

# Pregnancy Toolkit

Take care! Pregnancy or planning a pregnancy with type 1 diabetes (T1D) requires special consideration to help ensure a healthy outcome for mother and child. This guide provides information for parents-to-be or future parents-to-be with T1D—explaining the disease management goals for pregnancy and reviewing how to obtain the best possible support from healthcare providers at every stage.



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## Introduction and Goal of This Guide

Congratulations! You have decided to have a baby! Or maybe, “Congratulations, you’re ready to maybe start possibly thinking about having a baby!” Whatever stage of family planning you’re at, congratulations! As you move toward pregnancy, type 1 diabetes (T1D) is a factor to take into consideration. But don’t believe the stories you’ve heard about “can’t” and “won’t.” With careful planning and plenty of support, you and your partner CAN have a healthy and happy pregnancy AND baby.

Throughout this toolkit, we’ll talk about many of the factors that come into play when getting ready for a baby. Many families decide that adoption or surrogacy is the best option for them, and we’ll discuss those situations in a separate document. But in the next few chapters, we’ll touch on caring for a baby from conception to coming home, including preconception planning, fertility, the actual pregnancy, and delivery. This is all about what to expect when you’re expecting ... with a T1D twist.

So let’s jump right in!



*After months of preparation and hard work in keeping my A1c low, in February 2012, my husband and I learned that I was pregnant! My hope is that I can be an inspiration to other women who wonder if they can do it. Yes, it can be done. It is a bit more work, but with the right support from your healthcare team, it can be done, and you don't have to do it alone.*



*Jennifer, diagnosed at age 26*

# The Decision

## When is the right time for a baby?

The definition of “right time” varies from family to family, but when T1D is part of the family-planning scenario, you have a few extra things to consider. Aside from the financial and emotional readiness that all couples strive for, the health of the woman with T1D carrying the child is just as important. An unplanned pregnancy with T1D can directly impact the health of the child and the mother, and **it’s important to have T1D as well controlled as possible before conception (more on this in Chapter 2: Conception).**

## What are some factors to consider?

**The health of the dad-to-be.** For couples in which the father-to-be is living with T1D, it’s important to have his health as optimized as possible to ensure healthy sperm production. A man’s fertility may not be as serious an issue as a woman’s, but men with T1D need to be aware of the impact their T1D may have on their ability to create a child. Issues like erectile dysfunction and lower sperm count shouldn’t be avoided; every man has the right to talk with their doctor about his fertility concerns. Don’t discount these issues when planning to start your family.

### T1D & male infertility

There is very little statistical information available on T1D and male infertility. However, one small study (Agbaje, I. et al. Insulin dependent diabetes mellitus: Implications for male reproductive function. *Human Reproduction*, 22, 2007) showed that high blood-sugar levels seem to cause damage to sperm DNA. Also, poor glucose control can lead to sexual issues, including erectile dysfunction. More research is being done, and there are many more questions than answers, but it is clear that tight blood-sugar management is important for the dad-to-be.

**The health of the mom-to-be.** For women with preexisting T1D who are planning to become pregnant, preconception planning is absolutely crucial. Pregnancy is both a physical and an emotional journey, and women with T1D who are pregnant shoulder many extra concerns. If you are ready to plan a pregnancy, now is a good time to connect with your medical team and let them know your plans.

Also, if you aren’t happy with how your team manages your T1D care, now is a good time to find a doctor who will work with you, not against you. Once you are pregnant, you will spend a lot of time consulting with your doctor and tweaking your management plan, and it’s important to have a team you both trust and feel comfortable baring it all to (emotionally and physically!). Consider adding a high-risk OB/GYN and a dietitian to your team, as a pregnancy with T1D is a delicate balance of food, insulin, and the needs of your growing child. You will feel much more confident and prepared during your pregnancy if you have assembled a multidisciplinary team that you trust to help you manage your pregnancy. **Consider adding an endocrinologist who specializes in assisting women who have diabetes in pregnancy to your team.**

## Pre-pregnancy goals

While we cover conception preparation in the next chapter, it’s never too early to be working toward your hemoglobin A1c (A1c) goal. It’s best for the health of everyone that you are in tight and streamlined control of your T1D before conceiving. Many reproductive and adult endocrinologists recommend that women aim to achieve and maintain their A1c goal for a few months before becoming pregnant.

The A1c is a benchmark for T1D control that many doctors and hospitals use as an indicator of overall T1D control. The American Diabetes Association recommends that women who are planning a pregnancy with T1D should aim for the following goals ([care.diabetesjournals.org/content/31/5/1060.full](http://care.diabetesjournals.org/content/31/5/1060.full)):

- Before pregnancy, target A1c is as close to normal (A1c <6.0%) as possible without significant hypoglycemia
- Throughout pregnancy, preprandial (before meals) blood-glucose levels of 60 to 99 mg/dL; two-hour postprandial (after meals) plasma blood-glucose levels of 100 to 129 mg/dL; mean daily glucose <110 mg/dL

Prior to pregnancy, many women with preexisting T1D who are on insulin move to an insulin pump to administer their insulin doses. The precision of dosing and the ability to adjust basal rates that are offered by the insulin pump are often an asset during the constantly changing insulin needs of a pregnant woman. Some women use a continuous glucose monitor (CGM) to better monitor glucose trends. Other women find that using a pump and/or CGM throughout their planning and pregnancy helps them to maintain steady A1c results. Any changes you make to your T1D management routine are part of your unique

circumstances, and these decisions must be weighed carefully with your healthcare team to ensure you understand the benefits, drawbacks, and commitments required.

Now that you're moving toward pregnancy, these T1D management goals are good aims for your pre-pregnancy planning, pregnancy, and post-pregnancy recovery.

For men with T1D, decisions about advanced insulin delivery and CGMs may be less of a factor when preparing for pregnancy. While the man isn't charged with maintaining a healthy womb for the growing baby, there are plenty of other great reasons to maintain tight control throughout the pregnancy. We'll cover many of those reasons through the rest of the toolkit.

### **I've hit my goals. Now what?**

You've got your medical team, you've achieved your T1D management goals, and you're ready for that actual moment of conception. It's time to talk about conception planning!!

## **Conception**

Now that you've assembled your medical team and you and your partner are ready to try to get pregnant, there is a lot to think about, especially for a woman who is also managing T1D. But this doesn't mean that your pregnancy isn't going to be healthy and amazing—you just need a little extra TLC to get you across the finish line.

As we discussed in Chapter 1, you have probably attended preconception appointments with your regular physician and/or gynecologist, your T1D specialist/endocrinologist, and your chosen high-risk obstetrician.

If not, now is the time to schedule these appointments. At the preconception appointments, you should receive a health workup including blood tests, receive treatment for any conditions that may interfere with your pregnancy, and you should also update your immunizations. As a woman with T1D, you should receive additional assessments for diabetic retinopathy, nephropathy, neuropathy, and cardiovascular disease prior to conception. It's important to have a baseline for these concerns before getting pregnant.

## **An Unplanned Pregnancy: Important Considerations**

While an unexpected or unplanned pregnancy isn't the 'best case scenario' for a woman with diabetes, it does not mean that there will be a negative outcome for the mother or the baby. Many people have heard that high blood-sugar levels at conception and/or during the baby's early formation can cause congenital anomalies. However, with the current technology available, many more women today have blood-sugar levels within a healthy range at the baby's conception and during the first few weeks of their unexpected pregnancy.

It is best not to get bogged down in trying to determine exactly what your blood-sugar levels were or whether they were high enough to cause complications. Even if you feel certain that your blood sugar was not within the recommended ranges, the most important step to take at this point is to get on track with your pregnancy by getting your blood-sugar levels under control as soon as possible. Begin by checking your blood-sugar levels more frequently. Enlist the help of professionals by scheduling an appointment with your endocrinologist and obstetrician as soon as possible. Next, think about educating yourself on what to expect during a pregnancy with diabetes and following your healthcare team's recommendations.

A child can be a very motivating factor for many women to get their blood-sugar levels under very tight control. Much can also be said about the value of a mother's mental outlook and its impact on the unborn child. To set your unborn child up for a positive introduction to the world, use the next few months to prepare mentally, physically, emotionally, and financially for his or her arrival.



## Your Medical Team

**Primary Care Physician (PCP):** This is the person who knows your body best—after you, of course! This doctor is the one who is in tune with every scrape, fever, and prescription you've encountered in your overall health, and your PCP is best for “big picture” health moments. Although your pregnancy and your diabetes will be best handled by your specialists, your PCP is there for the “before, during, and after,” so keep him/her in the loop on your decisions to start a family.

**Endocrinologist:** This medical professional is your diabetes guru, and during the preparation and duration of your pregnancy, he/she will be invaluable in keeping your diabetes as well-managed as possible. Inform your endocrinologist that you're preparing for a pregnancy, and once you're pregnant, stay in close contact. Your endocrinologist will be the one to help you tweak your regimen as your insulin needs go haywire, so make sure he/she is an established member of your pregnancy team.

**OB/GYN:** Whether you decide to consult a high-risk OB/GYN or stay with the doctor who handles your yearly checkup, your OB/GYN is crucial because he/she will be delivering your child into the world. Pregnancy brings about a lot of changes, both emotional and physical, so make sure you have an OB/GYN with whom you can be honest, and whom you trust. And since you'll be seeing your OB/GYN every few weeks during your pregnancy, make sure he/she is local to you!

**Additional Note:** Pregnancy with T1D is associated with a significantly increased risk of the development and progression of retinopathy in women with T1D during pregnancy. Eye examinations are recommended during the first trimester, and may increase in frequency, depending on your progress. Make sure you have an eye-care specialist on your team of medical professionals.

## Conception misconceptions

**MYTH:** It is not important for men with T1D to have their blood-sugar levels well controlled while trying to conceive.

**FACT:** Poorly controlled T1D can affect sperm count, sperm health, and erectile function. It is important to be as well controlled as possible while trying to conceive.

**MYTH:** Every woman with T1D who becomes pregnant is put on bed rest.

**FACT:** Women are put on bed rest for a number of reasons during pregnancy, but T1D is not one of them. Common reasons for bed rest during pregnancy include high blood pressure, preterm labor, threatened miscarriage, or incompetent cervix. There are also varying degrees of bed rest: modified bed rest, strict bed rest, and/or hospital/complete bed rest.

**MYTH:** Having a blood-sugar level in the 200 to 300 mg/dL range during the first few weeks of pregnancy (before the pregnancy is confirmed) will cause the baby to have birth defects.

**FACT:** It is true that the first six weeks of pregnancy are critical because your baby's organs are forming during this time. Fortunately, birth defects are quite rare for women with T1D. However, they occur more frequently than the general public, and high blood-sugar is the main reason for the increased risk. One high reading should not cause concern, but rather consistent high readings over time should be minimized. Good control before a pregnancy and during the first trimester will reduce this risk significantly. If you are concerned about the high blood-sugar levels experienced during the first few weeks of your pregnancy, you should discuss these concerns with your healthcare team and discuss tests to rule out birth defects.

Many high-risk obstetricians provide genetic screening/counseling and offer you and your significant other a chance to discuss your concerns about the impact on your child of T1D or any other health conditions that run in your family. Be prepared to discuss your A1c results, and have your last few lab work results available. If your A1c is not yet in the range you and your medical team are aiming for, be prepared for your physician to suggest waiting to try to get pregnant. You will face more challenges with blood-sugar control during your pregnancy, so it makes sense to achieve the best control now, for both the health of your baby and to avoid unnecessary stress during your pregnancy. If you are looking for resources to help you control your blood-sugar levels, now may be a good time to schedule an appointment with a certified diabetes educator (CDE) or

registered dietitian (R.D.). CDEs and R.D.s can more closely evaluate your daily blood-sugar levels and food intake and assist you in setting achievable goals to help you gain tight control of your diabetes.

**IMPORTANT NOTE: Make note of your thyroid function level prior to conception and compare your results during and after your pregnancy. As a woman with T1D, you are at an increased risk for developing thyroid disease.**

After preconception appointments/counseling, your head will probably be swimming with all of the information you receive. You may feel overwhelmed and even a little distressed. Take your time to digest the information. Talk about your concerns with your partner, and lean on one another as you move toward these goals. Take the time you need to prepare both emotionally and physically.

Once you have decided to “go for it” and try to get pregnant, you may feel heightened levels of excitement and anxiety. It is important to acknowledge that diabetes does require some additional monitoring during pregnancy when compared to your peers who do not have diabetes, and this might not feel fair all the time. Be sure to remind yourself that the end goal remains the same for all of us: a healthy baby and a healthy mother.

**As you move toward pregnancy, here are a few ways to prepare your body for a baby:**

**Know your cycle.** Pinpointing when you ovulate each month is the single most helpful task in improving your chances for conception. There are many ways to do this, from watching the calendar, to taking your body temperature, to purchasing an ovulation predictor kit. Bookstores and websites offer a wide variety of options to help you better track your menstrual cycle and sexual activity. How you choose to pinpoint it is less important than simply making the choice to pinpoint it. These details will be especially important when estimating your due date. But don't let conception become an intimidating science experiment. Try to keep this aspect of conception from dominating your thoughts. Be sure to relax and enjoy this special time and the process involved.

**Ask about prenatal vitamin and mineral supplements.** Folic acid, zinc, and B6 are all important for conception and development of a healthy child, but different women have different needs. Ask your physician about how much of each vitamin and mineral to take in supplement form.

**Get your weight in the target range.** Carrying too much weight can make conception difficult and increase the risk of

pregnancy complications, such as preeclampsia. Extra weight can also increase a woman's insulin resistance (a condition in which insulin becomes less effective at lowering blood-sugar levels). It is common for women with T1D, even those within normal weight range, to experience some level of insulin resistance during pregnancy.

- **Eat a healthy diet.** Eating a balanced diet that includes whole grains, fruits, vegetables, and low-fat dairy products and reducing your intake of junk food and high-fat foods are important to get your weight in the proper range to increase the chances of conception. Pretend you're eating for two for a few months before you begin trying to conceive. Eating a balanced diet can also stabilize blood-sugar levels, which in turn improves your chances of conception. Ask your CDE, R.D., or T1D specialist for individualized recommendations about caloric and carbohydrate intake during the conception phase. Don't forget to stock your pantry with the healthy snacks recommended by your healthcare professional.
- **Exercise regularly.** Exercise is just as important for women with T1D who want to become pregnant or who are already pregnant as it is for pregnant women without T1D. A good exercise program gets your body in the best shape possible for the demands of carrying a baby. Regular exercise can also regulate your blood-sugar levels, further enhancing your chances for conception. (And it can help lower stress, which is a plus!) You must take extra care to monitor blood-sugar levels to avoid the negative consequences of low blood-sugar levels.
- **Reduce your caffeine intake.** A study published in the *American Journal of Obstetrics and Gynecology*, 2008, showed that high doses of caffeine intake during pregnancy increase the risk of miscarriage. (Source: Weng X. et al. Maternal caffeine consumption during pregnancy and the risk of miscarriage: a prospective cohort study. *Am. J. Obstet. Gynecol.* 198, 2008.) Be prepared to reduce your intake of caffeine during conception and pregnancy if you drink more than one or two cups of caffeinated coffee (or the equivalent in other beverages) per day.
- **Eliminate alcohol consumption and smoking.** According to the Centers for Disease Control (source: [www.cdc.gov/ncbddd/fasd/index.html](http://www.cdc.gov/ncbddd/fasd/index.html) & [www.cdc.gov/reproductivehealth/TobaccoUsePregnancy/index.htm](http://www.cdc.gov/reproductivehealth/TobaccoUsePregnancy/index.htm)), both alcohol and smoking can have detrimental effects on an unborn child, so it is highly recommended that both be discontinued prior to attempting to conceive.



**Know your medications and your insurance plan.** Some medications and supplements are not considered safe during pregnancy, so you will want to have an extensive talk with your healthcare provider about each medication and supplement prior to conception. Statins and ACE inhibitors are common medications for women with T1D that are considered to be category X (considered by the U.S. Food and Drug Administration to be contraindicated for use in pregnancy, meaning that they have a high risk of causing damage to the fetus). Angiotensin receptor blockers are category C (risk cannot be ruled out) in the first trimester but category D (positive evidence of risk) in later pregnancy and generally should be discontinued before pregnancy.

Pregnancy can also increase the amount of medication required. Discuss medication dosages with your doctor so that you understand which medications might be required and in which dosages during pregnancy. For example, your insulin dosage will increase during pregnancy (especially during the third trimester, when your insulin doses may be triple what you were taking before you were pregnant!). In order for your insurance company to cover these increased requirements, your doctor will have to regularly update your prescriptions and you will have to ensure that your pharmacy receives them in a timely manner. It is important to think ahead about these situations, as you have better things to do than battle with your pharmacy and insurance companies while you're pregnant.

For the partner with T1D, you should also ensure that all of your medications are safe for your partner to be in contact with during the course of her pregnancy.

**IMPORTANT NOTE: If you do not already have a glucagon kit, now is the time to get a prescription from your doctor, purchase one, and familiarize yourself and your family members with how and when to use it.**

**Research your employer's benefit plan regarding pregnancy.** Employers' benefits vary widely regarding the amount of time you are allowed to take off work with/without pay after giving birth. Sometimes, T1D can create complications during pregnancy that require time off of work or bed rest. Call the human resources office and ask about your benefits. (For example: find out if your paid time off after the birth of your child is affected by your doctor prescribing bed rest/time off of work prior to the birth of your child.) Familiarize yourself with the Americans with Disabilities Act and be prepared to advocate for what you need to ensure a healthy pregnancy, whether it's scheduled snack time at work or time off of work. Some resources to assist you in advocating for your rights include:

- State laws governing diabetes health coverage: [www.ncsl.org/default.aspx?tabid=14504](http://www.ncsl.org/default.aspx?tabid=14504)
- U.S. Equal Employment Opportunity Commission Q&A about diabetes in the workplace: [www.eeoc.gov/facts/diabetes.html](http://www.eeoc.gov/facts/diabetes.html)
- American Diabetes Association information on employment discrimination: [www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/](http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/)
- Diabetes at Work, by Paula Ford-Martin: [www.netplaces.com/diabetes/living-life-with-diabetes/diabetes-at-work.htm](http://www.netplaces.com/diabetes/living-life-with-diabetes/diabetes-at-work.htm)
- About.com: [www.type1diabetes.about.com/od/adultswithtype1/a/Discrimination\\_work.htm](http://www.type1diabetes.about.com/od/adultswithtype1/a/Discrimination_work.htm)

It is also good to familiarize yourself with the Family Medical Leave Act (FMLA): [www.dol.gov/compliance/laws/comp-fmla.htm](http://www.dol.gov/compliance/laws/comp-fmla.htm). The FMLA entitles eligible employees of covered employers to take unpaid, job-protected leave for specified family and medical reasons with continuation of group health insurance coverage under the same terms and conditions as though the employee had not taken leave. Eligible employees are entitled to 12 work weeks of leave in a 12-month period for the birth of a child and to care for the newborn child within one year of birth. Often, the time off provided by employers is inadequate, and therefore, FMLA is used.

**Be patient.** Pregnancy can happen today, in six months, or in twelve months. There is no magic number. Even if you follow all of the instructions provided by your physicians and in this booklet, pregnancy may not occur immediately. Relax, take a deep breath, and try not to focus on conception. As the saying goes, “As soon as you stop focusing on it, it will happen.”

## Howdy partner: Involving your significant other

So much of pregnancy is focused on the pregnant woman—and with good reason, since she’s building the baby—but the needs of the other parent-to-be cannot be ignored. Take the time, as a growing family, to make sure you’re always supporting one another.

**Talk.** It is natural for your partner to be concerned about the challenges T1D can bring to a pregnancy, in terms of your health and your baby’s health. Be open and discuss his/her concerns, as well as your own concerns. Review your current daily requirements of T1D management and the ways you expect your T1D management routine to change after you become pregnant.

**Understand your roles.** Make sure your partner understands his/her role in your pregnancy. Teamwork and communication are important for any pregnancy, but especially important for a couple managing T1D and pregnancy. Don’t let the focus of T1D take over the happiness and fun of conceiving. The increasing number of doctor visits and the abundance of discussions related to your blood-sugar level can be isolating for your partner.

**Ask for and/or offer help!** Consider ways to involve your partner and suggest specific ways he/she can help you. Rather than a generic request that he/she “be more patient” with you during your pregnancy, request that he/she take over a task such as grocery shopping, vacuuming, or preparing dinner one night each week. During the time that you would normally spend completing these tasks, relax in a quiet place and spend time recording your blood-sugar levels, reviewing your numbers for patterns, and making necessary adjustments.

**Plan ahead.** It is important to make your T1D management a priority prior to conception rather than trying to force the extra tasks into your already busy schedule. Because low blood-sugar levels are more common during pregnancy due to the ever-changing insulin requirements, it is very important to prepare your partner for dealing with low blood-sugar levels. In addition to ensuring he/she knows where the food/juice/glucose tablets are to treat unexpected lows, also make sure he/she knows how to use a glucagon kit and under what conditions to use it.

**It takes two.** Pregnancy is a team effort, so your partner should prepare for conception by getting a checkup, eating a healthy diet, exercising regularly, quitting smoking, and limiting alcohol intake. Let’s also discuss some of the more subtle changes you may experience.

**Mind your moods.** Mood swings and emotional changes are going to become pretty common during your partner’s pregnancy. That’s probably no surprise. But did you know that your blood-sugar levels can affect your moods and emotions too? If both of you have wild mood swings and emotional outbursts, things could get unpleasant. Do your best to manage your blood-sugar so that you are on steady ground, both physically and emotionally, to support your partner through her pregnancy.

**Do some heavy lifting.** As your partner’s pregnancy moves along, there may be restrictions on what or how much she can lift, as well as limits on her activity. You can assert your muscle and unrestricted activity levels to make sure her needs, and the needs of your home, are taken care of.

**Pound for pound.** What about sympathy weight? As your partner starts to grow, you might too. Those extra pounds can mean changes in your insulin needs. Again, the goal is to stay as healthy as you can to support your partner through her pregnancy.

**Paternity leave.** Some employers now offer paternity leave, and there are others who offer maternity/paternity leave for same-sex couples. Find out from your respective employers what options are available to you and your family. Be sure to explore all leave options, and consider how you will use the paternity leave most effectively after the birth of your child. Some families take their leaves together, while others stagger their days. Discuss these options with your partner and do what works best for your family.

# First Trimester

There are many moments during your pregnancy that will emotionally affect you, but none quite like that moment of finding out you are actually pregnant. Whether you make this discovery using a home pregnancy test or in your doctor's office, seeing those two pink lines is a moment for celebration.

After you wipe the grin off your face, it's time to buckle down and grab the reins on this pregnancy. You're now in the first trimester of one of the most exciting and demanding times in your life, and there's plenty to do!

## What your body is doing

While your belly may not be bulging, your body is already changing in dozens of ways. You may notice that your skin is a little less prone to breakouts, that your hair seems thicker and shinier than before, and that your hair and fingernails are growing at a rapid rate. That pregnancy "glow" people refer to? Welcome to it.

In a T1D sense, your body is also taking on some new traits. In this first trimester, as the cells known as your budding baby are growing and multiplying every day, your body may call back on its prediabetes days and may actually start producing some of your own insulin again. What causes this is a bit of a biological mystery, but it's very common for women with preexisting T1D to start cranking out a little of their own insulin again. (Researchers are in fact studying this phenomenon to gain more insight into possible approaches to achieve beta cell regeneration.) Regardless of the cause, this new arrangement gives rise to a very frightening tendency toward low blood-sugar levels, which often run rampant during the first trimester.

Partners: it is extremely important during this time to become familiar with signs of a low blood-sugar level in your partner. Some of these symptoms may be new or unusual, so stay alert and be ready to act! Learn together by testing frequently and paying attention to subtle signs.

Many women with T1D find a continuous glucose monitor to be crucial during these first few weeks of pregnancy, especially with the rising incidence of low blood-sugar levels. While some insurance companies are still reluctant to cover CGMs for people with diabetes, pregnant women with diabetes are a special circumstance. If you feel that a CGM is right for you and your needs, talk with your doctor about making this technology part of your action plan.

One of the biggest emotional hurdles in managing a pregnancy with diabetes is handling blood-sugar issues. During pregnancy, a woman is responsible for creating a safe environment for the baby to thrive in, and T1D can throw some very heavy emotional curveballs that make guilt and worry rise to a whole new level. Pregnancy with T1D is about maintaining stable and healthy blood-sugar levels as consistently as you can. For many women with diabetes, new blood-sugar thresholds are set, and these new goals can seem very intimidating. Your medical team may recommend that you set a fasting blood-sugar goal between 70 and 90 mg/dL. To some, this may be a scary goal because of hypoglycemia unawareness, fear of middle-of-the-night blood-sugar lows, and many other T1D concerns. Even if you've been managing your diabetes for a long time, pregnancy presents a whole new set of health negotiations.

Diabetes and pregnancy can also create some tricky food situations. Not every pregnant woman craves cucumber slices and scallops. (Sometimes it's a very strong desire for the greasiest hamburger you can get your hands on.) What if you're dealing with morning sickness and you can't find the desire to eat breakfast, even though you've taken insulin for it? How about if you're craving your very own personal cheesecake every afternoon, but dealing with a stubborn high blood-sugar trend?

A very important member of your pregnancy team is your R.D. Diabetes needs aside, there are certain foods that are not safe for a growing baby, including soft cheeses, deli meats, and sushi. Consulting with an R.D. can help you get your head around what's safe for baby, safe for you, and easiest on your blood-sugar levels. Even if you meet with your R.D. only a few times throughout the pre-pregnancy and pregnancy stages, it's very useful to relearn things like carbohydrate counting, and to learn how certain foods may impact your blood sugar. With this knowledge, you can help manage cravings without adversely impacting blood-sugar control. A little information can help you have that cheeseburger while avoiding the postprandial reading over 300 mg/dL.



## Your doctor visits

With every pregnancy comes plenty of quality time in a paper gown at the doctor's office. And when you're pregnant with T1D, you're guaranteed a few extra visits. Women with T1D are often given a long list of appointments during the course of their pregnancy, and each is important in its own way. Here's a quick breakdown of what appointments you may need to make during your nine-month adventure:

**Partners:** Here is another opportunity to help out! Offer to help keep track of appointment dates and times, and put on your chauffeur hat. Your pregnant partner will appreciate your desire to be involved. And what lady doesn't love her own personal limousine service?

**OB/GYN checkups:** Just like any other pregnant woman, you'll be making regular trips to see your obstetrician. A routine pregnancy usually includes two or three ultrasounds, but with T1D and pregnancy, you may have up to one ultrasound per month of your gestation. (Hey, one of the few benefits of a high-risk pregnancy is that you get to see your baby more often!) Women with T1D are screened often to check the development and size of the baby (macrosomia, which describes a large baby who is around the 90th percentile for weight, can result from high blood-sugar levels during pregnancy), and to ensure that things are going along smoothly.

**Fetal echocardiogram:** Around week 20 of your pregnancy, your doctor may suggest that a fetal echocardiogram be performed. Basically, this is a sophisticated sort of ultrasound that views the blood flow of the umbilical cord and the circulation of the baby and checks the baby's heart for any abnormalities.

**Fetal monitoring:** At any point during the pregnancy, a woman may be hooked up to a fetal monitor to check the baby's activity level, heart activity, and several other factors. (This consists of stethoscope-like monitors being strapped against the belly with soft fabric strips.) Most often occurring regularly in the later trimesters, these tests are performed to make sure the baby is thriving.

**Glucose tolerance test:** The glucose tolerance test is usually done between week 24 and week 28 of pregnancy. It might be done earlier if you had gestational diabetes with a previous pregnancy or if you have multiple tests showing glucose in your urine. It requires the pregnant woman to drink a highly concentrated liquid glucose solution and then take a blood-sugar test an hour or two afterward to check her glucose response. If you're a woman with preexisting T1D, however, you do not have to take this test.

**Dilated-eye exams:** People with diabetes should have regular dilated eye exams at least once a year, but a pregnant woman with diabetes should have these exams even more regularly. Pregnancy hormones can weaken the blood vessels of the eyes, so even a woman who doesn't have preexisting diabetic eye disease should stay on top of any changes in eye health. Retinopathy may impact the delivery method of your child (e.g., a C-section, or C-section, may be recommended to avoid further stress on the eyes), so it's important that you screen your eyes regularly and discuss any developments with your medical team.

**Psychologist appointments:** The emotional impact of T1D can't ever be discounted, but it is especially important to monitor your emotional health throughout the pregnancy. Managing T1D can be overwhelming, and adding pregnancy to the mix can be a lot to handle. If you feel that you need a little extra help handling the emotional side of T1D and pregnancy, don't be afraid to reach out. Between hormonal changes, blood-sugar fluctuations, and the realization that you're responsible for the well-being of a child-in-the-making, it's normal to feel overwhelmed and to ask for the help of a professional therapist.

Partners with T1D shouldn't discount the value of having a therapist to talk to during a partner's pregnancy. With so much change occurring in your lives, it can feel particularly difficult to keep your diabetes well managed (and your thoughts clear). Even if you don't think you need help in that way, at least gather some names and numbers to have available, just in case. If things get tough for you, and you decide you do need some help, you want it to be easy and accessible. Don't be afraid, or ashamed, to reach out.

One of the main questions pregnant women with diabetes ask themselves is “Should I call the doctor?” Here’s a quick chart to help you make the call on making the call:

## Should I call the doctor?

My blood-sugar was over 240 mg/dL for a few hours. Is my baby okay?

If you experienced a brief hyperglycemic episode, take heart: it’s not the single high blood-sugar levels that affect your growing child, but prolonged highs. If you are able to bring your blood-sugar level down within an hour or two, and you aren’t spilling ketones, everything should be fine.

My blood-sugar is only a little elevated, but I’m spilling moderate ketones.

This is a good time to call your doctor, to make them aware of the situation. You may be able to flush the ketones by drinking water and closely monitoring both your hydration and your blood-sugar levels, but if you experience more than three hours of ketones, call your doctor to ensure that your body gets back to baseline.

I’m so nauseous and sick that I can’t keep any food down or my blood-sugar level regulated.

If you are vomiting due to morning sickness, and you are experiencing low blood-sugar levels that you are unable to bring up adequately, call your doctor. Your doctor may want to adjust your insulin doses over the phone or want you admitted for observation until your nausea passes. Get your doctor on the phone and see how he/she would like to handle this situation.

I had a bad low and now I’m scared that something is wrong with my baby.

Did you pass out due to your low blood-sugar level? Did you fall and/or jostle your belly in an abrupt manner? If so, you should call your doctor as soon as possible so that you and your baby can be checked out.

I am low every morning and high almost all afternoon. What can I do?

If you and your doctor are comfortable with your self-adjustment of insulin doses and basal rates, make your dose changes in small increments so that you can track what works and what needs more or less. If your doctor prefers that you run any insulin dose updates together, call your doctor’s office right away and ask for an over-the-phone consultation. The constantly changing insulin needs of pregnancy require this kind of teamwork, so don’t be afraid to ask for help!

*I was diagnosed with type 1 diabetes at age 30, and it honestly never occurred to me that I may not be able to have children. I was at a point in my life where children felt like “someday” so it did not even register with me that I may have a high-risk pregnancy or it may be indicated for me not to get pregnant.*



*Ronda, diagnosed at age 30*



# The Second Trimester

## What you're feeling

In the next three months, your belly is going to start gaining some serious momentum! At this stage of your pregnancy, you are likely to feel any or all of the following common symptoms: fatigue, occasional dizziness, nasal congestion, heartburn, indigestion, flatulence, increased appetite, occasional headaches, constipation, nausea, and vomiting. You may also see continued breast enlargement, bleeding gums, mild swelling of the ankles, varicose veins in the legs, and hemorrhoids. (Sounds like fun, right? Remember, you're building a beautiful baby, so stay strong!)

Until now, you may have made very few changes, if any, in your insulin dosage. The second trimester will bring a number of changes regarding your T1D management. Not only will your belly (and baby) be growing, but also your insulin requirements will be growing.

This increase in your insulin requirement is due to your increasing body size and the hormones produced by the placenta, which cause insulin resistance. Frequent blood-sugar testing will make it easier to adjust your insulin dose and your insulin:carbohydrate ratio. It is not uncommon to see your insulin requirements double during your second trimester and your insulin:carb ratio decrease (meaning less carbs will be covered by one unit of insulin) dramatically. Proper nutrition and physical activity are as important as ever during this time because gaining excess weight during pregnancy will require even greater increases in insulin doses. You may also notice an increase in your hunger levels and some new—and perhaps bizarre—food cravings. This is very normal! Eating lots of small meals is the best way to keep from feeling hungry all of the time and to stabilize blood-sugar levels. Since heartburn is not uncommon during this phase, eating more slowly may help you avoid this uncomfortable condition.

Most importantly, you should be prepared for an increase in the frequency of low blood-sugar levels, which may also come on more quickly or be more difficult to detect until they are very low. It is important to store snacks and/or glucose tablets in every possible place that you may be during the next three months—in your car, purse, desk, work bag, gym bag, and by your bed.

Talk with your partner about what you're experiencing, especially in regard to low blood-sugar levels. You won't regret having a second set of eyes helping to keep you safe from unexpected lows.

## Do you look and feel pregnant yet?

Diabetes and pregnancy can be overwhelming if you focus on the enormity of your responsibilities as a mother and a woman with T1D. Keep in mind that this needless worry and stress can take away from the beauty and joy of your pregnancy. You will want to look back on this special time with your baby with fond memories. To foster a positive atmosphere, focus on the gift of your pregnancy and the triumph you will feel when your healthy baby is born.

## Second trimester misconceptions

**MYTH:** Since I have diabetes, it is too dangerous for me to carry multiple births (twins, triplets).

**FACT:** Women with diabetes are no different than women who do not have diabetes when it comes to successfully carrying multiple births. There are numerous cases of successful multiple births on record.

**MYTH:** I am pregnant and I have T1D, therefore I should not get the flu shot.

**FACT:** Everyone with T1D, including pregnant women, should get a flu shot every year to protect themselves and their unborn children. The best time to get a flu shot is between October and mid-November, before flu season begins.

## Your doctor visits

Your doctor visits during the second trimester may be both fun and anxiety inducing. You will continue to have ultrasounds. Don't be alarmed if/when you begin having more ultrasounds than your pregnant friends without T1D. Quite simply, ultrasounds are the best way for your healthcare team to keep a close eye on your baby's development. Ultrasounds can be fun because they provide in utero photos of your baby. Compared to your friends without T1D, you will have a considerable number of these photos. Today's high-resolution photos provide lots of detail about your baby. You may be able to see your baby's face or see him/her sucking a thumb. It is during this trimester that you have the option of finding out your baby's gender. However, don't be surprised if you notice yourself feeling anxious prior to your ultrasound appointments out of fear that a problem will be discovered.

The quad screen is also performed during the second trimester. The quad screen is a blood test that tests the level of four substances produced by the fetus: alpha-fetoprotein, hCG, estriol, and inhibin-A. The results of this test are reviewed by your healthcare team to detect your child's risk of neural tube defects and chromosomal abnormality. This test only measures risk and is not a diagnostic tool. Unfortunately, the false-positive rate is high: in fact, only one or two out of 50 women with abnormally high readings go on to have affected babies.

If any increased risks are discovered during your ultrasound or your quad screen, you will likely be scheduled for an amniocentesis. T1D itself is not an indicator for amniocentesis. If you are scheduled for an amniocentesis, it is common to feel uneasy, scared, or even panicky. Rest assured: as mentioned previously, a large percentage of these cases are false-positives.

## Preparing your partner for the second trimester

Your partner will not only see your body beginning to transform now, but he/she will also likely notice some significant emotional changes in you. Mood swings are very common during this trimester. It is important that your partner not confuse the moodiness caused by a low blood-sugar level with the moodiness of pregnancy. Similarly, weepiness, forgetfulness, and a scattered mindset are commonly seen during the second trimester and are easily confused with a low blood-sugar level. As a woman with T1D, you may be accustomed to being the primary manager of your disease at all times, including the testing of your blood-sugar level.

Now is the time to have a talk with your partner and consider temporarily adjusting his/her role in your T1D management. Foster a sense of partnership in the pregnancy by discussing your likelihood of experiencing more frequent low blood-sugar levels with lower glucose levels during the second trimester. Discuss the signs and symptoms of low blood-sugar and review the use of the Glucagon Emergency Kit. Consider giving your partner permission to ask you to test or to test your blood-sugar if/when he/she is unsure about the cause of your behavior. This extra observation is important not only for your health, but for the health of your unborn baby.

Your partner's sleep may also be affected by your snoring during the second trimester. The increasing size of your baby and your nasal congestion make snoring more likely now. As a result of your growing body size, your partner is also likely to hear complaints about clothes that no longer fit and the need to purchase maternity clothing.

Partners with diabetes need to be aware that lack of sleep, or disturbed sleep, may make your blood-sugar levels a little more difficult to manage. The stress on your body may not be noticeable to you, but it may be enough stress to affect your blood-sugar levels. Consider this good practice for learning about your diabetes and lack of sleep. You'll need it once your baby comes home!

Your partner's view of your pregnancy may also change during this trimester because seeing the baby's face and body in photos often makes the baby seem more real.

### Important Facts:

- Women with diabetes are at an increased risk for delivering their baby early, but many women with diabetes do not deliver early.
- Appropriate nutrition is especially important for women with diabetes during pregnancy. Gaining too little or too much weight can increase your chances of preterm birth.
- Women with diabetes are at a higher risk of developing preeclampsia (high blood pressure during pregnancy). Therefore, your blood pressure should be checked during every doctor visit.
- Extreme emotional distress can trigger a preterm delivery. Since diabetes management during pregnancy can increase your emotional stress, it is important to monitor your stress level throughout your pregnancy and talk to your healthcare team if you experience feelings of depression or being overwhelmed.
- Women with diabetes are at an increased risk for infections such as urinary, cervical, vaginal, and kidney infections. During pregnancy, this kind of infection can be harmful to the baby and/or increase the risk of preterm delivery.

- Pregnancy hormones can cause your gums to become swollen or inflamed or to bleed easily, leading to gum disease and increased chances of preterm labor. Gum infections, such as gingivitis, are also more common in women with diabetes. Therefore, practicing good oral hygiene is even more important for women with diabetes who are pregnant.
- Recent studies have revealed that women with diabetes are at higher risk for low amniotic fluid levels, which can also result in preterm labor. For this reason, it is important to stay well hydrated during your pregnancy. Eight glasses of water per day is recommended.

## Planning Ahead

With your second trimester coming to an end, you have probably already begun to decorate your baby's room, especially if you opted to learn your baby's gender. In addition to preparing the baby's room, you will also want to make sure you baby-proof the rest of the house while you have the time. Obviously, your time will be limited after the baby arrives, and it will be easy to forget about baby-proofing. The degree to which you choose to baby-proof your house is up to you.

At a bare minimum, child-resistant outlet covers should be taken care of now to protect your curious baby from electrical shock when he/she starts crawling. Other baby-proofing options to consider include: setting your water heater to 120 degrees or lower; removing pillows, soft bedding, electric blankets, heating pads, and stuffed animals from the crib; shortening drapery/blind cords; installing safety gates at stairways; placing houseplants out of child's reach; locking away all medications; purchasing a bottle of ipecac and charcoal (only use when instructed by medical professional in emergency situations).

## Baby-proofing and preparing (with T1D!)

As a mom or dad with T1D, you have a number of T1D supplies, such as needles and lancets that can be very dangerous to a baby. Be sure to store your T1D supplies out of the reach of children. Now is also the time to consider all of the places throughout the house that you will need to store carbohydrate sources in case of a low blood-sugar level. In particular, you should have snacks/glucose tablets tucked away in your bedroom, your child's bedroom (close to a rocking chair, for example), and any other rooms where you spend time. Rocking a restless baby to sleep, only to realize that your blood-sugar is low and getting up out of the chair, will wake your baby; this is a situation you will want to avoid at all costs! So, planning ahead now is important. Moms, you will be entering the "nesting" stage of pregnancy, in which you feel strong urges to clean and organize everything before the baby arrives. Baby-proofing the house will fit in easily to this phase.

If you haven't already been diaper bag shopping (fun!), now is a great time to look at the wide selection of diaper bags and determine which one works best for you and your baby's combined needs. As a parent with T1D, you will likely want to have your own compartment in the bag to hold your meter and test strips, extra test strips, pump or injection supplies, and snacks/glucose tablets. Many diaper bags also have an insulated area for bottles, which can also double for your insulin storage.

### A different kind of hand-me-down

Friends, family, and even strangers may be curious and unsure how to ask about the effect T1D has on your pregnancy. The majority of the questions you receive will have no ill will behind them, but it is always best to be prepared for questions so you don't feel blindsided.

Naturally, society and the media have shaped people's view of pregnancy for women with T1D—sometimes negatively and sometimes positively. For this reason, it's best to think ahead and consider how you will answer such questions as, "Isn't it really risky for women with T1D to have babies?" or "Aren't you worried about passing T1D on to your child?" The best way to answer this kind of question is without defensiveness and with lots of confidence. Calmly and matter-of-factly share the facts about women with T1D having children, such as, "As long as a woman with T1D closely monitors her blood-sugar and keeps it within a healthy range, there is no reason why she can't have a healthy baby." Or, "Actually, the child of a parent with T1D has only about a five percent chance of developing



T1D in his/her lifetime.” (source: [www.jdrf.org/index.cfm?page\\_id=103442#hereditary](http://www.jdrf.org/index.cfm?page_id=103442#hereditary)). For friends and family members who are genuinely concerned, take this opportunity to share what your T1D pregnancy journey has been like so far.

This is an excellent opportunity to educate them about the unique aspects of pregnancy for women with T1D. The general public is largely unaware of the number of times a pregnant woman with T1D tests her blood-sugar each day, how often or how much her insulin dose may be adjusted to accommodate the growing baby, or how many times a woman with T1D must visit her doctors. Often, being educated on this topic is an eye-opening experience for friends and family members.

### **A Birth Plan?**

Speaking of plans, the birth plan is something else you will want to consider. Whether or not to have one and how in-depth to make a birth plan is a very personal choice. A birth plan is, in actuality, a wish list of how your child's birth would occur in a perfect world.

Of course, no one lives in a perfect world, and few birth plans are followed fully. However, for a woman with diabetes, a huge part of the birth process is diabetes management. It is important to think about how your blood-sugar will be managed from the time you arrive at the hospital until the time that you leave and what you will do to ensure these plans are followed.

### **Your T1D planned for you?**

First, ask your obstetrician if there is a hospital protocol in place for women with T1D who give birth and more specifically, if there is a protocol for women who use insulin pumps. You will want to be aware of any protocols (such as removal of insulin pump, a certain type of insulin that must be used, an insulin drip that must be used, etc.) with which you are not in agreement for your birth plan. This may require some pre-labor work on your part to override existing protocols in order to remain on current medications throughout the birth experience. It is also important to discuss with your healthcare team your plans to reduce your insulin intake just prior to birth, when insulin requirement drops dramatically.

In addition, your obstetrician/endocrinologist will also be able to help you plan for insulin dose changes immediately following birth, during your hospital stay, and once you go home. Write or type out all instructions and bring them with you to the hospital. Make sure your endocrinologist and

obstetrician have a copy for their charts as well. Having this information will serve as a great source of comfort when the hospital experience becomes hectic and other aspects of the birth process feel out of your control. Most importantly, make sure that you and your healthcare team are in agreement about how your T1D will be managed during and after the birth of your child, and that they put this plan in your chart.

### **Hospital resources: Take advantage!**

Now is a great time to schedule a hospital tour, and sign up for a childbirth class and new baby class that includes child CPR. These experiences offer exceptional opportunities for you and your partner to bond over the impending arrival and care of your baby.

### **What you may be thinking or feeling**

With your belly expanding and your baby moving around, you and your partner are likely starting to experience both excitement and trepidation about your baby's impending birth. You may also be experiencing strange and vivid dreams. These dreams can range from heartwarming to bizarre. This is completely normal and your mind's way of working through your pre-baby anxieties, hopes, fears, and insecurities.

Physically, you may be noticing that your ankles and feet are swollen, especially at the end of the day. Now is the time to remove your wedding and engagement rings before they become uncomfortably tight. You may also notice achiness, constipation, occasional headaches, itchy abdomen, forgetfulness, clumsiness, enlarged breasts, and difficulty sleeping. As a woman with T1D, it is important to check your blood-sugar during the middle of the night on a regular basis (ask your partner for help with this; consider letting him/her check your blood-sugar for you). The good news is that these middle-of-the-night blood-sugar checks may not be as much of an inconvenience since you are likely to have difficulty sleeping at this time. If you are feeling extremely exhausted or if you notice a new affinity for chewing ice, schedule an appointment with your obstetrician. These are common signs/symptoms of anemia.

# The Third Trimester

You're in the home stretch! The third trimester is when you will start feeling your baby roll around with regularity, when your pants may need to be upgraded with a super elastic waistband, and when you literally "get your waddle on." This is an incredible time for you and your baby, and it's just a matter of weeks before your family grows by leaps and bounds.

## Nesting

It's natural for every mom-to-be to enter what the experts call "the nesting phase." For some, it's a time of cleaning out the garage, setting up the nursery, and fixing up the crib for the incoming bundle of joy. If you are having a baby shower, you can nest to your heart's content by assembling all the strange devices that babies seem to need: the swing, the playpen, the breast pump, the stroller, the crib, etc. (And you will have a chance to do the cutest loads of laundry of all time. Get used to seeing little onesies in your washing machine!) Part of your nesting may include preparing yourself for the chaos of bringing a baby home, so it's a good time to think about pre-ordering T1D supplies and stocking up on glucose tablets and snacks in advance of your baby's arrival. Order your new insulin vial shipment and pump supply refill and have test strips on their way before the baby arrives.

Partners, here is where you put on your worker hat and take orders. If you are a partner with T1D, remember to watch for low blood-sugar levels as your pregnant partner puts you to work cleaning out the garage and assembling all of those baby things.

## Insulin resistance

During the third trimester, both you and your baby will be gaining weight at a reasonably predictable, but rapid, rate. Your baby has gone from the size of a blueberry to the size of ... a baby. The third trimester is when your child will gain the majority of their size, both in length and in weight, and with their growth comes your resistance to insulin. For many women with T1D, insulin needs are often tripled by the third trimester, so if you're taking much more than your normal dose, don't worry—that's normal. It's very important to keep close tabs on your blood-sugar trends at this point, as you may be adjusting your insulin needs on a weekly basis throughout this trimester. Be sure that you and your doctor anticipate your upped insulin needs with a new prescription for a higher quantity of insulin.

## Childbirth classes

At this point in your pregnancy, you and your team may have established the hopeful birth plan for your baby's arrival. Many women with T1D are told that a C-section is their only delivery option. Not true! Many women with T1D deliver healthy, happy babies vaginally (and some even achieve a drug-free birth, aside from that ever-present insulin dose). If you and your partner are anticipating a vaginal birth for your child, childbirth classes may help prepare you for that experience. They may sound unnecessary and sometimes even a little silly, but learning what to expect when your water breaks, understanding how a contraction may feel, and working together with your partner on how to deal with the birth experience may put you at ease, bring you closer, and prepare you for the arrival of your child.

For partners with T1D: childbirth classes can give you a good idea of what to expect once things start happening. Have a "go-bag" prepared with your T1D supplies so you can grab it and get your partner to where she needs to be. You'll want to be prepared because you usually have no idea how long you might be at the hospital.

New baby classes may also be a great choice. Learning how to warm a bottle, change the baby's diaper, and give a baby a bath can help prepare you for those first few weeks. Women who decide to breast-feed may choose to attend a lactation class, where their concerns about nipple confusion, latching on, breast pumps, and the actual art of breast-feeding can be addressed in a compassionate and informative environment.

Each set of parents may have different goals and expectations for their child's birth and first few weeks "on the outside," so be sure to find birth classes that work for you. Don't feel like you have to follow the status quo—your child will be raised by you, so take the advice that works for you and store the rest in the "opinion" file.

## Risks and worries

Now is when you might be looking at yourself in the mirror and thinking, "This baby is almost here." With that excitement and anticipation can come some worry. Will my baby be okay? Will I be okay? Will we be good parents? Will my child even like me?

For women with T1D, there are some added worries. Is my child growing according to schedule? Will my delivery be affected by my T1D? Who will monitor my blood-sugar while I'm in labor?

## Pregnancy Risks with T1D

**Hypoglycemic events:** Pregnancy can cause your body's insulin need to decrease or increase rapidly and without much warning, leaving you vulnerable to low blood-sugar events. Be sure to test frequently during your pregnancy to keep tabs on your numbers and help avoid dangerous lows.

**Miscarriage:** Women with uncontrolled diabetes have a higher incidence of miscarriage, but controlling your diabetes before and during pregnancy reduces this risk significantly.

**Macrosomia:** Uncontrolled diabetes can also lead to macrosomia (meaning "large body," which describes a large baby who is around the 90th percentile for weight as a result of high blood-sugar levels during pregnancy), and may require delivery by C-section. This complication can be mitigated by keeping tight control on blood-sugar during pregnancy.

**Toxemia:** Toxemia is a general term used to describe the presence of toxins in the blood. This condition may increase blood pressure and the presence of protein in the urine and cause hands and feet to swell. With good blood-sugar control, this problem is no more common than it is in a pregnancy without T1D.

**Edema:** Edema, or swelling, is a common occurrence and may be reduced by doing something as simple as limiting your salt intake. It is important to report any swelling to your OB/GYN, as this may also be a symptom of preeclampsia.

**Stillbirth:** The risk for stillbirth is five times higher for women with preexisting diabetes (source: [www.care.diabetesjournals.org/content/26/5/1385.full](http://www.care.diabetesjournals.org/content/26/5/1385.full)), which may account for why some medical teams decide to deliver the child before 40 weeks, but this risk is minimized by stabilizing glucose control during pregnancy.

While it's important to know and understand the risks and worries of a pregnancy with T1D, it shouldn't be your focus in this exciting time. Know that you are doing the very best you can and that your love for your child is boundless. You are almost there, so keep a handle on your level of worry as much as you can. Enjoy these moments, because they are beautiful.

### What should you bring to the hospital on the big day?

- Comfortable clothes and shoes for you to wear in the hospital and then on your travels home
- Several maxi pads to accommodate the post-birth bleeding (no tampons)
- A few overnight toiletries: toothbrush, toothpaste, shampoo, hairbrush
- A camera to capture your baby's first moments, and your first proud moments with baby!
- The baby's car seat: make sure you have it properly installed and ready before your child is strapped in
- A "going home" outfit for your baby, and some newborn diapers and wipes
- Depending on the season, make sure you have a blanket and a hat to cover the baby on the walk to the car
- Your personal T1D supplies: insulin pump infusion sets, insulin cartridges, bottles of insulin, syringes/pens, test strips, lancets. (Partners with diabetes: this applies to you too!)

### Your birth plan

A birth plan is literally a plan for how you'd like your child to arrive into the world. Sometimes this is an official document, and other times it is a discussion, but regardless of the formality, it can help a couple feel better prepared for the big day.

## What questions do you want your birth plan to answer?

- Do I want to receive pain medication, or is my preference to give birth naturally?
- Who will manage my T1D during the labor and delivery?
- Will I be able to wear my insulin pump during labor and delivery?
- Do I want to breast-feed immediately after delivery?
- If my child experiences a low blood-sugar level after delivery, do I want him/her to have formula?
- Who are the people I want present during my child's birth?
- If there is an emergency situation, who will make medical decisions on my behalf or my child's behalf if I am unable to do so?
- After birth, do I have any plans for the umbilical cord and/or placenta, which can be used for T1D research? To learn more about this research, visit [www.jdrf.org/cordblood](http://www.jdrf.org/cordblood).

First, talk with your partner about what your ideal plan would be. Discuss your feelings about an epidural, water birth, and using a midwife or a doula. There are so many questions surrounding childbirth that you may want to answer in advance, and starting with your and your partner's opinions is best.

Bring your doctor into the discussion and explain your wants and needs. Work together with your medical team to plan for an uneventful birth and for one that may deviate from expectations.

With T1D, the best-laid plans can change at a moment's notice, depending on the situation. It is good to have a plan for how you'd like your child's birthday to unfold, but it's just as important to remain flexible and open to changing the plan to accommodate any emergencies. The most important end result is a healthy mom and a healthy baby, and the goal of your medical team is to help you achieve that result.

## Thinking about breast-feeding?

### Here are some facts you may want to consider:

- Breast milk is easier for babies to digest.
- Breast-feeding is cheap, convenient, and easy.
- Breast milk has been linked to the reduction of type 1 diabetes, in addition to the reduction of sudden infant death Syndrome and childhood leukemia.
- Babies who are breastfed may also have a lower risk of type 2 diabetes and obesity in their future.
- Moms burn major calories when breast-feeding, which can help with post-partum weight-loss.
- With all that calorie burning, low blood sugars can be a problem. Be on the look out for hypoglycemia during and after breast-feeding for moms with diabetes, and keep snacks handy while you breast-feed.
- Insulin-dependent mothers may have a slower let-down, which means their milk may come in later than nondiabetic moms, so be patient.
- Be careful about infections, like thrush or mastitis, which are more common in moms with diabetes.

(As with all things health related, the decision to breast-feed is a personal one. There are dozens of variables that impact a woman's decision/ability to breast-feed, and just like everything else, your diabetes may vary.)



*I was diagnosed with type 1 diabetes in 1986, and after decades with diabetes, I was blessed with a healthy daughter in April 2010. I chronicled my journey with diabetes and pregnancy on my blog, [www.SixUntilMe.com](http://www.SixUntilMe.com), proud to share my journey.*



*Kerri, diagnosed at age 7*

# The Birth

Can you believe it? Your big day is here! Within hours, you will be able to see and hold your baby. If you make it close to your due date without going into labor, you will likely be induced or scheduled for a C-section. Many high-risk obstetricians prefer to deliver the babies of women with T1D prior to their due date, often in response to concerns about macrosomia, fetal health, or maternal health. On the positive side, scheduling the birth of your baby can actually be a source of stress relief because you will no longer have to wonder when your baby will arrive. Furthermore, as a woman with T1D, you also have the advantage of not going past your due date (and feeling uncomfortably huge) like many of your friends without T1D. However, being pregnant and having T1D does not mean that you will have to be scheduled, or will be forced to have a C-section. The arrival of your child depends on you, your medical team, and the natural schedule of your baby. Be sure to talk to your doctor about your preferences and available options for the birth of your child.

## Natural/Vaginal birth

If you are induced, you will arrive at the hospital at a pre-determined time (most likely a weekday morning). You will be placed in a birthing room and set up on a drip of contraction-inducing medication such as Pitocin. Your stomach will likely be fluttering as you feel more and more excited about the birth of your new baby. You may also begin to feel some pain from the contractions. The amount of pain you feel after the Pitocin is started is dependent on a number of factors, such as how quickly and how far your cervix dilates and how high your pain threshold is. Some women choose to get an epidural early on, while others wait longer. This is purely a personal preference. If you choose to wait, be sure to ask your physician how long you can wait, as there is a definite cutoff time in the birthing process, after which you can no longer receive an epidural.

Aside from stress and excitement, your blood-sugar level will likely remain as it was the week prior. In other words, you will see no major changes in your blood-sugar level until you actually give birth, or afterward. More about that later!

At this time, the person/people you wish to have with you in the birthing room can and should be there with you now. Again, whom you choose is a personal choice that varies from

person to person. Many hospitals have a limit on the number of people who can be in the birthing room, so consider checking with the hospital about its policies prior to arrival. Also consider having your entertainment options readily available (books, magazines, television, music, games, etc.) The labor could last for a long time (24 hours), or it could be over very quickly (one hour). You just never know how fast your labor will progress.

Your birth experience will be similar to that of your peers who do not have T1D in a lot of ways. The main difference is that your blood-sugar level will be monitored very closely throughout the entire birthing process. In other words, you will endure a mind-boggling number of finger pricks. But, rest assured, it is all for a very good reason. This kind of close monitoring is required to ensure that you don't require carbohydrate intake prior to your baby's birth. It is important to adhere to this rule because food and drink are not allowed in the 12 hours prior to surgery. If, in a worst case scenario, you were to experience a complication during your vaginal birth that would require a C-section, your consumption of food/drink would further complicate the delivery of your baby.

As your baby's arrival grows closer and your cervix dilates, you will be asked to push more and more frequently. If/when

## Can I Wear My CGM During Labor?

For women who use a CGM during the course of their pre-pregnancy and pregnancy months, it can be a very useful tool to help monitor the ever-changing insulin needs of a pregnant body. However, the use of a CGM during the actual birth process depends on the delivery method and the individual hospital. Check with your medical team to see if you will be able to keep your CGM on during labor. If you are having a C-section, your doctor may require that the sensor be removed before surgery. Other doctors may allow you to keep the sensor on. Ask your doctor about his/her protocol, and be sure to voice your preferences.

someone on the healthcare team announces that the baby's head has crowned, you are about to see your baby! Although it differs slightly from woman to woman, your insulin requirements will drop dramatically either just before you give birth or just after. In fact, many women return to their pre-pregnancy insulin requirements at this time.

## C-section

For any pregnant woman, a C-section may be a surprise addition to the birth plan. There are times when the baby is breech, or comes under duress during labor, and an emergency C-section takes place to keep the mother and baby as safe as possible.

But with T1D, a C-section may be part of the birth plan in advance, thanks to the size of your baby, retinopathy, or kidney issues. Other times, an early delivery is scheduled due to maternal or fetal health issues. Whatever the reason for a C-section, having your baby delivered surgically does not mean that you have poorly managed your T1D or haven't "tried hard enough" during the course of your pregnancy. Sometimes, this is just how your baby needs to arrive. So don't feel guilty if you end up having a C-section. A healthy mom and a healthy baby are the goal, right?

If your C-section is scheduled, you will have the opportunity to discuss the plan well before the actual birth. Some medical teams are comfortable letting the mother and her partner manage T1D during the birth, while others prefer to assign a doctor to this task throughout the surgery. If you wear an insulin pump, CGM, or other T1D device, you may need to remove it prior to prepping for surgery, but again, this is at the discretion of you and your medical team.

A spinal block or epidural is used to numb the lower half of your body to prepare for the incision, and usually two IVs will be in place for the surgery: one for fluids, and then the insulin drip (if your pump is removed). The insulin drip is often combined with the glucose drip, and the contents can be adjusted based on blood-sugar levels. So if your blood-sugar starts to drop, your medical team can increase the amount of glucose in the drip, and vice versa.

The C-section surgery itself takes about an hour (usually 15 minutes to make the incision and get the baby out, then about 45 minutes to finish the procedure), and everyone's surgical experiences vary.

Recovery from a C-section is very different than from a vaginal birth, and you may have a urinary catheter in place for several hours, and staples or stitches for several days. As mentioned earlier, it's important to vigilantly monitor your blood-sugar levels before, during, and immediately following your C-section, as hormone fluctuations and stress may have a huge impact on your insulin needs and blood-sugar levels. You'll also heal better with blood-sugar levels as close to normal as possible. Some women experience "the shakes" or vomiting during and after their C-section, so have a low blood-sugar plan in place, should your blood-sugar drop unexpectedly.

Once you are home and continuing your recovery process, be sure to follow the precautions put in place by your doctor. Don't lift anything over 10 pounds (unless it is your baby). Your partner will be happy to help, so don't be afraid to ask! Visually monitor your incision for signs of infection, and call your doctor if you experience excessive vaginal bleeding. Remember: a C-section is a method of delivering a baby, but it is also major abdominal surgery. Go easy on yourself: your body has been through a tremendous physical and emotional experience!



## Recovering and enjoying

Do you hear crying?? Is that really your baby?? Yes, it is! Your baby's birthday has finally arrived! As most new parents do, you both will likely feel a storm of emotions, from elation to relief (after you've counted all 10 fingers and toes and heard your baby cry), to exhaustion, and back to pure and utter excitement again.

Because you have T1D, your baby will likely be whisked away (at least momentarily) to check his/her blood-sugar. It is very common for babies of women with preexisting T1D to be born with low blood-sugar. Don't worry. The staff is familiar with this phenomenon and adept at bringing your baby's blood-sugar up to the correct level (and, because you may be wondering, being born with a low blood-sugar level does not mean that your child will have T1D). Once your baby has been thoroughly checked, you will have the opportunity to spend time with him/her and the rest of your family, if you choose. (However, it is not uncommon for women to be truly exhausted at this time, especially if they experienced a long and/or intense labor.) Don't push yourself too hard at this point. Your health and recovery are most important right now, even more important than seeing waiting friends and family. After all, it's really the baby they're most interested in seeing, right? This is a sentiment of which you will become increasingly aware after your child is born, especially when dealing with grandparents!

Hey partners with T1D: this is a great time to step back and evaluate things. How long has it been since you last checked your blood-sugar? When did you last eat? If you're staying overnight at the hospital, did you plan ahead for your own medical needs? Take advantage of the few minutes you have here to prepare yourself for spending time with your new baby.

Be sure to rest as much as possible while you are in the hospital, as you won't get much rest once you leave. Determine ahead of time whether or not you want your baby to sleep in your room. Many mothers are so excited about their new baby and immediately jump at the opportunity to have their newborn in the room with them. If you choose this option, just be aware that this will require a lot more energy from you and allows for less recovery time (mentally and physically). You may choose to have the baby sleep in the nursery and be brought to you when he/she is ready to be fed.

## Coming Home

You made it! You're going home for the first time with your new baby! Congratulations! You have done what many have said isn't possible: navigated a successful pregnancy with T1D. You should feel very proud, accomplished, and exhausted. The amount of energy you spend on your T1D management may never equal that of your pregnancy and pre-pregnancy days.

Now what? Well, now you have a beautiful new baby to take care of, and that's one of the best things in the world. It's also one of the most challenging and stressful things in the world. In addition to that, you still have T1D to manage.

This new baby is going to turn your life upside down for a while, and with that, your T1D priorities are going to shift. You may also be missing some of that intensive support and health professional teamwork you had while pregnant. Your doctor visits are tapering off, and now your diabetes appointments may go back to your pre-pregnancy schedule. For some new moms with T1D, it might feel like flying solo.

But that's only partially true. You still have a lot of support, but it may be more for the parental learning curve than for T1D issues. While you are recovering from the experience of giving birth, take advantage of all the helpful resources and support you can get. There are some issues that may arise, post-birth, and you'll need to be aware of them to help you get through them. It will be even better if you can develop some strategies to lean on to help you get through it all. Some of these things are:

- [Hormonal changes](#)
- [Emotional fluctuations](#)
- [Lack of sleep](#)
- [Anxiety](#)
- [Lack of intensive support](#)
- [Lack of a finite endpoint or goal \(like the goal of delivering a healthy baby\)](#)

Before we address the list above, we'd like to mention a couple of very simple, but helpful, things that you may have already thought of. Picture this: you have been trying for an hour to get your little one to fall asleep for a long-overdue nap. You're walking back and forth, rocking and swaying, like parents do, working hard to soothe and calm the baby. After a while, the



two of you settle into your favorite chair or spot on the couch, and finally he/she drifts off to sleep. You know if you move a single muscle, he/she will wake again.

And then you feel it. Your blood-sugar is dropping. You need quick and easy access to glucose tablets and a meter. If you have to do a bunch of shuffling to get them, you might wake your baby again, which is the last thing you want to do right now.

Have glucose tablets, or other sources of fast-acting glucose, stashed everywhere through your home. If you have extra meters and strips, put them nearby too. Your hands will be full most of the time until your baby grows a bit, and you'll need to be able to deal with a low blood-sugar level without disrupting him /her.

By planning ahead a little bit, and envisioning these scenarios beforehand, you can put glucose tablets and meters where you can get to them quickly and easily. Remember to refill your supplies on a regular basis, too.

## Hormonal changes

Do you remember all of the crazy things that happened to you during your pregnancy? Did you have unusual cravings, or feelings that came out of nowhere? Those were hormones impacting you (but also preparing your body for carrying your child). Now that your baby is here, you are going through a whole new set of hormonal changes, as you transition into the next phase of parenthood. Nobody can tell you exactly what your body is going to do, but being aware that you are going to experience changes again will help.

## Emotional fluctuations

Very often, significant hormonal changes also come with some pretty powerful psychological changes. The most common is postpartum depression. That one alone packs a punch that can make it very difficult to stay focused on your T1D management. The symptoms include feelings of hopelessness, guilt, feeling overwhelmed, sleep and eating disturbances, exhaustion, low energy, and feeling easily frustrated. Dealing with this emotional upheaval may take its toll on your T1D management as well. Trust yourself to take these feelings seriously, and to ask for help. Talk regularly with your doctor, and keep testing your blood-sugar and taking your insulin as needed. Don't forget about the option of contacting a professional therapist, if needed, to help you sort out some of the feelings you are experiencing. Talking with a trained professional can sometimes be just what you need.

## Some helpful online resources:

### JDRF's Online Diabetes Support Team

[www.jdrf.org/diabetessupport](http://www.jdrf.org/diabetessupport): A way to connect with JDRF volunteers for peer-to-peer support around T1D.

### TypeOneNation

[www.typeonenation.org](http://www.typeonenation.org): JDRF's online community for people touched by T1D, which includes groups and forums for interacting with others with T1D.

### DiabetesSisters

[www.diabetessisters.org](http://www.diabetessisters.org): An organization built specifically for women with diabetes offering education, emotional support, and advocacy.

### Kerri Sparling, Six Until Me blog

[www.sixuntilme.com/blog2/diabetes\\_and\\_pregnancy/](http://www.sixuntilme.com/blog2/diabetes_and_pregnancy/)

**Other Blogs:** Searching for “diabetes pregnancy blogs” brings up a number of blogs from women living with diabetes and navigating pregnancy, as well as those who have been through it. While these are fantastic resources, there are usually no experts verifying this information. Use your head and talk with your healthcare team before making any decisions based on the information you've read. [Postpartumhealth.com](http://Postpartumhealth.com) offers a wide variety of resources (books, classes, and programs) to help you manage your new life as a mother.

## Missing those ZZZs!

Your baby is the boss here, whether you like it or not. Your baby will be the one setting the sleep schedule, at least for a while. In fact, even the word “schedule” here is a bit of a misnomer. You'll surely be tempted to get stuff done while your baby is sleeping, but don't push yourself too far. Sleep when the baby sleeps, if you can. And even if you can't nap, at least put your feet up and take a few minutes to yourself. After everything you've been through, you deserve it!

Partners with T1D, you've had a relatively easy role in this journey so far. Now that the baby is home, you're in the same boat as your partner (minus the whole breast-feeding and postpartum depression thing). Sleep, or lack of sleep, is where both you and your partner will be stretched very thin.

It is tempting to skimp on sleep. But not getting enough sleep will affect you in subtle ways that you may not realize before they cause you some trouble. For people with T1D, not getting enough sleep can affect your management. Blood-sugar levels may run higher as a result of the stress of missed sleep, and you may tend to snack more and/or eat things that spike your blood-sugar levels more dramatically. Then there's the lack of

resolve when it comes to all things T1D. Not getting enough sleep can lead to a dangerous level of apathy for a demanding disease. As mentioned earlier, rest when they rest, and find ways to get things done while your child is awake. Don't be afraid to use a bouncy chair, baby swing, or baby carriers to help you maintain a sense of sanity and rest. Be fiercely protective of your sleep. It never feels important until you're not getting enough of it.

## Anxiety and stress

New parents worry about everything. Is the bottle too hot? Too cold? Did I sterilize it correctly? There's a whole bunch of "new parent" worries that are completely normal. Trust me, you're doing fine. Relax.

Sometimes when a baby cries, stress levels can skyrocket. As you probably already know, stress can make blood-sugar levels go wild. Try to keep stress in mind when you're wondering why your blood-sugar has gone through the roof or dropped very low very quickly.

Another very stressful scenario can be your first trip out of the house as a family. Did you remember to bring everything you might need to care for the baby? What about stuff you might need for managing your T1D? (Diaper bags make great "diabetes stuff" bags too).

In some cases, you can proactively deal with stress-related blood-sugar levels. But many times there's nothing you can do. You just have to react to what your glucose meter is telling you. Don't stress out over that!

See how easy it can be to get drawn into that downward spiral of stress and blood-sugar chaos? Do your best to keep stress at bay, but also acknowledge that a certain amount of stress is completely unavoidable, and again, do your best to react as needed.

## Still need to manage T1D

In addition to the physical changes through which your body has gone, you have also experienced a huge transition with your T1D management and care. That alone may cause some anxiety, and it's easy to feel that you're not doing enough to keep your T1D management on track. Don't let that toxic self-doubt creep in and start upsetting you.. Try to make useful observations about what is bothering you, and establish some small and simple ways to help you work through it.

For example, you might be worried about how infrequently you're testing your blood-sugar. It is making you crazy with worry that you'll have a severe low blood-sugar level that will put your baby in danger. That's a pretty big worry. Develop a strategy to break that huge worry down. Start small, much smaller than you first think. It might be as simple as picking two additional times to check your blood-sugar during the day and then setting things up to make that happen (reminders, easy access to your glucose meters, etc.).

You just need to get the momentum up a little bit. Once you're moving in the right direction, you'll notice the anxiety and fear slipping away, which will make it easier to keep working and chipping away at that fear. That positive energy will help carry you along.

## Feeling alone?

How often did you see your T1D healthcare team before your pregnancy? Once every three months? Six months? How about when you were pregnant, or planning to get pregnant? Things ramped up a lot over the course of your pregnancy, didn't they?

Near the end of your pregnancy, you were probably going in for checks and consultations a few times a week. Now that you've had your baby, you're going to experience another bunch of drastic changes. But you're fortunate if you have four or five interactions with your T1D healthcare team during the first few weeks after you get home. The sudden contrast can be scary!

Let your healthcare team know that you are concerned about feeling abandoned, and that you'd like to figure out some ways to keep in contact.

## The Long, but joyous, haul

It's always easier to work hard on something when there is a short-term goal involved. You have something definite you are working toward, and that endpoint can be incredibly motivational.

In this case, that endpoint is delivering a healthy baby, which is enough motivation to pull you through even the hardest and most challenging of times. You spent more than nine months laser-focused on managing your T1D tighter than ever before. It was very hard and required a lot of work.

Now that you've made it through the intense T1D management, the actual pregnancy, the delivery, and some recuperation, what's next? First of all, take a moment to feel proud of all the hard work you did, all of the sacrifices you made, and all of the dedication and resolve you put into your pregnancy.

After all of that hard work, it's completely natural to experience a period of burnout. Nobody can sustain such intense focus for long. But you'll want to keep an eye on just how far things slide, and decide when and where you need to put the brakes on. You'll want to find a balance between satisfactory T1D management and quality of life. It's easier said than done, as that balance is elusive and seems like a very slippery target sometimes.

You need to find a pace with which you are comfortable, that you can sustain from here on out, and one that you can do even without that goal of a healthy delivery. One thing that might help is to mark on your calendar a certain time/date every couple of weeks when you can check in with yourself. How are you doing? Are you happy and comfortable with where you are regarding your T1D management? Or do you need to re-evaluate things and build in some strategies to help you get closer to where you want to be?

Invest a little bit of time in picturing these scenarios, and any others that may not have been mentioned, and develop some simple strategies to deal with them (before you need them). Once you and your baby are home, you will likely be a little frazzled for a while. Trying to think clearly and proactively will be very difficult, and more stressful, right in the middle of everything. If you have some plans to fall back on, life will be just a little easier, and you'll have that much more energy to spend on that beautiful little baby.

## Planning for the Future

Things have probably been pretty hectic for the past few months, to say the least. You and your baby have been home for a while, and have hopefully settled into a bit of a routine (if there is such a thing with a newborn).

For some, it might be too early to start thinking about the future. For others, it's exactly the right time to figure out what's next. Are there things about which you need to be worried? Are there things you want to be aware of? Are you already thinking about another pregnancy? Or are you thinking that one is enough for now? Or maybe it's too soon to think about it again.

There are so many questions, and no right or wrong answers. But you know for sure that you want to be happy and healthy as you raise your family, whether that is one beautiful baby, or a whole house full of kids.

Some of the things you can do are small and simple, such as keeping fast-acting glucose in your car (and everywhere else) and being sure to test your blood-sugar often, especially before driving. As you ease yourself back into life, you may find yourself driving a lot more, especially if you are running your baby to and from childcare. Of course, it has always been important to test before you drive, and to have supplies available to treat lows, but having that little one in the car with you makes it even more important.

Some other things may seem to feel bigger than they should be, such as getting started with exercise. Don't dismiss the power of a good walk. It's a great way to get moving again, and it's accessible for all of us. You may have to juggle a few things to fit it into your schedule, but it is important to prioritize your health, and exercise is a big part of that. Another option is to incorporate your new baby into your exercise routine. Walking or running with your baby in a stroller is a great way to add exercise and vitamin D back into your life, and it introduces your baby to the beauties of the "big world," such as butterflies, flowers, and blue skies..

Beyond prioritizing your health, planning for the future is not a whole lot different for you than for a family without T1D. If you are thinking about a second child, you'll go through the same decision-making process you did for your first baby. Except that next time, you'll have been through it once and have a better idea of what to expect.

## As they grow

The question of T1D will always linger as you watch your kids grow up. When they are thirsty and drinking more than usual, you'll wonder if it could be T1D, or if it's just from playing outside on a hot summer day. When they wake to use the bathroom more than once in the night, you'll have that question in the back of your head.

If you planned your pregnancy, you probably already researched the statistics around your child developing T1D. They are, numerically, pretty small (around five percent according to [www.jdrf.org/index.cfm?page\\_id=103442#hereditary](http://www.jdrf.org/index.cfm?page_id=103442#hereditary)). That being said, there are families in which none of the children develop T1D, some families in which all of the kids are diagnosed, and some families with a mix of T1D and without. Unfortunately, nobody knows enough about it yet to say definitively one way or another, although new research is helping us learn more about the role genetics and environmental factors play in causing T1D. You can learn more about some of this research from an article published in JDRF's *Countdown* magazine: [countdown.jdrf.org/Features.aspx?id=8589934700](http://countdown.jdrf.org/Features.aspx?id=8589934700).

There are some studies in which you can get involved that can periodically check your children for the T1D-related auto-antibodies (or other markers) that may indicate a likelihood of T1D developing (TrialNet, for example: [www.diabetestrialnet.org](http://www.diabetestrialnet.org)). By participating in clinical research, you are also contributing to the body of knowledge about T1D, which some people find to be rewarding. In the end, the decision to participate in such studies is a personal one that you and your family will have to make. Some families prefer not to know, and choose to deal with a diagnosis (if it should occur) when the time comes.

To learn more about participation in clinical research and to find trials, visit JDRF's Clinical Trials Connection, [trials.jdrf.org](http://trials.jdrf.org).

## Education

### Teaching Kids to Help

- When the time is right, you might consider talking with your kids about times where you really might need their help, such as if they should find you unconscious.
- Teach them how to call for help. Have them practice dialing the number and what they should say to the emergency operator. It can be as simple as, "My name is \_\_\_\_\_. My address is \_\_\_\_\_. My mom has type 1 diabetes and needs help."
- Take them to a police station or fire station, and show them what a responding officer's uniform might look like, and that it is okay to unlock the door for a responding officer, especially when they have initiated a call to one.
- Teach them to inform the emergency responders about your T1D. Have a "cheat sheet" taped to the fridge with your important medical information (type of diabetes, doctor's name and phone number, list of medications you are taking, etc.) clearly provided.
- Depending on their age and maturity level, you may also introduce a glucagon kit to them and show them when/how to use it.

It can be scary to think about these scenarios, but it's better for your family to know what to do than to feel helpless. Some kids are nervous about something happening to their mother or father, so help them deal with this anxiety by providing them with information and confidence.



Your T1D will never be foreign to your children. As they grow up, they will see you doing all of the things you do to take care of yourself. In many ways, this will become the “normal” way of life for them because it is all that they know. At some point, they will probably become curious. Talk with them openly and candidly about your T1D. Help them understand why you need to prick your finger or take a shot. Be positive. Your children’s view of T1D is greatly influenced by your view of it. If you are frequently heard making statements such as, “I hate this disease. It has ruined my life,” they will hate the disease and see it as a burden. On the other hand, if they see you regularly checking your blood-sugar, taking your insulin, exercising, eating healthfully, and enjoying life, they will view T1D positively because you have learned to live healthfully as a result of it.

Of course, when they are really young they won’t understand much beyond you “taking your medicine.” Or maybe “That’s mommy’s (or daddy’s) pump!” But as they mature, they will be able to understand more and more. They may even want to get involved and help you by doing things like bringing you something to treat a low, bringing your testing kit, or pricking your finger.

As they get older, your children may ask if they will ever get T1D. The true answer to this question is that the odds of them developing T1D are small but not impossible. If your child has a positive view of you and your experience with T1D, any fears they have will be better managed.

Unless circumstances dictate otherwise, let your kids control the speed and amount of information they receive about your T1D. You don’t want to overwhelm them with information they don’t need to know or won’t remember, but you may enjoy answering their questions. (Be sure to answer any questions from your kids with a positive outlook. You’ll be amazed how your outlook will have a lasting influence on your child and their thoughts about your disease.)

Your first and most important duty as a parent is to keep yourself healthy so you can care for your family. You will often be torn in many different directions with various demands, but it is important for you to serve as a good role model for your child and family by outwardly making your health a top priority. Your mental health is an important part of your overall health. Moms, don’t ignore symptoms of hopelessness, helplessness, sadness, or being overwhelmed that last more than two weeks. Postpartum depression is not uncommon

among the general population. When you factor in the additional challenges of T1D management, it’s easy to see how a woman could feel overwhelmed during this new phase in her life. If you notice these symptoms, reach out to the obstetrician who delivered your child, your primary care physician, or a mental health professional you have worked with in the past.

*Living with diabetes takes extra planning and work on a daily basis. Pregnancy is no different. Diabetes definitely complicates pregnancy, but with pre-planning and lots of hard work, it can be done! A team of medical professionals, an exercise and diet plan, along with a support system of friends and family helped me get through each of my pregnancies. It isn't easy, but the best motivator I've ever found is the promise of a healthy baby.*



*Laura, diagnosed at age 19*

# Life after Baby

So here you are: after all the planning and worrying and hard work to have a healthy, happy pregnancy, now you have that adorable little baby in your life. You did it, and you should be proud! Parenting is just as amazing and magical as advertised, but it's also just as challenging and exhausting. Adding T1D into the mix just amplifies the chaos, so give yourself a pat on the back for making it happen despite these challenges.

You may be thinking about another baby. You might also be ready to roll your eyes at anyone who mentions having another baby! Whatever you decide for your future is up to you, and JDRF is here to help with support and information! But be sure to enjoy these moments you have now. You have accomplished something worth celebrating, so make sure you celebrate. Dance with your child, sing silly songs, and keep close tabs on your blood-sugar levels. There is so much to enjoy in these moments.

Welcome to parenthood. It's a wild ride, but after that whole "pregnancy-with-diabetes" thing, you're pretty well prepared.

## Some helpful resources:

### Support and Information:

**JDRF Local Chapters:** Your local JDRF chapter can provide access to vital support and resources for you and your family, including mentors, support groups, and family events through JDRF's outreach program. You can find contact information for your local JDRF chapter at [www.jdrf.org/index.cfm?page\\_id=100687](http://www.jdrf.org/index.cfm?page_id=100687)

**JDRF's Online Diabetes Support Team,** [www.jdrf.org/diabetesupport](http://www.jdrf.org/diabetesupport): A way to connect with JDRF volunteers for peer-to-peer online support around T1D.

**TypeOneNation,** [www.typeonenation.org](http://www.typeonenation.org): JDRF's online community for people touched by T1D, includes groups and forums to interact with others with T1D.

**JDRF website,** [www.jdrf.org/adults](http://www.jdrf.org/adults): Features a special section with materials and articles for adults with T1D.

**DiabetesSisters,** [www.diabetessisters.org](http://www.diabetessisters.org): An organization built specifically for women with diabetes offering education, emotional support, and advocacy.

**Blogs** such as Kerri Sparling's, [www.sixuntilme.com/blog2/diabetes\\_and\\_pregnancy](http://www.sixuntilme.com/blog2/diabetes_and_pregnancy). Searching for "diabetes pregnancy blogs" brings up a number of blogs from women living with diabetes and navigating pregnancy, as well as those who have been through it. While these are fantastic resources, there are usually no experts verifying this information. Use your head and talk with your healthcare team before making any decisions based on the information you've read.

**Article from Diabetes Health Magazine,** [www.diabeteshealth.com/read/2008/11/17/5987/thinking-of-kids-heres-some-tips-for-handling-pregnancy-and-diabetes](http://www.diabeteshealth.com/read/2008/11/17/5987/thinking-of-kids-heres-some-tips-for-handling-pregnancy-and-diabetes)

### Suggested Books:

*The Smart Woman's Guide to Diabetes*

by Amy Mercer

*Balancing Pregnancy with Pre-Existing Diabetes*

by Cheryl Alkon

*101 Tips for a Healthy Pregnancy with Diabetes*

by Patti Bazel Geil

*Eating for Pregnancy*

by Catherine Jones

*The Birth Partner: A Complete Guide to Childbirth for Dads, Doulas, and All Other Labor Companions*

by Penny Simkin

*Father's First Steps: 25 Things Every New Dad Should Know*

by Robert W. Sears and James M. Sears

*Be Prepared: A Practical Handbook for New Dads*

by Gary Greenberg

## Health Insurance, Workplace, and Legal Rights:

State laws governing diabetes health coverage:

[www.ncsl.org/default.aspx?tabid=14504](http://www.ncsl.org/default.aspx?tabid=14504)

U.S. Equal Employment Opportunity Commission Q&A about diabetes in the workplace:

[www.eeoc.gov/facts/diabetes.html](http://www.eeoc.gov/facts/diabetes.html)

American Diabetes Association info on employment discrimination:

[www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/](http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/)

Diabetes at Work, by Paula Ford-Martin:

[www.netplaces.com/diabetes/living-life-with-diabetes/diabetes-at-work.htm](http://www.netplaces.com/diabetes/living-life-with-diabetes/diabetes-at-work.htm)

About.com: [type1diabetes.about.com/od/adultswithtype1/a/Discrimination\\_work.htm](http://type1diabetes.about.com/od/adultswithtype1/a/Discrimination_work.htm)

Family Medical Leave Act (FMLA), U.S.

Department of Labor:

[www.dol.gov/compliance/laws/comp-fmla.htm](http://www.dol.gov/compliance/laws/comp-fmla.htm)

## Glossary

**Cesarian Section:** Surgery in which the medical team makes incisions into the abdomen and uterus to retrieve the baby.

**Continuous Glucose Monitor:** Continuous glucose monitors (CGMs) are devices that provide continuous “real-time” readings and data about trends in glucose levels. This allows people with diabetes to understand the level of their glucose and whether it is rising or falling, and to intervene by eating food or taking insulin to prevent it from going too high or too low.

**Macrosomia:** A term used to describe a newborn who is large—around the 90th percentile for weight. Can be attributed in part to uncontrolled diabetes during pregnancy.

**Preeclampsia:** Preeclampsia is a disorder that occurs only during pregnancy and the postpartum period and affects both the mother and the unborn baby. Affecting at least five to eight percent of all pregnancies, it is a rapidly progressive condition characterized by high blood pressure and the presence of protein in the urine.

**Preterm birth:** The birth of a baby before 37 weeks—gestational age.





# Contact your local JDRF chapter for more resources:

- Alabama**  
**Alabama Chapter**  
Birmingham, AL 35209  
(205) 871-0333
- Arkansas**  
**Greater Arkansas Chapter**  
Little Rock, AR 72212  
(501) 217-0321
- Arkansas**  
**Northwest Arkansas Branch**  
Fayetteville, AR 72703  
(479) 443-9190
- Arizona**  
**Desert Southwest Chapter**  
Phoenix, AZ 85018  
(602) 224-1800
- Southern Arizona Branch**  
Tucson, AZ 85711  
(520) 327-9900
- Inland Empire Branch**  
Riverside, CA 92507  
(951) 784-4156
- Los Angeles Chapter**  
Los Angeles, CA 90017  
(213) 233-9901
- Orange County Chapter**  
Irvine, CA 92614  
(949) 553-0363
- Northern CA Inland Chapter**  
Sacramento, CA 95825  
(916) 920-0790
- San Diego Chapter**  
San Diego, CA 92121  
(858) 597-0240
- Greater Bay Area Chapter**  
San Francisco, CA 94105  
(415) 977-0360
- Central Valley Council**  
Bakersfield, CA 93301  
(661) 636-1305
- Colorado**  
**Rocky Mountain Chapter**  
Denver, CO 80237  
(303) 779-0525
- Colorado Springs Branch**  
Colorado Springs, CO 80905  
(719) 633-8110
- Connecticut**  
**North Central CT/W. MA Chapter**  
Farmington, CT 6032  
(860) 470-0020
- Greater New Haven Chapter**  
Hamden, CT 6518  
(203) 248-1880
- Fairfield County Chapter**  
Norwalk, CT 6854  
(203) 854-0658
- Washington, D.C.**  
**Capitol Chapter**  
Washington, DC 20005  
(202) 371-0044
- Delaware Branch**  
Wilmington, DE 19801  
(302) 888-1117
- Florida**  
**South Florida Chapter**  
Sarasota, FL 34110  
(954) 565-4775
- Florida Suncoast (Naples) Chapter**  
Naples, FL 34240  
(239) 591-2825
- Central Florida Chapter**  
Altamonte Springs, FL 32701  
(407) 774-2166
- North Florida Chapter**  
Jacksonville, FL 32256  
(904) 739-2101
- Greater Palm Beach Cty Chapter**  
West Palm Beach, FL 33401  
(561) 686-7701
- Tampa Bay Chapter**  
St. Petersburg, FL 33702  
(727) 576-1215
- Georgia**  
Georgia Chapter  
Atlanta, GA 30305  
(404) 420-5990
- Hawaii**  
**Hawaii Chapter**  
Honolulu, HI 96814  
(808) 988-1000
- Iowa**  
**Greater Iowa Chapter**  
West Des Moines, IA 50265  
(515) 802-3220
- Eastern Iowa Chapter**  
Cedar Rapids, IA 52406  
(319) 393-3850
- Illinois**  
**Illinois Chapter**  
Chicago, IL 0  
(312) 670-0313
- Indiana**  
**Indiana State Chapter**  
Indianapolis, IN 46240  
(317) 469-9604
- Northern Indiana Branch**  
South Bend, IN 46635  
(574) 273-1810
- Kentucky**  
**Kentucky Chapter**  
Louisville, KY 40207  
(502) 485-9397
- Louisiana**  
**Louisiana Chapter - Baton Rouge Office**  
Baton Rouge, LA 70809  
(225) 932-9511
- New Orleans Branch**  
Baton Rouge, LA 70809  
(225) 932-9511
- Northern Louisiana Branch**  
Baton Rouge, LA 70809  
(225) 932-9511
- Massachusetts**  
**New England/Bay State Chapter**  
Wellesley, MA 2481  
(781) 431-0700
- Maryland**  
**Maryland Chapter**  
Linthicum, MD 21090  
(410) 823-0073
- Michigan**  
**Metro Detroit/SE MI Chapter**  
Southfield, MI 48075  
(248) 355-1133
- Michigan**  
**Michigan Great Lakes West Chapter**  
Kentwood, MI 49512  
(616) 957-1838
- Minnesota**  
**MinnDakotas Chapter**  
(No./So. Dakotas)  
Bloomington, MN 55425  
(952) 851-0770
- Missouri**  
Kansas City Chapter  
Kansas City, MO 64105  
(816) 472-7997
- Gr. MO / Southern Illinois Chapter**  
St. Louis, MO 63126  
(314) 729-1856
- Mississippi**  
**Mississippi Chapter**  
Jackson, MS 39216  
(601) 981-1184
- North Carolina**  
**Coastal Carolina Branch (Wilmington, NC)**  
Wilmington, NC 28405  
(910) 509-9899
- Piedmont Triad Chapter**  
Greensboro, NC 27401  
(336) 373-1768
- Greater Western Carolinas Chapter (Charlotte)**  
Charlotte, NC 28217  
(704) 561-0828
- Triangle/Eastern NC Chapter**  
Raleigh, NC 27615  
(919) 847-2630
- Nebraska**  
**Lincoln Office**  
Lincoln, NE 68506  
(402) 484-8300
- Omaha - Council Bluffs Office**  
Omaha, NE 68114  
(402) 397-2873
- New Hampshire**  
**Northern New England Branch (NH|ME|VT)**  
Manchester, NH 3103  
(603) 222-2300
- New Jersey**  
**Central Jersey Chapter**  
Shrewsbury, NJ 7702  
(732) 219-6654
- South Jersey Chapter**  
Cherry Hill, NJ 8034  
(856) 429-1101
- Mid Jersey Chapter**  
East Brunswick, NJ 8816  
(732) 296-7171
- Northern NJ/Rockland Cty Chapter**  
Englewood Cliffs, NJ 7632  
(201) 568-4838
- New Mexico**  
**New Mexico Branch**  
Albuquerque, NM 87110  
(505) 255-4005
- Nevada**  
**Nevada Chapter**  
Las Vegas, NV 89148  
(702) 732-4795
- Northern Nevada Branch**  
Reno, NV 89511  
(775) 786-1881
- New York**  
**Western New York Chapter**  
Amherst, NY 14226  
(716) 833-2873
- Rochester Chapter**  
Rochester, NY 14624  
(585) 546-1390
- Hudson Valley Branch**  
White Plains, NY 10603  
(914) 686-7700
- Long Island Chapter**  
Melville, NY 11747  
(631) 414-1126
- New York City Chapter**  
New York, NY 10016  
(212) 689-2860
- Brooklyn/Queens Branch**  
New York, NY 10016  
(212) 689-2860
- Staten Island Branch**  
New York, NY 10016  
(212) 689-2860
- Westchester County Chapter**  
White Plains, NY 10603  
(914) 686-7700
- Northeastern NY/Capitol Region Chapter**  
Latham, NY 12110  
(518) 477-2873
- Central New York Chapter**  
Liverpool, NY 13088  
(315) 453-9327
- Ohio**  
**Southwest Ohio Chapter (Cincinnati)**  
Cincinnati, OH 45236  
(513) 793-3223
- Southwest Ohio Chapter (Dayton)**  
Beavercreek, OH 45458  
(937) 439-2873
- Northeast Ohio Chapter**  
Independence, OH 44131  
(216) 524-6000
- Mid-Ohio Chapter**  
Columbus, OH 43215  
(614) 464-2873
- Northwest Ohio Branch**  
Toledo, OH 43623  
(419) 873-1377
- Oklahoma**  
**Central Oklahoma Branch**  
Oklahoma City, OK 73112  
(405) 810-0070
- Tulsa Green Country Branch**  
Tulsa, OK 74119  
(918) 481-5807
- Oregon**  
**Oregon/SW WA Chapter**  
Portland, OR 97223  
(503) 643-1995
- Pennsylvania**  
**East Central PA Branch**  
Bala Cynwyd, PA 19004  
(610) 664-9255
- Central PA Chapter**  
Lemoyne, PA 17043  
(717) 901-6489
- Eastern PA/Delaware Chapter**  
Bala Cynwyd, PA 19004  
(610) 664-9255
- Western PA Chapter**  
Pittsburgh, PA 15222  
(412) 471-1414
- Northwestern PA Branch**  
Erie, PA 16508  
(814) 452-0635
- Rhode Island**  
**Rhode Island Branch**  
Warwick, RI 2886  
(401) 738-9898
- South Carolina**  
**Palmetto Chapter**  
Columbia, SC 29204  
(803) 782-1477
- Western Carolinas Chapter**  
Greenville, SC 29615  
(864) 770-0276
- South Dakota**  
**Sioux Falls Council**  
Sioux Falls, SD  
(605) 312-6438
- Tennessee**  
**East Tennessee Chapter**  
Knoxville, TN 37919  
(865) 544-0768
- West Tennessee Chapter**  
Collierville, TN 38017  
(901) 861-6550
- Middle Tennessee Chapter**  
Brentwood, TN 37027  
(615) 383-6781
- Texas**  
**JDRF Laredo Council (TX)**  
Laredo, TX 78045  
(956) 712-2900
- Greater Dallas Chapter**  
Dallas, TX 75231  
(214) 373-9808
- Greater Fort Worth Arlington Chapter**  
Ft. Worth, TX 76107  
(817) 332-2601
- Houston Gulf Coast Chapter**  
Houston, TX 77057  
(713) 334-4400
- Panhandle Branch**  
Amarillo, TX 79121  
(806) 356-6042
- South Central Texas Chapter**  
San Antonio, TX 78209  
(210) 822-5336
- Austin Chapter**  
Austin, TX 78731  
(512) 343-0663
- El Paso Council**  
Ft. Worth, TX 76107  
(817) 332-2601
- Utah**  
**Utah Chapter**  
Salt Lake City, UT 84102  
(801) 530-0660
- Virginia**  
**Greater Blue Ridge Chapter**  
Roanoke, VA 24018  
(540) 772-1975
- Central Virginia Chapter**  
Richmond, VA 23226  
(804) 254-8014
- Hampton Roads Chapter**  
Virginia Beach, VA 23462  
(757) 497-2202
- West Virginia Branch**  
Pittsburgh, PA 15222  
(412) 471-1414
- Washington**  
**JDRF Northwest Chapter**  
Seattle, WA 98161  
(206) 838-5153
- Seattle Guild**  
Seattle, WA 98161  
(206) 838-5157
- Inland Northwest Branch**  
Spokane, WA 99201  
(509) 459-6307
- Western Montana Council**  
Seattle, WA 98161  
(206) 838-5153
- South Sound Branch**  
Seattle, WA 98161  
(206) 838-5153
- Wisconsin**  
**Northeast Wisconsin Chapter**  
Menasha, WI 0  
(920) 997-0038
- Western Wisconsin Chapter**  
Madison, WI 53719  
(608) 833-2873
- Southeastern Wisconsin Chapter**  
Wauwatosa, WI 53222  
(414) 453-4673

# About JDRF

JDRF is the leading global organization focused on type 1 diabetes (T1D) research. Driven by passionate, grassroots volunteers connected to children, adolescents, and adults with this disease, JDRF is now the largest charitable supporter of T1D research. The goal of JDRF research is to improve the lives of all people affected by T1D by accelerating progress on the most promising opportunities for curing, better treating, and preventing T1D. JDRF collaborates with a wide spectrum of partners who share this goal.

Since its founding in 1970, JDRF has awarded more than \$1.6 billion to diabetes research. Past JDRF efforts have helped to significantly advance the care of people with this disease and have expanded the critical scientific understanding of T1D. JDRF will not rest until T1D is fully conquered. More than 80 percent of JDRF's expenditures directly support research and research-related education.

For more information, please visit [www.jdrf.org](http://www.jdrf.org).

