

BEFORE WE GET ANY FURTHER, LET'S TACKLE THE BIG QUESTION THAT'S ON ALL OF OUR MINDS:

WHAT IS MY CHILD'S RISK OF DEVELOPING TYPE 1 DIABETES?

WHAT IS MY CHILD'S RISK OF DEVELOPING TYPE 1 DIABETES?

There are several factors and tests you can use to help determine if your child is at risk for developing type 1 diabetes. At the time this book was written there is no current treatment method to conclusively prevent the onset of type 1 diabetes in someone with a greater risk; however, there are many studies in progress that are proving successful in at least delaying the onset of the disease.

FIRST, THE BASIC FACTORS THAT CAN IMPACT YOUR CHILD'S RISK:

The Joslin Diabetes Center reported this study from the Harvard School of Public Health, by Dr. Warram, to determine a person's risk of developing type 1 diabetes:

If an immediate relative (parent, brother, sister, son or daughter) has type 1 diabetes, one's risk of developing type 1 diabetes is 10 to 20 times the risk of the general population; your risk can go from 1 in 100 to roughly 1 in 10 or possibly higher, depending on which family member has the diabetes and when they developed it.

If one child in a family has type 1 diabetes, their siblings have about a 1 in 10 risk of developing it by age 50.

The risk for a child of a parent with type 1 diabetes is lower if it is the mother—rather than the father—who has diabetes. “If the father has it, the risk is about 1 in 10 (10 percent) that his child will develop type 1 diabetes—the same as the risk to a sibling of an affected child,” Dr. Warram says. On the other hand, if the mother has type 1 diabetes and is age 25 or younger when the child is born, the risk is reduced to 1 in 25, and if the mother is over age 25, the risk drops to 1 in 100—virtually the same as the average American.

If one of the parents developed type 1 diabetes before age 11, their child's risk of developing type 1 diabetes is somewhat higher than these figures, and it's lower if the parent was diagnosed after their 11th birthday.

About 1 in 7 people with type 1 have a condition known as type 2 polyglandular autoimmune syndrome. In addition to type 1 diabetes, these people have thyroid disease, malfunctioning adrenal glands and sometimes other immune disorders. For those with this syndrome, the child's risk of having the syndrome, including type 1 diabetes, is 1 in 2, according to the American Diabetes Association (ADA).

“Caucasians (whites) have a higher risk of type 1 diabetes than any other race,” continues the report from the Joslin Diabetes Center. “Whether this is due to differences in environment or genes is unclear. Even among

whites, most people who are susceptible do not develop diabetes. Therefore, scientists are studying what environmental factors may be at work. Genes influencing the function of the immune system are the most closely linked to type 1 diabetes susceptibility, regardless of race. One of those genes is HLA-DR. Most Caucasians with diabetes carry alleles (gene variants) 3 and/or 4 of the HLA-DR gene. The HLA-DR7 allele plays a role in diabetes in blacks, while HLA-DR9 allele is important in diabetes among Japanese.”

At the time this book was written, there was also some research—albeit inconclusive—based on the theory that gluten and cow’s milk, both known for causing inflammation in anyone, can potentially trigger the onset of type 1 diabetes in a child. Inflammation is a known factor in the onset of autoimmune diseases so reducing the consumption of foods that are known to cause inflammation.

For that reason, some people choose to keep their children gluten-free and/or dairy-free for as long as possible. Some women choose to avoid gluten and cow’s milk while nursing as well.

Children who are diagnosed with type 1 diabetes are also commonly found to have very low vitamin D levels, so supplementing a child (even as young as infant age) with liquid vitamin D drops is another precaution one can take. (Liquid drops are easy to find online and in health stores!)

And today, more and more research is finding a connection between the good bacteria (or microbiota) of the gut and type 1 diabetes. At this time, that research has pinpointed a connection, but whether that gut biome changed prior to the onset of the disease or as a direct result of having the disease is still a bit unclear. Regardless, giving a child with a higher risk of diabetes a probiotic is also a precaution one can take. (Infant probiotics are easy to find online and in health stores!)

While it is uncertain whether avoiding gluten or dairy and taking probiotics and vitamin D can actually prevent type 1 from ever occurring if someone has a genetic disposition to developing the disease, the theory is that it may at least delay the onset from occurring at an early age, like when your child is a toddler, compared to developing type 1 during adolescence or older.

GETTING YOUR CHILD’S RISK OF DIABETES TESTED

To get a much more “firm” idea of your child’s impending risk of developing type 1 diabetes, you can have their blood tested for autoantibodies through TrialNet. TrialNet is an international network of researchers who are passionately dedicated to “exploring ways to prevent, delay, and reverse the progression of type 1 diabetes.”

In a nutshell: autoantibodies are a protein that becomes present in the blood if the body is attacking its own tissues. An autoantibody count of 1 or

2 means your child does have a risk of developing type 1 diabetes but they may not develop it at all. An autoantibody of 3 or 4 or higher indicates that your child is very likely to develop the disease. This test can actually help predict if a person was going to develop type 1 diabetes even 10 years from when the test is taken.

HERE'S HOW TRIALNET SCREENING AND TESTING WORKS

First, visit the DiabetesTrialNet.org website to find the nearest location to you. If it's too far of a drive, call them to request the consent paperwork and testing kit be sent to you. Then you'll take that kit to the nearest medical facility that works with Quest Diagnostics, which you can find at QuestDiagnostics.com.

"Those who test positive [for autoantibodies] are eligible to enter the monitoring phase which includes a baseline monitoring visit at a TrialNet site to estimate the level of risk of developing T1D," explains the TrialNet website. "Participants are followed-up either annually or semiannually depending on their risk level."

"All participants will have repeat testing for autoantibodies and HbA1c; those in the higher risk will be closely monitored with Oral Glucose Tolerance Tests (OGTT)," explains the TrialNet website. "Participants who initially receive annual monitoring will be followed with semi-annual monitoring if their risk level for developing T1D increases. Participants who develop diabetes may be invited to enroll in an early treatment study aimed at preservation of islet cell function."

You are under no obligation to continue having your child tested after the first test. If you want to have them tested every 5 years, you can do that, too! It is entirely up to you and your family.

To learn more, visit DiabetesTrialNet.org

JENNY & GINGER'S PERSONAL THOUGHTS ON SCREENING THEIR CHILDREN

GINGER: "I will always worry about my daughter developing this disease, even if her tests come back with zero autoantibodies. I've already tested her urine for ketones when she's been sick, and I've pricked her heel to test her blood sugar a couple times, too. Like me, she eats a gluten-free diet, I give her infant probiotic powder and vitamin D3 in her bottle, and she drinks almond milk instead of cow's milk in an effort to delay any possible risk. While I did not want to get Lucy tested as an infant because I felt like there was nothing I could do about it, I've learned more about the studies available today that she could become eligible for if she tested positive for autoantibodies. She's approaching 2 years old, and I have

decided I would like to have her autoantibodies tested, so I'm in the process of waiting for a testing kit to arrive and then we'll take it to her pediatrician to have blood drawn. (The TrialNet representative nearest to our location was very friendly and helpful!) That being said, if she does develop type 1 diabetes someday, I know we will face it together with courage and a deep breath."

JENNY: "It will always be something in the back of my mind. I have checked my son's blood sugar many times since he was born. Now that he is 3, he is curious and it is more of a numbers game when we check to see if he can say the numbers that pop up on the screen. But, it's also a learning tool since he is getting a general idea of what I am doing when I test my blood sugar. I chose to keep him off of gluten and dairy for about 2 years (I also nursed him for 2 years as new foods were introduced, since new research has shown the benefit of mother's breast milk is preventative for those who are at higher risk of autoimmune disorders)—and it is only occasionally now that he has something with gluten or cow's milk based dairy (we use goat's milk or sheep's milk based cheese and yogurt)."

In the end, the decision is completely yours!

And now...back to pregnancy!

ALL ABOUT YOUR A1C

Before we start talking about your A1C before and during pregnancy, let's make sure we're all on the same page when it comes to A1Cs in general.

The A1C test measures what percentage of your hemoglobin—a protein in red blood cells that carries oxygen—is coated with sugar (glycated). It is represented as a percentage that comes from simple blood test, and it is a test you'll have done often during your pregnancy. Some practitioners may want to see your A1C results every 30 days, others may only require A1C test results every other month.

Regardless, your A1C tells the approximate range of your blood sugar control for the prior 3 months based on the amount of Advanced Glycogenated End-Products (AGEs) that have accumulated in your blood. AGEs are, in a nutshell, the result of excess glucose in your bloodstream.

The higher your blood sugar levels are, the more AGEs are present. AGEs are also responsible for the development of long-term diabetes complications such as retinopathy and neuropathy, because that accumulation will build and irritate crucial nerve-endings.

To help people with diabetes understand their A1C in real day-to-day terms, the medical world has developed the "eAG" measurement: Estimated Average Glucose. Your eAG will give your A1C reading in a