



## Pregnancy and T1D

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Pregnancy is something many young women with diabetes worry about, and often these anxieties start at a much younger age than they plan to try to conceive. It's common for healthcare providers to share with their patients the many things that can go wrong in pregnancy with diabetes. Their motivation is to help ensure women with diabetes conceive only when it is safest for mom and baby.

But these stories can also create anxiety for women with diabetes. While it is important to plan a pregnancy properly, the added anxiety may not be as beneficial as the providers intend. Luckily, women with diabetes can have safe, healthy, pregnancies—it just takes a little more work than the average pregnancy.

### Planning is Key

According to the ADA's Standards of Care for Diabetes, starting in puberty, and for any person with child-bearing potential, preconception counseling needs to be routinely discussed as part of diabetes care. Before becoming pregnant, the goal is to have an HbA1c of <6.5% (48 mmol/mol) to reduce risks of complications to the fetus. This is particularly important during the first 10 weeks of pregnancy, because in many of these weeks, the mother may not yet know she is pregnant.<sup>1</sup>

For those who have diabetes, the ADA also recommends meeting with a multidisciplinary medical team including a maternal-fetal medicine specialist and a dietitian/nutritionist, and ensure a dilated eye exam is completed either prior to pregnancy or during the first trimester. For someone who has pre-existing retinopathy, pregnancy can cause it to progress.<sup>1</sup> It can also be helpful to start diabetes technologies prior to pregnancy so that you have a baseline knowledge of how to use the devices before adding in the variables of pregnancy.<sup>2</sup>

### Birth Control

The ADA recommends women of child-bearing potential should consider long-acting, reversible contraception. The suggestion is that women should be prescribed until a woman is ready to become pregnant. There are many options currently available for people of child-bearing potential, and some can affect glucose management with diabetes. For example, some of the higher dose oral contraceptives can increase insulin resistance, whereas localized birth control, such as an intrauterine device (IUD), causes fewer side effects related to glucose control. For more information, here is a great article from Australia on type 1 diabetes and contraception options.

### HbA1c Targets During Pregnancy

The HbA1c goals for during pregnancy are <6% (42 mmol/mol) (citation needed), if the mother were not experiencing significant low blood sugars, in which case the target could be relaxed up to 7% (53 mmol/mol). The HbA1c is also not as

accurate during pregnancy because the rate of red blood cell turnover is faster than normal, which means that the blood glucose monitoring goals are really the primary way to evaluate glucose management.

### **Blood Glucose Targets<sup>1</sup>**

- Fasting/Pre-meal: 70-95 mg/dl (3.9-5.3 mmol/L)
- 1-Hour Postprandial (after meal) glucose: 110-140 mg/dL (6.1-7.8 mmol/L)
- 2-Hour Postprandial (after meal) glucose: 100-120 mg/dL (5.6-6.7 mmol/L)

### **Continuous Glucose Monitoring Targets<sup>1</sup>**

- Target Range 63-140 mg/dL (3.5-7.8 mmol/L)
- Time in Range Goal: >70%
- Time Below Range (<63 mg/dL [3.5 mmol/L]) Goal: <4%
- Time Very Low (<54 mg/dL [3 mmol/L]) Goal: <1%
- Time Above Range (>140 mg/dL [7.8 mmol/L]) Goal: <25%

### **First Trimester Fun**

Even in people without diabetes, the first trimester is when blood sugars naturally run lower than normal, especially first thing in the morning, or when fasting. This is normal because the fetus is using up some of the glucose in the womb. This can also be a time of frequent feelings of nausea or vomiting, which can further contribute to hypoglycemia. (Ondansetron, generic for Zofran, is safe for use in pregnancy.) Many women may need to reduce insulin dosing during the first trimester for these reasons.<sup>1</sup>

### **Second and Third Trimester**

Most people start to get increased insulin resistance at week 16, with insulin needs continuing to rise steadily until the end of pregnancy. Hopefully the nausea and vomiting from the first trimester have died down as well, which means that the combination of feeling well enough to eat and increased insulin will make the total daily dose increase significantly. Towards the end of my own pregnancy, my insulin-to-carb ratio had increased from my usual 1:10-1:15 down to 1:1.

Navigating the insulin resistance can be tough, but with the help of a diabetes care and education specialist or dietitian, there are some things that can help prevent higher glucose levels. Walking right after eating can be helpful in reducing the post-meal spike. Exercising regularly makes a huge difference, if it's tolerated. Ensuring that you are eating a diet balanced with fiber and protein also reduce the post prandial spike.

### **Delivery Timing**

One of the main challenges with diabetes and pregnancy is when the mother's blood sugar is high, the extra glucose can go to the baby. This is part of the reason that one of the main issues the baby can get from diabetes in the mom is macrosomia, or large head, or the baby can become large for gestational age. For this reason, most maternal fetal medicine healthcare providers often induce labor if the mom with diabetes had not gone into labor already by 38 or 39 weeks.<sup>3</sup> This is to reduce the risk for the need of a C-section due to continued increased growth in the last couple of weeks of pregnancy.

Once the baby is born, mom's insulin needs decrease quite rapidly. This is where it can be nice to have an old profile on an insulin pump to go back to after delivery. Additionally, when breastfeeding, blood glucose levels can drop lower due to the calories burned when breastfeeding. So, keeping snacks around the house for when you're feeding is a great idea! I had fruit snacks and juice boxes stashed all around my house for months.

### **You Cannot Control ALL Variables**

I remember vividly the moment I found out that I was pregnant. My feelings were immediate excitement that quickly changed to fear. My HbA1c was 6.5% (48 mmol/mol), which was not the goal at the time, I was instructed to get down to below 6% (42 mmol/mol) prior to conception. I called one of my long-trusted mentors who is a diabetes education and care specialist, who had taught me all about drinking, sex, pregnancy, and so much more from her experience both as a PWD and CDCES.

I called her terrified because my blood sugar had been in the 200s that day, and I had been terrified by all the scary things that could happen, because that's all that I had really heard about when it came to diabetes and pregnancy. She quickly quelled my fears, reminding me that she had a healthy baby and had to go through pregnancy with NPH and Regular insulins with no continuous glucose monitor (CGM). She reminded me that if I tried to get to the goal glucose levels, everything would be okay.

What you don't always hear about is that T1D in pregnancy is still T1D. This means that there are no days that are perfect because that's impossible. This doesn't mean that you won't have a healthy baby. It also doesn't mean that your baby could have some sort of issue, unrelated to diabetes. Just do the best you can with the circumstances you are in and have some self-compassion for the times when things don't go quite as planned.

I feel incredibly lucky to have given birth to a healthy baby. His blood sugar was a little bit low at birth, and they gave him a little bit of formula to perk him up. The delivery was not easy, not smooth, and they even tried to take my insulin pump off me at some point. But, at the end of it all, I had my beautiful baby boy. And all the hard work, blood, sweat, and tears were worth it!

## References:

- 1. Management of Diabetes in Pregnancy: Standards of Medical Care in Diabetes—2022**  
[https://diabetesjournals.org/care/article/45/Supplement\\_1/S232/138916/15-Management-of-Diabetes-in-Pregnancy-Standards](https://diabetesjournals.org/care/article/45/Supplement_1/S232/138916/15-Management-of-Diabetes-in-Pregnancy-Standards)
- 2. Leveraging technology for the treatment of type 1 diabetes in pregnancy: A review of past, current, and future therapeutic tools**  
<https://pubmed.ncbi.nlm.nih.gov/32125763/>
- 3. Induction of labor before 40 weeks is associated with lower rate of cesarean delivery in women with gestational diabetes mellitus**  
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