

Living with type 1 diabetes

Managing your blood glucose

If you have type 1 diabetes, you'll need to:

- check your blood glucose (sugar) regularly
- check how much carbohydrate is in your food and drink (called carb counting)
- take insulin several times a day
- watch out for signs of hypoglycaemia (hypos) and know how to treat it

Checking your blood glucose

Checking your blood glucose is quick and easy for most people.

You'll be offered a blood glucose meter, small needles (lancets) and test strips to do finger-prick tests.

You should also be given a [continuous glucose monitor \(CGM\)](#). This gives you readings at any time and reduces the number of finger-prick tests you need to do.

It's recommended that you check your blood glucose at least 4 times a day (or at least 5 times for children), including before meals and before bed.

Check it more often when you're doing things that can affect it, such as exercise or drinking alcohol, or when you're unwell.

Carb counting

Knowing how many carbohydrates (carbs) you're eating and drinking helps you manage your blood glucose levels by matching your insulin dose to your food. This means you can be more flexible in what you eat.

You can learn about carb counting by doing a type 1 diabetes course, such as DAFNE (Dose Adjustment for Normal Eating). There are also apps that can help.

Taking insulin

You'll take insulin using an insulin pen or an insulin pump. It does not usually hurt, as the needles are very small.

You'll need to adjust your dose depending on your food and drink, your blood glucose and things like how much exercise you do.

Your diabetes nurse will show you how to use your pen or pump. It's important to change where you inject or put your pump each time, and use the right technique, to help prevent problems.

Recognising and treating hypoglycaemia (hypos)

Hypoglycaemia (a hypo) happens when your blood glucose level is too low. It usually needs to be treated if it's below 4mmol/L.

Mild hypos are common and do not usually cause any lasting problems.

They can happen when you have not had enough carbohydrates or you've taken too much insulin.

You'll need to be aware of the symptoms, such as feeling hungry or dizzy, sweating and shaking.

It's important to treat a hypo quickly, before it gets worse, by having a sugary drink or snack.

Extra pounds? Lose a little. You don't have to be a "biggest loser" or get an "extreme makeover" to enjoy big weight-loss benefits if you have diabetes. In a nationwide study of 5,145 people with type 2 diabetes, those who shed just 5 to 10 percent of their weight (for someone weighing 175 pounds, that's a loss of 9 to 17.5 pounds) were three times more likely to lower their A1C (a test of long-term blood sugar control) by 0.5 percent, a significant drop. They were also 50 percent more likely to lower their blood pressure by 5 points and twice as likely to lower their triglycerides by 40 points compared with those whose weight remained the same.

Say yes to fiber-rich foods. When people with diabetes increase the fiber in their diet, they can potentially lower blood glucose over a period of 12 weeks or less, according to a major review of 15 studies. Most people—with or without diabetes—don't get the recommended 21 to 38 grams of fiber daily. (The American Diabetes Association suggests that diabetics should aim for 14 grams of fiber for every 1,000 calories consumed in a day.) Those who participated in these

studies increased their intake by an average of 18 grams a day—the amount in a bowl of higher-fiber breakfast cereal plus a couple of extra servings of vegetables. Whenever you can, choose vegetables, whole grains, and fruit over sugary treats and bread, rolls, and other foods made with refined grains.

Get moving. Starting a regular exercise routine can help people with diabetes lower their A1C by an average of 0.3 to 0.6 percentage points. “Aim for 30 minutes of aerobic exercise—such as walking, riding an exercise bike, or swimming—at least five days a week,” Kalyani suggests. Add two to three light strength-training sessions a week and you’ll build muscle, which uses blood sugar for fuel. In one notable study of 251 people with diabetes, those who participated in aerobic exercise and strength-training every week for nearly six months saw their A1C fall by nearly 1 percent—a drop big enough to reduce risk for diabetes-related microvascular complications by a substantial 35 percent.

Know your ABCs—and beyond. “Because your risk for heart disease is higher with diabetes, it’s smart to see your doctor regularly for checks,” Kalyani says. Have your:

- A1C tested as often as your doctor recommends
- Blood pressure checked at every visit
- Cholesterol tested once a year

In addition, your doctor should check your feet at every visit. You also need an annual eye exam and a yearly kidney-function and urine microalbumin test. Have an annual flu shot and stay up-to-date with your pneumonia vaccine too, Kalyani recommends. And in general, “Talk with your doctor about what you need,” she says.

Monitor blood sugar at home too. Be sure to check your blood sugar levels as often as your doctor recommends. Testing blood glucose at

home can give you and your doctor a better idea of how well your medications are working as well as their side effects and other risks, and how your diet and exercise habits are affecting your blood sugar levels, Kalyani says. Of course, more isn't always better; some people with diabetes can safely be tested every six months without monitoring at home, so talk with your doctor about what's right for you.

Quit smoking. Nearly one in six people with diabetes are smokers. Tobacco use boosts your risk for heart disease, stroke, blood sugar control problems, vision loss, nerve damage, kidney problems, and even amputation, according to a study review published by the CDC. If you've tried to quit in the past, make another attempt. Counseling or a support group plus nicotine-replacement products and medications to help control nicotine cravings can help.