

Getting started managing Type 2 diabetes, a guide from Beyond Type 2 made possible by Roche Diabetes Care.



You know your body better than anyone. A Type 2 diabetes diagnosis means learning even more about how food, exercise, stress, and medication uniquely impacts your blood sugar levels. Your care team will help get you started, but so much of Type 2 diabetes management is in your control.

YOU GOT THIS.

THE SCIENCE OF TYPE 2 DIABETES

Type 2 diabetes is the result of the body's inability to use insulin properly, which is also called insulin resistance. Insulin is a hormone that allows your body's cells to use sugar as a source of energy. Think of insulin as a key and your cells as locks. When you consume food, your body breaks some of it down into sugar for fuel. In order for your body's cells to use that fuel, the pancreas releases insulin to carry sugar into the cells.

If the pancreas cannot release insulin, or insulin isn't working the right way, glucose builds up in the blood and diabetes occurs. Managing Type 2 diabetes means taking extra care to keep blood sugar levels balanced through some combination of diet, exercise, stress management, and medication.¹

THE BASICS OF CHECKING YOUR BLOOD SUGAR

Checking your blood sugar is important to manage Type 2 diabetes. Knowing your numbers is how you will know how to best take care of yourself. Here's how to monitor your blood.²

- Gather your supplies: blood glucose meter, lancets, and test strips.
- Wash your hands and let dry.
- Place your strip in the meter and wait until your device signals it's ready to receive a blood sample.
- Hold the lancet to your finger and press.
- Gently squeeze below the blood drop as needed, collect the sample on the test strip, and wait for the results.
- Note the results in your diabetes journal, app, or another glucose tracker.

While you and your healthcare provider will determine which blood glucose ranges and A1C targets are right for you, here are standard glucose ranges recommended for before and after meals:³

- Before meals (pre-prandial): 80-130 mg/dL (4.4-7.2 mmol/L)
- Two hours after meals (post-prandial):
 Less than 180 mg/dL (<10.0 mmol/L)



FOOD DIABETES 101

There is no one-size-fits-all diet to manage diabetes. Finding the food regime that works for you will require learning the basics on portion sizes, different food groups, and how to read a food label. With these new skills, you'll become the expert on your food choices and diabetes self-management.

One of the first steps to balancing your diet is learning about the three macronutrients: carbohydrates, fats, and proteins.



CARBOHYDRATES are sugars found in starchy vegetables (potatoes, corn, peas, beans), fruits, grains, breads, juices, and more. Sugar gets a bad rep, but diabetes is more complicated than just saying sugar causes diabetes. Your body uses carbohydrates (including sugars) for energy. Diabetes self-management requires understanding how different types and amounts of carbohydrates impact your blood sugar.

Less processed carbs such as fruits, vegetables and whole grains may impact blood sugars less than processed carbohydrates. When reviewing food labels and choosing carbs, look for the ones highest in fiber. Foods high in fiber slow digestion, lower cholesterol, and lower glucose. Focus less on highly processed and refined sources of carbs such as soft drinks, white breads, cereals, pastas, and products with added sugars.4



FATS are used as energy by your body, help absorb vitamins, and protect your heart. Heart-healthy fats (nuts, seeds, fatty fish, soy, avocados and olive oil) help protect you against cardiovascular disease, stroke, and high blood pressure.

Avoid foods high in trans and saturated fats such as shortening, fried foods, packaged foods, whole-fat products, and red meat.

If you need more help on creating your diet plan and how much of each food group you should eat, please consult a Registered Dietitian Nutritionist (RDN) or Diabetes Care and Education Specialist (DCES).4

PROTEINS are the building blocks of muscle mass and are found in your bones, skin, and hair. Proteins also promote the feelings of fullness, meaning they're a great alternative to carbohydrate-only foods without spiking your blood sugar. A combination of fats, proteins, fiber and carbohydrates regulates digestion and reduces the spike in glucose.

Sources of meat proteins include chicken, beef, fish, pork, eggs, and cheese. Plant sources of protein are beans, soy products, nuts, and seeds, which are also sources of good fats and fiber.⁴



PORTION SIZE TIPS

As you adjust your approach to food, make sure to choose foods you enjoy. You can make other adjustments to your diet by changing your portion sizes.

If you're used to eating on a large dinner plate, switch to an appetizer-sized plate. Another essential portion size tip is to read the serving sizes listed on food labels. You can also refer to MyPlate on MyPlate.gov.

If you need more help on creating your diet plan and how much of each food group you should eat, please consult a Registered Dietitian Nutritionist (RDN) or Diabetes Care and Education Specialist (DCES).

READING FOOD LABELS

Learning how to read a food label helps you identify how much of a food, and its nutrients, especially carbohydrates, you're consuming on a regular basis. When deciding on which food items to purchase, pay attention to:

SERVING SIZES: Tell you how much of the product and its nutritional value counts as one serving.

INGREDIENTS LIST: The ingredients that mostly make up the product are listed first. For example, if you're reading a label for cranberry juice and the first few ingredients are high fructose syrup, water, and cranberry juice, it means the juice is primarily made up of those items.

FOOD CLAIMS SUCH AS "FAT-FREE," "SUGAR-FREE," OR "SODIUM-FREE": While the food product may be free of fat, sugar, or sodium, it may be higher in other nutrients. For instance, a product advertised as fat-free may be higher in sugar compared to its regular counterpart. It should also be noted that no sugar added doesn't mean no carbohydrates and "sugar-free" products can still have an effect on your glucose levels. Also, remember, carbohydrates are converted into sugar by the body.

AN INTRODUCTION TO DIABETES MEDICATIONS

While some people with Type 2 diabetes manage with diet and exercise alone, there are different types of medications that may be prescribed by your doctor to help you reach your goals. Some of these medications are injectables and others are taken orally as pills.

The most common one is metformin. Metformin works by lowering the liver's glucose production while improving your body's insulin sensitivity.

Another common medication is insulin, which your healthcare provider may prescribe to help you meet your goals. Taking injected insulin may be necessary if insulin resistance remains a challenge with diet and exercise alone. It is important to remember that beginning insulin therapy does not signal a failure to manage diabetes. Type 2 diabetes is a progressive disease, and everyone's body is a little different.

OTHER DIABETES MEDICATIONS:

Always consult your care provider for guidance on the medication and treatment plan that works best for you. Everyone's diabetes is different!

SGLT2 INHIBITORS: Blocks reabsorption of glucose by the kidneys and excretes glucose through urine. Brandnames: Sulisent, Farxiga, and Jardiance.

GLP-1 RECEPTOR AGONISTS: Slows glucose absorptions, increases satiety and tells your pancreas to produce more insulin in the presence of higher blood glucose. Brand names: Victoza, Byetta, Trulicity, Ozempic, Rybelsus, Bydureon, and Adlyxin.

SULFONYLUREAS (SFUs): Help your body secrete more insulin. Brand names: Glucotrol, Amaryl, Diabinese, and Diabeta.

MEGLITINIDES: Stimulates the pancreas to secrete more insulin, but are more fast-acting than sulfonylureas. Brand names: Prandin and Starlix. THIAZOLIDINEDIONES (TZDS): Improves the body's insulin sensitivity, but isn't recommended for people at risk of heart failure or anemia. Brand names: Actos and Avandia.

DPP-4 INHIBITORS: Protects the enzyme that promotes insulin production and reduces the production of glucagon. DPP-4 inhibitors also slow digestion and decrease appetite.

ALPHA-GLUCOSIDASE INHIBITORS: Breaks down carbohydrates into smaller particles, slow digestion of carbohydrates, and delay glucose absorption. Brand names: Glyset and Precose.

EXERCISE MAKES A DIFFERENCE

Think of exercise as another tool in your toolkit for blood glucose management. When you exercise, your body is able to use sugar as an energy source for your body's cells which improves your insulin sensitivity and ability to lower blood sugar levels.

Different types of exercises will impact your glucose differently, but overall, have a positive effect on how well your body can process the food you eat. Steady-state aerobic cardio exercises such as walking, jogging,

or elliptical training will lower your blood sugar gradually; anaerobic interval training such as heavy weightlifting and high-intensity interval training may elevate your blood sugar during your workout and then drop after.⁵

The American Diabetes Association recommends at least 150 minutes of moderate aerobic exercise such as brisk walking, jogging, swimming, biking, and dancing per week. The organization also recommends performing resistance or weight training regularly.⁶ However, the key to building a consistent workout routine is to make physical activity work for you and making it fun. As you develop your routine, you'll learn which types of exercise work best for you.

DIABETES + MENTAL HEALTH

Taking care of your mental health is just as important as caring for your physical health and diabetes distress, otherwise known as the fears and worries related to diabetes, is very real. People with diabetes are more likely to experience depression due to diabetes's impact on daily life.

As you begin your life with Type 2 diabetes, you will learn how to fit management into your life. If you need support, that's normal! Seek professional help when necessary, connect with others who have Type 2 diabetes, and consider sharing your experiences.

Remember, you are not alone. There are many diabetes online communities dedicated to helping people with Type 2 diabetes. Through these online communities, people make friends, share their milestones, and share helpful tips on a variety of topics, including cooking, exercise, medications, and devices.

For more information, explore Beyond Type 2's resources on Mental Health: https://beyondtype2.org/mental-health/

YOU ARE NOT ALONE

HOW I'VE DEALT WITH MY "FRESHMAN" YEAR OF TYPE 2 DIABETES

Bill Santos was diagnosed with Type 2 diabetes in 2018. He likens adjusting to diabetes to living in a new country and reflects on the changes he made in his first "freshman" year of having Type 2 diabetes. Now, Bill advocates for people with Type 2 in diabetes online communities by sharing his experiences. Read his story below about how he adjusted to his first year with Type 2 diabetes.

HOW I DEALT WITH MY DIAGNOSIS

My history is not that exceptional; I'm in my 50s and Type 2 Diabetes runs in my family. At the time of my diagnosis,

I weighed more than 250 lbs. Within a few days of diagnosis, I made a conscious decision not to dwell on my past, but work to change my future.

Oddly enough, one of my first concerns was not about myself, but how to tell my friends and family. The first call I made was to my mother who also has type 2 diabetes. Looking back, I now see that her response to the news was unique. She skipped over the questions

that many others would ask such as how or why did I get diabetes, but instead asked supportive questions about my treatment.

Though these questions about how I developed T2D were well-intentioned, for a newly-diagnosed person, this can be very frustrating. I was learning as fast as I could about diabetes and in those first few weeks, I really struggled with explaining this disease because I was still learning how to talk about it myself. Even one year later, I was still learning how to talk about diabetes.

HOW I DEALT WITH MY DIAGNOSIS

As I learned more about diabetes, I assessed my environment to find ways to increase activity and eat better. I work in a very large building, so I committed to walking after lunch and to take longer routes to meetings. Without much additional effort, I increased my average daily walking distance by over two miles! Before diagnosis, my traditional lunch was a salad with a chicken on white rice entrée. Now, I make a larger salad with chicken and eliminated the rice.

I embraced technology to gather and log data such as daily activity, diet, and

blood glucose. To my surprise, many of the apps are pretty easy to use. I also created a spreadsheet that I update periodically. It allows me to look at trends over longer periods of time. This data is invaluable.

Implementing these changes over the last year has yielded some amazingly dramatic results. My A1C has dropped in half and I have lost over sixty pounds. By taking stock of what I was doing well and making the changes to meet the challenge of diabetes, I feel that I have a better life and a brighter future.

DIABETES IS LIKE LEARNING TO LIVE IN ANOTHER COUNTRY

Managing diabetes feels like being dropped off on the other side of the planet. It has its own culture, language, rituals, economy, and cuisine. Successful diabetes management requires the adoption of these social touchstones. Think of yourself living in another country; how successfully would you adapt to your new environment if

you learned the language, ate the local food, and participated in the local culture? Diabetes is much the same way. Learn how to eat right, exercise, take your meds, and test your blood regularly. Choosing not to do these things can only lead to isolation and loneliness in a culture you don't fully understand and the complications that follow.

Your journey with diabetes is just beginning and we're here to help you every step of the way. For more information about living with Type 2 diabetes, including nutrition, exercise, medication, and stories, as well as ways to connect with the T2D community, visit <u>BeyondType2.org</u>.

REFERENCES

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