cure in Lauren's lifetime. "They're making tremendous strides in research every day."