

YOU'VE GOT THIS!

NEWLY DIAGNOSED WITH
TYPE 1 DIABETES

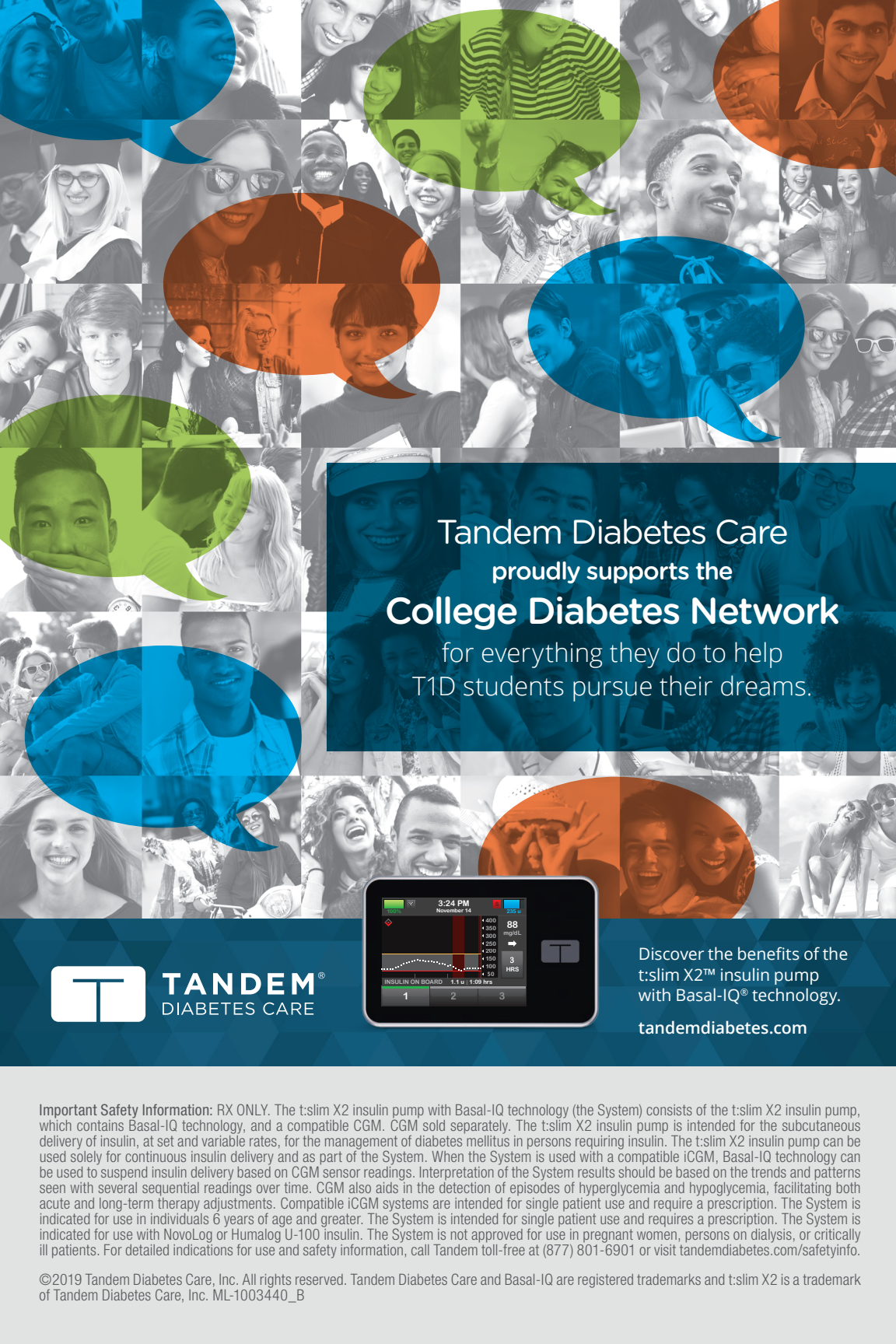
CDN

GUIDE FOR YOUNG ADULTS

on your own but not alone™



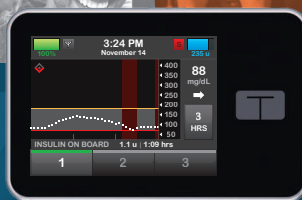
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T1D students pursue their dreams.



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Important Safety Information: RX ONLY. The t:slim X2 insulin pump with Basal-IQ technology (the System) consists of the t:slim X2 insulin pump, which contains Basal-IQ technology, and a compatible CGM. CGM sold separately. The t:slim X2 insulin pump is intended for the subcutaneous delivery of insulin, at set and variable rates, for the management of diabetes mellitus in persons requiring insulin. The t:slim X2 insulin pump can be used solely for continuous insulin delivery and as part of the System. When the System is used with a compatible iCGM, Basal-IQ technology can be used to suspend insulin delivery based on CGM sensor readings. Interpretation of the System results should be based on the trends and patterns seen with several sequential readings over time. CGM also aids in the detection of episodes of hyperglycemia and hypoglycemia, facilitating both acute and long-term therapy adjustments. Compatible iCGM systems are intended for single patient use and require a prescription. The System is indicated for use in individuals 6 years of age and greater. The System is intended for single patient use and requires a prescription. The System is indicated for use with NovoLog or Humalog U-100 insulin. The System is not approved for use in pregnant women, persons on dialysis, or critically ill patients. For detailed indications for use and safety information, call Tandem toll-free at (877) 801-6901 or visit tandemdiabetes.com/safetyinfo.

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A LETTER FROM ME TO YOU...

So you've just been diagnosed with type 1 diabetes (T1D) and you're a young adult? Well, let me start by saying that whatever you are feeling right now is valid—anger, confusion, anxiety, disappointment, or just totally fine. You also may be feeling many different emotions, and that is normal and okay. I felt a little bit of it all when I was in your shoes a few years ago, and I still experience those emotions sometimes. Take some time to process how you are feeling and what you are thinking—whether that means talking to a friend or family member, binge-watching that new Netflix series, going to the gym, or talking to a mental health counselor. **The most important thing I can tell you is this: You are not alone.**

Let me say that again: You are not alone. Many other people (myself included!) have experienced what you are currently going through at the same age and stage in life, with similar emotions, questions, and thoughts that might be running through your head. At the same time, you and your diagnosis story are unique and important. And if you'd like to share it, I would genuinely like to hear it.

As you may have already realized, diabetes sucks the vast majority of the time. It is a complicated and crazy thing. It will, if it hasn't already, open a whole new chapter in your life. Living with diabetes, especially as a young adult, is tough. It takes some extra work, some extra math, and some extra care of your body and mind to manage it. But you can absolutely thrive with diabetes. This new chapter with diabetes can actually be positive in many ways. Diabetes is not a death sentence, nor is it a sentence to a bunch of crazy complications that you may hear about. Medical understanding and treatment for diabetes has significantly progressed in the past few decades. But diabetes can be a roller coaster. At times you're high and sometimes you're low—literally, your blood sugar will be high and low, sometimes within the same hour, and that can be incredibly frustrating. Some days you might be totally okay with your diabetes, and other days you might hate it.

Diabetes, like other things in life, can be scary and overwhelming at times, but with the help of family, friends, and plenty of insulin and low blood sugar snacks, you will have everything you need to live a full and healthy life. I truly hope that this guide will answer many of your questions, and help you learn how to manage diabetes well while pursuing your dreams for your life!

**Take Good Care,
Katelyn**

THANK YOU

to the CDN Clinical Research Advisory Committee Members for their assistance in developing the content for these booklets.

What to Expect in This Guide

Recently, the number of young adults between the ages of 17 and 25 being diagnosed with type 1 diabetes (T1D) has significantly increased. Many times people think that diabetes only affects children or older adults. The truth is, while a lot of people are diagnosed with T1D as children, people can be diagnosed at any age.

Our primary purpose in creating this guide is to provide you with a starting point for feeling supported and empowered in this new chapter of your life with diabetes. All of the advice, stories, tips and tricks shared in this guide come from others who have been in your shoes—people diagnosed as young adults, trying to figure this thing out. While not comprehensive, we hope that the information in this guide will get you started in your own journey with diabetes.

ABOUT THE COLLEGE DIABETES NETWORK

What is CDN?

The College Diabetes Network is the only organization focused exclusively on helping teens and young adults with T1D transition to independence—facilitating peer camaraderie and programs and providing life-changing information—giving young adults the confidence to take ownership of their health to live a full life without compromise.

About CDN Chapters

Chapters are student-led groups that allow students living with diabetes to connect with one another, learn about the latest diabetes technology and gadgets, and exchange tips and tricks for managing diabetes on campus.

How to Get Involved in a CDN Chapter

1 Visit our website to see if a Chapter exists at your school:

collegediabetesnetwork.org

2 No Chapter at your school? Email CDN Staff at info@collegediabetesnetwork.org to find out more about starting your own.

Why Get Involved in a Chapter?

- Connect with other students who get it
- Have a friend to call
- Learn about local resources
- Gain leadership experience
- Participate in community service projects
- Be a part of a national community
- Inspire others



ONE TOUCH Delica



**LETS GET
DOWN TO
BASICS**

Type 1 diabetes can be a complicated and confusing disease, so let's make sure we cover the basics.

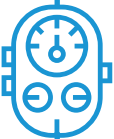
T1D IS



A chronic, autoimmune disease in which one's pancreas produces no insulin



A condition that must be monitored 24/7



A condition in which one is insulin dependent by receiving insulin through an outside source (which we will discuss later on in this guide)



A condition that can be managed through a balancing act of insulin, carbohydrate counting, and exercise



T1D IS NOT



Caused by eating too much sugar



Caused by living a sedentary lifestyle



Only diagnosed in childhood



A condition that can be cured simply through diet and exercise



Something that should define you

BLOOD GLUCOSE CHECKING

Pricking your finger, drawing a bit of blood, putting it onto the strip, and seeing that number pop up on the screen—this is what blood sugar checks are made of. These checks are essential to diabetes management and although new technology makes blood glucose checking less common, they are still considered a gold standard to diabetes management.

Before you were diagnosed, you probably only had your finger pricked a few times in your life (if ever), and now you may be pricking it many times a day. If you are feeling frustrated, overwhelmed, isolated, or even in some pain, you are not alone.

But why is checking your blood sugar so important? Physically, the pain of the prick can hurt, and emotionally you may not be happy with the results. The number you get on the screen when you check isn't always what you want it to be, and that can be discouraging. Always remember that your blood sugar does not define you. Yes, numbers can be reflective of how your diabetes is managed, but they can also be out of your control sometimes. Even if you did everything perfectly, so many things affect your blood sugar that it really is nearly impossible for your numbers to always be in range (American Diabetes Association, 2015a).

Your doctor should give you all of the details about how many times you should check with your blood glucose meter, when, what range your blood sugar should be within, and what you should do if it isn't in range.

Keep in mind some important times to check your blood glucose, including:

- Before and after a meal
- Before and after exercising
- After waking up
- Before going to bed
- After a high or low blood sugar

As we have mentioned before, there are so many things that can factor into your blood sugar, some of which you can control, and some of which you cannot.

Some things that can impact your blood sugar include (Brown, 2014; Gelman, n.d.):

Hormone levels, Weather, Stress,

Menstrual cycles, Macronutrients, Time of eating,

Exercise, Sickness/injury, Caffeine, Sleep,

Medications, Drugs/alcohol/smoking,

Insulin pump issues, Dehydration,

Expired or bad insulin, Altitude, Traveling



DID YOU KNOW?

A Continuous Glucose Monitor (CGM) can drastically reduce the number of finger pricks you need to do in a day!

WHAT ABOUT A CGM?

Diabetes technology is advancing at an exponential pace, and one great device that T1Ds are taking advantage of is a Continuous Glucose Monitor (CGM). Many CGM's do not even require you to check your blood sugar using a glucose meter. Remember, each day and each person's management styles are a little different, and that is okay because your diabetes is not the same as anyone else's.

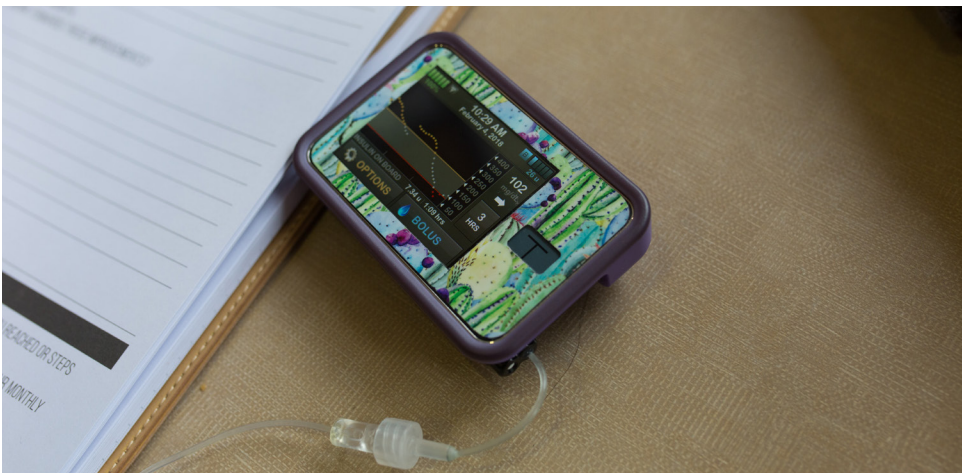
Here are some pros and cons of using a CGM:

PROS

- In many cases, CGMs are viewable on smartphones and information can be shared with friends, family, roommates, etc
- Some CGMs can alert you in real time of high and low blood sugars
- Some CGMs can show if you are trending one way or the other
- With CGMs, finger pricking only needs to be done infrequently to calibrate the sensor
- Discretely check your sugar with a quick glance at a screen
 - This can come in handy during meetings, class, exercising, or driving

CONS

- CGMs provide constant access to information, which can be overwhelming!
- A CGM is another device to wear on your body 24/7
- Some CGMs can be expensive and difficult to cover through insurance



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Visit www.tandemdiabetes.com/tslimx2#use for more information.

* If glucose alerts and CGM readings do not match symptoms or expectations, use a blood glucose meter to make diabetes treatment decisions.



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TO PUMP OR NOT TO PUMP

Let's begin by affirming that insulin shots, either with pens or syringes, are not inferior to an insulin pump and you can absolutely manage your diabetes very well through shots. Let's take a look at some of the reasons people with T1D choose to pump or not to pump:

Perks of Multiple Daily Injections (MDI)

- There is nothing physically attached to your body
- There is no beeping or vibrating to interrupt sleep, meetings, conversations, etc.
- There is typically no need to figure out how to use any technological features
- You can swim, shower, and exercise without a device being in the way

Perks of Pumps:

- You may only need to change a pump site every three days, which means one needle stick every 3 days
- You can easily and discretely give insulin with only a few button presses
- Data stored by pumps about your dosing history can allow you to better analyze your patterns and gain tighter control.
- Pumps allow more flexibility with the ability to give smaller doses and program custom rates according to different schedules.

Choosing whether or not you want a pump is not always an easy decision. Some things to consider when choosing whether or not to pump are:

Insurance

It is important to look into a full list of options of pumps, as insurance companies differ in coverage

How a pump will fit into your everyday life

Consider how a pump will play a part in the types of clothing you normally wear, what sports or activities you are involved in, how it may affect your own body image

Specific features of pumps

Not all pumps are made equal – some have tubing, others are tubeless. Some are able to sync with certain CGMs, others fly solo. Whatever it may be, choose the pump that you feel will be the most beneficial to you and your diabetes management.



TIP

If you ever check your blood sugar and it's not what you expected, or just doesn't seem right, check again. Wash your hands well, and then after pricking your finger, wipe off the first drop of blood and use the second drop. This can help get a more accurate result.

If you're struggling to control your blood sugar, don't blame yourself.

Work with your doctor and your support system, which can include your parents, friends, significant other, classmates, mental health professional, and many others, to continue adjusting the way you manage your diabetes to see what works and what doesn't. Remember that diabetes can be a roller coaster, so hold on for the ride! Don't let other people's comments or reactions get to you. When you check your blood sugar, especially in public, you may find people (even well-meaning friends and family) who choose to comment on your number. Remember that these can be moments to educate, where you can explain to the individual what that number means. You also have every right to ask people not to comment on your numbers. Over time you'll decide how you want to approach this situation. Do what works best for you in the specific circumstance you are in, and keep on doing your thing.

Severe Hypoglycemia

GLUCAGON

Glucagon is a hormone that stimulates your liver to release stored glucose into your bloodstream when your blood glucose levels are too low. Glucagon injections are used as a medication to treat someone with diabetes that has become unconscious from a severe low blood sugar. Glucagon injections are available by prescription, so be sure to speak with your health care provider about getting a prescription, and how and when to use it.



Here are some helpful tips to keep in mind when you or someone you know is experiencing a hypoglycemic event

DO _____

Call 911 if the situation seems unmanageable



If glucagon is needed, inject into the buttock, arm, or thigh, following the manufacturer's instructions

DO NOT _____

Inject insulin, as it will cause the person with T1D to drop even lower



Provide food or fluids, as the individual can choke



Put hands in the person with T1D's mouth, as they can choke

**TIP** _____

It is important to know that if you have been drinking alcohol and experience severe hypoglycemia, glucagon will NOT work. For more information, reference the Alcohol and Diabetes section of this guide.

GLUCAGON—YOUR SAFETY NET

Do you carry glucagon with you when you leave your home? Do you keep glucagon easily accessible where you sleep? Do your close friends and family (roommates) know how to use it?

No? That's okay - you're not alone. Not many people with diabetes carry glucagon with them, or even know what it does.

Glucagon is a hormone that raises blood sugar. Anybody who takes insulin is at risk of low blood sugar because of insulin's effects, and while some fast-acting carbohydrates are usually enough to bring blood sugar levels back to normal, in severe cases, people with diabetes may experience inability to swallow, unconsciousness, or seizures due to hypoglycemia.

In those cases, a glucagon emergency kit can save your life. Keeping one handy and showing others how to use it is a simple way to protect yourself from the worst.

There are great innovations in glucagon products on the horizon for people with diabetes - ones that will make this safety net even easier and more accessible for people with diabetes. Be on the lookout for news from CDN as these therapies become available!

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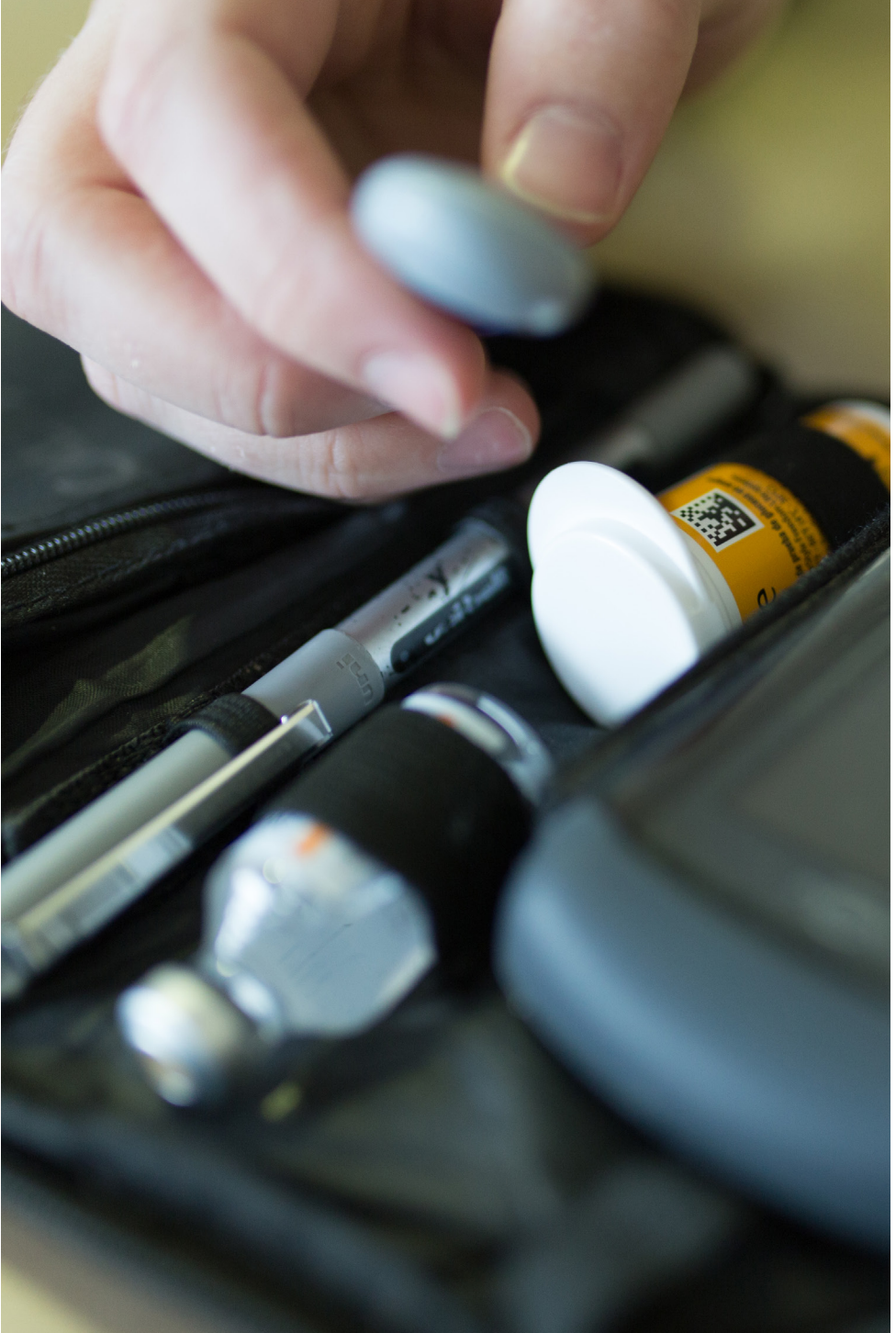
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NUTRITION & CARBOHYDRATE COUNTING

Carbs, carbs, carbs—most of the time the grams of carbohydrates in a food seem to be all that really matters. But every part of the nutrition label deserves attention. Factors like fat, protein, sodium, and fiber all can play a part in how a food is processed in your body and how it affects your blood sugar.

Carbohydrates are macronutrients that are broken down in your body to glucose to provide you with energy (Szalay, 2015). In a person without diabetes, the body produces insulin. As you know, T1D is caused by the pancreas ceasing to produce insulin, which takes the glucose from carbohydrates that we eat from the blood to cells to be used for energy. In order to know how much insulin to give yourself for a meal, you need to know your current glucose level as well as the grams of carbohydrates.

It certainly can be overwhelming at first to realize how many carbohydrates are in your favorite meal or drink at your favorite restaurant, but having accurate information is crucial to determining the correct insulin dose. This saves the headache as you are dosing, and hopefully saves you a headache later if your blood sugar is in range.

Below is a chart that helps let you know how other nutrients in food can affect your blood sugar level. Everyone's body is different and there are so many variables that can affect the outcome of the food you eat, so you will likely experiment with different foods and learn how they interact with your body.

How nutrients affect blood sugars:

High fat foods

- take longer to digest
- bring blood sugar up more slowly
- may cause you to be high several hours after eating
- tend to make people more insulin resistant
- some examples of high fat foods include cheese, avocados, nuts, chocolate, peanut butter

High protein foods

- may result in a delayed rise in blood sugar
- may produce a sustained high blood sugar
- some examples include chicken, tofu, plain yogurt, eggs, milk



TIP

Because of the ultra-rapid absorption of liquid carbs, even fast-acting insulin given way in advance can't prevent huge blood sugar spikes from juice, soda, sports drinks, or sugary coffee drinks.

Fortunately, there are a lot of great diet or sugar-free options in all categories. Though these might take a little getting used to initially, you'll save yourself a (literal) headache from high blood sugars later on. Unless treating a low, be careful with sugary drinks! If you are having fast acting carbs (such as white bread, a bagel, juice, etc.) you may want to bolus further in advance (15-30 minutes before eating) to avoid any crazy blood sugar spikes.



“

Being diagnosed as a young adult was a learning curve. I was used to the life I had lived for 19 years, and I had no desire to change that. But life happens, or in this case, diabetes happens. My numbers are not always perfect; I mess up, and if there are peanut M&Ms somewhere, you bet I will be eating them, but that is okay.

Ellie Pardee, University Of Georgia,
Middle Grades Education '17

”



TIP

Many people with diabetes don't follow a specific diet but some find a low carb diet helpful in maintaining blood sugar control.

It is incredibly empowering to understand how food affects your body and blood sugar. For more information, check out “Bright Spots and Landmines” by Adam Brown (available for free via Diatribe) to learn about his experiences with a low-carb diet!

KETONES

Before being diagnosed with diabetes, you may have heard of the term “ketones” in relation to the popular ketogenic diet, where people intentionally eat a low carbohydrate diet to enter a state of ketosis. Unlike this popular weight loss method, having ketones as a T1D is different and can ultimately lead to diabetic ketoacidosis, a very serious and dangerous state.

When someone with T1D has ketones, this means that their body is burning fat instead of glucose. This is because without enough insulin, glucose builds up in their bloodstream and is unable to enter the cells to break down. Too many ketones in the blood results in an acidic state, and can eventually lead to ketoacidosis, coma, or even death.

How Ketones Are Developed

High Blood Sugar

Ketones can develop when you have a high blood sugar because typically, when your blood sugar is high, that indicates you are deficient in insulin.

Normal/Low Blood Sugar

It is important to know that ketones can also develop when you have normal to low blood sugars as well. This can be due to illness or diet change when your body is not consuming enough carbohydrates for your body to burn sufficiently.

Illness

When you are sick, your body is naturally under more stress than usual, causing hormones to be released and ultimately raising blood sugar levels and potentially leading to the development of ketones.

Diet

When having a significant diet change that leads to a decrease in carbohydrate intake, your body may not have enough carbohydrates in its system to break down glucose, leading to the breakdown of fat and the development of ketones. It is important to note that eating a low carbohydrate diet is perfectly safe for people with T1D as long as insulin levels are not low enough to restrict cells from in taking and breaking down glucose. If you are interested in learning more about low carbohydrate diets, talk with your healthcare team!

LETS GET DOWN TO BASICS ▶ Nutrition and Carbohydrate Counting



How to Check for Ketones

Urine strips

- Urine strips are generally the cheapest method to check for ketone. Though convenient, they can be slightly less accurate than a blood test, and can be skewed by other factors.

Blood Ketone meter

- Blood ketone meters are used similarly to as you would check your blood sugar with a glucose meter. Because it measures the blood directly, this is considered the most accurate method of checking for ketones.

Breath Ketone meter

- Breath ketone meters are generally used by individuals who are on the ketogenic diet and measure acetone levels in the breath. These meters are typically expensive and generally not recommended to T1D's as there is currently not a lot of data regarding blood ketones relating to breath ketones.

When to Check for Ketones

It is important to talk with your healthcare team on when you should check for ketones, but generally people with T1D should check for ketones when:

- Your blood sugar is higher over your average range
- You are sick with a cold/flu
- You feel nauseas, dizzy, have abdominal pain, or are vomiting
- You are thirsty or have dry mouth
- You are having trouble breathing
- Your breath smells fruity

When to Call for Help

Again, always consult with healthcare team about what to do when you develop ketones and when to take other precautions such as calling 911 or going to the emergency room.

Generally, in order to flush ketones out of your system, most people with T1D are advised to drink 8 ounces of water every 30-60 minutes. Many people make temporary changes to their basal insulin under their doctor's consent.

If you are experiencing any of the above symptoms for more than a few days, it may be time to take a necessary precaution in order to get back to your healthy self! Remember to follow your own instinct, and if you are feeling unsafe and unwell that may be the sign you need to get outside help.

INSULIN DOSING

Insulin dosing can be one of the most overwhelming parts of managing diabetes. The complexity of the way the entire body works to produce just the right amount of insulin to break down what you are eating into energy is absolutely incredible. Much like blood sugars, insulin doses can be somewhat sporadic and change frequently. But there are a few points that are very helpful in determining your insulin needs, and with practice and determination, you will get the hang of it.

First, let's talk about some important insulin dosing terms

Rapid Acting Insulin

- Short acting insulin enters the bloodstream rapidly and begins to lower blood sugar within 20-40 minutes, but lasts over 2-4 hours.
- It is administered via injection or pump alongside a meal, or to bring a high blood sugar level down to target range (see “bolus”).
- Short acting insulin is also delivered by insulin pumps continually at low levels to maintain blood sugar control even when not eating (see “basal rate”).
- Some common brand names for short acting insulin are Novolog, Humalog, and Apidra.

Long Acting Insulin

- Long acting insulin is given by injection, once or twice a day to act as background insulin.
- Long acting insulin controls blood sugar consistently for an entire day or longer. It begins working several hours after being injected and can stay in the bloodstream up to 42 hours. How long it works can be different for different people. It may start weakening a few hours earlier for some, while it may work a few hours longer for others
- Some brand names examples of long acting insulin include Lantus, Levimer, Toujeo, Tresiba, and Basalglar.

Basal Rate

- Your body needs insulin on an ongoing basis even when you are not eating. The basal rate is the amount of insulin you receive per hour as background insulin through an insulin pump. When the basal rate or basal insulin dose is set just right, blood sugar does not go high or low when you are not eating.

- A basal rate serves the same function as long acting insulin; with a goal of maintaining stable blood sugars in the background throughout the day.
- For those using a pump, basal rates are in units per hour. Typical rates are between 0.4 u/hr and 1.6 u/hr, and most pumps provide the flexibility to set different rates on a schedule. Work with your diabetes team to determine what your basal rate is, and consult with them before making changes of your own.

Bolus

- This is a burst of short or rapid acting insulin that usually peaks within 1 to 3 hours.
- A bolus is given to offset the blood sugar rise that happens after eating or drinking carbohydrates. It is also given to help bring down a high blood sugar level into your target range.
- Use your insulin-to-carb ratios and insulin sensitivity factors as set by your diabetes team to size your boluses doses appropriately.

Insulin to Carb Ratio

- This is a formula you and your provider will determine to match the dose of insulin required needed to take in regards to the amount of carbs you eat and drink.
- For example, a 1:15 ratio indicates 1 unit of insulin is needed to cover 15 grams of carbs eaten.

Insulin Sensitivity

- This is a term to describe how the body reacts to insulin. Everyone reacts differently even if your body is making its own insulin or you have to receive insulin by shots or a pump.
- The insulin sensitivity factor is determined by you and your provider to determine how much insulin is required to safely bring your blood sugar back to a target range.
- Your sensitivity factor should tell you how much you can expect your blood sugar to drop for every unit of insulin given. For example, a sensitivity factor of 1:30 means that one unit of insulin should lower your blood sugar by 30 mg/dl after a few hours.
- If a person is sensitive to insulin it means that a smaller amount will lower the level of glucose or sugar in your blood. If a person is less sensitive to insulin, they will need more insulin in order to lower the glucose or sugar in the blood. This is called insulin resistance.

Insulin dosing terms continued

- Your insulin sensitivity can vary widely according to many factors, including time of day, amount of sleep, and recent exercise.

If you notice something isn't working, try something new (within reason, of course), and lean on your support system. While your diabetes healthcare team probably understands diabetes very well, you also know your body and what your daily life looks like. As you become more comfortable with managing your diabetes, you will learn how to (and feel confident) making small adjustments. If you think you might need a little more or less insulin at certain points of the day, making small adjustments can be very empowering. However, before making any major changes, be sure to talk to your diabetes healthcare team and get their professional advice.

“

I think that competing in sports has given me a more positive self-perception and has given me perspective on what is most important. Being able to exercise, compete, and train is a blessing. It might require more thought and planning for people with diabetes, but the opportunity to train, work, and better yourself for tangible goals is well worth it.

Lizzie Considine, Georgetown University

”

EXERCISE

Among many other benefits, exercise helps increase insulin sensitivity in people with diabetes, meaning that your body responds more readily to the insulin you are administering.

Whether or not you were an avid exerciser before you were diagnosed, be sure to work with your healthcare provider to determine the type and intensity of exercise that best suits your personal lifestyle and goals.

It is important to talk to your doctor about how exercise might affect you personally, but doing some safe trial and error (while working out with a friend), and learning from what you do is also helpful. Once you understand more of how your body reacts to various exercises, you can adjust your insulin and carb intake accordingly.

HERE ARE SOME FACTORS TO CONSIDER WHEN EXERCISING WITH T1D:

Intensity of exercise, Level of fitness,

Food consumption before and after exercising,

Time of day, Insulin timing



TIP

Try to exercise at the same time of day! Exercise can both raise and lower blood sugar, but a consistent schedule and routine can help.

A few tips and tricks you can use to help make exercising with diabetes a little easier to manage

1



Test your blood sugar before you exercise.

Make sure it is in an appropriate “before exercise” range for you. If you’re on a pump, it may be a good idea to decrease your basal rate ideally at least 30 minutes before activity. If you’re on injections, you may reduce your basal insulin before and/or after exercise. Work with your doctor to determine what is best for you.

2



Eat a small snack with carbs and proteins before exercising.

Remember, protein makes carbs break down slower, which will help keep your blood sugar stabilized during exercise. Make sure not to eat too much though; you don’t want to get sick while you’re working out. Also, if your blood sugar is high before exercise (i.e. >200 mg/dl) then you may not need to eat anything. On the other hand, you may consider eating a larger snack for a really intense and/or prolonged activity. The key is to take notice of how different activities affect your blood sugar to decide when and how many carbs are needed beforehand.

3



Keep your meter and a few low snacks close.

In case your blood sugar drops quickly and you need to check, make sure you can easily access your meter and a snack or juice in case you need to treat a low. If you're going out for a run, try using a running belt to hold your diabetes gear! If you're wearing a CGM, take note of your current glucose as well as trend arrows during exercise, which could give you an idea if you are dropping quickly.

4



Exercise with a buddy, if you can, that who knows you have diabetes.

Pick a buddy that knows what to do in an emergency. If you prefer to exercise alone, be sure to let someone know where you are going and how long you plan to be gone (at least while you are getting used to how your body reacts to different kinds of exercise). Make sure to have a medical alert ID on you, too.

5



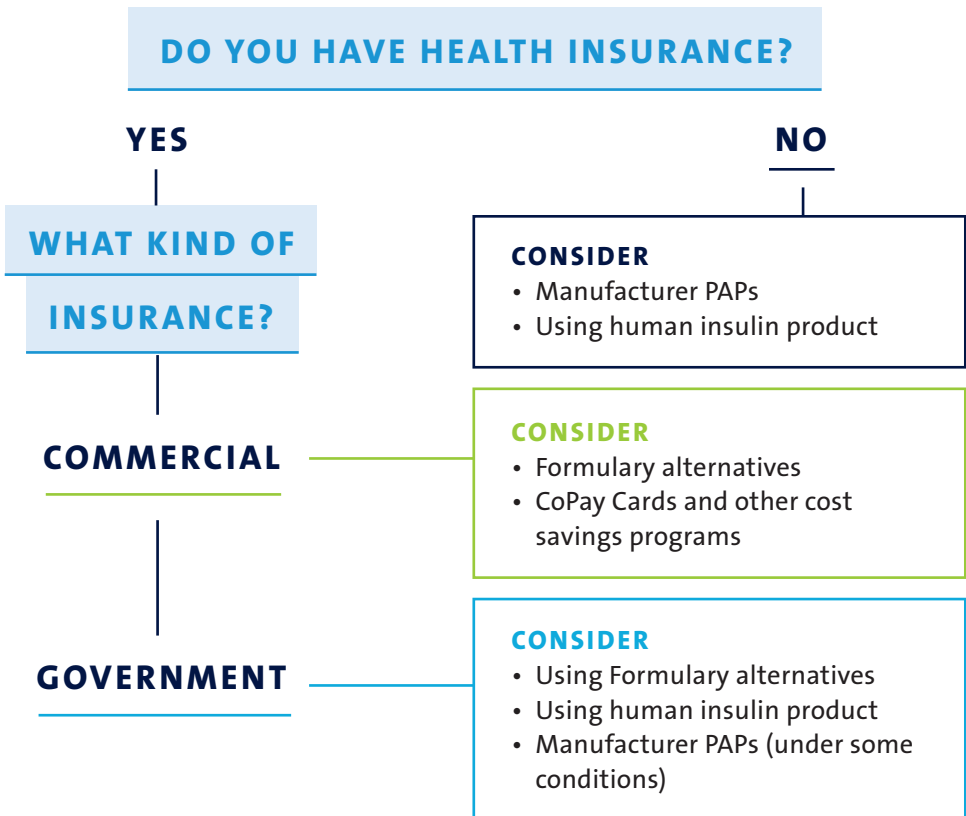
Lastly, check your blood sugar immediately after and then a few hours after you exercise to see how your body reacts.

You may also want to check during exercise, approximately 30-60 minutes into your routine. Adjust with a snack or insulin accordingly, and consider documenting what you did during your workout and how your blood sugars reacted. Almost any fitness app and some diabetes apps have places for you to add notes about your workout, which can make planning for future workouts much easier. Keep in mind that managing your blood sugars while you're exercising may involve a lot of trial and error, but you will eventually find what works for you.

Insulin Affordability—What are your options?

Diabetes is expensive. It's estimated that people with diabetes have healthcare costs totaling almost three times that of people without diagnosed diabetes. The healthcare marketplace is often confusing. People with type 1 diabetes and many people with type 2 diabetes have no choice but to take insulin to stay alive. For individuals with inadequate, or no insurance coverage, the cost of insulin can be a major burden and barrier to staying healthy.

Here are some options to consider if you find yourself in those situations:



FOR MORE INFORMATION ON INSULIN AFFORDABILITY VISIT:

collegediabetesnetwork.org/patient-assistance-programs

for links to more resources, specific manufacturer programs, and other organizations dedicated to insulin access.

Formulary Alternatives

Good for: *Individuals covered under commercial or federal insurance plans*

Many insurance plans provide preferred coverage to certain drug manufacturers over others. For example, your plan may cover fast-acting insulin in the form of Humalog, but not Novolog, or vice-versa. In most cases, going with the preferred brand on your plan's formulary (list of covered drugs) will be the most affordable and hassle-free option. However, there are some cases where that isn't acceptable based on individual needs. In this case, work with your doctor to obtain a prior authorization for the brand that you need.

Co-Pay Cards

Good for: *Individuals covered under commercial insurance*

Co-pay cards are coupons offered by drug manufacturers that cover all or some of the cost of co-pays at the pharmacy. Most co-pay cards are available for specific products, and usually individuals must already be enrolled in a commercial private insurance plan to qualify.

Patient Assistance Programs (PAPs)

Good for: *Uninsured, qualifying individuals*

Every major producer of insulin, including Eli Lilly, Novo Nordisk, Sanofi, and Mannkind, offers a PAP to aid qualifying individuals. Each have specific eligibility requirements, most often that individuals are not covered by any insurance plan, and fall within household income thresholds. If eligible, PAPs can provide prescriptions at little to no cost.

Human Insulin Products

Good for: *Uninsured individuals; people with inadequate coverage under commercial or government plans*

Older formulations of insulin (referred to as "human insulin") are usually available over-the-counter at low cost from big-box pharmacies such as Wal-Mart. These alternatives can be life-savers in an emergency, but it is important to understand that older formulations of insulin work differently than modern fast or long-acting insulin analogs, and therefore require special consideration regarding size and timing of dosing. For your own safety, talk to your doctor before using over-the-counter insulins.

I'M HAVING TROUBLE AFFORDING INSULIN. WHAT CAN I DO?

Talk to your medical care team. Your team is in the best position to help you according to your specific needs. They may have access to samples that they can provide you with until you and they can find a long-term solution.

Consider one of the options above. For more information on specific PAPs, co-pay cards, and other savings programs, visit your insulin manufacturer's website.

Rationing, diluting, or forgoing insulin is dangerous and life-threatening. There are always other options—don't give up. Reach out to your doctor, the Diabetes Online Community (DOC), or within your local community if you need help.

FINDING A HEALTHCARE TEAM

There are so many members of your diabetes healthcare team that you can work with to help better manage your diabetes. Endocrinologists, certified diabetes educators (CDEs), nutritionists, pharmacists, and mental health professionals can all play a critical role in keeping you healthy and helping you to better understand your diabetes.

Your endocrinologist is an enormous part of your diabetes team, even though you may actually only end up seeing them a few times a year, for 15–30 minutes at each appointment. They will help you determine all of your insulin ratios, answer the complex questions that others on your healthcare team may not be able to, and give you your A1c number, which estimates your average blood sugar over the last three months. Your endocrinologist will write your prescriptions for your important supplies such as insulin, test strips, and other things. They should also examine and test your body for complications from diabetes, including foot and eye health, and any scar tissue that may develop.

Here are a few key steps to find healthcare team members.

1

Start looking as soon as possible.

A good first step is to contact your health insurer and find providers near you that are in your insurer's network. You may also try contacting your local ADA (American Association of Diabetes), JDRF chapter, local representatives for your diabetes devices, or a CDN Chapter to ask for their recommendations. Deciding on one to see can take some time, and then getting an appointment is the next step.

2

Do research.

Read the bios and reviews on the websites you find. See if the doctor might be someone you would get along with well. Talk to your primary care provider, friends, and family in your area and see if they know any endocrinologists who may be accepting new patients, or if they know anything about ones you have come across in your research.

Keep in mind, negative reviews may not necessarily be indicative of the type of doctor that person is. Many people only feel compelled to leave a review when they've had a bad experience. Don't write off a doctor just because of one bad review! Some doctors are just not for everyone.

3

Once your first appointment is scheduled, it's basically like dating.

To help you determine if a health care provider is right for you, we suggest asking the provider (or their team) the following questions, and evaluating their answers, during your first appointment:

- How much time do you spend with a patient during an appointment?
- Who does the diabetes care team consist of? (CDEs, exercise physiologist, nutritionist, psychologist, social worker, etc.)
- What do you think are the most important parts of diabetes care?
- How much personal experience do you have with T1D?
- How open are you to new technologies, research, and therapies?
- Who is on call when you are not available? Are you available between scheduled appointments and can I stay in contact with you remotely?

4

Think about how you feel after your appointment is over.

Did your doctor treat you kindly? Did they encourage you to manage your blood sugars well, and give you any advice on how you can manage them even better? Did they teach you anything new and helpful with diabetes? And most importantly, did you feel safe and comfortable with them?

If you can answer yes to most of those questions, schedule another appointment. If you weren't happy with your experience at that doctor, try someone new. It can certainly be a little more effort to go through the process with a new doctor again, but it is absolutely worth it when you find a doctor who truly helps you manage your diabetes better. Your endo is also not the only important person on your care team—you may find that your CDE, dietitian, or support system can fill in the gaps where your endo may be lacking.

You should never feel unsafe, mistreated, or looked down upon by your doctor. A good doctor will never be rude or angry with you, or use bullying or fear to make you feel bad. You should never be made to feel inadequate, like a failure, or scared of your diabetes. Sometimes your doctor might have to deliver disappointing news, but they should always be supportive, constructive, and encouraging. If you are not receiving this from your doctor, move on to someone new—and fast! Seek out providers who you know you can trust and rely on to support you!

One last note regarding your diabetes care team: as knowledgeable, experienced, and helpful as they are most of the time, they are not perfect, and they don't know everything. They will not be able to answer every single question or concern you have about your diabetes. They are human and subject to error, just like us. Not to mention, unlike other diseases where a doctor is responsible for a lot of the management decisions, you're the one managing your diabetes 99.9% of the time. Be prepared to be the expert (sometimes even with your own doctor!) and don't be afraid to speak up if you think something isn't right. Be patient with them as they learn about you and your diabetes, just as you learn from them. Be sure to communicate clearly and openly about how you are doing with diabetes, including both the good and the challenging days. Talk to them about your communication and learning style, and how you think they can really help you.

THE DEXCOM G6 LETS YOU SEE YOUR LOVED ONE'S GLUCOSE NUMBERS ON YOUR SMARTPHONE.*



Smart devices sold separately*

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Brief Safety Statement: Failure to use the Dexcom G6 Continuous Glucose Monitoring System (G6) and its components according to the instructions for use provided with your device and available at <https://www.dexcom.com/safety-information> and to properly consider all indications, contraindications, warnings, precautions, and cautions in those instructions for use may result in you missing a severe hypoglycemia (low blood glucose) or hyperglycemia (high blood glucose) occurrence and/or making a treatment decision that may result in injury. If your glucose alerts and readings from the G6 do not match symptoms, use a blood glucose meter to make diabetes treatment decisions. Seek medical advice and attention when



Leeann R.,
Dexcom Warrior
with diabetes and
her mom.

SICK DAYS

Sneezing. Coughing. Aching. Exhaustion. Whatever your symptoms, getting sick happens to everyone. Usually, it comes at just the wrong time. While you might be feeling crappy, it's really important to keep an even closer watch on your diabetes management while you're sick. Here are some tips to keep in mind next time you're stuck in bed and sneezing up a storm.

SICK DAYREADY KIT



Important Tips for Sick Days

Ask someone to check in on you.

Unless you tell someone you're really sick and can't get out of bed, you can't expect them to know. Maybe you need more low supplies from the store. Maybe you need to be taken to the hospital. Maybe you won't need anything at all. Whatever the case may be, your friends won't mind checking in to make sure you're okay.

Check your blood sugar often—at least every two to three hours.

Many people have trouble controlling their blood sugar when they're sick and it's important to keep a close eye on it. Continue taking insulin. While you may need to make adjustments to your basal/bolus rates to compensate for higher or lower than normal blood sugar levels, you still need insulin.

Hydrate.

Hydration is important while sick regardless of whether you have diabetes or not, but it's especially important for you as dehydration is a risk factor for diabetic ketoacidosis (DKA).

Check for ketones.

You can still have ketones even if your blood sugar is in range.

Contact Your Healthcare Provider If You Experience Any of the Following:

- You have moderate (0.6 mmol/L) to large (1.6+ mmol/L) amounts of ketones in your blood or urine.
- Your blood sugar is not coming down despite correction doses.
- You have symptoms that might signal ketoacidosis, dehydration, or some other serious condition—your chest hurts, you're having trouble breathing, your breath smells fruity, or your lips/tongue are dry and cracked.
- You've been sick or had a fever and aren't getting better.
- You are vomiting and can't keep food down.
- Diabetic Ketoacidosis (DKA) is a serious and dangerous condition that may develop if ketone levels get too high. If you experience any of the above symptoms, contact your healthcare provider immediately or to go the nearest emergency room.

MENTAL HEALTH





While many people think of diabetes as simply a physical condition, the mental and psychological aspects of this disease are immense.

You are battling a chronic illness that impacts nearly every aspect of your life, 24/7, and with no breaks.

SUPPORT, BURNOUT AND MENTAL HEALTH

Not only is T1D physically demanding, but it can also be emotionally draining. Like any other chronic illness, maintaining mental and emotional health with T1D is important not only for your diabetes management, but also your overall health. If you ever feel like you are struggling, know that you are not alone, inadequate, or “bad” at diabetes. Diabetes is a part of your life—not who you are.

Stress, sadness, denial and anger related to diabetes is common, and there are a variety of resources that can provide guidance to help overcome these obstacles. If you feel comfortable doing so, reach out to your healthcare team about how you are feeling and ask about local resources they can support you with!

Additionally, take a look at ADA’s mental health provider directory list for a list of all mental health providers specific to diabetes within your immediate area.

If you don’t feel ready to take the step of talking to a mental health provider, here are some other resources we suggest you take a look at:

ADA’s mental health page provides basic information about diabetes distress, anger, denial, and depression.

Beyond Type One’s mental health series shares personal stories about diabetes burnout, eating disorders, stress, and anxiety related to T1D.

We are Diabetes is an organization primarily devoted to providing support, education and awareness for people with type 1 diabetes who suffer from eating disorders.

Diabulimia Helpline is the world’s first non-profit organization dedicated to support, awareness and advocacy for those struggling with diabetes and eating disorders.

Diabetes Online Community is a peer support online platform containing blogs, Facebook groups and pages, podcasts, and forums and live chats.

CDN’s Young Adult Facebook Group is a place for young adults with type 1 diabetes (T1D) to connect, ask questions, share stories, and get peer support. This is a private group for teens and young adults between the ages of 16-26 who have type 1 diabetes.

Diabetes Sisters offers a range of education and support services to help women of all ages with all types of diabetes live healthier, fuller lives.

“

Some stare but I no longer pay them any mind. If they ask questions, I always take the opportunity to educate. The more that people are exposed to diabetes, the more normalized it will be, which would result in no questions, no gawking, and no feeling uncomfortable.

”

Mykel Greene, Temple University



TELLING OTHERS

The thought of telling others that you have diabetes may not be a problem for you. Maybe you have already shared it with the vast majority of your friends and family members, and they have responded positively, but maybe telling others about your diabetes seems intimidating or awkward. No matter what, you should know that who you tell, and when you tell them, is up to you.

Telling others about your T1D is important because:

- It gives you the opportunity to educate others on a condition they did not know about, or knew very little about, before you had it.
- It gives you the opportunity to learn more about the condition as you educate them.
- It can be vital to your safety, especially in certain situations such as when you are drinking, working out, or travelling.

Tips on how and what to tell others

1 Explain the basics of T1D

- Blood sugar - why it is so important in the everyday life of T1D.
- Insulin – why you do not produce it anymore, and how you use it now.
- Carbohydrates – how they affect your blood sugars, and why it is important to count them.

2 Explain the general symptoms of high and low blood sugars, and what you would like them to do in certain situations.

- For example, if you are low, you may want them to get you a juice box or snack. Or if you are high, you may tell them that you just want to lay down and to check on you in an hour.

3 Based on the specific person and situation, you may feel more (or less) comfortable to tell them any additional information.

- How to give glucagon if needed
- How pump/injections work
- How to test a blood sugar
- Be sure to ask if they have any questions!

BUILDING A SUPPORT SYSTEM

Diabetes is not something you should handle completely on your own. You deserve to have people around you that understand, love, and care for you. Whether they are your friends or family who have already stepped up to your side when you were diagnosed, or new people in your life that you want to reach out to for support, finding a support system that you can lean on through the figurative and literal highs and lows of T1D is crucial for your mental health.

Here are some resources we recommend you check out:

If you are in college, join or start a CDN Chapter

- Search for a Chapter on our website
- Contact CDN staff to join or start a Chapter at Chapters@collegediabetesnetwork.org

Join the CDN Network as a member online:

- You can sign up for free at collegediabetesnetwork.org/signup
- CDN members receive:
 - Benefits, promotions, and giveaways from our partnering organizations and corporate members, and exclusive access to internship and job openings.
 - Notifications about clinical trials and patient advisory committees looking for participants like you.
 - Alerts on new things affecting you in the diabetes community and updates from other CDN students across the country.

Become a CDN Ambassador

- CDN Ambassadors act as a local resource for CDN Chapters and help spread awareness about CDN in their communities!

“

Support and encouragement are absolutely vital to successful management. They have helped me manage my blood sugars and achieve so much more in my life than I thought I ever would at this age.

Katelyn Warner, Ball State University

”

BURNOUT AND DEPRESSION

While on the surface, diabetes may seem to be just a physical disease, there are so many components that can impact a person's mental health and body image as well. One word you might hear come up when people talk about having diabetes is "burnout".

Everyone with diabetes goes through periods of burnout to some degree at some point in their lives. If you have, or are, going through this yourself, remember this: you are not alone, and there are tons of other T1Ds who can relate. Having burnout doesn't make you "bad" at having diabetes, nor should you feel guilty about feeling this way. The important thing to do if you are starting to feel this way is to talk to someone. To find a counselor with experience in diabetes, check out the ADA's database of T1D-knowledgeable mental health providers. To connect with other T1Ds who've been through burnout too, contact CDN or check out other diabetes communities, and don't be afraid to ask for help.



So what does burnout actually mean?

Diabetes burnout is a term for a state in which someone with diabetes grows tired of managing their condition, and as a result ignores parts of their management for a period of time.

A person with diabetes burnout will show a decrease or decline in self-care behaviors such as checking blood sugar, adjusting insulin doses or changing insulin pump sites on schedule. A person with T1D in more severe burnout may even cancel medical appointments or run out of supplies.

In addition, a person in diabetes burnout will likely also experience at least some of the following:

- Strong negative feelings about diabetes (e.g. frustration, anger, sadness, hopelessness)
- Feeling controlled by diabetes including feeling that diabetes limits them or prevents them from doing things or achieving certain goals, or is likely to do so in the future
- Frequent worry about long-term complications, but without motivation to try to prevent them and a sense that complications are inevitable
- Isolation, or feeling alone with diabetes
- A feeling that no matter how hard they try, they cannot manage their blood sugars

BODY IMAGE

Scar Tissue

With T1D comes a few other issues related to mental and emotional health. One of those is the visible scars including scar tissue that can develop from insulin injections, finger pricks, and pump injections over multiple months and years. Although modern technology has given us very small needles to help decrease the risk of scar tissue for both insulin and pump injections, scars can still develop on your skin.

One important tip for preventing scars and scar tissue is to rotate the site in which you inject—whether with a needle or a pump. Injecting in the same site over and over again will create fatty scar tissue (lipohypertrophy) under your skin much more quickly. Lipohypertrophy refers to the build up of fatty scar tissue under your skin, which can prevent the flow of insulin into and through your body. It can also cause the cannula on your pump to bend or kink, preventing the insulin from moving through it properly. If it becomes too severe, some people with diabetes have found that a plastic surgeon can help. If you find you are having challenges with this, chat with your doctor to get their advice on products and the steps they suggest you take.

Weight

Another challenging aspect of managing diabetes is fluctuations in weight. Many people experience undesired weight gain, or lose weight that is difficult to gain back. Just like in people without T1D, many factors affect body weight in a person with diabetes, including insulin, diet, exercise, and stress. Importantly, each of these factors can affect individuals differently. If you find yourself unhappy with your body weight or body image, it's important to talk to your doctor before attempting to change any aspect of your diabetes management routine in a significant way. They can help you address your concerns in a way that is safe and that will help you achieve your goals.



“

The struggles of a chronic illness don't really go away, but having an outlet or a community like CDN has brought valuable opportunities, and helped me overcome some of the challenges. So, from my experiences with diabetes, mental health, and CDN, I encourage anyone living with a chronic illness or difficult situation to find your outlet, whatever that may be.

”

Sabrina Bhandari, University of California-Riverside

DIABETES IN THE WORLD





Being an adult is hard. Although it can be fun, there are also many practical aspects of it that are challenging, and diabetes doesn't make them any easier.

Things like medical insurance, traveling, and the working world are complicated by diabetes, but not made impossible, especially if you have a few tips and tricks up your sleeve.

THE WORKING WORLD

If you aren't part of the "working world" yet, it may seem very intimidating, or it can be very exciting! Many times it is a little of both. You may have questions about how to deal with diabetes in a work environment, or wondering how diabetes may affect your professional career.



Are you interested in learning more about:
Workplace rights, Preparing to enter the workplace,
On the job tips, Navigating insurance,
or Financial planning?

Download CDN's Off to Work guide for an entire resource dedicated to everything you need to know about 'adulthood' with T1D!

TRAVELING WITH DIABETES

1 Create your plan.

Have an idea of what you will be doing and where you will be going throughout your trip. Will you be hiking the Appalachian Mountains for a few weeks, or relaxing on a beach in Mexico for a few days? Whatever it may be, planning for things like keeping insulin cool, having access to low snacks, and also getting plenty of rest are important when you are traveling.

2 Have your supplies ready.

As you probably have already realized, there is a lot of “stuff” associated with diabetes. Test strips, your meter, insulin, syringes, alcohol wipes, needles, pump supplies, batteries, low snacks, lancets, and ketone test strips. Before you leave, make a list of all of the supplies you would normally use during the time frame for which you will be traveling. Then, triple it. Tripling the number of supplies you need usually gives you plenty in case of an emergency.

Once you have your list of supplies, make sure you have an organized way to pack them for your travel. Remember that your supplies should always be packed in your carry-on luggage if you are flying. Pro-tip: If you’re looking for a way to keep your insulin cool on the flight or while traveling, Frio packs or an insulated lunch box can be a lifesaver!

3 Talk with your doctor.

Before traveling, especially out of the country, your doctor and diabetes educator can play a key role in helping you prepare.

Here are a few ways your doctor can help in preparation:

- They can provide you with necessary documentation and resources
- They may be able to work with your insurance company to prescribe extra supplies (commonly referred to as a vacation override)
- They can help with adjustments you may need to any basals/boluses based on times zones, changing levels of activity, different environments, etc.
- They can help you plan ahead and think through any additional details you may not have considered

4 Get a medical ID.

If you don't already have a medical ID, you should consider getting one before you embark on your adventure. No matter how big or small it may seem to you, a medical ID can be critical in an emergency.

5 Expect the unexpected.

When you travel anywhere, sometimes even just down the street, anything can happen. Your blood sugar will probably be irregular while travelling, and when you first arrive you will probably be eating different foods at different times than your body is used to. There may be a significant time change where you're traveling, so getting enough sleep may be difficult at first and you may need to adjust the settings on your pump or timing of dosing for long acting insulin. It's a good idea to plan ahead in these types of situations, and talk with your doctor about how to handle them.

6 Have the time of your life!



TIP

Check out our YouTube Channel for videos from others who were diagnosed as young adults. Hear their advice on everything from telling friends about T1D to dating to figuring out carb counting.

<https://www.youtube.com/CollegediabetesnetworkOrg>



TRAVEL TIPS

If you are on an insulin pump, it is also a good idea to have backup insulin pens or syringes, including a long-acting/basal insulin just in case.

If you're traveling abroad, make sure the medical ID also includes the language of the country or countries you are traveling in!

If you are in a non-English speaking country, bring an index card and write "I have diabetes, I need sugar" or "I have diabetes, I need help" in the local language and keep it in your pocket. This can help you get the help you need in case of an emergency.

What happens if you run out of insulin in another country? In the United States, your doctor can call in a prescription, but outside of the country your prescriptions won't be valid. If you are in need of emergency insulin, the best thing to do is go to a pharmacy. They can send you to a local doctor for a prescription if they can't just sell you insulin. If you're on a pump, be prepared to go back to injections if needed.

Want to Meet Other T1D's on Campus? Start a CDN Chapter!

CDN national will work with you to start a CDN Chapter on your campus. A CDN staff member will walk you through the entire process, from working with your school to become an official organization, to recruiting members, to holding meetings. You will also be sent awesome CDN swag and provided funds each semester.

By leading a CDN Chapter, not only will you meet other T1Ds at your school, but you will also join a great group of T1D leaders and advocates across the country. CDN provides networking, training, and career development opportunities just for Chapter leaders as well.

WANT TO GET STARTED? VISIT:
collegediabetesnetwork.org/start-chapter



COLLEGE DIABETES NETWORK

on your own but not alone™



TOUCHY TOPICS

TOUCHY TOPICS



DATING AND DIABETES

Relationships

Dating can be awkward at any age and stage of life, whether you're still in high school or you've been out in the workforce for a few years. Maybe you were already dating someone when you were diagnosed, or maybe you were in the process of trying to begin a relationship with someone when you were diagnosed. Maybe you weren't in a relationship, and you aren't looking to be in one. Wherever you're at, know that many of the points we will share can apply now, or may apply in the future.

The person you date may be completely comfortable with diabetes and have no issues with it, but it is likely that they will not know a lot about it, and may even be uncomfortable at first. Above all else: if someone doesn't want to date you because you have diabetes, you probably don't want to date them anyway. How someone reacts to your diabetes can be a key indicator as to whether they are the right one for you. A good partner will care about you and your health, and support you in whatever life might throw at you.

If you begin dating someone new, how you tell them about diabetes is up to you, but it is a good idea to tell them sooner rather than later. Many people have found that being upfront and honest, even in one of the first interactions or dates, and keeping it casual, can be helpful (Heifner, 2016). Something as simple as pulling out your testing kit during a date can be a good icebreaker. If you are calm and don't make it a big deal, it's likely that they won't either.

If you were already dating someone or were even married when you were diagnosed, make sure to include your significant other in the learning process you are going through. Remember that not everyone will be as forthcoming in asking questions or learning more about diabetes because they want to respect you and your personal space. If you want them to learn, invite them to ask questions about what you are going through as you are experiencing it. Help them understand what a high or low blood sugar feels like and what the symptoms are, and how they can help you in those times.

Sex

Whether you are having sex with your significant other now or not, it's helpful to know how to navigate that step in the relationship while living with diabetes. Keep in mind, sex is a form of exercise, in which case your blood sugars are likely to drop. Make sure you have fast-acting sugar within arm's reach, and communicate with your partner on how you are feeling and what you need.

Another thing to consider is what to do with your pump. Some pumps come with longer tubing options, in which case you may choose to keep your pump on next to you on the bed. You may also choose to detach your pump while having sex, but don't forget to put it back on afterwards!



“

Don't be embarrassed by your T1D—own it! Honesty and confidence about your condition will make dating with diabetes so much easier. Being honest about diabetes early on and giving tips on how your love interest can help you manage your disease is the easiest way to do it. If someone is off put by you giving yourself injections, checking your sugar, or stuffing your face with fruit snacks at 2 a.m. then they are not a keeper—trust me.

Maddie Maloney, Seattle University

”

ALCOHOL AND DIABETES

Like we discussed earlier, almost anything and everything affects your blood sugar—including alcohol. Drinks with lots of sugar in them will certainly affect your blood sugar, but nothing will do so quite like alcohol. Not only do most alcoholic drinks have lots of carbs in them, but alcohol itself can affect your blood sugar in complicated ways. But yes, you can drink with diabetes safely if you choose to do so!

Keep these things in mind when you drink:

Keep a close eye on your blood sugar.

Be sure to check your blood sugar before, during, and after you drink alcohol. The carbs in alcohol may spike your blood sugar at first, but the alcohol poses a risk of dropping your blood sugar a few hours after drinking, so it is vital that you check your blood sugar more often when you are drinking (Beyond Type 1, 2016b).

When you drink, your liver has to focus on processing the alcohol rather than its usual job of releasing glucose stores (i.e. glycogen), which normally helps keep your blood sugar stable. Thus, your blood sugar can drop in the absence of glucose release from the liver when you are drinking. So don't forget to have extra snacks with you in case you go low, and make sure to check your blood sugar often.

Have someone near you who knows you have diabetes.

Low blood sugar symptoms can look a lot like being tipsy or drunk, so it is important to have someone that can recognize your symptoms, and is willing to help you check your glucose just to be sure.

Eat before, during and possibly after drinking.

Drinking alcohol on an empty stomach not only can make you drunker faster, but for people with diabetes, it also means it can drop your blood sugar lower and faster (Beyond Type 1, 2016b).

Be Cautious.

You probably already know that some alcoholic drinks can have crazy amounts of sugar in them. So how do you drink and bolus, or not bolus for it? Many doctors will advise that you not bolus for alcoholic drinks, or maybe give less insulin than usual, and if you feel comfortable talking to your doctor about alcohol, you should.

“

The thing to keep in mind about alcohol is that it is pretty unpredictable. It can vary in outcomes based on many different factors. The most concerning part about drinking for people with type 1 diabetes are the overnight lows. Though I've had my fair share of miscalculations and faults, I always try to err on the side of caution.

Anonymous CDN Student

”

If there is a specific drink that you like, and it happens to have quite a bit of sugar, try it out in a safe environment, or see if there is a lower sugar alternative. See how your favorite drink affects your blood sugar at home or with close friends or family. Keep in mind also, that many mixed drinks can be made with diet or sugar-free options to prevent a blood sugar spike.

Glucagon will not work effectively if you have been drinking alcohol!

This is extremely important to keep in mind as you manage your blood sugar. If your blood sugar drops low very quickly, Glucagon will not be able to bring it up effectively if you have been drinking. You should always have glucose tabs, juice, honey, or another quick-acting low-snack on you. (Beyond Type 1, 2016c).

You probably know that some drugs, like marijuana in particular, also can give you the munchies. It is easy to eat quite a few carbs without realizing it, so it may be a good idea to give yourself a small “pre-bolus” before you get the munchies, and then more insulin later if you know you've eaten more.

WOMEN'S HEALTH

Unexpected blood sugar spikes when you start your period, frustrating yeast infections when your blood sugars are high, or super long and painful periods—these are all pretty normal problems for a woman with diabetes.

Periods

Let's chat about periods for a bit. Commonly, blood sugars will spike a few days before your period begins. Sometimes it is one or two days, and sometimes it is four, depending on many different factors. You can anticipate and prepare for it by:

Having a period tracker app on your phone

- This helps keep track of when your last period was, when to expect your next period, and understanding how long your cycle is
- Taking notes on certain days to remember how your blood sugar reacted and see how it relates to your period

As you may find that your blood sugar spikes at the beginning of your cycle, you could also find that it drops lower when your period actually starts. Keeping a close eye on your blood sugars and recording what they do in relation to your period is key to understanding trends and preparing to handle them as mother nature runs its course. Once you know your body's typical patterns, you can ask your doctor to work with you to develop plans for days when you expect to run high or low - adjusting your basal rates, long-acting insulin dose, and sensitivity ratios are all tools at your disposal.

Sex

Over time, persistent high blood sugars can cause damage to blood vessels, and female erectile tissue is packed with blood vessels. Women have erectile tissue and need blood flow to these areas just like men do in order to comfortably have intercourse.

Some of the ways this might manifest include vaginal dryness, pain or discomfort during sex, decreased sex drive, difficulty becoming aroused, or difficulty in reaching orgasm. Don't be afraid to use lubrication if you need it, and talk to your doctor or OB/GYN if you find you are experiencing any of these issues.

Yeast Infections

Yeast infections are another one of the frustrating areas of health that many women with diabetes have to deal with. A healthy vagina should have some yeast present, but a yeast infection can develop when your blood sugar levels are running higher than normal. When you have a high blood sugar, your kidneys flush out excess sugar through urination, which yeast feed on. Usually this can be addressed through over-the-counter medication. However, if you have reoccurring or severe yeast infections, you should talk with your doctor about what you are experiencing, and ask if there are any other options to treat it.

Birth Control

Birth control is another one of those topics that can be a little awkward to discuss with your doctor, and especially your parents if you need to talk with them about it. If you have already tried to do a quick search on the internet for more information, it may have come up short. There isn't a whole lot of information out there on how birth control can affect diabetes, mainly because it varies so widely from person to person. For the pill in particular, some women claim that they have to increase their insulin dosing significantly, while others say that their blood sugars are not affected at all (Beyond Type 1, 2016a).

There are also other forms of birth control, like IUDs (interuterine device), birth control implants (such as Implanon) and the ring. Start by talking with your doctor to find out what they recommend for you.

Regardless of what you choose, keep in mind that a reliable birth control method is incredibly important for anyone who may become pregnant, but particularly for someone with diabetes. Even though this may seem far off in the future, at some point in your life, you may want to get pregnant. Just in case someone has told you otherwise – you can absolutely have a safe and healthy pregnancy with diabetes. It's important to plan well ahead before you get pregnant so that you can have good control over your blood sugar, and a low A1c (usually 6.5% or less) in the three to six months prior to conceiving, and around 6% or lower during pregnancy).

In addition to making sure your body is healthy before pregnancy, you should talk with all of your doctors—endocrinologist, physician, OB/GYN, dietician, and even ophthalmologist—to make them aware that you are planning on becoming pregnant, and discuss anything that they might suggest you do to prepare. Decide where you'll deliver your baby, and make sure you understand how your labor and delivery will operate there. Although births traditionally happen in a hospital, home births and other types of birthing environments are on the rise. Just as importantly, though, you should reach out to other mothers with T1D to provide you with stories, wisdom, and tricks for the before, during, and after of pregnancy.

MEN'S HEALTH

While more frequently found in older men with diabetes, men have specific concerns related to diabetes that are helpful to know about at any age.

Erectile dysfunction

Erectile dysfunction (ED) is simply the inability to get and/or keep an erection before or during sex. It is important to know that ED can be caused by a multitude of issues, related or unrelated to diabetes. Just like with other parts of the body, if blood sugars are not kept in range over long periods of time, blood vessels in the penis can be damaged, which can cause ED. However, other issues like depression, anxiety, smoking, obesity, and certain types of medications have all been known to cause ED.

So, diabetes should not necessarily be blamed as the first culprit of the issue. If you are experiencing ED, talking to your doctor will help you figure out what the true cause is, and how to solve it (American Diabetes Association, 2014c). Lots of men struggle with ED at some point in their lives! It's often treatable with either medication or other options.

Low Testosterone Levels

Experiencing lower testosterone levels means exactly what it sounds like: men with diabetes are at a higher risk for having lower testosterone levels than men without diabetes. Insulin is a hormone, just like testosterone, and because people with diabetes have more difficulty keeping "normal" insulin levels, other hormone levels can also be thrown off. However, this issue is more often associated with insulin resistance and poor health in other aspects, not just in diabetes. As with any of these issues, if you suspect that you may be experiencing lower testosterone levels, sex drive, or other issues that men with diabetes can sometimes face, talk to your doctor about it.

Thrush

Thrush is a yeast infection that can affect men, and may be more of an issue for men with diabetes due to high blood sugar levels. Symptoms of oral thrush include white patches in the mouth (cheeks, lips, tongues, or back of the mouth), bitter taste, redness and/or bleeding. Symptoms of penile thrush include inflammation of the head of the penis and pain during urination and sex. Non-diabetes factors, such as antibiotics and asthma inhalers can also increase the risk for developing thrush—

luckily, over-the-counter medicines can be used to treat it. If symptoms of thrush do arise, you should consult your physician or endocrinologist right away.

Retrograde Ejaculation

Another issue that can come up in men with diabetes who have very high blood sugars and A1c's over several years is called retrograde ejaculation. In simple terms, this is the process in which semen attempts to ejaculate through the penis, but instead goes into the bladder and out through urine. Although this is not harmful to the bladder or urine, it can be generally uncomfortable, and cause infertility issues for men who are trying to conceive a child (National Institute of Diabetes and Digestive and Kidney Diseases, 2008). If you believe you are experiencing this, it can be treated relatively simply by talking with your doctor and deciding on a medication that would work best for you.

Self Esteem

As often as self-esteem is talked about as a women's issue, men experience issues with it as well. Diabetes can add a layer of complication to self-esteem and issues regarding performance. Diabetes impacts not only exercise and sex, but also attitude towards blood sugars and ego. These are all issues that men face, and are compounded by the presence of diabetes. Even though most men are driven to perform successfully, sometimes we must acknowledge that complications due to diabetes are beyond our control.

If your blood sugar numbers are out of range, your performance in any facet of life may suffer. Over time, this can impact self-esteem. A good thing to remember is that all men, with or without diabetes, can experience these issues from time to time, and there are a ton of ways to treat them.

Sex

Out-of-range blood sugar levels can affect performance in other areas as well. Men are often expected to perform a certain way in the bedroom. Society, friends, and even individuals can place an immense amount of pressure to perform "well" in bed. When you experience a low blood sugar during sex, temporarily stopping to correct can be frustrating. This situation can contribute to a negative self-esteem.

CONCLUSION

While getting diagnosed with T1D is never easy, we hope that this guide made it just a little bit easier.

There are a million other places you can turn to for more information on any of these topics (and others!), so don't let this be the end of what will be a lifetime of learning new things about your own personal diabetes, tips and tricks for making life easier with diabetes, and all the leaps and bounds being made in diabetes research, technology, treatment, and management. Not sure where to turn? We got you—email CDN at info@collegediabetesnetwork.org for any and every question you might have and we'll point you in the right direction. If nothing else, one of the most positive things about diabetes is you've just gained a community full of some of the strongest, most resilient, and capable people you'll ever meet (not that we're biased or anything). Welcome!

How to Get Involved

There is a ton of research being done into not just a cure for diabetes, but better management tools, understanding what causes or triggers diabetes, and more. Progress is being made every day, and life with diabetes will only get better from here. If you are interested, you can get involved to have a direct impact on the research and advancements being made every day. Researchers are working hard to develop new drugs, technologies, and yes, even that elusive cure. They need people like you to help them get there! Not only do you get to be directly involved in some of the latest research and advancements in the field, but hey, you may even get paid. To find research opportunities, check out [Glu](#), [Antidote](#), [TrialNet](#), or [ClinicalTrials.gov](#), ask your endocrinologist, or see if there are any opportunities through local colleges, universities, or hospitals in your area!



Stay in Touch With CDN!

If you are in college, join or start a CDN Chapter

- ▶ Search for a Chapter on our website
- ▶ Contact CDN staff to join or start a Chapter at Chapters@collegediabetesnetwork.org

Become a CDN member

(you do NOT have to be a college student to join CDN's membership – all alumni, young professionals, and newly diagnosed T1Ds are welcome to join).

- ▶ You can sign up online for free at collegediabetesnetwork.org/signup (and you don't need to be a part of a Chapter to take advantage of these benefits).

CDN student members receive:

- ▶ Benefits, promotions, and giveaways from our partnering organizations and corporate members, and exclusive access to internship and job openings.
- ▶ Notifications about clinical trials and patient advisory committees looking for participants like you.
- ▶ Alerts on new things affecting you in the diabetes community and updates from other CDN members across the country.

Become a CDN Ambassador

- ▶ CDN Ambassadors act as a local resource for CDN Chapters to provide support, assistance, and a friendly face
- ▶ Join CDN's Young Adults with T1D Facebook Group

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REFERENCES

- Abma, R. K. (2015).** Blood sugar monitoring: When to check and why. Retrieved from <http://www.diabetesselfmanagement.com/managing-diabetes/bloodglucose-management/blood-glucose-monitoring-when-to-check-and-why/>
- American Diabetes Association. (2014a).** Drivers license laws by state. Retrieved from <http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/drivers-licenses/drivers-license-laws-by-state.html>
- American Diabetes Association. (2014b).** Employment examinations. Retrieved from <http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/employment-examinations.html>
- American Diabetes Association. (2014c).** Erectile dysfunction. Retrieved from <http://www.diabetes.org/living-with-diabetes/treatment-and-care/men/erectile-dysfunction.html>
- American Diabetes Association. (2014d).** Your rights on the job. Retrieved from <http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/employment-discrimination/your-rights-on-the-job.html>
- American Diabetes Association. (2015a).** Factors affecting blood glucose. Retrieved from <http://www.diabetes.org/living-with-diabetes/treatmentand-care/blood-glucose-control/factors-affecting-blood-glucose.html?referrer=https://www.google.com/>
- American Diabetes Association. (2015b).** Low testosterone. Retrieved from www.diabetes.org/living-with-diabetes/treatment-and-care/men/lowtestosterone.html
- American Diabetes Association. (2015c).** Hypoglycemia (Low Blood Glucose). Retrieved from <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/hypoglycemia-low-blood.html>
- American Diabetes Association. (2016a).** Know your rights. Retrieved from <http://www.diabetes.org/living-with-diabetes/know-your-rights/discrimination/lawenforcement/know-your-rights.html>
- American Diabetes Association. (2016b).** Section 504 of the Rehabilitation Act of 1973. Retrieved from <http://www.diabetes.org/living-with-diabetes/parents-andkids/diabetes-care-at-school/legal-protections/section-504.html>
- Arbiter, B. (2017).** Flying with T1D. Retrieved from <https://drive.google.com/open?id=1M7ne1q-HE6zgGhCOpFbGld7bu2M8QzCJ>
- Baldwin, C. (2016).** Roll with it: Sex and T1. Retrieved from <https://beyondtype1.org/roll-with-it-sex-and-t1/>
- Beyond Type 1. (2016a).** Birth control and Type 1. Retrieved from <https://beyondtype1.org/birth-control-type-1/>

CONCLUSION ► References

Beyond Type 1. (2016b). Booze guide. Retrieved from <https://beyondtype1.org/booze-guide/>

Beyond Type 1. (2016c). How to Test Blood Sugar. Retrieved from <https://beyondtype1.org/how-to-test-blood-sugar/>

Beyond Type 1. (2016d). Marijuana and Type 1. Retrieved from <https://beyondtype1.org/marijuana-and-type-1-diabetes/>

Beyond Type 1. (2016e). Sex and Type 1 Diabetes. Retrieved from <https://beyondtype1.org/sex-and-type-1-diabetes/>

Brown, A. (2014). How many factors actually affect blood glucose? Retrieved from <https://diatribe.org/issues/68/adams-corner>

Control. (n.d.). Dictionary.com Unabridged. Retrieved from <http://www.dictionary.com/browse/control>

Cox, D.J., Kovatchev, B.P., Gonder-Frederick, L.A., Summers, K.H., McCall, A., Grimm, K.J., & Clarke, W.L. (2005). Between Hyperglycemia and Cognitive Performance Among Adults With Type 1 and Type 2 Diabetes. *Diabetes Care* 28(1), 71–77. <https://doi.org/10.2337/diacare.28.1.71>

Diabetes.co.uk. (2017). Honeymoon Phase. Retrieved from <http://www.diabetes.co.uk/blood-glucose/honeymoon-phase.html>

Diabetic Connect. (2017). Your Menstrual Cycle and Blood Sugar Levels. Retrieved from <http://www.diabeticconnect.com/diabetes-information-articles/general/335-the-facts-about-menstrual-cycles-and-blood-sugar-levels>

Franz, M.J. (1997). Protein: metabolism and effect on blood glucose levels [Abstract]. *The Diabetes Educator* 23(6), 643–46. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/9416027>

Gelman, L. (n.d.) 8 Sneaky things that raise your blood sugar levels. Retrieved from <http://www.rd.com/health/conditions/blood-sugar-levels/>

Gilles, G. (2016). Basal and bolus insulin. Retrieved from <https://www.verywell.com/basal-and-bolus-insulin-3289548>

Heifner, M. (2016). Dating and diabetes. Retrieved from <https://beyondtype1.org/dating-and-diabetes/>

Joslin Diabetes Center. (2017). Genetics & Diabetes: What's Your Risk? Retrieved from http://www.joslin.org/info/genetics_and_diabetes.html

Mandal, A. (2014). What is an endocrinologist? Retrieved from <http://www.newsmedical.net/health/What-is-an-Endocrinologist.aspx>

McKoy, K. (2009). Sexual Issues and Type 1 Diabetes. Retrieved from <http://www.everydayhealth.com/type-1-diabetes/type-1-diabetes-sexual-issues.aspx>

National Institute of Diabetes and Digestive and Kidney Diseases. (2008). Diabetes & sexual & urologic problems. Retrieved from <https://www.niddk.nih.gov/healthinformation/diabetes/preventing-diabetes-problems/sexual-urologic-problems>

Neithercott, T. (2010). A guide to pregnancy with diabetes. Retrieved from <http://www.diabetesforecast.org/2010/aug/a-guide-to-pregnancy-with-diabetes.html?referrer=https%3A%2F%2Fwww.google.com%2F>

Pezalla, E. (2016). DPAC Ask An Expert: Dr. Edmund Pezalla, MD, MPH—Diabetes & Commercial Health Plans—What You Should Know. [Video webinar]. Retrieved from <https://attendee.gotowebinar.com/recording/viewRecording/3435306810597402372/3202312600555066882/knwarner@bsu.edu>

Rosenthal, J.M., Amiel, S.A., Yaguez, L., Bullmore, E., Hopkins, D., Evans, M., Williams, S. C.R. (2001). The Effect of Acute Hypoglycemia on Brain Function and Activation. *Diabetes Journal*, 50(7), 1618–1626. <https://doi.org/10.2337/diabetes.50.7.1618>

Szalay, J. (2017). What are Carbohydrates? Retrieved from <https://www.livescience.com/51976-carbohydrates.html>

Tenderich, A. (2008). 10 Little-Known Facts About Your Immune System. Retrieved from <http://www.healthline.com/diabetesmine/10-little-known#1>

US Food and Drug Administration. (2017). What is the pancreas? What is an artificial pancreas device system? Retrieved from <https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/ConsumerProducts/ArtificialPancreas/ucm259548.html>



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