

MY LIFE, MY DIABETES, MY WAY

GET HELP NAVIGATING YOUR COURSE

Exploring Your Teenage Years With Type 1 Diabetes



PLEASE CONSULT YOUR HEALTH CARE PROFESSIONAL IF YOU HAVE ANY
QUESTIONS ABOUT YOUR HEALTH OR TREATMENT.

MESSAGE FROM NOVO NORDISK

Novo Nordisk is proud to be able to offer you this book as part of the **"My Life, My Diabetes, My Way"** series that we have developed in partnership with JDRF - the leading global organization funding T1D research. These books were developed as a resource for people who have been touched by type 1 diabetes. Maybe you just got your diagnosis. Or, perhaps you or a family member has been managing it for years. Wherever you are on your diabetes journey, Novo Nordisk is here to help. This is why we have partnered with JDRF to create a unique book series tailored to various ages and stages of life from children to young adults with type 1 diabetes – and the people who care for them. Because we know that every age brings new and unique challenges, we have designed these books to grow with you on your diabetes journey.

Who are we? Novo Nordisk is a global health care company with more than 90 years of innovation and leadership in diabetes care. In 1923, one of our three Danish founders, August Krogh, touched by his wife Marie's struggle with diabetes, began a journey to change diabetes. We will continue to build on the legacy left by the founders of Novo Nordisk and do whatever it takes to support people with diabetes. It is this commitment which has led us to develop this book series.

We hope that the books will be helpful to you in your diabetes journey. Additional support is available online at type1.cornerstones4care.com.



Jesper Høiland
President,
Novo Nordisk
USA

MESSAGE FROM JDRF



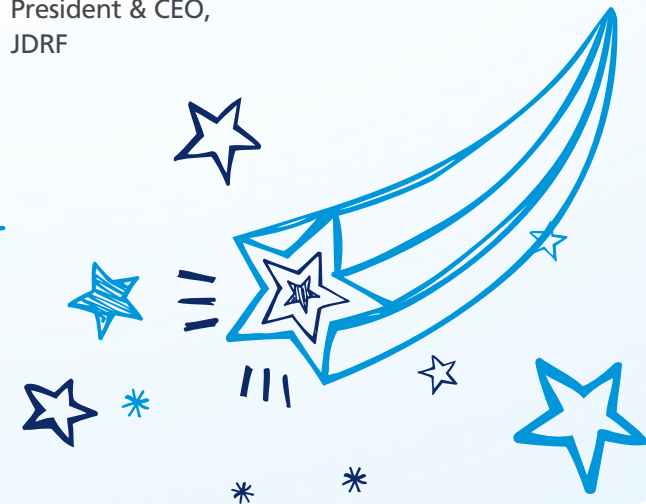
Type 1 diabetes (T1D) is a challenging disease. It demands nearly constant attention and never takes a day off. People of all ages, from newly-diagnosed children to adults who have lived with T1D for decades deserve the tools and resources to help them live with T1D. Together with Novo Nordisk, we've created these books to be such a resource for anyone who needs it.

Since 1970, JDRF has been working tirelessly to realize our vision of a world without T1D, and we have been fighting for countless families and individuals affected by the disease. As the leading charitable funder of T1D research, we won't stop until we achieve our mission of accelerating life-changing breakthroughs to cure, prevent and treat T1D and its complications.

For many years, Novo Nordisk has been a trusted ally and partner in the fight against T1D. JDRF is very grateful that Novo Nordisk shares our commitment to support everyone with T1D, and we are looking forward to seeing the positive impact these books have for anyone affected by T1D until we find a cure.



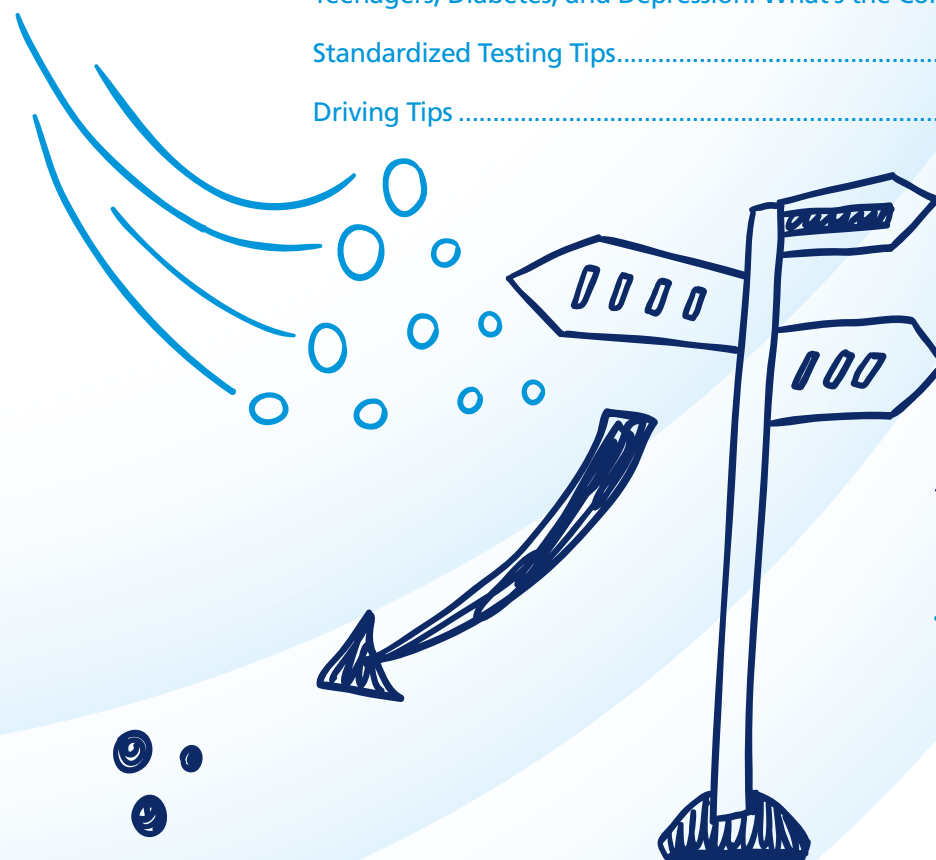
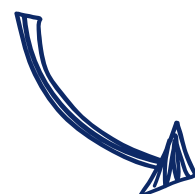
Derek Rapp
President & CEO,
JDRF



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A collage of blue line-art illustrations on a light blue background. The illustrations include a curved arrow, a small star, a large star with a trail, a stylized 'YO!' text, an open book with radiating lines, and three small circles. The bottom edge shows the tops of several people's heads.

As you've probably noticed, your teenage years are a time when lots of things are changing. And you've got some exciting times ahead of you, getting through high school, learning to drive, and becoming more and more independent. Some of the changes you are going through may be physical. Others are more emotional. And you may not realize it, but these changes can also have a real impact on your diabetes care. With all of this in mind, the goals of this booklet are to help you:

- There is support and guidance available whenever you need it, both in this booklet and online at type1.cornerstones4care.com. Here are two great online resources to help get you started:

- This booklet should not replace the advice of your diabetes care team. Be sure to keep working with your diabetes care team and ask them any questions you may have.



Skip to page 9.

Newly Diagnosed? Start Here!



- ★ There is probably never a “good time” to be diagnosed with type 1 diabetes. But getting diagnosed with diabetes as a teenager can be especially rough, because you’ve already got a lot going on. You’ll probably need more help than you’d like from your parents (or other caregivers) at a time when you may have just started to enjoy greater freedom and independence
- ★ Realize that you are not alone in this. Each year, thousands of people in the United States younger than 20 years of age are diagnosed with type 1 diabetes. It may be helpful to ask your doctor about how to find local diabetes support groups where you can meet others with type 1 diabetes. Why? Because it can help to be able to talk to people who have experienced what you are going through. One great way to do this is to go to a **JDRF TypeOneNation Summit** in your area. These day-long diabetes conferences incorporate fun, learning, and opportunities to meet others your own age living with type 1 diabetes. These and other events are offered through JDRF (jdrf.org). Other organizations that offer support are the American Diabetes Association (diabetes.org) and Children with Diabetes (CWD) (childrenwithdiabetes.com)
- ★ Remember to take it easy on yourself if it takes you a while to get familiar with everything you need to do. Things like taking insulin, counting carbohydrates when you eat, and checking your blood sugar may seem strange at first, but you will get more used to doing them over time. And make sure that as you learn, you also teach your parents, caregivers, and other important people in your life—you may need or want their help sometimes, and you’ll definitely want them to understand what you are dealing with. Your diabetes care team will be there for you, too. Novo Nordisk has type 1 diabetes resources available online 24/7 at type1.cornerstones4care.com



Been Dealing With Diabetes for A While? Start Here!

- ★ If you’ve had type 1 diabetes for a while, then you probably have most of the diabetes basics down. However, now is a time when you may be taking a greater role in your diabetes self-management. Of course, taking more responsibility for your own diabetes care can be intimidating, even if you’ve had type 1 diabetes for most of your life. In the past, your parents or other caregivers may have helped you manage your diabetes. They may still be a big help, but increasingly it’s becoming your responsibility to take the lead in your care
- ★ Depending on how much you’ve relied on them in the past, that may be a small step forward or a big leap into uncharted territory. But either way, you can do it. You just have to make sure that you do pay attention to your own care. This is important because a medical study has shown that blood sugar is often not as well controlled during the teen years as it is during childhood, or even later on during adulthood
- ★ Getting used to taking over more of your own diabetes care isn’t always easy. But you can do it! And if you find that you’ve taken on too much, you only need to talk to your parents or other caregivers and ask for help. Your diabetes care team will be there for you, too. Information from Novo Nordisk is available online 24/7 at type1.cornerstones4care.com. You can also find diabetes support groups and events in your area through JDRF (jdrf.org), American Diabetes Association (diabetes.org), and Children with Diabetes (CWD) (childrenwithdiabetes.com)



LIFE CHANGES FAST, YOUR DIABETES CARE NEEDS TO KEEP UP!

You are probably going to notice a lot of changes when you look in the mirror during your teen years. As a young person with type 1 diabetes, you may find that not only will you have the normal changes in growth and body development someone your age experiences (puberty), but your diabetes can change as well. You may be working very hard to keep your blood sugar under control, but the hormonal changes during puberty and your teen years can make controlling your blood sugar difficult.

This can be a confusing time. You're probably growing. You may get hungrier than usual. And your body is changing in ways that are not within your control. This is all normal. But between increased appetite and the hormonal changes, your blood sugar may be higher than usual during this time, and you may need more insulin than you did before. For instance, hormones made by your body that help bones and muscles grow can change the amount of insulin you need to take. But stick with your plan and keep taking your insulin as your diabetes care team recommends and discuss any concerns you have with them. Remember, you have a lot of hormones at work in your body at this time, so you may find that it is a little tougher to keep your blood sugar under control.

*Need to know more about
setting your blood sugar goals?*



*Take a look
at page 38!*

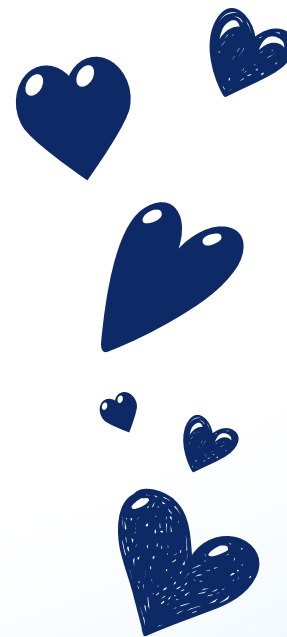


Your Changing Role in Your Diabetes Care

If you are newly diagnosed with type 1 diabetes, then you may still be navigating who does what in taking care of your diabetes. You may be old enough that your parents or other caregivers have taken on a supporting role in your diabetes care, but you're mostly in charge. Or maybe you are still young enough that you can't (and shouldn't) have so much responsibility, which is understandable. And you don't need to take a go-it-alone attitude. Many people with type 1 diabetes do rely on their family and friends to help them. It may sound corny, but having the support of family and friends can help you to successfully manage your diabetes.

You may already take care of your own diabetes for most of your day without realizing it. While you may have some help from the school nurse and other adults, it's really all on you when you're at school. And with after-school activities and sports in middle school and high school, it can easily add up to as much as half of most of your weekdays!

Research has shown that you are more likely to be successful taking over your own diabetes care if you still have some help from parents or caregivers. Confusing? It can be for both you and your parents or other caregivers.



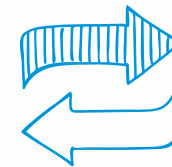
How Can I Start Taking Charge of My Own Diabetes?

You may think that you can do it all on your own if and when you need to, but you might not realize how much your parents or other caregivers in your life do for you. So when it comes to taking charge of your own diabetes care, it may make sense to take things slowly. Sit down with your parents or caregivers and discuss what you might like to take care of on your own now and what you would feel more comfortable if they could still handle.

Not sure where to start? Here are a few suggestions about some things you may want to begin doing on your own—depending on your age and, of course, with your parents' permission:

- ★ Making your own appointments with the diabetes care team
- ★ Ordering insulin and supplies on the phone or online
- ★ Deciding where to keep important diabetes information and sick-day supplies

There really aren't any hard-and-fast rules about what you should be doing on your own and when. These things should all be based on your age and the situation. At age 12, it might not be realistic for you to schedule your own appointments. However, by age 16, you may have a better grasp of your busy schedule than your parents or other caregivers do. Maybe at 13, you won't be ordering your own supplies directly, but you can start keeping track of them and keep your parents or caregivers informed about when supplies are running low. If you find it hard to talk to your parents or caregivers about making these changes, you may find it helps to write down what you want to say.



Things You Should Know About Your Diabetes Care

Usually, your parents or other caregivers will be with you during your medical appointments. But as you get older and start to take more responsibility for your own diabetes care, the doctors will start talking to you directly, at least part of the time. It's normal for this to begin happening. Are you ready for it? There are a lot of things about your type 1 diabetes that you will eventually be expected to know. So when you talk with your parents or caregivers about these things, you will definitely want to take some notes.

★ What's my personal diabetes care history?

Make sure you have written down all the key facts that a health care provider would want to know. It may help to create a timeline for this which might include:

- ★ Date when you were diagnosed with type 1 diabetes
- ★ When you were diagnosed with any other condition(s)
- ★ Your family's medical history
- ★ Dates and details of major illnesses
- ★ Dates and details of any surgeries
- ★ Any allergies to medication or food
- ★ A list of all your medications, including your insulin(s)

★ How have you and your parents or caregivers handled diabetes care challenges in the past?

You may have a sense of this, but your parents or caregivers may remember more about:

- ★ Major episodes of high or low blood sugar and how they were handled
- ★ Sick-day planning, including what has worked well and what didn't

★ Who is on my diabetes care team?

- ★ Names, phone numbers, and addresses of all of your care providers

★ What insurance provider do I have?

- ★ Ask to have your own insurance card and keep it in your wallet
- ★ Know the details of your insurance, including co-pays

It seems like a lot of stuff, but it's really basic information. Having it in writing will be helpful, because it is a lot to remember. And it will certainly come in handy if and when you do need to go on your own to a health care provider's office.

Working Through the Conflicts With Your Parents (and/or Other Caregivers)

"But I have no conflicts or problems with my parents,"

said no teenager, ever!

The truth is, it's only natural to have some conflict with your parents, stepparents, or other caregivers. Being a teenager with type 1 diabetes can be stressful and difficult, and it's never easy on the parents or other caregivers either. But you *can* get through it as a family. As unlikely as you may think it is now, it is possible to go through adolescence with type 1 diabetes and become a healthy and positive young adult—lots of people do, you will, too!

And, yes, some parents and caregivers can be "control freaks." Especially if you are talking about parents or caregivers who used to be in charge of controlling your blood sugar and are now sometimes frustrated with your numbers. Or, if you are more recently diagnosed, your parents or caregivers may be so fearful about your diabetes management that they watch over you like they would a little kid, when you're actually closer to being a young adult. In either case, give them some time. Your parents or caregivers will get used to how you are starting to manage your diabetes, but there may be a couple of conflicts going on here that all of you need to work through.



• Impulse vs Planning.

There may be times when you want to "live in the moment" and do things, eat things, and try things on a whim like your friends do. But type 1 diabetes does require planning. Right now, you are young and may feel invincible. But your parents or caregivers are painfully aware that how you take care of your diabetes today matters for your future. And the consequences of poor diabetes care now aren't just possible health problems later. Having high or low blood sugar can affect how you feel today

• Control vs Freedom.

You want to be in control of your own life. To live according to your own terms. You are going to test the limits in a lot of ways. But testing the limits of your diabetes care plan can be risky. You have your own style, and that will come through in your diabetes care, too. But your parents or caregivers might be a little alarmed if they find you are suddenly checking your blood sugar much less than you used to. Or if your blood sugar is running too high, too often, and for too long. Bottom line: if you want to prove you have earned your freedom, you need to follow your care team's recommendations and work to maintain control of your diabetes. If you don't, your parents or caregivers have the right—and the responsibility—to step back in

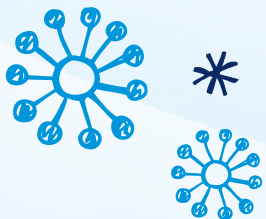
What can you do? Keep talking with your parents or caregivers. Be open to talking about your choices. And not just about your diabetes. Your parents or caregivers still care about you as a person, not just the blood sugar numbers—even if it sometimes seems like they only focus on the numbers.



THE BASICS OF MANAGING TYPE 1 DIABETES

Even though the teenage years will provide you with some unique challenges, the basics of controlling your blood sugar are the same at any age and involve:

- 1 Healthy eating** Eating smart is one of the cornerstones of care to effectively manage your blood sugar levels. Building a diabetes-friendly meal plan can help you understand and manage carbohydrates, proteins, and fats—and manage your weight, if that is an issue for you
- 2 Being active** Physical activity is important for your overall health and can help lower blood sugar, too. There are creative ways to stay active without joining a gym or doing intense workouts. Have a discussion with your health care provider before you start or change any physical activity program. Your diabetes care team will be able to guide you to physical activities that are best for you
- 3 Medicine** Eating smart and being active are 2 important ways to manage diabetes, but they're not enough to control blood sugar when you have type 1 diabetes. You will need to take insulin every day as directed by your diabetes care team
- 4 Tracking** Testing and recording your blood sugar numbers is called tracking (or monitoring), and it helps you see patterns that you can discuss with your health care provider and other members of your diabetes care team. That way, you know where you stand with your blood sugar, what to keep doing, and how to make adjustments to your care based on the guidance of your diabetes care team



Healthy Eating

As you probably already know, the basics of healthy eating are the same for people with type 1 diabetes as they are for everyone. You shouldn't have to eat meals that are different from those eaten by family and close friends. And you don't have to give up all the foods you like. But you will have to account for them in your meal plan for that day, and you may need to adjust the amount of insulin you take depending on what you eat.

Watching what you eat isn't always easy. Friends want to eat out. You're in a hurry. You want to have what everyone else is having. Yes, there are going to be lots of tasty, tempting obstacles in your way. But there are always ways to make the smartest food choices possible, no matter what is happening around you.

Here are some mealtime tips:

- ★ **Eat regularly without skipping meals**, making sure to track the amount of carbohydrates (carbs) you eat during the day
- ★ **Trim the fat** by choosing low-fat foods
- ★ **Shake off the salt** by avoiding salty snacks and leaving the salt shaker alone



Get expert help. A registered dietitian can also help develop a meal plan that's right for you. Ask your diabetes care team for a referral.

Planning your meals ahead of time may be helpful. You can use the online **Menu Planner** on type1.cornerstones4care.com to plan a weekly menu along with your parents or other caregivers.

Lunch is important. Whether you bring a packed lunch or eat a cooked school lunch, you should try to eat a healthy, balanced meal.

Here's more food for thought

If you have a cooked school lunch, you can request menus in advance. Sit down and figure out the carbs and insulin requirements. If you need help, involve your parents or other caregivers.

Make sure you know what food to choose and how to dose your insulin. If you need help, have a responsible adult help you. Your diabetes care team can also help you with your food choices and your insulin dose.

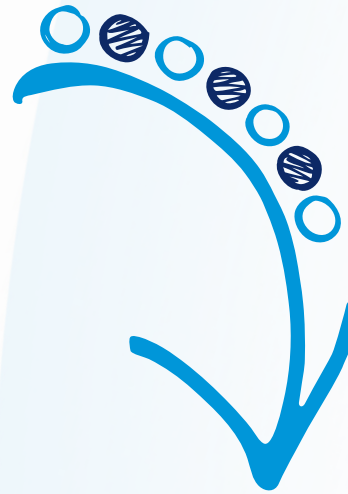
If you have a packed lunch, you and your parents (or caregivers) can figure out in advance how much insulin you need for the food in your lunch bag.

Healthy Eating (cont'd)

And yes, you can eat out with friends in restaurants. Going out is a special occasion. You can relax and enjoy yourself, so long as you don't go overboard. And some restaurants provide nutritional information if you ask. A number of the larger chain restaurants show this information on their websites, so check them out online first.

Here are some tips for eating out with friends:

- ★ **Always ask!** Don't be afraid to ask your server about the ingredients or the sizes of dishes. And don't be afraid to ask for substitutions, such as a baked potato or vegetables instead of French fries
- ★ **Try to eat the same portion size you would at home.** Some restaurants have huge dinner portions, but you can try to cut that down by ordering a "lunch size" meal, sharing your food, taking some home, or simply leaving the extra food on your plate
- ★ **Find out how it's prepared.** You can ask for less or no butter to be used in cooking your meal. And you can ask that sauces, gravy, and salad dressings be eliminated, or at least served on the side
- ★ **Avoid fried foods.** To cut down on extra fat and oils, choose broiled, baked, poached, or grilled meats and fish rather than fried



Ways to Get (or Stay) Physically Active

Staying active can help you manage your blood sugar levels, which is important for people of all ages with type 1 diabetes. Here are a few tips that may be helpful to you when planning to be physically active:

- ★ **Keep it fun.** Choosing a physical activity you like is a great way to start. Swimming, biking, and running are good options if you are into them. Dancing, jogging, and even skateboarding can provide you with terrific aerobic exercise. If you don't have a "go to" form of physical activity, you can start small by simply making it a point to walk to where you are going whenever possible. And once you are used to walking, you can build up to jogging or running if you like. It doesn't have to be grueling exercise; you just have to get moving!
- ★ **Play it safe!** Be sure to check with your diabetes care team before beginning or changing your physical activity plan. Also, if you have certain diabetes-related health problems, you should talk to your doctor about which forms of physical activity are safest and which you may need or want to avoid

- ★ **Check your blood sugar.** Before starting physical activity, it's a good idea to check your blood sugar and avoid physical activity if your number is too low or too high

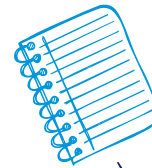
★ **If your blood sugar is less than 100 mg/dL,** you may need an extra carbohydrate snack, such as a piece of fruit or a few crackers. Then check again 15 to 30 minutes later. Don't start exercising until your blood sugar is above 100 mg/dL

★ **If your blood sugar before exercise is more than 250 mg/dL,** check for ketones in your urine. If there are ketones, DO NOT exercise. Contact your diabetes care team immediately for specific instructions on what you should do

These are guidelines recommended by the American Diabetes Association (ADA). Talk to your diabetes care team to learn what your specific blood sugar numbers should be

- ★ **Prepare for low blood sugar.** Low blood sugar (hypoglycemia) following heavy activity is always a possibility. Be on the watch for symptoms of low blood sugar, and respond quickly. Keep a sugary snack or glucose tablets nearby when you are physically active in case blood sugar levels drop quickly

- ★ **Keep a physical activity log.** Before and after starting any physical activity, write down your latest blood sugar readings. By reviewing your written records, you'll learn what works for you



Managing Blood Sugar During (and After) Physical Activity

Physical activity lowers blood sugar, right? Actually, it's not quite that simple, especially for people with type 1 diabetes. In reality, blood sugar can go up or down during and even after physical activity. Everyone's body responds a little differently, but in general:

- ★ **Low blood sugar (hypoglycemia)** from physical activity most often happens to people with type 1 diabetes who exercise for long periods of time without adjusting their insulin dose or meal plan and can occur even hours after exercise
- ★ **High blood sugar (hyperglycemia)** often happens to people with type 1 diabetes who have not taken enough insulin, have high blood sugar when they begin to exercise, or if exercise is done at high intensity

Monitoring blood sugar before, during, and after physical activity will reveal a pattern of how certain activities affect your blood sugar levels.



Avoiding lows during and after physical activity



- ★ **Eat something first.** Engaging in physical activity on an empty stomach can cause low blood sugar
- ★ **Plan for your insulin and food needs.** This may take some effort as well as the help of your diabetes care team. But adjusting the insulin dose and food intake to the level of physical activity you plan to be doing can help keep your blood sugar in your target range
- ★ **Stop if you feel any warning signs of hypoglycemia.** Just going "5 minutes more" can be dangerous. Take a moment to eat or drink some kind of high-carbohydrate food (see next bullet) if you feel like you are going low
- ★ **Keep "emergency carbs" close at hand.** Always keep some form of high-sugar food handy. This can be a soft drink (nondiet), fruit juice, glucose tablets, raisins, or hard candy
- ★ **Monitor later, too.** Blood sugar levels can drop even 16 to 24 hours after physical activity because the body uses blood sugar to replace sugar that has been used by the muscles

Always follow your health care provider's instructions for how to manage high and low blood sugar.



Avoiding highs during and after physical activity

- ★ **Make sure not to start out too high!** A high blood sugar level can rise even higher because of exercise
- ★ **Match insulin dose to activity intensity.** Blood sugar levels can also go too high if physical activity is too intense and/or you haven't taken enough insulin
- ★ **Check for ketones.** If blood sugar is too high, the body might produce ketones (acidic waste products that can occur when fat is broken down for energy), and a dangerous condition called ketoacidosis can result. Check blood sugar before and after exercising to avoid high or low blood sugar
- ★ **Going for the long haul?** You may need to eat during or after physical activity if the workout is very intense or continues for a long time. A low-fat snack that has 15 to 30 grams of carbs may help. Repeat this snack based on blood sugar levels

Know which way your blood sugar is going!

Before starting physical activity, it's helpful to know which way your blood sugar level is heading. If you are using a meter for blood sugar checks, start checking 90 minutes before starting an activity. If you see that your blood sugar level is going down (even if it is still in a safe range), a snack may keep it from going any lower. This is particularly important if you are about to start an activity where it will be difficult or inconvenient to stop and check your blood sugar in the middle of it. Remember to follow your diabetes care team's instructions on managing blood sugar before, during, and after exercise.

Interested in participating in competitive sports?

Turn to page 51!



Insulin Therapy

As you are probably aware, treatment for type 1 diabetes includes taking insulin every day. Since there's little to no insulin in the body, it has to be replaced. This means that you will need insulin coverage 24/7/365.

In people without diabetes, special cells in the pancreas called beta cells produce the hormone insulin to help the body use sugar as fuel. There are mechanisms within the body that constantly check how much sugar is in the bloodstream. When blood sugar rises, the body signals the pancreas to release more insulin.

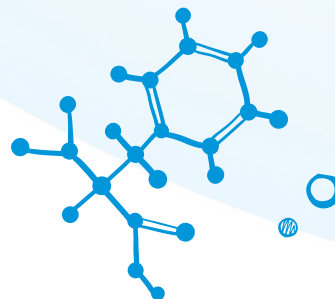
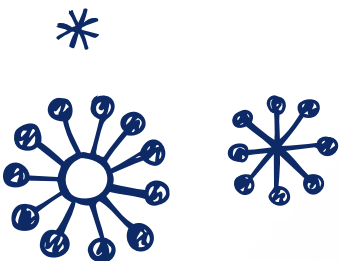
In type 1 diabetes, the body's own immune system mistakenly attacks and destroys the beta cells in the pancreas as if they were foreign cells. This usually happens without symptoms or pain and is known as an *autoimmune* response. As a result, too many of the beta cells are destroyed and the pancreas makes little or no insulin. And when that happens, there's not enough insulin to move sugar into the cells where it can be used as fuel, so sugar builds up in the blood instead.

When you have type 1 diabetes, you must take insulin, usually by injection or an insulin pump, in order to replace the insulin the pancreas no longer produces.

What can happen if I don't take my insulin?



Turn to page 34 to find out!



Basal-Bolus Basics

A "basal" dose of insulin (also known as long-acting insulin) controls blood sugar between meals and throughout the day and night.

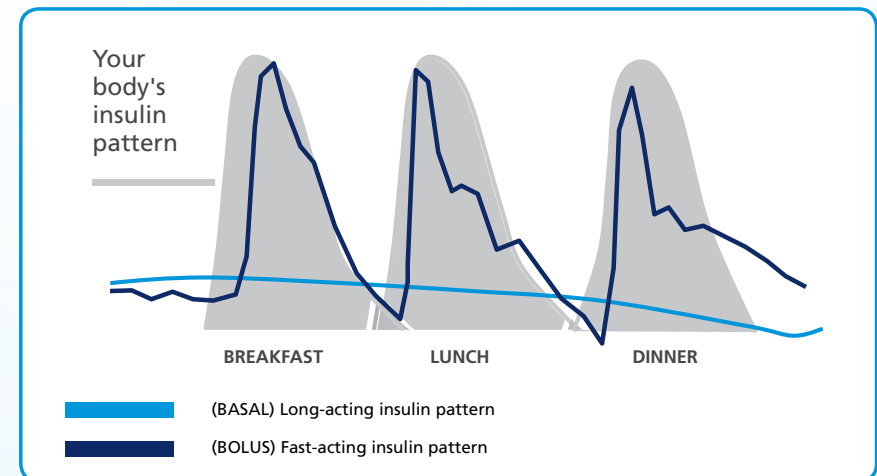


Short bursts of insulin, or "bolus" doses of insulin (sometimes referred to as rapid-acting or mealtime insulin), are needed by the body at mealtimes to cover the spikes in blood sugar that are caused by food.

Combining both basal and bolus insulin treatment is often called basal-bolus therapy. Basal-bolus insulin treatment uses long-acting (basal) and mealtime (bolus) insulin together to closely mimic the body's normal insulin patterns throughout the day. Keep in mind that low blood sugar is a common side effect of all insulins. To learn more about low blood sugar, see page 42. In addition to taking insulin, healthy eating and physical activity are also important for people with type 1 diabetes.



INSULIN THERAPY SHOULD MIMIC THE BODY'S NORMAL INSULIN PATTERN

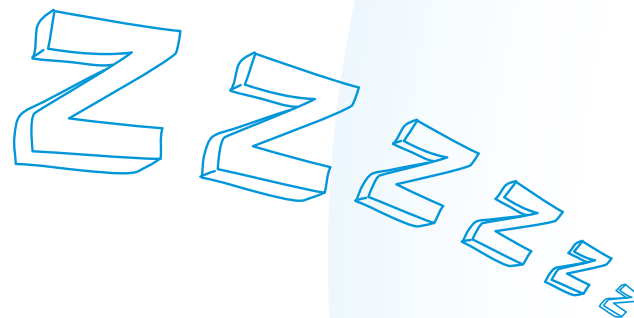


Don't Take Chances— Don't Skip Doses

It's always important to take your insulin as instructed by your doctor. But no matter how good you usually are at managing your diabetes, there may be times when you may forget to take your insulin or just don't feel like injecting. You should talk with your diabetes care team about what to do if you forget a dose or anytime you skip a dose, for instance, if you are experiencing hypoglycemia.

You should be aware that skipping insulin can cause serious problems. Without enough insulin, your blood sugar will increase. When you have uncontrolled high blood sugar for a long time, you have a greater risk of developing some long-term diabetes-related health problems (also called complications). Some can include problems with your nerves (neuropathy), eyes (diabetic retinopathy), kidneys (diabetic nephropathy), or even your heart.

High blood sugar can also make you feel unwell and can lead to emergencies like diabetic ketoacidosis (DKA)—a situation where your body is producing too many ketones, which are acidic substances that are dangerous at high enough levels.



Keeping Track of Your Blood Sugar

When it comes to managing your diabetes, knowing your blood sugar (also called blood glucose) numbers is important. Keeping track of your blood sugar helps you see how food, physical activity, and medicine affect your blood sugar levels. Checking your blood sugar can help you to:

Make good choices about what you should eat and how much physical activity you need



Better understand how well your diabetes care plan is working



Recognize and avoid low blood sugar (hypoglycemia) and high blood sugar (hyperglycemia) and the health problems they can cause



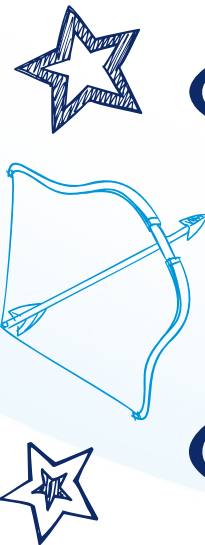
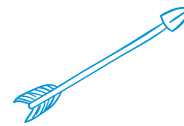
See changes in your blood sugar levels throughout the day and better understand how physical activity, food, insulin, and stress can affect them



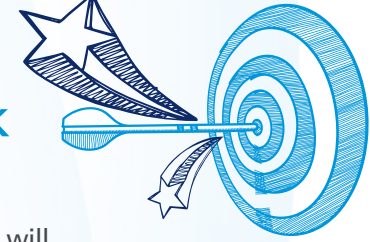
Understand how to manage taking insulin on a daily basis



Provide valuable information to your diabetes care team, so they can help you make necessary adjustments to your care plan



How often should I check my blood sugar?



Your health care provider and diabetes care team will determine when and how often you should check your blood sugar, based on the details and goals of your treatment plan. For instance, common goals for people with type 1 diabetes are to help:

- ✓ Keep blood sugar levels as close to your target range as possible
- ✓ Prevent high blood sugar (hyperglycemia) and low blood sugar (hypoglycemia)

In order to meet these goals, you probably need to do several blood sugar checks a day. These could include (but are not limited to):

- ✓ Before meals, to calculate mealtime doses
- ✓ Before bedtime, to protect against nighttime low blood sugar
- ✓ After meals, to periodically adjust mealtime doses
- ✓ Before, during, and/or after exercise, to help avoid serious low blood sugar

There is another way of checking your blood sugar called a “continuous glucose monitor,” or CGM. A CGM device has a small sensor probe that is inserted beneath the skin (like a pump infusion set), which measures the fluid between cells (interstitial fluid). This measure can also be used to calculate blood sugar. This sensor communicates through a transmitter, which sits on top of the skin and is attached to the sensor. It communicates wirelessly with a handheld device known as a receiver that can display real-time blood sugar readings at 1- and 5-minute intervals. You can also set alarms to alert you to high or low blood sugar levels.

Your blood sugar tracker

You don’t need to use a complicated system. In fact, you can use a simple notebook and pencil to write down the numbers and testing times. You should also make sure to read the instructions that came with your blood sugar meter. Some meters record a digital log of blood sugar readings that you can download to your computer and/or your health care professional’s computer.

Setting Your Blood Sugar Goals

What does it mean to “keep your blood sugar under control” or to reach your “blood sugar goal”? You and your health care provider will set personalized goals that are right for you. However, here is what the American Diabetes Association suggests as general guidelines:



SUMMARY OF BLOOD SUGAR GOALS FOR CHILDREN AND NONPREGNANT ADULTS WITH DIABETES	
Blood Sugar Goals for Children and Teens (ages 0-18)	
Before meals (FPG)	90–130 mg/dL
Bedtime/overnight	90–150 mg/dL
A1C	Less than 7.5%
Blood Sugar Goals for Nonpregnant Adults (ages 19+)	
Before meals (FPG)	80–130 mg/dL
After meals (PPG)	Less than 180 mg/dL
A1C	Less than 7.0%

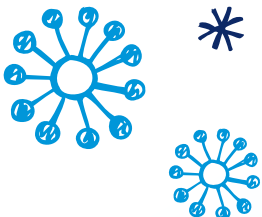
FPG=Fasting plasma glucose or before meal blood sugar
PPG=Postprandial glucose or after meal blood sugar



When it comes to taking care of your type 1 diabetes, you may hear a lot about your A1C numbers, especially if you are not at goal. But what does it mean? An A1C test measures average blood sugar over the past 2 to 3 months, and the results are shown as a percentage. While regular blood sugar checks show how well diabetes is being managed day to day, A1C testing provides a bigger picture of blood sugar control. So your health care provider should measure your A1C levels at least twice a year if your blood sugar goals are being reached. When your treatment plan has changed or your goals are not being reached, your A1C may be tested as much as 4 times a year.

Why is the A1C for teenagers less strict than it is for adults? That’s because your teenage years can be a difficult time for blood sugar control. A clinical trial has shown that it’s more difficult to get A1C to 7.0% or less in teenagers than it is in adults. Because of the increased amount of hormones your body is releasing as a natural part of growth and development, your insulin dose may also need to increase, as directed by your care team.

Want to learn more about insulin?



Understanding High Blood Sugar

With type 1 diabetes blood sugar can sometimes go too high (also called hyperglycemia). This usually happens when the body has too little insulin. A number of different things can cause it, including:

- ★ Not taking enough insulin
- ★ Eating more than planned
- ★ Being less active than planned
- ★ Physical stress from illnesses, such as a cold or the flu
- ★ Emotional stress or excitement

Blood sugar is considered high when it is above your recommended blood sugar target range. Talk to your health care provider about what he or she thinks is a safe target for your blood sugar before and after meals.

When your blood sugar is too high, you may notice some of the following signs and symptoms:

- ★ Feeling hungry
- ★ Feeling very thirsty
- ★ Feeling tired or exhausted
- ★ Frequent urination
- ★ Blurred vision

It's also possible to have high blood sugar without having any symptoms. So be sure to check your blood sugar as your health care provider directed—so you know for sure.

What to Do About High Blood Sugar

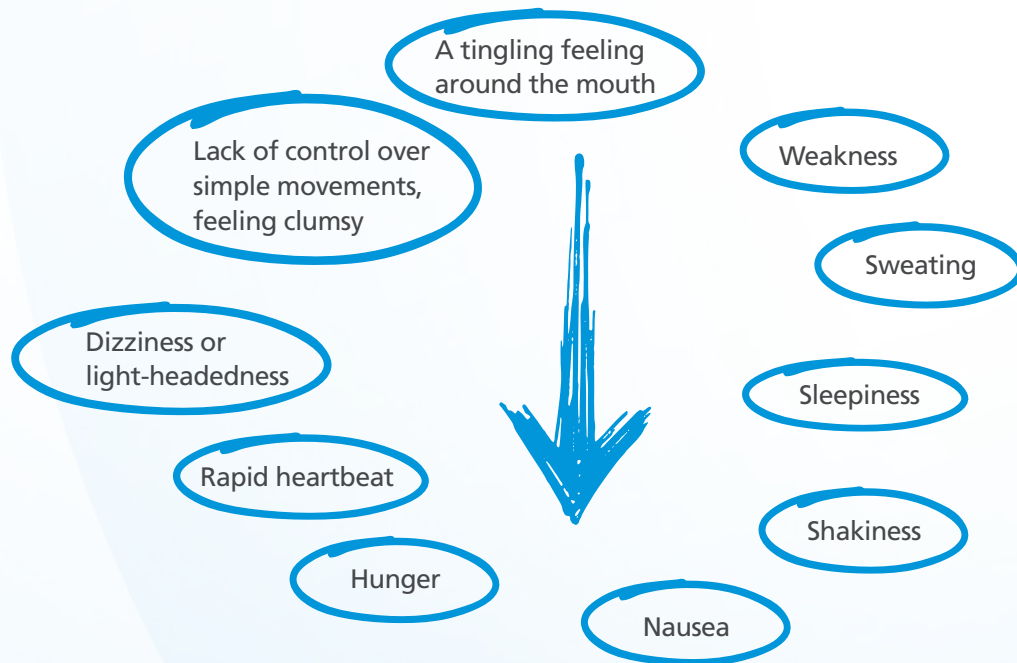
Talk with your health care provider so you know how to handle high blood sugar. He or she may want you to adjust your:

- ★ **Level of physical activity.** Doing some form of physical activity is one way to lower blood sugar
- ★ **Meal plan.** Some of the foods you are eating may be causing your blood sugar to go high. You can make changes to your meal plan so your blood sugar won't rise too high, too quickly
- ★ **Insulin dose.** You may need to change how much insulin you take and when you take it. But before you do, make sure you talk to your health care provider first!



Understanding Low Blood Sugar

Low blood sugar (hypoglycemia) happens when blood sugar is lower than normal. This can be a side effect of insulin. The American Diabetes Association (ADA) considers less than 70 mg/dL to be too low. Ask your health care provider what level is considered low for you. Low blood sugar can be dangerous if not detected and treated immediately. There are many possible signs and symptoms of low blood sugar, including:



Checking your blood sugar is the best way to find out if it is low. If you can't check right away, but you experience some of the signs and symptoms listed above, play it safe and treat for low blood sugar. If left untreated, low blood sugar can get worse and you can pass out (become unconscious) or have a seizure.

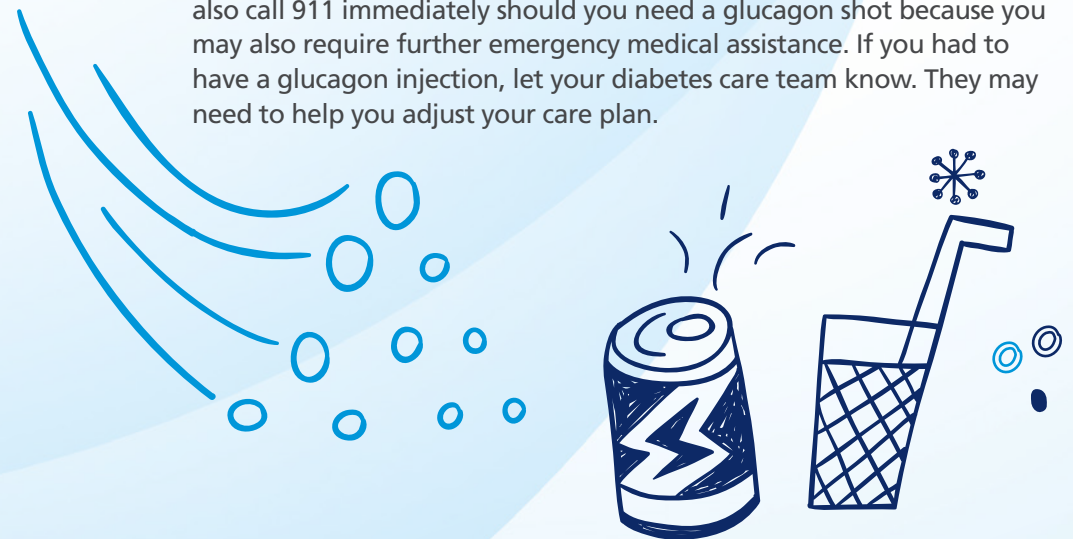
What to Do About Low Blood Sugar

The quickest way to raise blood sugar and treat hypoglycemia is with some form of sugar. Many people with diabetes carry glucose tablets, which can be found at many drugstores. Other foods with sugar or fast-acting carbohydrates (like fruit) also work well to treat low blood sugar. Some examples are fruit juice or nondiet soda (about 4 oz) and hard candies (5 to 7 pieces).

The important thing is to eat at least 15 grams of sugars or carbs as soon as you see or feel symptoms of low blood sugar. Then, wait 15 minutes and check again. If your blood sugar is still low and symptoms haven't gone away, try another 15 grams of carbohydrates. After you feel better, go back to eating regular meals and snacks as planned to keep blood sugar up. Always ask your health care provider for the best way to treat hypoglycemia.

Sometimes low blood sugar can be severe enough that it can cause you to pass out (lose consciousness). That is why it's important to have glucagon emergency medicine available at all times. If you don't already have a prescription for glucagon emergency medicine, talk to your doctor about whether it is appropriate for you. If your doctor does prescribe it, your diabetes care team can give you instructions on how to use it.

If you pass out from low blood sugar, you won't be able to inject glucagon yourself. So you need to teach family and friends who are around the most how to inject it for you. And, you need to let whomever may be injecting it for you know in advance that they must also call 911 immediately should you need a glucagon shot because you may also require further emergency medical assistance. If you had to have a glucagon injection, let your diabetes care team know. They may need to help you adjust your care plan.



HANDLING SPECIAL SITUATIONS WITH TYPE 1 DIABETES

So you're a teenager. You're trying new things. You're going to make some honest mistakes. And like many teenagers, you're probably going to do some goofy things that you may regret later. Having type 1 diabetes doesn't change *any* of that.

However, what having type 1 diabetes can do is make some typical small missteps into situations that can go very badly, very quickly. And it can also change how you approach certain social situations and lifestyle decisions in ways you may not have thought about.

This section will address a few things you may encounter in your teenage years that you may want to handle a little differently because of your type 1 diabetes.

Your Social Life

Going to parties

You just got invited to a party. Should you go? Absolutely! You can have type 1 diabetes and still go to parties just like anyone else. But you do have to make sure that you're prepared while having fun with your friends.

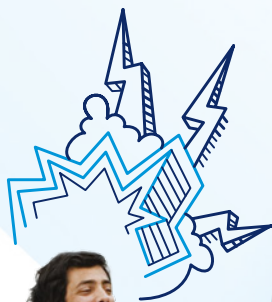
When you accept an invitation to a party or sleepover, if you are on the younger side of your teens, your parents or caregivers will want to speak to your friend's parents to make sure they know about your diabetes. It can be very helpful for you and your parents or caregivers to find out what activities are scheduled and plan ahead. If you need help checking your blood sugar or taking your insulin, your parents or caregivers may need to show your friend's parents what to do. And it's definitely a good idea to explain to them how to use glucagon emergency medicine in case of low blood sugar and for you to keep it with you.

If you are a bit older, you may be the one having the "I have type 1 diabetes" conversation with your friend and/or his or her parents. Okay, it might be a little awkward, but it can be as simple as saying something like this: "I have type 1 diabetes, which means I have to plan what I eat and give myself insulin. And just in case, I keep a list of all my emergency numbers with me." You should keep an Emergency Contact List with you that includes contact information for your parents or caregivers and for key members of your diabetes care team.

Pre-party planning

You know that getting ready for a party—or any other social event—when you have type 1 diabetes isn't just about figuring out what to wear and whether you need to bring a gift. It's also about planning your food choices ahead of time in order to keep your blood sugar levels stable. If you've mentioned that you have type 1 diabetes, it'll be easier to just ask what food will be served and plan accordingly. Another option is to eat before the party or even bring your own favorite dish to share with others. You will still be able to have some cake and sweets, as long as you don't overdo it. You should always test your blood sugar after the party, before bed, and when you wake up the next morning. You may also need to change your insulin dose to cover any extra carbohydrates eaten.

Always follow your diabetes care team's recommendations for handling these kinds of events. And make sure you tell an adult if you feel unwell at a party.



Sleepovers and overnight trips

Whether it's a friend's sleepover party, a road trip with your sports team, or an overnight school trip, it's good to have a checklist of everything you need to bring to take care of your diabetes. Leave plenty of time to plan and prepare so you will be able to focus on having fun and not on all the details.

Insulin delivery supplies:

- ★ Prefilled insulin pen or vial and syringes
- ★ Insulin pump (if you use one and any additional pump supplies)
- ★ Needles
- ★ Any other diabetes supplies you usually use

Blood sugar checking supplies:

- ★ Test strips
- ★ Lancets
- ★ Glucose meter
- ★ Alcohol wipes
- ★ Cotton or tissues

Low blood sugar supplies/preparedness:

- ★ Quick-acting carbs, like glucose tablets, nondiet soda, glucose gel, or hard candy
- ★ Glucagon emergency medicine
- ★ At least one person with you who recognizes low blood sugar symptoms
- ★ At least one person with you who you've trained how to give a glucagon shot if needed

Healthy snack and meal options:

- ★ Find out what is being served in advance and plan for it
- ★ Bring healthy snacks with you in case you need them

Other essentials:

- ★ A list of emergency phone numbers
- ★ A health insurance card
- ★ All other daily medications



Telling your friends about your diabetes

Speaking to your friends about your diabetes can be hard. You may worry that it will change your friendships. But your friends will soon see that you are no different now than you were before they knew you had diabetes.

Your diabetes is a part of who you are. You should not feel awkward or worry about what other people might think. Talking to a friend about your diabetes may even help. It doesn't have to be a big deal. You may be able to chat about it at lunchtime or when you are out together.

You may want to show them your blood sugar monitor or insulin pen or pump. It may also be a good idea to explain to them how you feel when you have low blood sugar and high blood sugar and also explain what you need to do.

Your friends may not know much about diabetes, so they will probably be interested in finding out more. With a better understanding of diabetes, they may be able to help support you when you are out together.



Dating with type 1 diabetes

If you are an older teen, dating may be something that's (eventually) on your horizon. Even without type 1 diabetes, starting to date can be a bit awkward for most teens. It's a new experience. The rules aren't exactly clear, and telling your date about your diabetes can be a bit of a sensitive area. Do you let them know right away so it's not a big secret? Or do you wait until they know you better? There's no one "right answer" that will work all the time. However, here is one thing you will want to consider:

- ★ **You will probably need to take care of your diabetes during your date.** It's a lot fairer to let your date know in advance than it is to surprise him or her by taking insulin or checking your blood sugar in front of them. You don't need to make it a big deal, but you really should let them know that you have diabetes and this is what you must do. If you are going to start a relationship, even if it's "just friends," you are eventually going to have to trust each other. But what if you want to keep it private? You can figure out ways to discreetly take care of your diabetes, like excusing yourself and going to the restroom to take your insulin. However, you also need to realize that it is difficult to keep that up indefinitely



Habits to Avoid

Smoking, it's just a bad idea

"Lots of teens smoke.
What's the big deal?"



Well, it actually *is* a big deal. Smoking is harmful to your health, whether you have diabetes or not. But for people with diabetes, smoking increases the risk of serious problems in the future. If you have started smoking, it is never too late (or too soon) to quit. If you quit now, you may still be able to avoid some of the long-term damage of smoking. And don't get fooled into thinking that e-cigarettes are a safe alternative. E-cigarettes produce vapor rather than smoke, but that vapor can contain a lot of toxic substances.

Avoid alcohol

Your friends may start to try alcohol and encourage you to join in. First, if you are underage, it is illegal to drink alcohol, so it really needs to be off-limits. Second, drinking and type 1 diabetes can be a dangerous combination, since alcohol can directly affect your blood sugar in ways that are difficult to predict and control. And the impairment that comes from even slight alcohol intoxication can cause you to make the wrong decisions about managing your diabetes. Bottom line: as a teen with type 1 diabetes, it's really safest to avoid alcohol.

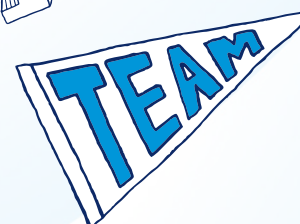


Playing Competitive Sports

Are you driven to be athletic? Want to make it to the competitive level? Type 1 diabetes should NOT get in the way of that. Here are some thoughts about doing it in a healthy and safe way.

- ★ Discuss any competitive sports you may want to join with your diabetes care team, especially if you are experiencing diabetes-related health problems. While most sports are safe, some may be risky for people with type 1 diabetes who have health issues
- ★ Athletes with type 1 diabetes CAN compete safely, as long as they maintain good control of their blood sugar and plan for, monitor, and react to changes in blood sugar levels that can happen because of different levels of exercise intensity and duration
- ★ Create a sports care plan with your diabetes care team. You should share your sports care plan with your coach to make sure it's realistic. Make sure he or she understands what to do in an emergency. Let the coach know that assistance from team members may be needed in the case of severe low blood sugar

Not that into sports?
That's okay.



Want to learn more
about blood sugar
and exercise?

Learn more about
getting physically
active on page 26!

Turn to page 28!

Recognizing Diabetes Burnout... and What to Do About It

Carefully taking care of diabetes every day can help you live a full, active life. But paying attention to the details of a diabetes care plan is not always easy. And beyond the basics of eating right and taking medicines properly, dealing with diabetes is often as much of an emotional struggle as it is a medical one.

Some people who have been living with type 1 diabetes for a long time may experience “diabetes burnout.” It’s what happens when you feel overwhelmed by diabetes and by the frustrating burden of diabetes self-care. People who have burned out realize that good diabetes care is important for their health, but they just don’t have the motivation to do it. They may feel that they are at war with their diabetes...and that they are losing.

Signs of diabetes burnout include:

- ★ Feeling burdened by diabetes
- ★ Feeling angry and filled with negative thoughts
- ★ Feeling that diabetes controls your life
- ★ Not following the diabetes care plan properly

Diabetes burnout is important to address because it tends to reduce energy and interest in taking care of yourself. Taking proper care of diabetes is important because it can reduce the risk of some long-term health problems.

Some people may need help from a counselor or therapist to deal with feelings of burnout. Talk with your diabetes care team about these feelings if you have them. If needed, they can provide referrals to other health care providers, like family therapists.



There are 3 things you should know about feeling overwhelmed or burned out:

- 1 You are not alone.** Diabetes burnout is more common than you might think
- 2 You shouldn't feel guilty.** If you're living with diabetes, feeling pressured or stressed out sometimes is understandable
- 3 You can get through it.** It may be hard at times, but you can turn things around. Burnout can be overcome

Sometimes changing how you react to the stresses of type 1 diabetes can help. For instance, let's say your blood sugar went up unexpectedly, despite working really hard to control it. That can be disappointing. But instead of dwelling on the bad feelings this can trigger, you can use it to help motivate good actions. What can be done to bring those numbers back down again? What can be learned from this? It's not about blaming. It's about feeling it's possible to make positive changes.

Want to connect with friends?

Learn more about your diabetes and your social life starting on page 45!

Want to learn more about diabetes and mental health?

Turn to the next page!

Teenagers, Diabetes, and Depression: What's the Connection?

Managing type 1 diabetes can be stressful. Having a down day every now and then doesn't mean that you are depressed. But if you are feeling down for a while, talk to your diabetes care team. It may be depression, especially if you are dealing with any of the following:

- ★ Loss of pleasure in activities you used to enjoy
- ★ Trouble sleeping or staying asleep or sleeping too much
- ★ Feeling more tired than usual
- ★ Change in appetite and/or loss of enjoyment of certain foods
- ★ Weight gain or loss
- ★ Trouble focusing or making decisions
- ★ Feelings of guilt or low self-worth

If you are depressed, you may also have trouble taking proper care of your diabetes. So try to be aware of how you're feeling, and if you are experiencing changes like those above, reach out to your diabetes care team for help and guidance.

*Tired of taking care of your diabetes?
Feeling overwhelmed?*



Standardized Testing Tips

Taking standardized tests can be a challenge for anyone. However, taking care of your type 1 diabetes while taking these tests requires even more planning. You will probably need to formally ask for special permission in advance (often called "accommodations") to do the things necessary to take care of your diabetes during these exams, including:

- ✓ Taking your meter with you
- ✓ Having access to snacks in case of low blood sugar
- ✓ Taking breaks to take medicine
- ✓ Checking your blood sugar

If you already have an active educational plan, such as a 504 Plan, IEP (Individualized Education Program), and/or DMMP (Diabetes Medical Management Plan), it may make it easier to get the accommodations you will need from standardized testing companies. If you're not sure if you have one, ask your parents or guidance counselor. However, these plans don't cover major standardized tests! But having them in place may make applying for (and getting) the accommodations you need quicker and easier.

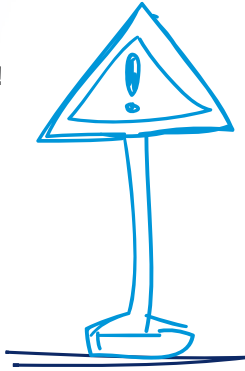
Your school may have a faculty member designated as the Services for Students with Disabilities (SSD) coordinator, who can help you. If you don't know who the SSD is in your school, ask your guidance counselor.

- ★ For more information on the AP®, PSAT®, and SAT® tests, visit collegeboard.org/students-with-disabilities or call the College Board at 1-609-771-7137
- ★ For more information on the ACT (American College Testing) exam, visit actstudent.org/register/disab/ or call 1-319-337-1000, ext 1332
- ★ For more information on the IB (International Baccalaureate) exam, visit ibo.org

Driving Tips

If you are of driving age, this section is required reading!

Many teens with type 1 diabetes get their driver's license and drive safely every day. However, please remember that your driving can be affected by low blood sugar (hypoglycemia). People with low blood sugar may have trouble focusing on the road, a hard time seeing clearly, and slower reactions to road hazards. Severe low blood sugar can be life-threatening whether you are driving or not. Please remember to check your blood sugar often.



- ★ Check your blood sugar before getting into the car
- ★ Do not drive if your blood sugar is not in your target range. Confirm what your target range should be with your health care provider. Recommendations for this vary, but generally you should not get behind the wheel if your blood sugar is lower than 90 mg/dL
- ★ Pay attention to how you feel. If you have symptoms of low blood sugar, such as hunger, shakiness, sweating, confusion, or weakness, pull over immediately
- ★ Never do a blood sugar check while driving a moving vehicle. Pull over and do a blood sugar check. If blood sugar is low, treat it with fast-acting carbohydrates (such as glucose tablets or other high-sugar foods). Wait 15 minutes and then check it again
- ★ Do not start driving again until your blood sugar is in the target range discussed with your doctor
- ★ Don't ever use a cell phone or text while driving
- ★ Drive within speed limits



- ★ Avoid alcohol. Remember, underage drinking is illegal. Do not drink alcohol, especially when planning to drive
- ★ Eating while driving should be avoided
- ★ States' graduated driver's license (GDL) laws should be followed where they apply
- ★ Seat belts should be worn on every trip
- ★ Nighttime driving should be limited
- ★ The number of teen passengers should also be limited (and it's the law in several states)

Why are we making a big deal of this? Because according to the Centers for Disease Control and Prevention (CDC), compared with drivers in other age groups, teenagers between the ages of 16 and 19 have the highest risk of car accidents. When this risk is added to the effects of diabetes and low blood sugar, driving can sometimes be even more dangerous. And if you are newly diagnosed, you shouldn't drive until you know how insulin affects you.



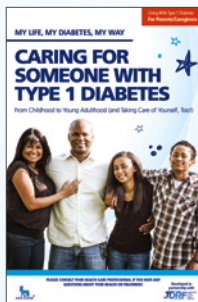
NOTES



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Here Are Even More Resources for Your Type 1 Diabetes Journey From Novo Nordisk and JDRF

This booklet is part of the **"My Life, My Diabetes, My Way"** educational series for people with type 1 diabetes. There are other booklets in this series, brought to you by Novo Nordisk and JDRF, that may be of interest to you, your family, and friends.



➔ **Caring for Someone With Type 1 Diabetes**

Written especially for busy parents or caregivers of children, teens, and young adults with type 1 diabetes

➔ **Type 1 Diabetes 101: Getting Started, Staying on Track**

Recommended for those ages 13 and up newly diagnosed with type 1 diabetes and their family and friends

Ask your doctor for your FREE copy of these and other type 1 diabetes booklets today! They are also available online as free PDF downloads at t1support.cornerstones4care.com.

Additional type 1 diabetes resources can be found online at:

jdrf.org

diabetes.org

typeonenation.org

type1.cornerstones4care.com

childrenwithdiabetes.com

Remember, these booklets and resources are for educational purposes only. If you have any questions about your diabetes care, be sure to ask your diabetes care team.



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