

Learning to Live Well with Diabetes

 VERMONT
DEPARTMENT OF HEALTH

VERMONT
Blueprint for Health
Smart choices. Powerful tools.



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1. Diabetes Overview

Managing diabetes can be tricky. It means paying attention to many things: food, physical activity, blood sugar, and medicine. But there are many good resources and ways to help you stay healthy. Most important: You are in charge.

This booklet will help you learn how to meet your blood sugar goals and how to prevent health problems that can otherwise arise. Share it with those who help support you. Ask your medical providers for answers to your questions.



You can download a pdf of this booklet at www.healthvermont.gov/wellness/diabetes

Neighbors: Early diagnosis helped.

"I'm glad I found out about my diabetes early enough so I can do something about it. Sure, some days it's a hassle, but I can handle it. I've actually lost a few pounds, and I'm feeling good."

What is diabetes?

Diabetes is a condition that makes your blood sugar too high, either because your body doesn't make enough insulin or the insulin it makes is not used correctly.

Your body changes much of the food you eat into sugar, also called glucose. Glucose is your body's major source of energy. A stable blood sugar level is the goal.

High blood sugar over time causes problems in many parts of the body. Blood vessels and nerves may become damaged. Risk increases for heart disease, kidney disease, blindness and pain or, sometimes, loss of feeling in feet and legs.

People who manage their diabetes and keep blood sugar and blood pressure under control prevent or delay these health problems.

What kind of diabetes do you have?

Type 1

People with type 1 diabetes don't make any insulin and must take it as a shot (injected medication). Type 1 diabetes was called juvenile or insulin-dependent diabetes, but these terms are no longer used. Type 1 is more common in children.

Type 2

Most people with type 2 diabetes can't correctly use the insulin their bodies make. This is sometimes called insulin resistance. Many people with type 2 are overweight and not physically active. Type 2 diabetes is more common in adults, but overweight younger people are also at risk.



What you should know about prediabetes

People with prediabetes have blood sugars that are higher than normal, but not as high as with diabetes. If you are overweight, have a family member with diabetes, have had gestational diabetes (during pregnancy), or are not physically active, you are at higher risk for prediabetes.

Your medical provider can tell you if you have prediabetes, and what you can do to prevent or delay diabetes. In the past, people with prediabetes have been told they have “borderline diabetes” or “impaired glucose tolerance” or that their “sugar is a little high.”

Vermont has free diabetes-prevention programs to help people with prediabetes. To find one near you call (802) 652-8196.

Numbers for Diagnosing Prediabetes and Diabetes

	Fasting Blood Sugar	A1C Test
Normal	Below 100 mg/dl	5.6% or below
Prediabetes	100 mg/dl – 125 mg/dl	5.7% – 6.4%
Diabetes	126 mg/dl or above	6.5% or above

Managing your diabetes

If you have diabetes, you can be healthy and lower your risk of health problems when you:

Eat healthy food in moderate amounts.

Are physically active with moderate intensity every day.

Check your blood sugar regularly.

Take the medicine or insulin your medical provider prescribes.

See your medical providers regularly.



Neighbors: I've learned so much.

“When my doctor told me I had diabetes, I knew I had a lot to learn. So much has changed since my mother had it. I saw her lose so much: her vision first, and eventually even her leg.

I went to see a diabetes educator and took a course. I thought the diet would be the hardest — no more of my favorite foods. But that’s not true anymore. I’m eating better meals now than I ever did.

I wish my mother had all the help I’ve been getting, and all the new information. Taking better care of myself I know that I can have a longer and healthier life than my mother had.”

What to do: Staying healthy

Go to a diabetes education program.

These are taught by certified diabetes educators – medical professionals who have special training in diabetes.

Ask your medical provider how to find the one nearest you, or see diabetes self-management education programs on page 25.

Know your ABCs.

A is for A1C, short for hemoglobin A1C. Check it every 3–6 months.
GOAL: less than 7%*

B is for blood pressure. Have it checked at every medical visit.
GOAL: less than 140/90*

C is for cholesterol. Have your cholesterol and triglycerides checked each year.
GOALS:
Total cholesterol less than 200.
LDL cholesterol less than 100.
HDL cholesterol greater than 40 for men, 50 for women
Triglycerides less than 150.

* Your medical provider may have different goals for your numbers.

Ask your medical provider whether or not you should take aspirin each day.

Have your urine albumin checked every year. **GOAL: less than 30.**

Schedule a yearly dilated-eye exam.

Have a complete foot exam every year.

See your dentist every 6 months.

Schedule an appointment with a registered dietitian.

Get your flu shot each year.

Get a pneumonia shot.

If you smoke, QUIT.

Check your blood sugar regularly.

Be physically active at least 30 minutes a day. See Section 3 on page 11.

Eat healthy foods and maintain a healthy weight. See Section 2 on page 4.



2. How to Eat Well

What you should know about food

Food is the fuel that keeps your body working. The physical activity you do, the medicine you take, your blood sugar level — all are affected by how much and what you eat.

Don't give up your favorite foods! Learn how much you can eat, how often to eat, and how to prepare healthy foods that you love.

Choose a meal plan that works well for you. There are no forbidden foods for a person with diabetes. Advising people to “just cut out sugar” is no longer true.

Foods that are healthy for you are the same foods that are healthy for all people. A dietitian, who is a food and nutrition expert, can help you make a meal plan with the foods you like. Ask your medical provider for a referral or visit www.eatrightvt.org. Local diabetes self-management education programs can help, too. See the list on page 25.

Getting started

Look for a short list of ingredients and avoid highly processed foods.

Buy whole grain breads and cereals that list 100% whole grain as the first ingredient.

Choose low-fat or fat-free dairy products like skim milk, low-fat yogurt and low-fat cheeses.

Eat plenty of vegetables — the more colorful, the better.

Season your food with small amounts of olive oil, nuts, herbs and spices. Skip the salt, butter, stick margarine, lard, shortening and fried foods.

Aim for small portions of lean meat, skinless poultry and fish. Eat canned, rinsed kidney beans and other legumes for protein.

Many beverages contain added sugars. Select drinks that won't increase your blood sugar, such as water, sparkling water or sugar-free beverages.

Avoid skipping meals or eating large amounts once or twice a day. Eat at about the same time each day.



Pay attention to portion size

Divide your plate into three sections as in the picture on the right. Draw an imaginary line through the center of your plate. Divide one of those sections into two. Fill one of the smaller sections with grains or starchy foods like rice, pasta, corn, peas or potato.

Fill the other smaller section with protein such as meat, fish, poultry or legumes (cooked dried beans). Pile up the last half of your plate with vegetables like spinach, broccoli, green beans or salad. Limit starchy vegetables. Then add a glass of milk and a piece of fruit for a healthy, portion-controlled meal.

A word about weight control

Controlling weight helps in managing diabetes. Losing even a few pounds can lower your blood sugar, especially if you were recently diagnosed with type 2 diabetes.

Weigh yourself once a week to see how you're doing. Set small realistic goals for yourself.

Neighbors: I never knew...

"The other day I had a big bagel with cream cheese for breakfast and my blood sugar was sky high all day. I didn't realize how much carbohydrate was in one bagel — almost as much as 5 pieces of toast!!! I need to watch my portions. Two pieces of toast would have been a better choice."



TIPS: Meal guidelines

- Sit down at a table to eat. Pay attention to what and how much you eat.
- Don't eat when you are doing something else such as driving or watching TV.
- Use smaller plates and glasses to keep portions in check.
- Make healthy choices and keep less healthy "treats" to small amounts on special occasions.

What's your portion size?

A good first step to control your weight is to look at the size of your portions. Compare your portions to what is considered sensible. See the tables on the right for standard portions of various foods.

Basic guidelines

Use these common objects to help you estimate portion sizes.



Baseball = 1 cup



Deck of cards = 3 oz. meat



Golf ball = 1 oz or 2 tbsp



CD/DVD = 1 oz sliced meat



9 volt battery = 1 oz cheese

Grains

Each = 15 grams of carbohydrate

1 slice (1 oz)	whole wheat bread
1/3 cup	cooked rice or pasta
1/2 cup	cooked oatmeal (<i>about 1/4 cup dry oatmeal</i>)
3/4 cup (1 oz)	unsweetened, ready-to-eat cereal (<i>such as Cheerios or Shredded Wheat</i>)

Starchy vegetables

Each = 15 grams of carbohydrate

1/2 cup	corn or peas
1/2 cup (3 oz or 1/2 medium)	boiled potato
1 cup	winter squash
1/3 cup	baked beans
1/2 cup	cooked beans (<i>such as black, garbanzo, kidney, lima, navy, pinto, white and lentils</i>)

Non-starchy vegetables

Very low in carbohydrate

Aim to eat at least 2 to 3 servings a day.

Choices include green beans, carrots, cauliflower, broccoli, cucumbers, tomatoes, mushrooms, onions, peppers and zucchini.

1 serving equals:

1 cup	raw vegetables
1/2 cup	cooked vegetables or vegetable juice

Salad greens such as lettuce, spinach and chard can be eaten in generous amounts.

Fruits

Each = 15 grams of carbohydrate

1 small	piece of fruit
1 cup	cubed melon or berries
1/2 cup	canned fruit in juice
1/4 cup	dried fruit (<i>such as raisins or dates</i>)

Milk and yogurt

Each = 15 grams of carbohydrate

1 cup	low-fat milk
1 cup	light yogurt

Lean protein sources

0 carbohydrate

Most people can have 5 to 7 ounces of protein-rich foods per day. A small portion, 3 ounces of cooked lean meat, poultry or fish, is the size of a deck of cards.

1 ounce equals:

1	egg
1/4 cup	tuna
2 tbsp	peanut butter
1/2 cup	cooked beans (<i>such as kidney beans or tofu</i>)

Healthy fats

0 carbohydrate

Use sparingly to add flavor to your meals.

1 tsp	olive, canola or peanut oil
1 tbsp	reduced-fat mayonnaise or salad dressing
4	walnut or pecan halves

What you should know about carbohydrate (carbs)

Foods that contain carbohydrates give you quick energy. Your body turns these carbohydrates into glucose (sugar), which it uses for fuel like a car uses gasoline.

Because diabetes causes sugar to build up in the blood, it is important to keep track of how much carbohydrate you eat so your blood sugar doesn't get too high.

Having diabetes does NOT mean that you need to cut carbs out of your diet!

Carb-containing foods have nutrients that are essential to health, especially if you choose high-quality carbs like whole grains, vegetables and fruits.

The key is to know how much carb you are eating and to balance those foods with physical activity and glucose-lowering medicines.

Foods that contain carbohydrate

Grains such as cereal, bread, pasta and rice

Starchy vegetables such as potatoes, kidney beans, peas and corn

Fruits and juices

Milk and yogurt

Sweets, desserts and many beverages

Counting carbs

Most women can have 45–60 grams of carbs per meal; most men can have 60–75 grams of carbs per meal. It is important to learn the number of total carbohydrate grams in the foods you eat.

One way to do this is to read the nutrition facts label. Below is the label from a 15-ounce can of baked beans.



Start by looking at the serving size.

How does your portion size compare? If your portion is smaller or larger than 1/2 cup you will need to add or subtract.

Look at the total carbs.

Note that dietary fiber and sugars are included in the total number of carbs. It's best to choose foods with higher numbers for fiber and lower numbers for sugar.

1 Nutrition Facts

Serving Size 1/2 cup (130 g)
Servings per container: About 3.5

Amount Per Serving	
Calories 130	Calories From Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0 mg	0%
Sodium 530mg	23%
Total Carbohydrate 29g	10%
Dietary Fiber 5g	20%
Sugars 12g	
Protein 6g	
Vitamin A 0%	Vitamin C 0%
Calcium 4%	Iron 10%

*Percent daily values are based on a 2,000 calorie diet.

Ingredients: Prepared white beans, water, brown sugar, sugar, tomato paste, salt, corn starch, mustard (water, vinegar, mustard seed, salt, turmeric, spices), onion powder, spices, extractive of paprika, garlic powder, and natural flavor.

3 Limit how much you eat of fat, saturated fat and sodium (salt). Use the percent daily value to get an idea of whether the food supplies a lot or a little of each. Five percent or less is low; 20% or more is high.

4 The ingredient list tells you what's in the food. Ingredients are listed in decreasing order by amount. The product contains greater amounts of the ingredients listed first, second, or third, and smaller amounts of those toward the end.



Ideas for healthy meals

Breakfast

- Enjoy a whole wheat English muffin spread with a thin layer of peanut butter. Pair with a bowl of fresh strawberries or apple slices.
- Cook up a steaming bowl of old-fashioned rolled oats. Add a few walnuts and berries for crunch, flavor and color.
- Try adding yogurt to your cereal if you don't like milk. For variety, try mixing different types of dry cereal together. A little sweetened cereal mixed in with unsweetened cereal adds some flavor.
- Make an egg sandwich with 1 egg and 2 pieces of whole wheat toast. Add fruit on the side.

Snacks

- Sprinkle air-popped popcorn with garlic powder or another seasoning for a spicy treat. Spread peanut butter on whole grain crackers, an apple or celery sticks.
- Dip baby carrots in hummus, a yummy spread made of garbanzo beans.

Lunch and dinner

- Make a turkey sandwich using whole grain bread. Top with vegetables like lettuce, tomato, onions and peppers. Have a salad or vegetable soup on the side instead of chips or fries.
- Enjoy a bowl of bean chili or lentil soup. Serve with a spinach salad lightly dressed with an olive oil-based dressing.
- Top a baked potato with low-fat cheddar and steamed broccoli. Or try other toppings such as salsa, low-fat plain yogurt, or low-fat cottage cheese.
- Grill or stir-fry chicken breasts; cook with fresh or frozen vegetables and seasonings of your choice. Serve over a small portion of brown rice.
- Top whole wheat pasta with a chunky marinara sauce. Check the fridge and add leftover meat and lots of vegetables. Serve with green beans and a salad on the side.

TIPS: A piece of cake!

What if today is your birthday and you want a piece of cake? Do you say, "Today I'm just not going to follow my diet, and if my blood sugar goes up, it's no big deal"? That's not a great idea. Instead count grams of carbs; you can figure it out.

Here's how: You know that the small potato you usually eat has 15 grams of carbs and the slice of bread is also 15 grams of carbs. A 2-inch square of frosted cake has 30 grams of carbs. Give up the potato and bread but eat (and enjoy!) the cake.

Neighbors: Hungry no more

“On most days I was exercising and watching what I ate — choosing healthy foods — but my blood sugar was still too high. My dietitian helped me learn that my portions were too big!

The blood sugar came down when I cut back on starchy foods. My dietitian also explained how to avoid being hungry. Loading up on veggies at lunch and supper helps.

Now I divide higher calorie foods into servings that match the portions on my meal plan. In restaurants I ask for appetizer-size portions, or I set aside food to take home in a doggy bag. Sometimes my wife and I split an entrée; it saves me from overeating and it also saves money.”



Sorting out the numbers

Sometimes you’ll hear the term “carb choice.” Here’s what it means.

1 carb choice = 15 grams of carbohydrate

Examples of 1 carb choice

1 slice	bread
1/2	English muffin
6	saltine type crackers
1 small	piece of fruit
1/2 cup	peas, corn, or potato
1/3 cup	cooked rice or pasta
1 cup	milk or plain yogurt

If you are hungry between meals, aim for a snack that has between 15–30 grams of carb. This equals 1–2 carb choices.

Sample menu (1600 calories)

Breakfast

1 cup	cooked oatmeal with:
4	walnut halves
2 tbsp	raisins
1 cup	skim milk

Snack

6 oz	non-fat lemon yogurt with:
1/2 cup	blueberries

Lunch

1 cup	lentil soup
1 oz	whole wheat roll
8	baby carrots with:
2 tbsp	hummus
1 cup	spinach salad with:
1 tbsp	olive oil-based dressing

Dinner

Grilled beef and vegetable kabobs with:

4 oz	lean beef
1-2 cups	onions, tomatoes, zucchini, and peppers
1 tsp	olive oil (lightly coat kabobs before grilling)

1 cup	brown rice
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Salad greens with:

1 tbsp	olive oil-based dressing
1 small	apple

A 1600-calorie meal plan is good for inactive women and some older adults. Active women and most men need closer to 2000 calories per day. Weekly weight checks help you determine if you are eating the right amount of calories.

Putting it all together

Eating the recommended number of carb servings, along with some lean protein (chicken, fish, eggs, tofu, lean beef) and a small amount of “good” fat, will provide a healthy, well-balanced meal.

Good fats include olive oil, canola oil, peanut oil, soft tub margarines (without trans fat), nuts and nut butters.

A registered dietitian can teach you more about calories, carb counting and meal planning. If you’re interested, ask your medical provider or diabetes educator for help finding a registered dietitian.



3. Physical Activity

What you should know about being physically active

Physical activity is needed by everybody. For people with diabetes it is very important.

Being physically active can help you:

Lower and improve blood sugar control.

Reduce how much medicine you need.

Decrease risk of heart attack and stroke.

Lower your blood pressure.

Lower “bad” and raise “good” cholesterol.

Improve your circulation.

Improve your health and fitness.

Reduce stress.

Reduce depression.

Increase your energy level.

Lose weight.

Lift your spirits!

The American Diabetes Association says that people with diabetes need physical activity of moderate intensity for 30 minutes on most days of the week.

In addition, muscle-strengthening activities should be included two or more days each week. This improves how your body uses the insulin that it makes. Examples of muscle-strengthening activities include lifting weights and doing push-ups and sit-ups.

Physical activity guidelines

Talk with your medical provider before beginning a program of physical activity that is more vigorous than brisk walking.

Start slowly. Try to be physically active for 30 minutes a day. You may want to divide your activity into two or three sessions during the day.

Get up and move around instead of sitting for long periods of time. Even if you are physically active during the day, sitting too long is not good for you.



What to do: Physical activity

Wear some form of identification that says you have diabetes.

Check your blood sugar before and after exercise. If the exercise is intense, you may also want to check during exercise.

Pick an activity you enjoy — walking, swimming, gardening, dancing or even climbing stairs.

Put more action into current activities you do at work or at home.

Walk more instead of driving.

Park your car farther from your destination.

Take the stairs instead of the elevator.

Put the remote control away, and get up to change the channel.

Drink plenty of water.

Keep a snack with you in case your blood sugar drops too low. It should be a quick source of sugar, for example, glucose tablets or hard candy.

Avoid foot injuries. Make sure you have shoes that fit properly.

Wear socks that draw dampness away from your feet.

Check your feet before and after exercise.

Do not exercise if:

You are not feeling well.

It is extremely hot or cold.

You have been drinking alcohol.

You take insulin and have ketones in your urine.

You take insulin and have pre-exercise blood sugar less than 100.

Stop exercise if:

You have pain.

You are short of breath.

You feel light-headed.

Check with your medical provider and your diabetes educator for other precautions and suggestions.

Neighbors: Listening to my body

“Getting enough exercise has been really tough. With my back problems, walking for 30 minutes wiped me out! I was trying to do too much too fast.

So I tried again, but this time I took it slow. The first week, five minutes; the next week, 10. When I got up to 15 minutes, I needed two weeks before I could increase the time. I’m listening to my body.

It will take a while to get up to my goal of the 30 minutes a day, but I think I can make it.”



4. Foot Care

What you should know about foot care

Prevention of foot problems is very important.

Diabetes that is not well-managed can decrease the blood flow to your feet and damage the nerves. When that happens your feet may feel numb, hot or tingly.

Diabetes can make the skin on your feet very dry, which can lead to cracks and sores. You may also get more calluses.

Foot sores take longer to heal if circulation is poor from diabetes that is not well-managed. If you have numb feet, it may be hard to feel any foot injury or infection, and it may go unnoticed for a long time.



Neighbors: Surprise in the mirror

"At my diabetes education class, they were talking about checking your feet every day. Boring! What changes so quickly? Well, feeling a little stupid, I get a hand mirror and start looking at the soles of my feet. Nothing hurts or itches. Seems silly.

Then I see it and I can't believe it! A needle — sticking right out of my foot! And it's broken off.

Well, I got myself to the doctor right away. You don't fool around with even a little hole in the foot. Even I know that. I just never expected to find one. I'm glad I looked."

What to do: Foot care

1. Keep your blood sugar in good control.

2. Check your feet every day for cuts, scratches, blisters, red spots and swelling.

- Use a mirror to check the bottoms of your feet or ask a family member for help if you have trouble seeing.
 - Treat cuts right away. Wash with soap and apply a mild antiseptic. Cover with a dry sterile bandage.
-

3. Wash your feet every day using mild soap in warm — not hot — water. But don't soak them for a long time.

- Don't test bath water with your feet.
 - Don't use hot water bottles or heating pads.
 - Dry your feet well, especially between your toes.
-

4. Keep the skin soft and smooth.

- Rub a thin coat of skin lotion over the tops and bottoms of your feet, but not between your toes.
 - Don't use sharp objects or chemicals to remove corns or calluses.
-

5. If you can see and reach your toenails, trim them often, straight across.

- If your nails are very thick, a foot doctor (podiatrist) can help cut them.
-

6. Wear comfortable shoes that fit well and protect your feet at all times.

- Never walk barefoot at the beach, pool or even inside.
 - Check inside your shoes every time before putting them on to make sure the lining is smooth and there are no objects inside.
 - Wear socks that are smooth on the inside.
 - Do not wear sandals with a thong between the toes.
 - Buy your shoes at the end of the day to make sure they fit if your feet swell.
 - If you have “high-risk” feet, you can get special shoes made for people with diabetes. See your podiatrist to get measured properly.
-

7. Keep the blood flowing to your feet.

- Put your feet up when sitting.
 - Wiggle your toes and move your ankles up and down for 5 minutes 2 or 3 times a day.
 - Don't cross your legs for long periods of time.
 - Don't smoke.
-

8. Have your medical provider check your feet for problems briefly at every visit.

- Take off your shoes and socks as soon as you enter the treatment room.
-

9. Call your medical provider right away if you find a cut, sore, blister or bruise on your foot that does not begin to heal after one day.



5. Blood Sugar

Keeping your blood sugar, also known as blood glucose, at the right level is very important for managing your diabetes.

Sometimes your blood sugar will be too high or too low. This can happen for many reasons.

It is important for you to **know when** your blood sugar is too high or too low and **what to do** about it.

Neighbors: When getting stuck is good.

"I couldn't imagine sticking my own finger, but the nurse showed me how. It's actually not so bad. The important thing is to prevent the really bad things that diabetes can cause if you don't keep a close watch on that blood sugar."



Checking your blood sugar

There are two blood sugar tests that help you manage your diabetes. One is called blood glucose self-monitoring, or "finger sticks," when you check your own blood sugar with a glucose meter. The other test, done by your medical provider, is called an A1C. This measures your average blood sugar over the past two to three months.

A1C

Most people have an A1C test done two to four times per year. The American Diabetes Association recommends that the A1C should be less than 7%.

Ask your medical provider to determine:

Your specific blood sugar goals.

What times to check your blood sugar, usually before or two hours after a meal.

How many times to check your blood sugar each day or each week.

Self-Monitoring of Blood Glucose

The American Diabetes Association recommends that blood sugar for most people should be:

Between 70 mg/dl and 130 mg/dl before meals.

Less than 180 1–2 hours after a meal.

Your medical provider may have different guidelines for you.

What you need

Once you know when and how often to check blood sugar, you will need a few things.

Blood glucose meter and test strips

There are many types of meters. Your diabetes educator or medical provider may prescribe or give you one. Check to see what brand of meter your insurance covers, so that you get the right supplies (test strips) at a good cost. Use the 1-800 number on your meter to call for answers to questions.



Lancing device (also called a lancet)

To check your blood sugar you must prick your skin to get a drop of blood. You use a lancing device like the one pictured below.



Some meters can be used on places other than your fingers.

How to check your blood sugar

Your medical provider can teach you how to use your meter and lancing device.

- 1 Wash your hands with soap and warm water.
- 2 Rub the area until it feels warm before sticking.
- 3 Stick the side of the finger. It hurts less than the fingertip. Gently squeeze the finger to increase the size of the drop of blood.
- 4 Touch the meter test strip to the drop of blood.

Caution: Only fingers should be used to check for low blood sugar. Low blood sugar registers more quickly there.

How often should you check your blood sugar?

Blood sugar is usually checked two to four times a day: either before meals or two hours after meals and at bedtime.

Check your blood sugar more often:

If you have symptoms of low blood sugar (hypoglycemia).

If you have symptoms of high blood sugar (hyperglycemia).

To learn how meals, medicine and physical activity affect your blood sugar.

If your diabetes medicine changes.

If you begin taking other kinds of medicine.

If your physical activity level changes.

If you are sick or have increased stress.

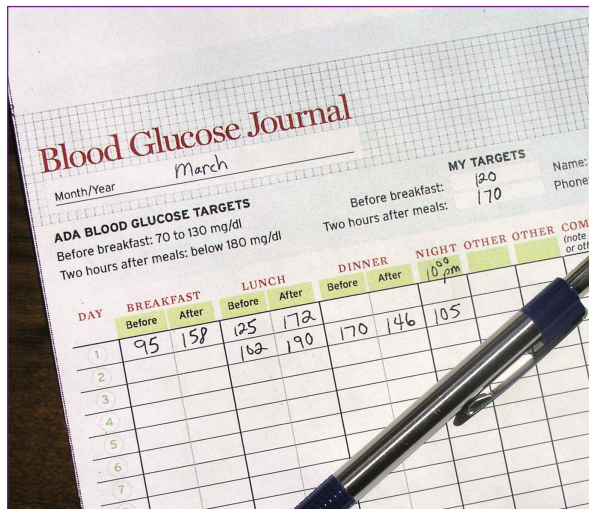
TIPS: Making it easier

- Alternate fingers and sides of fingers.
- Make sure you drink plenty of fluids every day. This makes testing your blood sugar easier.
- If you have trouble getting a drop of blood, massage the finger gently and hold it below the waist before sticking your finger.

What the numbers mean

A blood glucose meter is like a speedometer in a car. They both help to keep numbers — driving speed or blood glucose — in a safe range. But high blood glucose doesn't mean that you are bad. It just means that you may need to make some changes.

The results you get when you check your blood glucose can help you make adjustments to medicine, food intake and level of physical activity.



Bring your log book, recording sheet or smart phone tracker and your meter to each medical appointment. Your medical provider will help you figure out if you need to make adjustments in your daily routines.

Neighbors: The numbers game

"I sometimes feel like I'm drowning in numbers — doing lots of finger sticks, writing the numbers in my book and trying to figure out what they mean.

Sometimes I know why the number is high, but occasionally I can't figure it out. I used to think of finger sticks as blood sugar 'tests.'

But my diabetes educator said there's no passing or failing, no good or bad numbers. Instead she told me to think about finger sticks as checks to stay healthy or to help figure out how to get back on track.

My blood sugar numbers go up and down. While I can't always figure out why, most of the time I can make the numbers move in the right direction with exercise, food choices or a change in medicine.

I'm the chief detective on my health care team, checking and reporting my blood sugar numbers and other information to get the help that I need."

TIPS: Disposing of sharps

- Needles
- Syringes
- Lancets
- Other sharp objects

Place them in an empty plastic bottle or container with a screw-type cap. A detergent bottle works well.

Before discarding the bottle, tightly close the cap and place heavy tape over the closed cap.

Throw away this bottle with your household trash. Clearly label the bottle with a warning: "DO NOT RECYCLE."



High Blood Sugar

Hyperglycemia is the medical word for high blood sugar. High blood sugar can occur either slowly or quickly.

When your blood sugar goes up and stays high, it means that your diabetes is out of control. If your blood sugar gets too high, you may have one or more of the following symptoms.

Symptoms of high blood sugar

Increased thirst

Increased hunger

Frequent need to urinate

Dry itchy skin

Tired or sleepy feeling

Blurry vision

Nausea or feeling sick to your stomach

Breathing problems

Reasons for high blood sugar

Not taking your medicine as directed

Expired insulin (insulin that is too old or was not stored properly)

Getting sick or having other kinds of stress (physical or emotional)

Eating too much (especially carbohydrates)

Not getting your normal amount of physical activity

Taking steroids or other medicines that can affect your blood sugar

What to do: High blood sugar

Check your blood sugar anytime you think it may be too high.

If your blood sugar is higher than normal, but you feel well:

Take your usual medicines at the usual times.

Move more, even if it's around your house or at work.

Drink several glasses of water or sugar-free liquids (without caffeine).

Eat your regularly planned meals.

Check and record your blood sugar every four hours until it is back to normal.

If you have type 1 diabetes you should also check your urine for ketones every 4 hours, and record the results, until back to normal.

Call your medical provider if:

You are vomiting, confused, sleepy or short of breath or feel dehydrated.

Your blood sugar stays above 180 mg/dl for more than 1 week.

You have 2 consecutive blood sugar levels of more than 300 mg/dl.

Your urine shows moderate or large amounts of ketones.



Low Blood Sugar

Hypoglycemia is the medical word for low blood sugar. When the amount of sugar in your blood becomes too low, your body cannot work the way it should. Most people with diabetes don't feel well if their blood sugar drops below 70 mg/dl. Low blood sugar occurs most often in people who are taking certain pills or insulin for their diabetes.

If you are managing your blood sugar through diet and exercise, it is unlikely that you will develop low blood sugar. If your blood sugar begins to fall too low, you may have one or more of the following symptoms or feelings. Talk with your medical provider about how to prevent low blood sugar.

Symptoms of low blood sugar

Shaky or weak

Sweaty

Clumsy

A fast heart beat (palpitations)

Hungry

Headache

Light-headed

Nervous

Confused

Tired

Angry

Tingly around the mouth

Reasons for low blood sugar

Skipping meals or snacks

Taking too much medication/insulin

Eating meals or snacks at different times

Taking medication at different times

Getting more exercise than usual

Drinking alcohol

What to do: Low blood sugar

If you think your blood sugar is too low, **check your blood sugar right away!** If you don't feel well enough to check, assume your blood sugar is too low.



If your blood sugar is low (less than 70) eat or drink a quick-acting source of carbohydrate

4	glucose tablets*
1 tube	glucose gel*
1/2 cup	fruit juice
6-8 small	hard candies
1 cup	skim milk
small box (1/2 oz.)	raisins

* Taking glucose is the preferred treatment for low blood sugar.

Check your blood sugar again in 15 minutes.

If your blood sugar is still too low (less than 70) eat or drink a quick-acting source of glucose again and recheck your blood sugar in 15 minutes.

After successfully treating your low blood sugar, if your next meal is more than one hour away, have one of the following:

- A glass of milk
- Cheese with some crackers
- Half a sandwich

Call your medical provider or 911 if:

You still don't feel well and aren't sure what to do next.

You begin to feel worse at any time.

6. Sick Care

When you are sick your blood sugar can rise.

You may not feel like eating the same foods. You may be less active. You may have vomiting or diarrhea and can't eat.

Some medicines you might take for colds, coughs or pain may cause your blood sugar to go up. Be sure to discuss all medicines — even those you can get without a prescription — with your medical provider or pharmacist.

What to do: Sick care

Check your blood sugar more often.

Take your temperature.

Drink plenty of sugar-free fluid (without caffeine) every hour. Bouillon or canned clear soups can also be good.

Take your usual diabetes medicines.

If you have type 1 diabetes, check the ketones in your urine.

Eat if you can.

Be in touch with your medical provider, who can help you manage your blood sugar during this time.

Preventing Illness

Staying healthy and preventing illness such as flu and pneumonia are especially important if you have diabetes. Pneumonia or the flu can be serious. Getting a flu shot and a pneumonia vaccine can help prevent these illnesses.

Flu

The flu shot is safe. It cannot give you the flu. Your family should also get a flu shot to protect you and them. You need to get a new flu shot every year. Flu shots are covered by most insurances. There are many flu shot clinics in Vermont for high-risk people, including people with diabetes.

Pneumonia

The pneumonia vaccine is given by a shot. It cannot give you pneumonia. You may have very mild side effects, such as redness or pain where the shot was given. Most people need to get the shot only one time. Some people who get the shot when they are under age 65 will need to get a second shot five years later. The pneumonia shot can be given any time during the year.

Get help if you:

Can't eat or keep food down (if you vomit more than once).

Have diarrhea more than 5 times, or for more than 6 hours.

Have very low or very high blood sugar.

Have moderate or large amounts of ketones in your urine.

Are having trouble breathing.

Are confused.

Feel sleepier than usual.

TIPS: Plan ahead for sick days

- Talk to your dietitian about foods that are good to eat if you are sick and don't feel like eating.
- Talk to your medical provider about the best kind of medicine to take for headaches, stuffy nose, cough, nausea.
- Talk to your medical provider to find out: When you should call if you are sick. When you should get help right away.
- Write all these things down.
- Keep sick day supplies on hand.

7. Diabetes Medicines

Most medicines should be taken at about the same time each day. Medicines should always be taken as directed.

Talk with your medical provider, diabetes educator, or pharmacist:

About what the medicine is supposed to do in your body.

About when to take your medicine.

About what you should do if you miss a dose.

About possible side effects of the medicines.

Before stopping any of your medications.

Before you start any herbal medicines or dietary supplements.

Help paying for medicines

Do you struggle with the cost of your diabetes medicines? You should not skip taking medicine because of the cost. Be sure to let your medical provider know if cost is a problem for you. You may be eligible for assistance. The following resources may also help.

Healthy Vermonters Prescription Drug Program

This program is for those who have no insurance for prescription medicines or those who do not have enough income to pay for medicines. Call (800) 250-8427.

Medicare Part D

Medicare provides a prescription drug plan regardless of income, health status or prescription drug usage. www.medicare.gov or call (800) 633-4227. Contact your local State Health Insurance and Assistance Program regional coordinator at your Area Agency on Aging to guide you through the plan selection process.

Veterans Administration

Call (866) 687-8387.

Partnership for Prescription Assistance (PPARx)

PPARx is a one-stop site for applying for free or low-cost medications from drug manufacturers. It is a national program. They will determine if you are eligible for programs from the drug manufacturers or from other plans. More information is available at www.pparx.org

NeedyMeds

NeedyMeds is a nonprofit organization devoted to helping people afford their medications. www.needymeds.org



TIPS:

Help your medicines help you

- Take your medicines on time and in the correct amounts.
- If you want to stop taking a medicine or cut down the amount for any reason, discuss it with your medical provider first.
- Tell your medical provider about all the medicines you use, even over-the-counter products, vitamins and supplements.
- Keep an up-to-date list of your medicines to take with you to all medical appointments.
- Keep the list posted in a place that's easy to notice like inside a kitchen cabinet or on the back of your door.
- Keep all your medicines in labeled containers.
- If you forget to take your medicine, do not double up on the next dose.

What you should know about insulin

Insulin helps lower blood sugar by moving sugar from the blood into your cells. Once inside the cells, sugar provides energy. If your body doesn't make enough insulin, you will need to use insulin by injection (shots). Insulin lowers your blood sugar whether you eat or not.

There are different types of insulin. Some work very quickly, some are longer acting. Often people use two types of insulin to manage their blood sugars. They all help to lower blood sugar. Your medical provider or diabetes educator will teach you how to use insulin.

Injecting insulin — which part of your body?

Insulin given in the belly is absorbed the best. If you will be doing exercise using the arm(s) or the leg(s), it is better to give the insulin in an area not directly being exercised. Otherwise, the insulin will be used too fast. For example, if you are playing tennis, don't inject the arm with which you swing the racquet.

It is better not to take insulin just before a warm bath or shower since the warmth will cause the insulin to be absorbed faster.

Is an insulin pump for you?

If you have been taking multiple daily shots of insulin for awhile, counting your carbs and checking your blood sugar often, you might want to talk with your medical providers about an insulin pump.

An insulin pump provides a steady amount of background (basal) insulin over a 24-hour period with additional (bolus) insulin given to cover meals and snacks. Many people like the flexibility that an insulin pump provides. If you think this is something you might like, talk to your diabetes educator or medical provider.

8. Resources

Vermont resources

Diabetes Program

Vermont Department of Health

Resources for self-managing diabetes and checking risk for diabetes and prediabetes; (802) 863-7330
healthvermont.gov/wellness/diabetes

You First

Vermont Department of Health

Eligible Vermonters can receive free breast, cervical and heart screenings, diagnostic tests and heart healthy lifestyle programs; (800) 508-2222;
healthvermont.gov/youfirst

Get Moving Vermont

Vermont Governor's Council on Physical Fitness and Sports

Guidelines and tips for increasing and maintain physical activity;
vermontfitness.org/links/get-moving-vermont/

MY HEALTHY VERMONT

My Healthy Vermont Workshops

Free workshops for people at risk of developing diabetes or currently living with diabetes and other chronic conditions. Learn more and find workshops in your area;
myhealthyvt.org

Vermont Association for the Blind and Visually Impaired

(800) 639-5861; vabvi.org

Vermont Division for the Blind and Visually Impaired

(888) 405-5005; dbvi.vermont.gov

Vermont 2-1-1

Community resources for everyday needs and difficult times;
To call, dial 211; vermont211.org

Trying to quit smoking?

In addition to **Quit Partners**, available by phone or in person, **802Quits** offers free nicotine replacement – gum, patches or lozenges – to all Vermonters.

You can quit. We can help. Visit www.802Quits.org or call (800) QUIT-NOW (784-8669)



National resources

American Diabetes Association

(800) 342-2383; www.diabetes.org

Academy of Nutrition and Dietetics

(800) 877-1600; www.eatright.org

National Diabetes Education Program

While visiting this site look for videos and tools available at Diabetes HealthSense; www.ndep.nih.gov

Medicare Information

(800) 633-4227; www.medicare.gov

National Diabetes Information Clearinghouse

(800) 860-8747; www.diabetes.niddk.nih.gov

Centers for Disease Control and Prevention

Diabetes information; www.cdc.gov/diabetes

Magazines

Diabetes Forecast

(800) 806-7801; www.forecast.diabetes.org

Diabetes Self-Management

(800) 234-0923; www.diabetesselfmanagement.com

Mobile Apps

Lose It!

www.loseit.com

My Fitness Pal

www.myfitnesspal.com/apps

Glucose Buddy

www.glucosebuddy.com/glucose_buddy_app

Other things you should know

Ask your medical provider or diabetes educator about:

What to do if you are feeling sad or angry or are having trouble coping with your diabetes.

How to manage stress.

Nerve damage (neuropathy) and how it affects many parts of the body.

How diabetes affects sexual health.

Dental health.

Safe-driving guidelines.

When to adjust your medications for vigorous exercise.

Why smoking cessation is so important.

What to do if you are traveling.

Resources to help you learn more

Registered dietitians can help you understand meal planning, carb counting and nutrition.

Diabetes educators can help you understand and manage your diabetes, including how to give insulin, check blood sugar and use insulin pens and pumps.

Pharmacists can help you understand your medications.

Podiatrists can help you care for your feet.

Diabetes magazines can help you learn about the latest research, news, tools and tips to manage your diabetes.

Diabetes programs are offered all over the state and are usually covered by insurance. Check the list on the next page for the one closest to you.

Support groups are located in many areas of Vermont. Check with your medical provider or diabetes educator about a support group meeting near you.

Diabetes self-management education programs

Brattleboro Memorial Hospital*

Brattleboro (802) 251-8604

Central Vermont Medical Center*

Barre (802) 371-4378

Berlin (802) 371-5903

Montpelier (802) 223-4738

Community Health Centers of the Rutland Region*

Brandon (802) 247-6305

Castleton (802) 468-5641

West Pawlet (802) 645-0580

Rutland (802) 773-3386

Copley Hospital Diabetes Education Program

Morrisville (802) 888-8226

Cottage Hospital Diabetes Education*

Woodsville, NH (603) 747-9000

Diabetes Center of the Lamoille Valley at Johnson Health Clinic

Johnson (802) 635-6689

University of Vermont Medical Center*

Children's Specialty Center at Vermont Children's Hospital

Burlington (802) 847-6200

For Adults: Endocrinology & Diabetes

South Burlington (802) 847-4576

Gifford Medical Center*

Randolph (802) 728-7100

Mount Ascutney Hospital and Health Care Center*

Windsor (802) 674-7198

North Country Hospital

Newport (802) 334-4155

Northeastern Vermont Regional Hospital

St. Johnsbury (802) 748-7433

Northwestern Medical Center*

St. Albans (802) 524-8849

Porter Medical Center

Middlebury (802) 388-4723

Rutland Diabetes and Endocrinology Center*

Rutland (802) 775-7844

Southwestern Vermont Medical Center

Bennington (802) 447-5319

Springfield Medical Care Systems*

Springfield (802) 886-8998

The Health Center

Plainfield (802) 454-8336

Veterans Administration*

White River Jct. (802) 296-6397

Dartmouth Hitchcock Medical Center*

Lebanon, NH (603) 653-9877 for Children's Services

Lebanon, NH (603) 650-8630 for Adult's Services

* These programs are either accredited by the American Association of Diabetes educators or recognized by the American Diabetes Association.

Other self-management programs are available through the Vermont Blueprint for Health. Check the link for My Healthy Vermont Workshops on page 23.

This guide is not meant to cover every topic about diabetes, nor is it a substitute for the advice of trained professionals.

A person with diabetes should get regularly scheduled check-ups from a qualified medical provider.

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