



What is Diabetes?

For Patients in the Hospital

This book was developed by the diabetes educators at Bronson Healthcare. Resources used in the development include:

American Association of Diabetes Educators

The Art and Science of Diabetes Self-Management Education Desk Reference
Fourth Edition 2017

American Diabetes Association

Standards of Medical Care in Diabetes 2019
Diabetes Care 2019;42(Suppl.1):S1-S2
Fifth Edition 2014

Table of Contents

What Is Diabetes?	4
Type 1 Diabetes	
Type 2 Diabetes	
Latent Autoimmune Diabetes of Adulthood (LADA)	
Healthy Eating	9
Carbohydrate Counting	
Label Reading	
Being Active	18
Types of Physical Activity	
Levels of Physical Activity	
Monitoring	20
Self-Monitoring Blood Sugar	
Blood Sugar Targets	
Hemoglobin A1C	
High Blood Sugar (Hyperglycemia)	
Diabetic Ketoacidosis (DKA)	
Low Blood Sugar (Hypoglycemia)	
Taking Medicines	29
Non-Insulin Medicines	
Insulin	
Types of Insulin	
Injecting Insulin	
Care of Insulin	
Complications and Reducing Risks	38
Retinopathy	
Peripheral Neuropathy	
Autonomic Neuropathy	
Nephropathy	
Cardiovascular Disease	
Stroke	
Poor Circulation	
Dental Complications	
Vaccinations	

Healthy Coping	41
Depression	
Stress	
Problem Solving	43
Driving and Traveling with Diabetes	
Diabetes in the Workplace	
Medical Identification (ID)	
Putting the Pieces Together	
Know your Goals	
Advocating for Your Health	
Resources & Notes	47
Glucose Log	50

WHAT IS DIABETES?

With diabetes, the body is not able to use glucose (sugar) for energy. When sugar builds up in the blood it is called high blood sugar or hyperglycemia. Diabetes is a lifelong condition that cannot be cured. However, it can be controlled.

There are several types of diabetes:

- Prediabetes
- Gestational Diabetes
- Type 1 Diabetes
- Type 2 Diabetes
- Latent Autoimmune Diabetes of Adulthood (LADA)

Diagnosing Diabetes

There are several ways to test for diabetes:

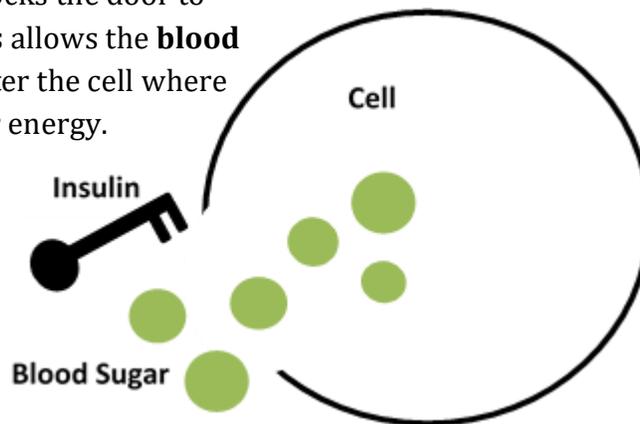
- **Hemoglobin A1C test:** shows a 2-3 month average of all blood sugar levels.
- **Fasting glucose test:** shows blood sugar level after no food or drink for 8 or more hours.
- **Random glucose test:** may be done any time of the day.
- **2-hour oral glucose tolerance test (OGTT):** shows blood sugar level two hours after drinking 75 grams of glucose.

Diagnosis	A1C	Fasting Test	Random Test	OGTT
Diabetes	6.5% or higher	126 mg/dL or higher	200 mg/dL or higher	200 mg/dL or higher
Prediabetes	5.7%-6.4%	100-125 mg/dL	140-199 mg/dL	140-199 mg/dL
No Diabetes	Less than 5.7%	Less than 100 mg/dL	Less than 140 mg/dL	Less than 140 mg/dL

How the Body Uses Energy

Your body uses sugar for energy. Sugar comes from the food you eat and from your liver. The sugar then enters the bloodstream, causing the pancreas to release insulin. Insulin is a hormone that opens the cells in our body, like a key opening a door. Once the cells are open, the sugar can move from the blood into the cells. Once sugar is in the cells it can be used for energy. With diabetes, either the pancreas does not make enough insulin OR the insulin does not work the way it should. This leads to the sugar staying in the blood, causing high blood sugar levels.

Insulin unlocks the door to the cell. This allows the **blood sugar** to enter the cell where it is used for energy.



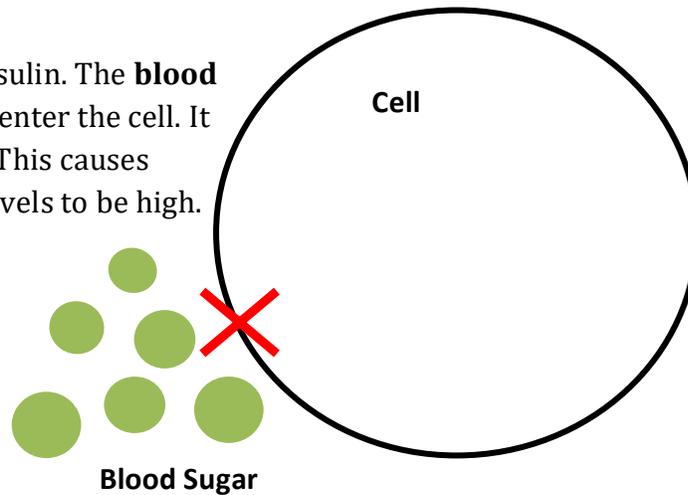
Prediabetes

Prediabetes describes higher than normal blood sugar levels but not as high as diabetes. Prediabetes increases your risk for developing type 2 diabetes. A healthy lifestyle may help to delay or prevent type 2 diabetes.

Type 1 Diabetes

Type 1 diabetes is an autoimmune disorder where the immune system attacks certain cells of the pancreas. These are the cells that make insulin. When these cells are destroyed, they cannot make insulin. Without insulin, sugar builds up in the bloodstream. Type 1 diabetes accounts for about 5-10% of all diabetes.

There is no insulin. The **blood sugar** cannot enter the cell. It is locked out. This causes blood sugar levels to be high.



Type 1 diabetes can develop very quickly. Symptoms include:

- Increased hunger
- Increased thirst
- Unplanned weight loss
- Behavior changes
- Feeling tired
- Increased urination

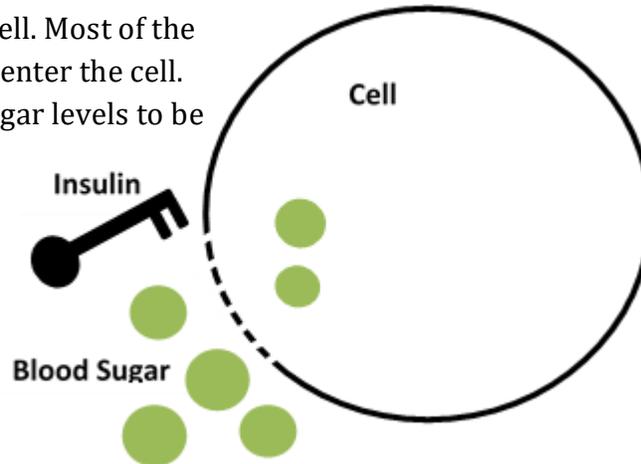
Type 1 diabetes is usually diagnosed before age 30. The exact cause of type 1 diabetes is unknown. Risk factors for developing type 1 diabetes include:

- Family history
- Certain racial groups: Caucasian

Type 2 Diabetes

Type 2 diabetes is a condition where the pancreas is producing insulin but the insulin is not used properly (insulin resistance). Insulin tries to open the cells to let sugar in. The cells do not open causing blood sugar levels to rise. It is as if you have the key but the lock is broken and you cannot get in. Over time, the pancreas may also start making less insulin (insulin deficiency). Type 2 diabetes accounts for 90-95% of all diabetes.

Insulin tries to unlock the cell. The cell does not open well. Most of the **blood sugar** cannot enter the cell. This causes blood sugar levels to be high.



Symptoms of type 2 diabetes include:

- Increased hunger
- Increased thirst
- Increased urination
- Blurred vision
- Frequent infections
- Feeling tired
- Dry, itchy skin
- Problems with sexual function
- Slow healing cuts and sores
- Numbness or tingling in hands or feet

Risk factors for developing type 2 diabetes include:

- Being age 45 or older
- Being overweight
- Family history (parent, sibling, or child)
- History of prediabetes
- Diabetes during pregnancy (gestational diabetes)
- Little or no regular physical activity
- Heart disease
- High blood pressure
- Low HDL cholesterol
- High triglycerides
- Polycystic ovary syndrome (PCOS)
- Acanthosis nigricans (dark, thickened skin around neck or armpits)
- Belong to certain ethnic groups: African-American, Asian-American, Latino or Hispanic-American, Native American, or Pacific Islander

Latent Autoimmune Diabetes of Adulthood (LADA)

LADA has aspects of both type 1 and type 2 diabetes. It is also called type 1.5 diabetes. It is a slow progressing form of autoimmune diabetes (Type 1). People with LADA have insulin resistance, but at levels, less than in type 2 diabetes. LADA is usually diagnosed at 25 years of age or older in individuals without a family history of type 2 diabetes. Initial treatment may include oral medicines. Over time, treatment with insulin is needed to manage blood sugar levels.

HEALTHY EATING

Eating well is an important tool for managing your diabetes. A well-balanced diet can help you maintain a healthy weight and keep your blood sugar in range. Food is made of three main nutrients that supply your body with energy: carbohydrate, protein and fat. Each of these nutrients does something different in your body.

Carbohydrates (Carbs):

- Are your body's main source of energy.
- Are broken down into glucose (sugar) to be used by your body's cells for energy.
- Raise your blood sugar.

Protein:

- Is used by your body to build and repair tissue, like muscles.
- Some foods contain both protein and carbs, like dried beans.
- Has very little effect on blood sugar levels.

Fat:

- Helps your body absorb certain nutrients, like vitamins E and K.
- Helps protect your organs and keep your body warm.
- Has very little effect on blood sugar levels.

Carbohydrate Counting

Since carbs are the nutrient with the biggest effect on blood sugar, people with diabetes often count carbs. Even though carbs raise blood sugar, they should not be avoided. They provide your body with nutrition and energy. Some carb foods are more nutritious than others. Your blood sugar increases when you eat carbs regardless of the type you are eating. Your dietitian will help you with a personal meal plan.

There are three main types of carbohydrate:

- Sugar
- Starch
- Fiber

Foods with carbohydrate include:

- Grains
- Beans and lentils
- Starchy vegetables
- Fruits and fruit juice
- Milk and yogurt
- Sweets and sugary drinks

Reading Labels for Carbohydrate Counting

To understand how many carbs you are eating, it is important to look at the Nutrition Facts label. Focus on the serving size, total carb, dietary fiber, and sugars.

Serving Size

The nutrition information on the label is based on the serving size listed at the top. The container may have more than one serving. If you eat double the serving size, the nutrients will be doubled as well. Knowing the serving size will help you determine how much you can eat based on your meal plan.

Total Carbohydrate

This is the total amount of carb in one serving. The total carb includes all starches, dietary fibers, and sugars that will raise your blood sugar. Your dietitian can provide you with the number of carbs that are right for you.

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	8%
Total Sugars 12g	24%
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%
<small>* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.</small>	

Dietary Fiber

Fiber is a type of carb. It is included in the amount of total carb listed on the label. Fiber is associated with many health benefits, including digestive health and blood sugar control. Aim for 20-35 grams of fiber per day from whole grains, beans, fruits, and vegetables.

Sugars

Sugar is a type of carbohydrate. It is included in the amount of total carb listed on the label. Total sugars include sugars that occur naturally in foods as well as sugars added during processing (added sugars). Natural sugars are found in nutritious foods like fruit and milk. Added sugars are found in less nutritious foods like candy and other sweets. Limit added sugars.

Additional Carbohydrate Counting Tools

In addition to reading nutrition labels, there are other tools to use in finding the amount of carbs in foods.

Smartphone Downloadable Apps (free)

- CalorieKing
- ControlMyWeight (iOS only)
- MyFitnessPal
- Lose It!
- mySugr (diabetes tracker)
- Macros
- MyNetDiary
- Foodvisor

Websites

- Calorie King: <http://www.calorieking.com>
- WebMD: <https://www.webmd.com/diet/healthtool-food-calorie-counter>
- My Fitness Pal: <https://www.myfitnesspal.com/food/calorie-chart-nutrition-facts>
- Eating Well: <http://www.eatingwell.com> (recipes)
- Diabetes Food Hub: <http://www.diabetesfoodhub.org> (recipes)
- American Heart Association: <http://www.recipes.heart.org> (recipes)

Books

- *The CalorieKing Calorie, Fat & Carbohydrate Counter* by Allan Borushek
- *The Complete Guide to Carb Counting*, 3rd Edition by the American Diabetes Association

How Many Carbohydrates Do I Need?

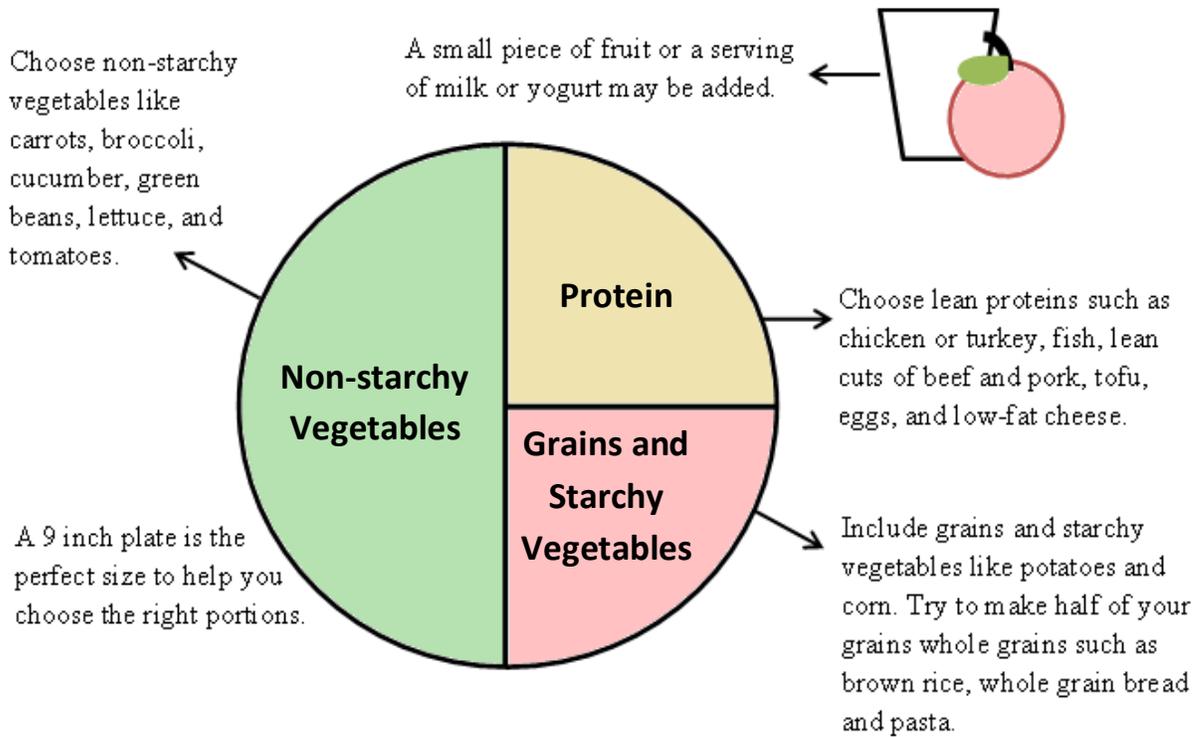
The amount of carbs that are right varies from person to person. It is based on age, height, weight, gender, activity level and personal preference. Your dietitian will be able to tell you how many carbs are a good amount for you.

Timing of Meals and Snacks

The more you eat at one time, the harder it is to control your blood sugar. Use the following guidelines to try to eat regular meals and snacks:

- Spread carbs throughout the day.
- Avoid skipping meals which can lead to overeating later.
- Eat every 4-5 hours during the day.
- Eat small snacks between meals if you need them.
- Keep your overnight fasting time between 8 and 10 hours.

□ **Option 1: Plate Method**



□ **Option 2: Carbohydrate Counting**

Meal	Carbohydrate Grams	Sample Menu
Breakfast		
Snack		
Lunch		
Snack		
Dinner		
Snack		

Carbohydrate Content of Common Foods

Grains	Serving Size	Carbohydrate Grams
Bagel	Large (4-5 inches)	48-67
Bread (white or whole wheat)	1 slice	12-22
Bun (hamburger or hotdog)	1 bun (1.5 oz)	18-23
Cereal, cooked, unsweetened	½ cup	13-19
Cereal, granola	½ cup	25-45
Cereal, ready-to-eat, sweetened	¾ cup	22-30
Cereal, ready-to-eat, unsweetened	¾ cup	15-22
Couscous, cooked	½ cup	18-23
English Muffin	1 whole	22-30
Pancake or Waffle	1 (4 inches)	11-15
Pasta, cooked	1 cup	37-45
Quinoa, cooked	½ cup	20
Rice, cooked	1 cup	45
Roll	1 roll (1 oz)	13-15
Tortilla	2 corn or 1 flour (6 inches)	18-22

Beans and Lentils	Serving Size	Carbohydrate Grams
Baked Beans	½ cup	25-30
Beans, cooked (black, pinto, etc.)	½ cup	13-18
Lentils or Split Peas, cooked	½ cup	18-21
Refried beans, canned	½ cup	15-20

Starchy Vegetables	Serving Size	Carbohydrate Grams
Corn	1 cup	28-32
Lima Beans	½ cup	15-20
Mixed Vegetables	1 cups	15-20
Peas	½ cup	11-13
Potato, baked (sweet or white)	1 whole, 4 inches (6 oz)	30-36
Potato, mashed	½ cup	15-20
Winter Squash (acorn, butternut, etc.)	1 cup cooked	18

Fruit and Fruit Juice	Serving Size	Carbohydrate Grams
Apple	Small (4 oz)	15
Applesauce, unsweetened	½ cup	12
Apricots, fresh	Medium (2 oz)	6
Banana	Medium/Large (7 oz)	30
Berries (strawberries, blueberries, etc.)	1 cup	11-20
Canned fruit, in light syrup	½ cup	18-20
Cherries (sweet)	1 cup	18-24
Dates	Medium/Large (0.3-0.5 oz)	5-10
Dried fruit (raisins, craisins, etc.)	¼ cup	28-32
Grapefruit	½ Medium fruit	13
Grapes	½ cup	13-15
Juice (apple, orange, grape)	½ cup	11-16
Kiwi	Small/Medium (2.5 oz)	10-11
Mango	½ cup	13
Melon (cantaloupe, watermelon, etc.)	1 cup	11-16
Orange	Small/Medium (5 oz)	11-15
Peach or Nectarine	Small/Medium (5 oz)	12-16
Pear	Small/Medium (6 oz)	18-25
Pineapple	1 cup	20
Plum	Small/Medium (3 oz)	7-10
Prunes, dried	3-4 Medium (1 oz)	17
Tangerine	Medium (4 oz)	13

Snacks	Serving Size	Carbohydrate Grams
Chips (potato or tortilla)	10-15 chips (1 oz)	14-19
Crackers, snack such as saltines	3-5 crackers (0.5 oz)	10-12
Crackers, small such as Goldfish	1 oz	18-21
Granola Bar	1 bar	15-26
Popcorn	3 cups	14-20
Pretzel twists, mini	17 (¾ oz)	17

Milk and Yogurt	Serving Size	Carbohydrate Grams
Milk (skim, 1%, 2%, or whole)	1 cup	12
Almond and nut milks, unsweetened	1 cup	1-2
Almond and nut milks, sweetened	1 cup	11-20
Soy milk, unsweetened	1 cup	4-8
Soy milk, sweetened	1 cup	10-25
Yogurt or Greek Yogurt, plain	6 oz	6-8
Yogurt or Greek Yogurt, sweetened	6 oz	14-28

Sweets and Sugary Drinks	Serving Size	Carbohydrate Grams
Brownie or cake, frosted	2-inch square piece	23-29
Candy, hard	3 pieces	15
Candy bar, chocolate, snack size	~2 inch	13
Cookie	1 large or 2 small	11-15
Coffee Creamer (flavored liquid)	1 Tbsp	6-7
Donut	3-4 inches	21-33
Frozen Yogurt	½ cup	17-35
Gelatin, regular	½ cup	19
Ice Cream	½ cup	14-19
Jam or Jelly	1 Tbsp	14-15
Sugar (brown or white), Honey	1 Tbsp	13-17
Syrup, light	2 Tbsp	13
Syrup, regular	2 Tbsp	26-30

Combination Foods	Serving Size	Carbohydrate Grams
Asian Entrée, no rice	1 cup	11-20
Burrito, frozen	7 inches long	38-51
Casserole or Hot Dish	1 cup	30-35
Chili, with meat and beans	1 cup	28
Hamburger, fast-food	Small	28-31
Lasagna, frozen	3 inches by 4 inches	26 to 36
Pasta or Potato Salad	1/ 2 cup	19 to 28
Pizza, medium (12 inch) thin crust	1 slice (1/8 of pizza)	15-17
Pizza, medium regular or pan crust	1 slice (1/8 of pizza)	25-28
Pizza, medium deep dish	1 slice (1/8 of pizza)	40-45

Low or Non-Carbohydrate Foods

Some foods (non-starchy vegetables, proteins, and fats) will have very little effect on blood sugar levels.

Non-Starchy Vegetables		
Choose 3 or more servings per day. A serving is 1 cup raw or ½ cup cooked.		
Asparagus	Celery	Parsnips
Artichokes	Cucumber	Pea Pods
Beets	Eggplant	Peppers
Beans (green, wax)	Greens (lettuce, kale, spinach)	Radishes
Broccoli	Leeks	Sugar-snap peas
Brussels Sprouts	Mushrooms	Tomato
Cabbage	Okra	Turnips
Carrots	Onion	Zucchini

Proteins

1 oz of meat or cheese = about 7 grams of protein

<i>Choose More Often</i>	<i>Choose Less Often</i>
Beef, 90% or higher lean (chuck, round, sirloin)	Beef, fatty (corned beef, short ribs)
Beef jerky, ½ oz	Bacon (pork), 2 slices
Beans and lentils, ½ cup*	Bacon (turkey), 3 slices
Cottage cheese, ¼ cup	Cheese (American, cheddar, Parmesan)
Cheese (less than 3 g fat per oz)	Deli meats (bologna, pastrami, hard salami)
Deli meats (less than 3 g fat per oz)	Egg, 1 egg
Edamame, shelled, ½ cup*	Fried fish
Egg whites or egg substitute, ¼ cup	Hot dog, 1 hot dog
Fish (tuna, cod, tilapia, salmon, etc.)	Lamb (ground, rib roast)
Game (venison, rabbit, buffalo)	Pork (cutlet, ground, shoulder roast)
Hummus, 1/3 cup*	Poultry with skin (fried chicken, turkey, duck)
Lamb (chop, leg, or roast)	Sausage (bratwurst, chorizo, Italian, Polish)
Nut butters (peanut butter, etc.), 1 Tbsp	
Organ meats (liver, kidney, heart)	
Pork (ham, tenderloin, loin chop)	
Poultry without skin (turkey, chicken)	
Sausage (less than 3 g fat per oz)	
Shellfish (lobster, scallops, shrimp, crab)	
Tofu, ½ cup*	
Tempeh, plain unflavored, ¼ cup*	
Veggie burger, 1 patty*	

****These foods may also contain carbohydrates***

Fats	
1 serving = 5 grams of fat	
<i>Unsaturated Fats: Choose More Often</i>	<i>Saturated Fats: Choose Less Often</i>
Avocado, 2 Tbsp mashed or 1 oz	Bacon (pork or turkey), 1 slice
Margarine, tub spread, 1-2 tsp	Butter, 1 tsp
Mayonnaise, regular, 1 tsp	Butter blends made with oil, 1 ½ tsp
Mayonnaise, reduced fat, 1 Tbsp	Coconut, sweetened, shredded, 2 Tbsp
Nut butter (peanut butter, etc), 1 ½ tsp	Coconut oil, palm, palm kernel oil, 1 tsp
Nuts (almonds, walnuts, etc), 4-10 nuts or ~1 Tbsp	Coconut milk, regular, 1 ½ Tbsp
Oils (canola, olive, peanut, avocado), 1 tsp	Coconut milk, light, 1/3 cup
Oil based salad dressing, 1 Tbsp	Cream cheese, regular, 1 Tbsp
Olives, 8-10 large	Cream cheese, reduced fat, 1 ½ Tbsp
Seeds (sunflower, pumpkin, flax, etc.), 1 Tbsp	Cream salad dressing, 1 Tbsp
Tahini or sesame paste, 2 tsp	High-fat meats and poultry skin
	Heavy cream, 1 Tbsp
	Half-and-Half, 2 Tbsp
	Lard or shortening, 1 tsp
	Sour cream, regular, 2 Tbsp
	Sour cream, reduced fat or light, 3 Tbsp

BEING ACTIVE

Benefits of Being Active

Activity is an important part of diabetes management. Being active can help you maintain a healthy weight and keep your blood sugar in range.

Activity improves diabetes control by:

- Aiding in weight loss
- Helping your insulin work better
- Lowering blood sugar levels

Other benefits of activity may include:

- Managing stress and depression
- Lowering your risk of heart disease
- Raising good cholesterol levels
- Lowering bad cholesterol and triglycerides
- Lowering blood pressure
- Building strong and healthy bones
- Decreasing body fat
- Increasing muscle

Types of Physical Activity

There are different types of exercise: aerobic, resistance and flexibility training. All types of activity are good for you. It is important to find an activity that is best for you and that you enjoy.

Aerobic Activity:

Gets your heart rate up!

- Bike riding
- Walking
- Swimming
- Running
- Yardwork
- Dancing
- Skiing

Resistance Training:

Builds strength!

- Push-ups
- Crunches or sit-ups
- Squats
- Lunges
- Lifting weights
- Resistance (stretch) bands

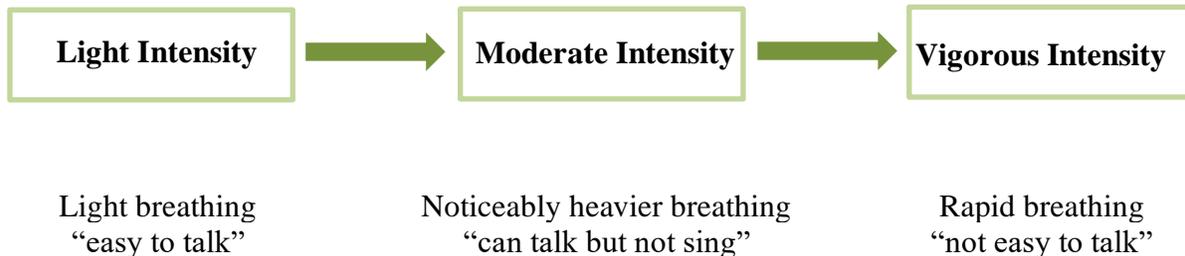
Flexibility Training:

Helps keep you moving!

- Yoga
- Stretching
- Pilates
- Tai Chi

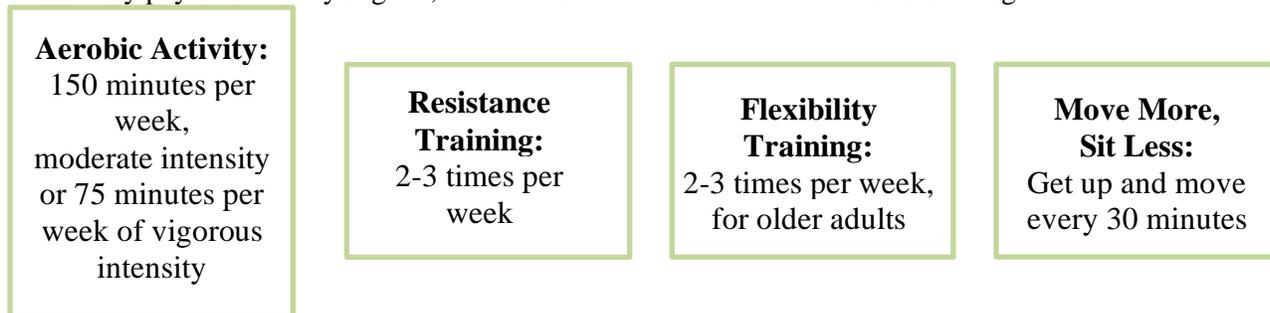
Levels of Physical Activity

The level of intensity from the same exercise will be different for everyone. For example, going for a brisk 30 minute walk may be light intensity for some and vigorous intensity for others. An easy way to know how intense you are exercising is to do the “talk test”. Try talking while you exercise and use the chart below to determine your level of intensity.



Guidelines

While any physical activity is good, adults with diabetes should aim for the following:



Getting Started

There are several things you should think about before beginning a new exercise routine.

Talk with Your Provider

- People with diabetes may also have other health concerns.
- Check with your provider to see if exercise is the right thing for you.

Identify Barriers

- Ask yourself, “What makes it hard for me to exercise?”
- Then ask yourself, “Is there anything that can be done about this?”

Start Slowly

- Remember, doing some physical activity, even a small amount, is better than nothing.
- Start with 5-10 minutes a few times a week and gradually add more.
- Be as active as you can.

MONITORING

Before having diabetes, your blood sugar stayed in a normal range no matter what you ate, drank or how active you were. For someone with diabetes, many things can cause blood sugar levels to go higher or lower than normal.

Tracking Blood Sugar

- You can check your own blood sugar by using a **blood sugar meter** called a glucometer. This meter uses a small amount of blood to show how much sugar is in your blood at that time.
- You can check your own blood sugar by using a **continuous glucose monitor (CGM)**. This monitors the amount of sugar in the fluid underneath your skin.
- You can see how well your blood sugar is controlled by getting a lab test called **hemoglobin A1C**. This test measures the amount of sugar that attached to your red blood cells over the last 2-3 months. The more sugar that has attached to the cell, the higher your result.

Self-Monitoring Blood Sugar

What monitor do you use?

- It is important to check with your insurance company to see which device is covered.
- Work with your diabetes educator or provider's office to choose the best device for you.

Options where to get your supplies:

- Pharmacy
- Medical supply service
- Directly from the monitor company

When to check your blood sugar:

- Ask your provider about the best times to check your blood sugar.
- Check your blood sugar to see how it's affected by food, stress, activity or illness.
- Check your blood sugar when you feel symptoms of low or high blood sugar.
- If you take insulin, check your blood sugar before you give yourself an injection.

What to do with your blood sugar results:

- Write down your blood sugar numbers in a log book.
- Take your meter and log book to appointments with your provider and diabetes educator.

How to use your blood sugar meter:

- Read the user guide for your meter and follow the directions to set it up.
- Wash your hands with soap and warm water before testing.

- Follow the steps below.

1. Gather your supplies: meter, lancing device, test strip, and lancet (needle).



2. Remove the cap from the lancing device and put in a lancet (needle).



3. Uncover the needle of the lancet by removing safety cover



4. Replace the lancing device cap.



5. Insert a test strip into the meter.



6. Place the lancing device on the side of any fingertip and push the button to poke your finger.



7. Gently squeeze your finger from palm to fingertip to get a drop of blood.



8. Touch drop of blood to the test strip. Your blood sugar result will appear on the meter in a few seconds.



Your meter may be different. If you have questions, call the number on the back of the meter or talk to your provider, pharmacist or diabetes educator.

How to Dispose of Sharps

Do:

- Place test strips in the regular trash.
- Place all sharps in a puncture proof container, such as an empty laundry detergent container.
- When the container is almost full, put the cap of the container on tightly.

When the container is 3/4 full, put the lid on, seal it with duct tape, and label DO NOT RECYCLE.



<http://safeneedledisposal.org/state-search/?state=MI>

You need to check with your county's health department about where you can put the containers with used sharps.

Do Not:

- Place sharps in a recyclable plastic or glass container and send them to a recycling center.
- Let small children handle or play with sharps containers.
- Flush needles, syringes or lancets down the toilet.
- Discard needles or lancets in the trash.

Blood Sugar Targets

The table below shows blood sugar targets from the American Diabetes Association (ADA). Your blood sugar targets may vary depending on many things like your age and chronic health conditions. Ask your provider about YOUR blood sugar targets.

Adults less than 65 years old with Diabetes

Test Time	Target Range (ADA)
Fasting and before meals	80-130 mg/dL
2 hours after the start of meal	Less than 180 mg/dL
Bedtime	110-150 mg/dL
A1C	Less than 7%

Adults Age 65+ Years with Diabetes

Health Status	Fasting or Before Meals	Bedtime
Healthy: few co-existing chronic illnesses	80-130 mg/dL	80-180 mg/dL
Complex: multiple co-existing chronic illnesses	90-150 mg/dL	100-180 mg/dL
Very Complex: long-term care or end-stage chronic illnesses	100-180 mg/dL	110-200 mg/dL

Hemoglobin A1C

Hemoglobin A1C is a lab test that can be done at any time of day. The results of this test show a 2-3 month average of all blood sugar levels. This is given as a percentage. That percentage gives you an estimated average blood sugar. This test should be done:

- every 3 months if your diabetes is not well controlled, or
- at least twice a year if you are meeting your treatment goals

A1C Percentage (%)	Estimated Average Blood Sugar (mg/dL)
6.0	126
6.5	140
7.0	154
7.5	169
8.0	183
8.5	197
9.0	212
9.5	226
10.0	240
10.5	255
11.0	269
11.5	283
12.0	298

My A1C is _____%

My estimated average blood sugar is _____ (mg/dL)

as of _____ (date)

The American Diabetes Association recommends an **A1C of 7% or less** to reduce your risk of problems. Goals may change as you age. However, A1C goals can be different for different people. Ask your provider for YOUR A1C goal.

Adults Age 65+ Years

Health Status	A1C Goal
Healthy: few co-existing chronic illnesses	Less than 7 to 7.5%
Complex: multiple co-existing chronic illnesses	Less than 8%
Very Complex: long-term care or end-stage chronic illnesses	Discuss with provider

High Blood Sugar (Hyperglycemia)

Too much sugar in your blood can be a problem. Generally, a high blood sugar is a blood sugar number of 180 mg/dL or higher, depending on your target. A high blood sugar usually happens slowly.

Signs and Symptoms

Very thirsty	Trouble breathing
Frequent urination	Blurry vision
Weak or tired	Headache
Muscle cramps	Grouchy
Nausea	Dizzy
Vomiting	Ketones in urine

Possible Causes

- Too much food or drink with more carbs than usual
- Not being active
- Not enough medicine, like insulin or oral diabetes medicines
- Side effects from other medicines
- Stress, which produces hormones that raise blood sugar
- Illness, which causes your body to release hormones that raise blood sugar
- Not drinking enough water causing dehydration
- Menstrual cycle, which causes hormone level changes
- Short or long term pain, may cause your body to release hormones that raise blood sugar

Treatment

- Drink 1 cup (8 oz.) of water every hour and recheck blood sugar in 4 hours
- Take your diabetes medicines as directed
- Eat foods lower in carbs
- Practice stress relief techniques
- Exercise (follow safe exercise rules)
- If high blood sugars continue over 3 or more days OR you have ketones in your urine:
 - **Call your provider** – You may need to change your plan of care or you may need to change your medicines

Sick Day Guidelines

When sick, your blood sugar may be higher or lower than normal. Follow these guidelines to stay safe:

- If blood sugar is 300 mg/dL or higher, drink sugar-free fluids (water, sugar-free soft drinks, tea)
- If vomiting or unable to eat solid food, drink fluids with carbs (juice, sports drinks) equal to the amount of carbs you would normally eat
- Check your blood sugar every 2-4 hours
- Never skip your diabetes medicine (pills/insulin)
- Take your temperature
- Call your provider if you have:
 - vomiting or diarrhea
 - fever of 100.5°F or higher
 - your blood sugar stays too high or too low
- Call 911 if you have:
 - trouble breathing
 - a change in mental status
 - chest pain

Diabetic Ketoacidosis (DKA)

Diabetic ketoacidosis or DKA is a dangerous condition that can occur when blood sugar levels are too high. It occurs more often in people with type 1 diabetes. When your blood sugar is high, your cells are not getting the sugar they need for energy. With diabetes, the cells can't always get the sugar from your blood into the cells. This causes your body to use fat for energy. When fat is used for energy, the body makes ketones. Having ketones is a warning sign that your blood sugar is too high or that you are getting sick. This needs to be treated right away.

Early Symptoms of DKA:

Thirst
Frequent urination
Very tired
Dry mouth
Blurry vision

Late Symptoms of DKA:

Stomach pain
Weakness
Nausea
Vomiting
Fruity smelling breath

Preventing DKA

Take the following steps when your blood sugar is 240 mg/dL or higher or you are sick:

- Check your blood sugar level every 2-4 hours or as directed by your provider.
- Check for ketones.
- Drink sugar-free fluids such as water, sugar-free soft drinks, tea, and clear soup.
- Follow sick day guidelines if you cannot eat solid food.

Checking for Ketones

Ketone strips may be prescribed by your provider. Be sure to follow the instructions for testing.

- To check urine for ketones:
 - Urinate on the strip.
 - Compare color change on strip to chart on container after waiting specified amount of time on testing instructions.

Let your provider know if:

- Ketones are present in your urine.
- You do not know how to adjust insulin for ketones
- You have diarrhea or vomiting lasting for more than 4 hours.
- Your blood sugar is higher than 240 mg/dL two or more times in a 24 hour period.

Low Blood Sugar (Hypoglycemia)

Too little sugar in your blood can be a problem. A low blood sugar is a number of 70 mg/dL or less. A low blood sugar can happen very quickly.

Signs and Symptoms

Shaking	Weak or Tired
Sweating	Headache
Hungry	Grouchy
Fast heartbeat	Anxious
Vision changes	Dizzy

Possible Causes

- Not enough carbs at meals or snacks
- Skipping meals or snacks
- Being more active or getting more exercise than usual
- Too much insulin or oral diabetes medicine
- Side effects from other medicines
- Drinking alcohol, especially on an empty stomach

Treatment

If you are having signs or symptoms of low blood sugar, check your blood sugar with your meter. If your blood sugar is less than 70 mg/dL, follow the *Rule of 15* to bring your blood sugar back up to a normal range.

The Rule of 15

- Eat or drink 15 grams of quick-acting carbs, such as:
 - ½ cup (4 oz.) juice
 - ½ cup (4 oz.) regular soda
 - 3-4 glucose tablets
 - 1 cup (8 oz.) fat-free milk
 - 1 Tbsp. honey
- Wait 15 minutes.
- Recheck your blood sugar.
 - If your blood sugar is still less than 70 mg/dL, repeat the treatment.
- Once your blood sugar is above 70 mg/dL, either eat:
 - A balanced snack containing carbs, protein and fat.
 - Your next meal if it is time for a meal.

Glucagon

If your blood sugar is so low that you cannot safely treat it using the *Rule of 15*, you may need glucagon. Glucagon is prescribed by your provider. Glucagon is a hormone made by the pancreas that raises blood sugar. Glucagon should only be given by another person who knows how to give it.

Glucagon is given when a person has low blood sugar AND one or more of the following:

- Not able to swallow.
- Quick-acting carbs have not been able to raise blood sugar
- Passed out
- Having a seizure

Glucagon is available by prescription in a single-dose kit. Follow the instructions to prepare the kit. These steps should be taken when giving glucagon:

- If using injection, mix glucagon per instructions and inject glucagon into a large muscle.
- If using nasal powder, open per instructions and release powder into one nostril.
- After glucagon is given, the person with diabetes should be rolled onto their side.
- Call 911.
- Check blood sugar 15 minutes after giving glucagon.
- Once awake and able to swallow, the person with diabetes should eat a snack.

TAKING MEDICINES

If you have type 2 diabetes, you may need to add diabetes medicines to your treatment plan. There are several medicines available for the treatment of diabetes. These medicines work in different ways to:

- Help increase the amount of insulin coming from the pancreas
- Decrease the amount of sugar released by the liver
- Block sugar from being absorbed by the kidneys and remove excess sugar through urination
- Reduce appetite and slow down how quickly food empties from the stomach
- Help your body and cells use the insulin your body makes

Non-Insulin Medicines

The following are medicines that may be prescribed by your provider. Medicines work in different parts of our body. The medicines in the table below are grouped by how they work in your body. If your medicine is not listed, ask your provider for more information.

BRAND NAME	GENERIC NAME	HOW IT WORKS	POSSIBLE SIDE EFFECTS
Actos [®]	Pioglitazone	Helps your body use the insulin you are producing	Fluid buildup
Avandia [®]	Rosiglitazone		
Januvia [®]	Sitagliptin	Increases the amount of insulin coming from the pancreas	Nausea, vomiting or diarrhea
Onglyza [®]	Saxagliptin		Sore throat, stuffy nose, upper respiratory infection
Tradjenta [®]	Linagliptin	Decreases the amount of sugar released by the liver	
Nesina [®]	Alopiptin		
Invokana [®]	Canagliflozin	Removes excess sugar through urination	Bladder, urinary tract and genital infections
Jardiance [®]	Empagliflozin		Dehydration
Farxiga [®]	Dapagliflozin		
Steglatro [®]	Ertugliflozin		

BRAND NAME	GENERIC NAME	HOW IT WORKS	POSSIBLE SIDE EFFECTS
Glucophage® Riomet (liquid)® Glucophage XR® Fortamet® Glumetza®	Metformin Metformin XR	Decreases the amount of sugar released by the liver Helps your body use the insulin you are producing	Nausea, vomiting, or diarrhea that may last for 10-14 days
Amaryl® Glucotrol® Glucotrol XL® Glynase® DiaBeta® Micronase®	Glimepiride Glipizide Glyburide	Helps increase the amount of insulin coming from the pancreas both right after a meal and over several hours	Low blood sugar
*Byetta® *Victoza® *Trulicity® *Ozempic® Rybelsus®	Extenatide Liraglutide Dulaglutide Semaglutide Semaglutide	Lowers blood sugar after you eat. Increases the amount of insulin coming from the pancreas. Decreases the amount of sugar released by the liver. Helps you feel full after eating by slowing down digestion.	Nausea, vomiting, or diarrhea Headache
*Mounjaro®	Tirzepatide	Lowers blood sugar after you eat Increases the amount of insulin coming from the pancreas Decreases the amount of sugar released by the liver Helps you feel full after eating by slowing down digestion	Nausea, vomiting, or diarrhea Headache Weight loss

***These medicines are given by injection.**

Combination Medicines

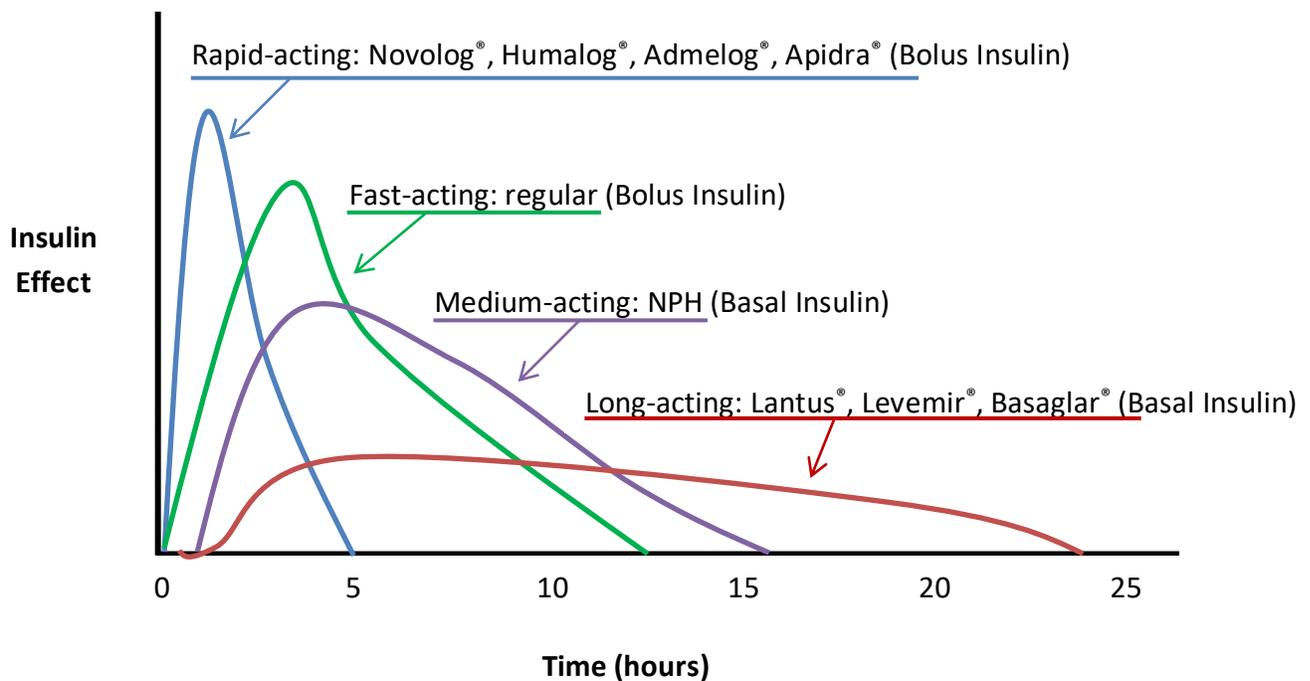
When two different diabetes medicines are combined into one pill they are called a combination medicine. These medicines work the same way. They have the same side effects as taking each medicine separately, but are combined into one pill instead of two.

Insulin

You may need to inject insulin if your body is not making enough insulin or if the insulin that your body makes is not working the way it should. Insulin lowers your blood sugar by moving sugar from your bloodstream into your cells. There are two main types of insulin: basal insulin and bolus insulin. Work with your provider to find out what insulin and how much is right for you.

Basal Insulin: This type of insulin works in the background. In people without diabetes the pancreas releases small amounts of insulin all of the time to control blood sugars between meals and overnight. When you have diabetes and your pancreas is not making insulin, or is not making enough insulin, you will have high blood sugars. Basal insulin is an injection of insulin that works for a longer period of time. It is important that you try to take this insulin at the same time each day. Providers may prescribe *medium-acting or long-acting* insulin to bring these blood sugar levels down.

Bolus Insulin: This type of insulin works when your blood sugar rises quickly. In people without diabetes, when there is a quick rise in blood sugar from food or the liver, the pancreas releases insulin quickly to keep blood sugar at normal levels. When you have diabetes and your pancreas is not making insulin, or is not making enough insulin, you will have high blood sugars. Bolus insulin is an injection of insulin that works very quickly and for a short period of time. It is typically taken just before a meal. Providers may prescribe *rapid-acting or fast-acting* insulin to be used for this purpose.



Types of Insulin

Insulin works in different ways. Different types of insulin vary by:

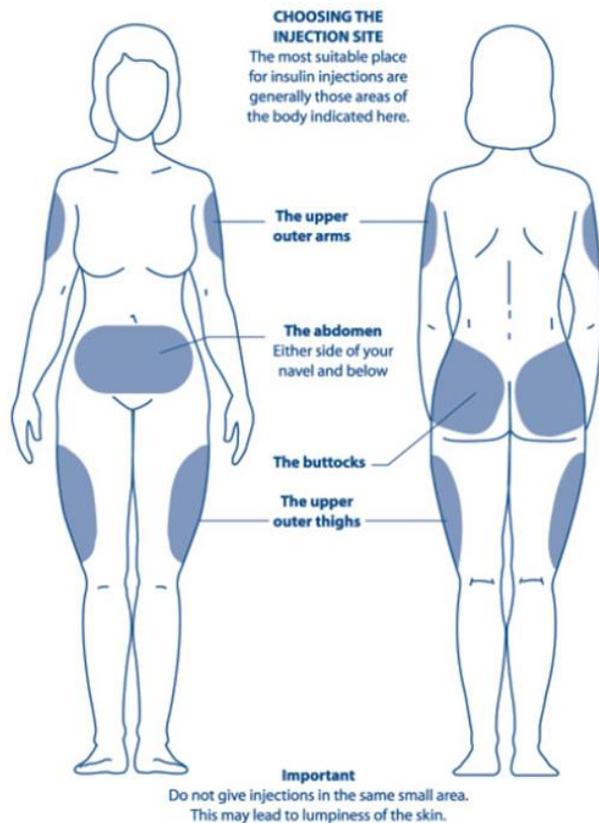
- *onset* - how soon it begins to work
- *peak* - when it works the hardest
- *duration* - how long it works in the body

TYPE	BRAND NAME	GENERIC NAME	ONSET	PEAK	DURATION
Rapid-Acting	Apidra® Humalog®/Admelog® Humalog® U200 Novolog® Lyumjev® U100 Lyumjev® U200 Fiasp®	Glulisine Lispro Lispro Aspart Lispro-aabc Lispro-aabc Aspart + Vit. B3	~3-15 min.	~1-2 hrs.	~2-4 hrs.
Rapid-Acting Inhaled	Afrezza®	Human	~15 min.	~1 hr	~2-4 hrs.
Fast- Acting	Humulin® R Novolin® R Humulin® R U500	Regular Regular U500	~30-60 min.	~2-4 hrs.	~5-10 hrs.
Medium-Acting	Novolin® N Humulin® N	NPH	~1-1.5 hrs.	~6-10 hrs.	~14-16 hrs.
Long-Acting	Lantus® Basaglar® Toujeo® U300 Levemir® Semglee	Glargine Glargine Glargine Detemir Glargine	~1-2 hrs.	None	~21-36 hrs.
Ultra-Long-Acting	Tresiba® Tresiba® U200	Degludec Degludec	~1-2 hrs.	None	~42 hrs.
Premixed: Insulin and Insulin Combination	Humulin® 70/30 Novolin® 70/30 Humalog® 50/50 Humalog® 75/25 Novolog® 70/30	NPH/ Regular NPH/ Regular NPH/ Lispro NPH/ Lispro NPH/ Aspart	~30 min.	~1-6 hrs.	~10-16 hrs.
Insulin and Non-insulin Combination	Soliqua® Xultophy®	Insulin Glargine & Lixisenatide Insulin Degludec & Liraglutide	~1-2 hrs.	None	~21-42 hrs.

Insulin is typically injected, although one type is inhaled. Most insulins are considered *U100*, meaning that they contain 100 units of insulin in each milliliter or cc. Some insulin has been made to be more concentrated such as those listed as *U200*, *U300*, or *U500*. It is important to know what insulin you are taking, and to take it as your provider has instructed.

Injecting Insulin

For insulin to be absorbed properly, it must be injected into the fatty tissue just under your skin. The best places to inject are your belly, upper buttocks, hips, upper arm and outer thigh.



Used with permission from the Diabetes Association of Western Australia

Giving insulin injections in the same spot can cause sores, lumps or thick skin. This can make it harder for the insulin to be absorbed.

Be sure to change your sites with each injection. Injections should be at least 1 inch away from the last one. Do not inject into moles, tattoos or scars.

Make sure that your skin is clean before giving an injection.

Insulin can be injected with either the use of a vial and syringe or by an insulin pen device.

Disposal: Insulin pen needles and/or syringes must be disposed of according to your county's health department in a puncture proof container. Insulin vials and pens can be thrown in the trash.

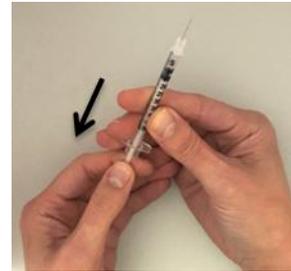
Vial and Syringe

First wash your hands, and make sure that you are injecting the correct type of insulin.

1. Wipe the top of the vial with an alcohol swab.



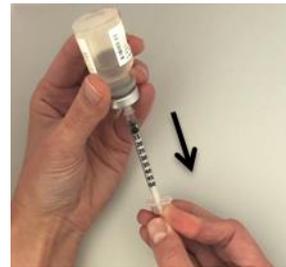
2. Fill your empty syringe with air- the same as the amount of insulin you are using.



3. Push the syringe needle into the vial and push in the air.



4. Keeping the needle in the vial, turn the vial over. Pull the plunger back until you have the right amount of insulin.



5. Be sure to look at the syringe, if you see air bubbles, push the insulin back into the bottle and slowly draw it up again.



6. Gently pinch up an area of skin. Position the needle at a 90 degree angle and insert entire needle into skin.



7. Push the plunger all of the way in. Once injected, count to five and pull syringe out.



Insulin Pen

First wash your hands, and make sure that you are injecting the correct type of insulin. *If the insulin is cloudy, gently roll the pen in your hands to mix the insulin.* Remove the cap.

1. Wipe the rubber stopper with an alcohol swab.



2. Remove the protective seal from the pen needle and screw it onto the pen.



3. Pull off the outer and inner shield of the pen needle.



4. Prime the needle. Do this by turning the dose dial to 2 units. Hold the pen pointing up, and push out the 2 units of insulin.



5. Once priming is complete, turn the dose dial to the number of units of insulin you need to inject.



6. Chose the injection site, and inject needle into the skin at a 90 degree angle.



7. Push the pen button all of the way down and keep the needle in the skin for 5 seconds.



Care of Insulin

Insulin needs to be cared for in a certain way. It is sensitive to temperature. If it gets too hot or too cold, it can be damaged. Damaged insulin does not change color or smell. Damaged insulin will not work right.

Unused insulin should be kept in the refrigerator. Insulin that you have started to use or that has been opened can stay at room temperature (66-86 degrees F). Keep your insulin with you. Do not leave it in a hot or cold car. An insulated container can be used to protect insulin from getting too hot or cold. When traveling, make sure to keep your insulin with you in your carry-on bag. Do not put it away in your checked luggage.

You should always check the expiration date on your insulin before you use it. Once you start using a vial or pen it is only good for a certain number of days.

Type of Insulin	Use After Opening
Vials, Pens, Cartridges (Clear Insulin)	28 days
Vials, Pens, Cartridges (Cloudy Insulin)	10-14 days
Levemir [®] , Toujeo [®] U300	42 days
Tresiba [®]	56 days

COMPLICATIONS and REDUCING RISKS

Your blood vessels carry blood throughout your body. When your blood sugar levels are higher than normal for a long period of time, it may cause damage to your blood vessels and nerves. When your blood vessels are damaged, it makes it harder to get blood to certain areas of your body. This may cause complications.

Retinopathy

Diabetes can harm your eyes. The tiny blood vessels in the retina can be damaged over time. If left untreated, it may cause vision loss or blindness. If diabetes is affecting your retina, you may have blurred vision or see black spots, floaters or flashes of light. If this happens, you need to call your provider right away.

To prevent or manage eye disease:

- Tell your eye doctor that you have diabetes.
- See an eye doctor at least once a year for a diabetic eye exam. You may need to go more often if you have retinopathy.
- Keep your blood sugar within your goal range.
- Call your doctor if you are having vision problems.



Peripheral Neuropathy

High blood sugar may damage your nerves. Peripheral neuropathy affects the nerves that are far away from your heart. This includes the nerves in your hands, arms, feet and legs. Usually, it starts in the feet. Symptoms may be worse at night.

Peripheral neuropathy may cause:

- Pain
- Numbness or tingling
- Weakness

Loss of feeling in your feet may make it hard to tell if you have a sore on your foot. It might take a long time for a sore to heal if you have poor circulation.

Your provider should look at your feet at each office visit to check for sores, blisters or other problems. It is always good to remind your provider to check your feet by taking off your shoes and socks in the exam room. Once a year you should have a comprehensive foot exam.

During a comprehensive foot exam your provider should check:

- The skin on your feet
- Your foot muscles and bones
- The blood flow in your feet
- For numbness in your feet

If you already have problems with your feet, they may need to be looked at more often by your provider or a podiatrist (foot doctor). However, between provider visits there are many things you can do to keep your feet healthy.

- **Check your feet every day.** Look at your feet for red spots, cuts, swelling, blisters or in-grown toenails. If you cannot see the bottoms of your feet, use a mirror or ask someone for help.
- **Wash your feet every day.** Dry them carefully, especially between the toes.
- **Keep your skin soft and smooth.** Rub a thin coat of skin lotion or cream over the tops and bottoms of your feet, but not between your toes.
- **If you can see and reach your toenails, trim them.** Trim your toenails straight across and file the edges with a nail file when needed. If you cannot do this on your own, you may need to see a podiatrist (foot doctor).
- **Wear shoes and socks at all times.** Never walk barefoot. Wear comfortable shoes that fit well. Check inside your shoes before wearing them to make sure the lining is smooth and there is nothing inside. Wear socks without seams if possible. Ask your provider about the need for special shoes.
- **Protect your feet from hot and cold.** Wear shoes at the beach or on hot pavement. Test the temperature of the water before putting your feet in. Never use hot water bottles, heating pads or electric blankets on your feet. You can burn your feet without realizing it.
- **Put your feet up when sitting.** Wiggle your toes and move your ankles and feet up and down throughout the day. Don't cross your legs for long periods of time.

Autonomic Neuropathy

Diabetes can also cause autonomic neuropathy. The autonomic nerves control the parts of the body that work “automatically” without you telling them. It is important to talk to your provider if you think that you are having problems in any of these areas.

- **Digestion:** After you eat your body digests food. Sometimes diabetes can damage the ability to move food through your system. This is called gastroparesis. It can lead to vomiting and bloating. It may change how fast your body absorbs food and affect how your blood sugars are treated.

- **Bladder and Bowel:** Your bladder or bowels may not work normally. When this happens with the bladder, you may not be able to feel when your bladder is full. When the nerves that control the small intestine are damaged, diarrhea or constipation can occur.
- **Sexual Dysfunction:** Autonomic neuropathy may make it difficult to get or keep an erection when it affects the nerves that control erection. Women may have difficulty with vaginal dryness or orgasms or irregular menstrual cycles.
- **Recognizing Low Blood Sugar:** Typically, your body warns you when you are having a low blood sugar. You may not notice any warning signs when your blood sugar is too low. This may be serious.
- **Ability to Sweat:** Sweating too much or too little may happen. This may affect the ability to adjust body temperature. This may also cause your skin to be dry and itchy.

Nephropathy

Kidneys are like filters. Inside of them are millions of tiny blood vessels that remove waste products from the blood. Diabetes can damage the kidneys. This causes waste products to build up in your blood. The first symptom of kidney disease is often fluid buildup. You might also notice loss of sleep, poor appetite, upset stomach and weakness. If your kidneys fail to work, you may need dialysis or a kidney transplant.

Kidney disease can be prevented or delayed by:

- Keeping your blood sugar in your target range
- Keeping your blood pressure in your target range. Even a small rise in blood pressure can make kidney disease worse.
- Have your provider check your:
 - Blood pressure
 - Urine (for protein) once a year
 - Blood work (for waste products) once a year



If you are having any symptoms of kidney disease, you should call your provider right away.

Cardiovascular Disease

People with diabetes are more likely to have high blood pressure (hypertension) and high cholesterol (hyperlipidemia). If you have too much cholesterol, it may narrow or block your blood vessels. Heart disease occurs when the vessels that supply blood to the heart are blocked. This may cause a heart attack.

Stroke

You are at increased risk for a stroke if the blood vessels that go to your brain are damaged or blocked. A stroke occurs when your brain is not receiving blood supply. Symptoms of stroke include trouble speaking, seeing or walking and numbness in the face, arm or leg.

Use the letters in F.A.S.T. to notice the symptoms of stroke.

- Face drooping
- Arm weakness
- Speech
- Time to call 911

Poor Circulation

Blocked blood vessels may also make it harder for blood to circulate to your feet and legs. Poor circulation may lead to cold or numb feet, leg and foot pain and possibly wounds.

To keep your blood vessels healthy:

- Keep your blood sugar in your target range
- Control your cholesterol levels
- Keep your blood pressure in a good range
- Maintain a healthy weight and BMI
- Make healthy food choices
- Do not use tobacco products

Test	Target Value
Total Cholesterol	Less than 200 mg/dL
LDL	Less than 70 mg/dL or Less than 55 mg/dL if you have heart disease
HDL	Over 40 mg/dL (Men) Over 50 mg/dL (Women)
Triglycerides	Less than 150 mg/dL

Dental Complications

It is important to take care of your mouth when you have diabetes. Dental problems may be more serious when you have diabetes or your blood sugars are not controlled. It is important that you see a dentist. You can discuss any oral health issues such as pain, swelling or bleeding. To prevent complications, you should:

- Have your teeth checked and cleaned at least once every 6 months
- Brush your teeth twice a day
- Floss daily

Vaccinations

Vaccinations are given to help prevent illness. Diabetes can make it harder for your immune system to fight infections. You may be at risk for more serious complications from an illness. It is important that you discuss with your provider what vaccinations are right for you and when to get them. The Centers for Disease Control and Prevention (CDC) recommends that people with diabetes get the following vaccinations:

Vaccine	How Often
Influenza (Flu)	Yearly
Pneumococcal (Pneumonia)	Check with your provider
TDAP	Every 10 years
Hepatitis B	Once (3 dose series)
Zoster (Shingles)	Once (2 dose series)
COVID-19	Primary series and booster when eligible
HPV	Once (2-3 dose series)

Healthy Coping

Managing your emotional health is just as important as managing your physical health. There are many feelings you may experience when you are diagnosed with diabetes. You may also have these feelings if you have been living with diabetes for a long time. Feeling sadness, fear, anger or anxiety are normal. It is important to find healthy ways to cope with them.

Stages of Adjustment

People move through stages of adjustment when facing a change in their daily lives. A person with diabetes may experience any of these stages at any time.

Denial	Anger	Bargaining	Depression	Acceptance
<i>This cannot be happening to me.</i>	<i>Why is this happening? Who is to blame?</i>	<i>I will _____ to make this all go away.</i>	<i>I cannot do this. I do not want to do this.</i>	<i>I am okay. I am ready to take care of myself.</i>

Diabetes Distress and Burnout

Diabetes distress can happen when you are worried, stressed, sad, fearful or angry about having and dealing with diabetes. In **diabetes burnout** a person grows tired of managing their disease and begins to ignore it. Clues that you might be dealing with these conditions include feelings of frustration, worry, anxiety and a lack of desire to manage your diabetes.

Treatment for diabetes distress and burnout includes goal setting, counseling, family support, regular exercise or switching up your routine. Do not expect to be perfect. Even small efforts are good.

Depression

Clinical depression is a serious medical condition that affects thoughts, feelings and the ability to function in everyday life. It may feel like a sense of hopelessness and helplessness in life.

Depression is more common in people living with diabetes. If you think you are depressed, talk to your provider.

Stress

Your body reacts to stress by sending out hormones. These hormones may increase your blood sugar. It is helpful to know what may cause you stress. You cannot eliminate stress entirely. If you know what triggers stress and how to cope with it, you may be better able to manage your diabetes.

Coping with Stress

- **Identify the cause.** Try to pinpoint what is causing your stress.
- **Decrease your stressors.** Is it possible to change any of your stressors? Focus on the things that are the most important. Ask for help if needed.
- **Do one thing at a time.**
- **Take time to do things you enjoy.** Make time for fun and relaxation. Even a small amount of time doing the things that you enjoy is helpful.
 - Hobbies
 - Meditation or deep breathing
 - Journaling
 - Reading
 - Laughing
 - Taking a bath
 - Listening to music
 - Spend time with friends or family
 - Get some fresh air
 - Do a puzzle
 - Gardening
 - Work on fix it projects
- **Move your body.** Physical activity is good for your emotional health too!
 - Dancing
 - Yoga
 - Hiking
 - Bike riding
 - Walking
 - Running
- **Get support.** Use your family, friends, your healthcare team, support groups, neighbors, or co-workers as support. Talking to other people with diabetes may be helpful.
- **Be kind to yourself.**
- **Celebrate your success.**

PROBLEM SOLVING

There are many areas of your life that diabetes affects. Planning ahead of time can help you be prepared in different situations.

Driving and Traveling with Diabetes

Taking care of diabetes when you are traveling is different than when you are at home. It is important to plan ahead when traveling.

- **Have supplies.** Keep all of your diabetes supplies with you (medicines, blood sugar monitor, snacks, etc.). Keep them in your carry-on bag and not in your checked luggage. Pack extra supplies.
- **Check your blood sugar.** If you have a low blood sugar, treat it right away.
- **Carry snacks and glucose tablets.**
- **Stay hydrated.**
- **Stretch your legs.** It is important to stretch your legs to improve blood flow.
- **Be aware of time zone differences.** If your medicines need to be taken at certain times, work with your provider on the best way to work through time zone changes.
- **Wear medical identification.**

Diabetes in the Workplace

It is important to talk to your manager or co-workers and tell them that you have diabetes. This will help them understand:

- You may have to adjust your schedule for provider appointments.
- You may need to take breaks or eat throughout your shift.
- You may have to inject yourself with insulin or take medicines.
- If an emergency happens, how they can help you.

You should always provide your employer with emergency contacts in case of an emergency. Diabetes is protected under the Americans with Disabilities Act. This means that you cannot be discriminated against in the work place. For more information visit the Americans with Disabilities Act website (www.ada.gov).

Medical Identification (ID)

A medical ID speaks for you when you cannot. It is a good idea to wear a medical ID when you have diabetes. If something happens to you, it lets people know that you have a medical condition.

Bracelets or necklaces can be engraved with your condition and other emergency information. This allows for faster and better treatment.

When wearing a medical ID your medical information will be available to medical staff and emergency responders no matter where you are traveling. This is especially important when you are traveling alone.

Putting the Pieces Together

Controlling your blood sugar can be a challenge. If you see a problem or an unexpected change try to figure out what might have happened. Ask yourself what you might do to fix it now or prevent it next time. Ask these questions:

- **What is the problem?**
- **What could have caused this?**
- **What can I do about it now?**
- **Did the solution work?**
- **How can I prevent this from happening again?**

Each new problem that you work through will help prepare you for the next. It is important to find people in your life that can support you in your diabetes management. Help your loved ones understand more about diabetes by educating them. When they know more, they can be more supportive.

Know Your Goals

Talk to your provider to set individual goals.

Test	Target Range	My Numbers
Blood Sugar: <ul style="list-style-type: none"> • A1c (every 3-6 months) • Before Meal Blood Sugar • After Meal Blood Sugar (2 hours) • Bedtime Blood Sugar 	Less than 7% 80-130 mg/dL Less than 180 mg/dL 110-150 mg/dL	
Blood Pressure (every visit)	Less than 130/80mmHg	
Cholesterol and Lipids (yearly) <ul style="list-style-type: none"> • LDL (“bad” cholesterol) • HDL (“good” cholesterol) • Triglycerides 	Less than 70 mg/dL or Less than 55 mg/dL if you have heart disease Over 40 mg/dL (male), Over 50 mg/dL (female) Less than 150 mg/dL	
Kidney Labs (yearly) <ul style="list-style-type: none"> • Microalbuminuria (urine) • eGFR 	Less than 30 mg Over 90 mL/min/1.73m ²	
Weight and BMI (every visit) <ul style="list-style-type: none"> • Body mass index (BMI) is a measure of body fat based on your weight in relation to your height, and applies to most adult 	BMI: 18.5 – 24.9 (Asian BMI: 18.5 – 22.9)	

Exam	Description	My Last Exam
Comprehensive Foot Exam (yearly)	Skin, muscle, sensation and circulation assessment.	
Dilated Eye Exam or Optimap (yearly)	<p>Dilation causes your pupils to widen, allowing in more light and giving your provider a better view of the back of your eye to look for retinopathy, cataracts, glaucoma.</p> <p>Optimap takes a picture of the back of your eye to look for retinopathy, cataracts, glaucoma.</p>	
Dental Examination (6 months – year)	Routine check for periodontal disease	

Advocating for Your Health

It is important to speak up and take charge of your health. This means visiting with your provider throughout the year. Be honest about what you are doing or not doing. Between visits you may want to write down questions or concerns to discuss at your next visit. Make sure to be prepared. You should bring with you:

- A list of questions and concerns
- Your blood sugar meter or blood sugar logs
- A list of the medicines you take

Possible things that you might want to discuss with your provider:

- Blood sugar levels
- A1c results
- Meal planning
- Changes in your weight
- Physical activity
- How to quit smoking
- Side effects or concerns about your medicines
- Anything that makes it difficult to take care of yourself (medicines, medical costs, feelings, etc.)

It is important that you make the most of each visit. Talk with your provider about the things that are most important to you. Make sure that you understand the plan before you leave.

RESOURCES

Informational Websites

American Diabetes Association (ADA)

<http://www.diabetes.org>

Juvenile Diabetes Research Foundation (JDRF)

<http://www.jdrf.org>

Joslin Diabetes Center

<http://www.joslin.org>

Centers for Disease Control and Prevention (CDC)

<http://www.cdc.gov/diabetes/home>

Americans with Disabilities Act

<https://www.eeoc.gov/laws/types/diabetes.cfm>

Diabetes Magazines and Websites (some of these may require a paid subscription)

Diabetes Self-Management

<http://www.diabetesselfmanagement.com>

(800) 234-0923 to subscribe

Diabetes Health

<https://www.diabeteshealth.com>

Nutrition Websites

Academy of Nutrition and Dietetics

<http://www.eatright.org>

USDA Choose My Plate

<http://www.choosemyplate.gov> 72 Revised 01/2020

Bronson Outpatient Diabetes Education

A referral for outpatient diabetes education is needed. Talk to your doctor for more information.

Portage

7901 S. 12th Street

Portage, MI 49024

Battle Creek

363 Fremont Street, Suite 307

Battle Creek, MI 49017

South Haven

951 S. Bailey Ave

South Haven, MI 49090

#8005441

Revised 7/2023