

TOPICS IN TYPE 1 DIABETES

Diabetes & Diet: A Recipe for Optimal Control

Just about everything we eat causes blood sugar to rise, and managing type 1 diabetes well depends on effectively balancing food, exercise, and insulin. In the past, hard and fast rules about diet made it a battleground in families, but with today's array of new tools, new insulins, and new strategies, children and adults have gained greater flexibility in deciding what to eat and when to eat it. It all starts with counting carbs.

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ASK A MEDICAL PROFESSIONAL

It Takes a Team...And a Family

For children with type 1 diabetes, parents are usually in charge of their diabetes care on a day-in-day-out basis—making critical choices, handling the ceaseless responsibilities of dealing with a chronic condition. But they cannot do it alone. It takes more than a parent, spouse, or loved one: It takes a team. Certified Diabetes Educator Catherine Marschilok reflects back on the fifteenth anniversary of her son's diagnosis and talks about the medical professionals, friends, and countless others who provide guidance, advice, and a helping hand.

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ASK A TEEN

Help from JDRF's Online Diabetes Support Team

Q: Our teenage son, a high school freshman diagnosed at age 13, is beginning to rebel and resent our "nagging." We're having trouble finding a balance between giving him his space and helping him to manage his diabetes. We just can't leave all the decisions to him, can we?

A: Teaching a teen to handle diabetes is like teaching a teen to drive a car. Just as you wouldn't hand over the car keys to your 15-year-old the day he gets his permit, parents shouldn't hand over all the control to their teens in one fell swoop. Most likely, teens will take advantage of their new-found freedom and may start abusing their body by neglecting their daily diabetes management. It's easier to feel like "one of the gang" when you don't have to sneak off to inject insulin or test your blood sugar. That's why having guided supervision is important.

Without becoming nags, my parents started "quizzing" me when I began high school. It helped them gauge how much of my

diabetes I really understood. "What's your blood sugar?" "How many carbohydrates do you think you're having?" Once I had that information or had "guesstimated" it, my parents would ask, "So, what do you think you should do?" This was a crucial question. Many teens don't think about what they are doing and why. They just take whatever insulin they want, or parents will do the steps for them, giving them a number without explaining what any of it means.

Understanding how I thought about managing my diabetes helped my parents figure out my trouble spots. Could I carb count correctly? Incorporate P.E. into the equation? Adjust the sliding scale to cover a high blood sugar reading? With some practice, the task became second nature. That's not to say I liked it or understood it all the time. I still needed the guidance from my parents to stop me from making obvious mistakes. [CLICK HERE TO READ MORE.](#)

WHAT A JDRF CHAPTER CAN DO FOR YOU

Guidance and Support

JDRF Chapters in more than 100 locations offer one-on-one support, networking, and a variety of activities focused on families where there has been a new or recent diagnosis of type 1 diabetes. For example, this month's JDRF's North Central Connecticut/Western Massachusetts Chapter's Family Network's programs include a parents, kids, and caregivers coffee; meetings of support groups for teens and kids; a special event for newly diagnosed families to learn about community resources; a bowling party, and "Magic Wings," a walk through Deerfield's famed butterfly conservatory. Visit the Family Network's great homepage at www.jdrffamilynetwork.org.

WHAT'S NEW ON THE JDRF WEB SITE?

Tomorrow's Treatment Technology

Controlling blood glucose levels is the primary goal of daily diabetes management. An "artificial pancreas"—a medical device that would mimic the human pancreas by registering blood glucose levels and, in response, delivering the necessary amount of insulin—will greatly improve this control and bring tremendous benefits to diabetes care. JDRF has launched a new initiative to help speed the availability of an artificial pancreas to people with diabetes. Our goal is for broad patient access and a thriving competitive market for these devices and products. Check the JDRF website to view our plans to accelerate the development, regulatory approval, and acceptance of artificial pancreas technology.

You can let us know what you think of *Life with Diabetes* or subscribe today by sending an e-mail to info@jdrf.org. In subscription request, Please include **SUBSCRIBE LIFE WITH DIABETES** in the subject line.

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Once they've accepted the fact their child needs daily shots or pumped insulin, food becomes the major focus and often the cause of considerable stress for many parents of children newly diagnosed with type 1 diabetes. It's not uncommon to see families where food becomes the 'bad guy.' "I've seen so many families where food has turned, let's say, a child's typical request for a snack into a virtual battleground," says Cyndy Schroeder, a dietician, diabetes educator, and JDRF volunteer. "Well, it doesn't have to be that way."

Individualized meal planning is an integral part of every diabetes care plan, the key to which is balancing diet, exercise, and insulin intake to achieve as normal blood sugar levels as possible. And parents and children new to diabetes still have to learn about eating out, portion control, label reading, and more. But the old rules have changed; and new tools, new insulins, and new strategies are providing both young and adult patients with a newfound freedom.

A decade ago before the introduction of fast-acting insulin, a person with diabetes had to follow a stricter regimen. The treatment plan in diabetes required the patient to modify his lifestyle around a narrowly fixed insulin therapy. Now, research has resulted in our knowing a lot more about how to handle type 1 diabetes. New methods of assessing the effects of foods and newer insulins let us adjust insulin dosing around the dietary lifestyle we want to lead. "The method we use now—based on counting carbohydrates in the food we eat—not only offers more flexibility, but it forms the basis of intensive blood sugar management," says Ed Banion, a dietician at Animas Corporation.

Carb Counting

The carbohydrate counting approach is based on the premise that carbohydrates, which are found in most foods except for meat and fat, are the main source of blood glucose and have the greatest effect on blood sugar. Carbs enter the bloodstream as glucose within 15 minutes to 2 hours. A fairly accurate determination of the carb content of a meal or a snack is therefore a critical factor in achieving desirable blood glucose levels.

Key to this approach is the requirement to count the carb content of meals and snacks and then use fast-acting insulin to match or cover the blood glucose-raising effect of carbs. Using this approach to eating, you can work with your diabetes care team to develop an insulin regimen that conforms to your child's meal routine and food choices. You can track results with regular blood sugar monitoring and make adjustments to keep blood sugar under optimal control. Pump users have even greater flexibility and control, since all the basic data is pre-programmed, allowing pumps to deliver small amounts of insulin regularly, including a "bolus" of insulin when needed to cover food that is eaten.

Getting Started

Adapting to this form of meal planning and insulin therapy takes work, particularly at the beginning. You must learn how to calculate insulin-carbohydrate ratios, how blood glucose levels react to different foods, and how to read food labels to determine carb content. You must also get used to frequently monitoring blood sugar levels throughout the day. When you become more experienced, you may find that certain foods will give your child a bigger spike in blood sugar levels than you expected, while others will have less of an effect. It's a good idea to record your child's food intake—including the type, amount, and timing—in a log book, so you and your diabetes care team can analyze patterns and improve your child's diet and blood sugar control.

Once you're on track, you'll find that the freedom and flexibility that comes with this method is unmistakable and liberating. "Today, most kids and teens with diabetes and their parents know their carb ratios and know the carb counts of just about every food," says Moira McCarthy Stanford, mother of a teen with diabetes. "We've come a long way from the days when I had to tell my daughter, 'No cake for you!'"

WHAT IS A CARBOHYDRATE?

Carbohydrates ("carbs," for short) are one of the primary sources of energy found in food. They include simple carbs (foods rich in sugar) and complex carbs (foods rich in starch, such as rice, pasta, bread, and cereal).

HOW CARB COUNTING WORKS

There are different carb-counting techniques, but typically, an insulin-to-carbohydrate ratio is determined to calculate the amount of "covering" insulin. For example, if a child needs to take one unit of rapid-acting insulin to cover every 15 grams of carbs eaten, then she would need to take 3 units of insulin to cover 45 grams. The ratio is determined by taking into account a child's individual needs and responses to particular carbs, so a carb-counting meal plan is never a "do it yourself" project but rather best undertaken in collaboration with a diabetes educator, dietician, or other members of your diabetes care team.

For further information on nutrition and carb counting: Ask your diabetes educator or other health care team member for recommendations. A number of Internet sites provide extensive information, such as the Joslin Diabetes Center at www.joslin.org/managing_your_diabetes_2854.asp.

What Stays the Same

But learning the ropes about carbs is not the same as eating healthfully. “Just because you’re covering your carb intake doesn’t mean you can throw away the basic tenets of good nutrition and eat whatever you want,” says dietician Cyndy Schroeder. “You can’t expect to eat desserts all day and stay healthy.” The basic nutritional mantra for people with type 1 remains the same for those who do not have the disease: good nutrition, variety, balance, and moderation.

Note: Your doctor may have started your newly diagnosed child on a strict fixed-dose regimen, with no insulin pump, and in that case may also recommend more consistency in carb intake than the method outlined in this article. In this case, you may want to talk with your doctor about whether adopting a more flexible regimen in the future makes sense.

ASK A MEDICAL PROFESSIONAL It Takes a Team...And a Family

By Catherine Marschilok, M.S.N., C.D.E.,
Board Certified in Advanced Diabetes Management

The anniversary of the day the uninvited guest—type 1 diabetes—came into my life to stay is one I would rather not have to acknowledge. It was exactly 15 years ago that our oldest son, David, was diagnosed with type 1 diabetes at age 8. Nine years later came the news of our daughter Amy’s type 1 diagnosis at age 21. Like many parents learning to deal with their child’s chronic condition, I had to struggle at first to let positive thoughts and actions overcome the emotions I felt: sadness, frustration, powerlessness, fear, and anger. I realized I had no power to prevent diabetes, but I did have the power to make decisions about how to deal with it, and the ability to cultivate what I needed to help our whole family.

Underlying our every action was the knowledge that we were in charge of our children’s diabetes care. However, as both a parent and a medical professional, I quickly came to see that it takes much more than caring parents to raise a child with diabetes. Rather, it takes a larger “family”—a team with key medical professionals with whom you get acquainted and recruit.

Who are the members of this team, and what should you look for them to provide?

- **Physician:** Depending on your child’s age and the availability of specialty care, your physician may be a pediatrician, primary care doctor, pediatric endocrinologist, or adult endocrinologist. He or she is responsible for the management of your child’s diabetes, prescribing necessary tests, medications, supplies, equipment, and referrals.
- A **diabetes educator** is the medical professional with special, advanced training in caring for and teaching people with

diabetes. When certified in the field of diabetes, he or she is known as a Certified Diabetes Educator (CDE). CDEs are most often registered nurses (RNs). The diabetes educator will be able to guide you and your child through the issues of living day-to-day with diabetes, and teach you about home testing and record keeping.

- A **registered dietician (RD)**, who often is also a CDE, will work with you to develop a meal plan for your child, increase your knowledge about eating well and counting carbs (see “Diabetes and Diet,” in this issue), and guide you on sports nutrition, weight control, and special occasion dining.
- A **mental health professional** (psychologist, psychiatrist, social worker) can help your child and/or the family with stress, depression, anxiety, and other emotional challenges associated with diabetes.
- The **school nurse** and other school personnel provide essential help in dealing with blood sugar testing, insulin therapy, and symptoms of blood sugar highs and lows. (*See school-related articles in the Life with Diabetes E-Newsletter, May and September 2005 issues, on the JDRF website.*)

As you assemble your team, keep in mind that your child’s health care providers must be compassionate people who can communicate well with you, your child, and each other. Remember, it is your right—and responsibility—to receive clear answers to your questions and even to switch doctors if you are not satisfied with the care and service you are receiving.

Once you have a team, I encourage you to reach out to them as often as needed, even if you have to talk to them daily, to answer your questions. I promise you, things will get easier as you gain experience and confidence.

The Rest of the “Family”

Looking beyond your health care team, I cannot stress enough the importance of the invaluable emotional support and practical advice you can receive from other people.

- Look for an adult **relative, friend or neighbor** who is willing to listen, learn, and understand what it means to have diabetes in your lives. Any friend who learns enough to care for a child with diabetes is a friend to keep.
- The same goes for **your child’s friends**. Once they learn that your child is the same person they knew who needs to be a kid and have fun, they can make such a difference. Sometimes children can be quicker than adults to learn the signs of low blood sugar and help their friend through it.
- **Teachers and day care providers** are also part of the wider diabetes “family,” and they should be involved in your child’s management plan.

- Find different **people with diabetes** you can admire. When my child was young, every time I met a new teen or young adult with diabetes I felt a bit better about my child having it. Meeting happy, healthy people who have lived well with diabetes for a long time can be a great experience. There are many such examples in the public arena: professional entertainers, athletes, businessmen, and politicians.
- Finally, and perhaps most critically, you will learn that **parents** or **family members** of people with diabetes have walked in your shoes, have most likely felt what you are feeling, and can become a tremendous source of information and inspiration. If the opportunity to meet other families is not available locally (have you tried your local JDRF Chapter?), the JDRF Online Diabetes Support Team (ODST) volunteers can fill that gap.

In closing, let me say that I have great hope that researchers will cure diabetes during my child's lifetime. They're part of the family as well. Research progress is advancing at a much more rapid pace than when I started following it 15 years ago. Recent improvements—types of insulin, delivery systems, pumps, meters, food labeling, and much more—make better management of diabetes more possible than ever before.

Putting these thoughts on paper has helped me get through this anniversary and acknowledge that there are reasons to “celebrate” it. I wish you all the best.

For further information: To locate a CDE in your area, talk to your doctor or contact the American Association of Diabetes Educators at www.aadenet.org.

ASK A TEEN Help from JDRF's Online Diabetes Support Team,

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Encourage communication with your son. Don't freak out when your son tells you that he was 384 at lunch. If he feels like a bad person for having high sugar levels it will only encourage him to hide from you. Make sure the right number of tests is made at the right time (the meter or pump memory will spill the beans on everything). That way you will know you are getting accurate information. Also,

ask your son how he thinks he is doing? Does he have any questions? (And another tip: don't forget to ask first, “How was your day?” or “What did you do in school?” Teenagers don't want to feel that their lives are dominated by their diabetes.)

Growing independence also means more work. Teens need to know how carbs, exercise, insulin and stress affect their blood sugars and what do about it to. Situations in the classroom and with friends (and later on, in college) will require them to think quickly and competently about their health. Education from my health care team and involvement in support groups, websites and camp continued to strengthen my management skills throughout my high school years, and they still do. Support is also essential because diabetes can be a very isolating illness. Your teen is not alone, but he might not realize it, and it will seem that he is the only one being nagged. Support groups also provide essential feedback for teens. Message boards, support groups and youth conferences allow teens to bring up issues like how to explain diabetes or how to handle lows or highs; and the “tricks of the trade” they learn may become lifesavers as they grow into adulthood. Your clinic or local JDRF chapter may have contact information for a support group, or they will be able to put you in contact with other families dealing with diabetes.

Just as you can't teach a teen to drive in one day, you can't teach a teen to manage diabetes in one day either. Watch how your son handles situations, guide him along in areas that he is unfamiliar with, and support him in everything. In the end, he will have an excellent road map and the confidence and tenacity to pursue his great adventure.

More information for teens with diabetes is available on the JDRF website at www.jdrf.org/teens. To obtain a copy of JDRF's publication, *Teen Countdown*, call 1-800-533-CURE or send an e-mail to info@jdrf.org

(From Allison Blass, 20, member of JDRF's Online Diabetes Support Team, college senior, and manager of DiabetesTeenTalk.com.)

Have a question? Go to the JDRF Online Diabetes Support Team at jdrf.org.