Diabetes Education Guide

NUTRITION EXERCISE MANAGEMENT WELLNESS

Call today to have your diabetes supplies delivered directly to your door!

Convenient home delivery.
There are no shipping charges for standard delivery.

Complete array of diabetes supplies.
We provide top-quality, name brands.

Outstanding patient service.
Our knowledgeable team helps with product selection and usage.

One phone call is all it takes.
We verify your insurance and contact your healthcare provider's office for the required authorization.

1.888.MEDICAL (1.888.633.4225)
ccsmed.com

Contents

BASICS

NUTRITION

EXERCISE

MANAGEMENT

WELLNESS

Basics

What is Diabetes?

Diabetes is a condition that occurs when glucose (sugar) builds up in the blood and the body is not able to use glucose the way it should.

Normally, when there is sugar in the blood, a hormone called insulin, which is produced by the pancreas, is released. Insulin helps the sugar get into the body's cells so it can be used for energy or stored for later use.

With diabetes, the pancreas may not make any insulin or not enough insulin. Or sometimes, the body is unable to use the insulin it does make. Then the sugar remains in the bloodstream and this causes the glucose levels to rise too high.

TYPE 1

Type 1 diabetes occurs when the body attacks it's insulin-making cells. This means that the pancreas can no longer make insulin. People with type 1 diabetes must take insulin every day, to manage their glucose levels throughout their lives. While managing Type 1 diabetes primarily involves insulin injections, it's also important to maintain a healthy lifestyle. This includes eating a healthy diet, staying active with regular exercise, and managing weight.

Type 1 diabetes usually occurs in children, teenagers or young adults, although it can also affect older adults. It was formerly known as insulin-dependent diabetes, or juvenile diabetes. Only 5-10%[1] of people with diabetes have type 1.

TYPE 2

Type 2 diabetes occurs when the body makes insulin but may not make enough or be able to use it properly. People with type 2 diabetes may also need to manage it by taking medicine and/or insulin injections. Keeping a healthy lifestyle is important for managing diabetes. This includes eating a healthy diet, staying active with regular exercise, and managing weight.

Type 2 diabetes was formerly called non-insulin dependent diabetes, or adult-onset diabetes, but a growing number of children and teens now have type 2 diabetes. It occurs in 90-95%[2] of all people with diabetes.

1. https://www.cdc.gov/diabetes/basics/what-is-type-1-diabetes.html. Accessed 04/2024

2. https://www.cdc.gov/diabetes/basics/type2.html. Accessed 04/2024

Gestational diabetes is a type of diabetes that occurs during pregnancy. The prevalence can be as high as 10%.[1] If not treated, it can cause problems for mothers and babies. Many women who had gestational diabetes will go on to have type 2 diabetes later in life.

Pre-diabetes is the stage that occurs before a person gets type 2 diabetes. Glucose levels are higher than normal, but they are not high enough to be diagnosed with diabetes. About 98 million Americans have pre-diabetes and more than 80% don't even know they have it.[2]

Risk Factors for Type 2 Diabetes

- Being overweight
- Having a family history of diabetes
- Having gestational diabetes during pregnancy
- Having a baby who weighed more than 9 pounds
- Having high blood pressure
- Certain races and ethnicities including Black, Hispanic, Native American, Asian, and Pacific Islanders have a higher predisposition

1. https://www.cdc.gov/diabetes/basics/prediabetes.html. Accessed 04/2024

2. https://www.cdc.gov/diabetes/prevention/about-prediabetes.html. Accessed 04/2024

Basics

What Are the Symptoms of Diabetes and High Glucose?

There may be no symptoms at all, but when there are, here are some of the more common signs of diabetes:

- Feeling tired
- Dry, itchy skin
- Frequent passing of urine
- Frequent infections
- Increased thirst
- Possible weight loss
- Slow healing wounds
- Feeling very hungry
- Sexual dysfunction
- Blurred eyesight
- Numbness in hands or feet

Ways to Diagnose Diabetes

If your healthcare provider thinks you may have diabetes, there are some blood tests to find out for sure.

1. **Fasting Glucose.** For this test, you should not have eaten for the previous 8 to 10 hours.
2. **Hemoglobin A1C (A1C).** An A1C test measures glucose levels over a period of up to three months.
3. **Random Glucose.** A random glucose test measures your glucose level at any point in time. It can be taken after you eat, in the middle of the day, or in the evening.
4. **Oral Glucose Tolerance Test (OGTT).** This test measures your body's response to sugar. You are given a drink with a very high amount of sugar. Then your glucose levels are tested every 60 minutes for up to three hours.

BLOOD TEST	WITHOUT DIABETES	PRE-DIABETES	WITH DIABETES
Fasting Glucose	Less than 100 mg/dL	100-125 mg/dL	126 mg/dL or greater
Hemoglobin A1C	Less than 5.7%	5.7% - 6.4%	6.5% or greater
Random Glucose	Less than 140 mg/dL	140-199 mg/dL	200 mg/dL or greater
Oral Glucose Tolerance Test (OGTT)	Less than 140 mg/dL (after 2 hours)	140-199 mg/dL (after 2 hours)	200 mg/dL or greater (after 2 hours)

Diabetes Care 2021 Jan; 44 (Supplement 1): S15-S33. Accessed 03/2021

Important Steps to Take:

Whether you have type 1 or type 2 diabetes, there are important steps you can take to help manage it. You need to balance food, activity and medication. It is important to check your glucose levels to know how well you are managing your diabetes.

- Follow a meal plan that allows you to keep a healthy weight.
  - Watch portion sizes, eat meals at regular times, and eat the right kinds of food.
  - Exercise often.
  - Take medication (if needed) as directed and prescribed by a healthcare provider.
  - Check your blood sugar regularly.

Nutrition

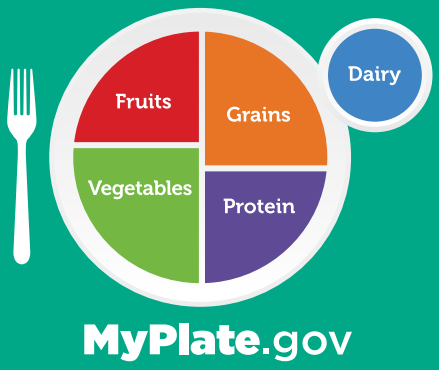
Nutrition

Diabetes and Healthy Eating

Eating the right food servings in the right amounts is important. Learning how to plan meals and snacks, and knowing when to eat is important. A Registered Dietitian or Certified Diabetes Care and Education Specialist can help you get started with your meal planning.

BASIC GUIDELINES TO FOLLOW

- Do not skip meals.
- Eat when you are hungry; stop when you are satisfied.
- Eat meals and snacks at regular times every day.
- Eat a variety of foods and opt for healthy snacks.
- Add lots of color to meals with fresh fruits and vegetables.
- Choose whole grains over highly processed grains.
- Make sure you get enough fiber every day.
- Watch portion sizes.
- Slow down and enjoy the flavor of each bite of food.



The USDA's ChooseMyPlate.gov gives you an idea of how to manage portion sizes, balance calories and enjoy food, while eating less. Fill half your plate with fruits and vegetables. At least half your grains should be whole grains. Use fat-free or low-fat (1%) milk.

https://www.myplate.gov/ Accessed 04/2024
https://www.myplate.gov/resources/tools/startsimple-myplate-app

Accessed 04/2024

Nutrition

FOOD CONTAINS THREE MAJOR NUTRIENTS

Carbohydrates | Protein | Fat

CARBOHYDRATES

Carbohydrates are the body's main source of energy. Many of the carbohydrates we eat are converted into sugar in the body, and therefore, can raise glucose levels. The total amount of carbohydrates eaten has a greater effect on glucose levels than the type of carbohydrates consumed. Carbohydrates are measured in grams. On average, about half of the calories we consume each day come from carbohydrates.

STARCHY VEGETABLES: 1 choice = 15 grams of carbohydrate and 80 calories	
Corn	½ cup
Corn on cob	½ cob (5 oz.)
Peas, green	½ cup
Potato, baked with skin	¼ large (3 oz.)
Potato, boiled, all kinds	½ cup or ½ medium (3 oz.)
Potato, mashed with milk and fat	½ cup
Potato, French fried (oven baked)	1 cup (2 oz.)
Squash, winter (acorn, butternut)	1 cup
Yam, sweet potato, plain	½ cup

BREAD: 1 choice = 15 grams of carbohydrate and 80 calories	
Bagel (about 4 oz.)	¼ (1 oz.)
Biscuit	1 (2½" across)
White, whole-grain bread	1 slice (1 oz.)
Corn bread	1-1¾" cube (1½ oz.)
English Muffin	½
Hot dog or Hamburger bun	½ (1 oz.)
Pancake	1 (4" across, ¼" thick)
Pita	½ (6" across)
Tortilla, corn flour	1 (6" across)
Waffle	1 (4" square or across)

Extra fat, or prepared with added fat. Count as 1 starch + 1 fat

More than 3 grams of dietary fiber per serving

Nutrition

SNACKS: 1 choice = 15 grams of carbohydrate and 80 calories	
Popcorn, with butter	3 cups
Popcorn, no fat added	3 cups
Popcorn, lower fat	3 cups
Pretzels	¾ oz.
Rice cakes	2 (4" across)
Snack chips: fat-free or baked tortilla, potato, baked pita chips	15-20 (¾ oz.)

CEREALS AND GRAINS: 1 choice = 15 grams of carbohydrate and 80 calories	
Cooked oats, oatmeal, grits	½ cup
Puffed cereal	1½ cups
Shredded wheat, plain	½ cup
Sugar-coated cereal	½ cup
Unsweetened, ready-to-eat cereal	¾ cup
Pasta, cooked	⅓ cup
Rice, white or brown, cooked	⅓ cup

CRACKERS: 1 choice = 15 grams of carbohydrate and 80 calories	
Animal crackers	8
Round butter type	6
Saltine type	6
Whole wheat regular	2-5 (¾ oz.)
Whole wheat low-fat	2-5 (¾ oz.)
Graham cracker	(2½" square)

FRUIT: 1 choice = 15 grams of carbohydrate and 60 calories	
Apple, unpeeled, small	1 (4 oz.)
Banana, extra small	1 (4 oz.)
Canned fruit, unsweetened	½ cup
Cantaloupe or Honeydew	⅓ melon or 1 cup
Dried Fruit	2 Tbsp
Grapefruit, large	½ (11 oz.)
Grapes	17 (3 oz.)
Kiwi	1 (3½ oz.)
Orange, small 1 (6½ oz.)	1 (6½ oz.)
Peach, fresh, medium	1 (6 oz.)

Extra fat, or prepared with added fat. Count as 1 starch + 1 fat

More than 3 grams of dietary fiber per serving

Nutrition

FRUIT JUICE: 1 Choice = 15 grams of carbohydrate and 60 calories	
Apple juice/cider	½ cup
Grape or prune juice	⅔ cup
Orange or grapefruit juice	½ cup

MILK: 1 Choice = 12 grams of carbohydrate and 100-160 calories	
Fat-free or low-fat (1%) milk, buttermilk, Lactaid®	1 cup
Fat-free or low-fat (1%) yogurt, plain or flavored with artificial sweetener	⅔ cup (6 oz.)
Reduced-fat (2%) milk	1 cup
Reduced-fat (2%) yogurt, plain	⅔ cup (6 oz.)
Whole milk, buttermilk	1 cup
Whole milk yogurt, plain	8 oz.

OTHER CARBOHYDRATES: 1 choice = 15 grams of carbohydrate and 80-150 calories	
! **Brownie, small, unfrosted**	1¼" square
! **Vanilla wafer**	5
! **Cake, no icing**	2" square
! **Sugar-free pudding**	½ cup
Gelatin, regular	½ cup
Yogurt, frozen, fat-free	⅓ cup
! **Ice cream, no sugar added**	½ cup
Pancake syrup, light	2 Tbsp
! **Trail mix, dried fruit base**	1 oz.

NON STARCHY VEGETABLES: 1 choice = 5 grams of carbohydrate and 25 calories; 1 serving size = ½ cup of cooked vegetables or 1 cup of raw vegetables	
Artichoke	**Broccoli**
✓ **Carrots**	**Cucumber**
Spinach	**Asparagus**
Cabbage	✓ **Brussels sprouts**
Cauliflower	**Eggplant**
Mustard greens	**Tomato**
Summer squash	**Water chestnuts**
Beans (green, wax, Italian)	**Peppers**
Mushrooms	**Zucchini**

! Extra fat, or prepared with added fat. Count as 1 starch + 1 fat

✓ More than 3 grams of dietary fiber per serving

Nutrition

CARBOHYDRATE COUNTING

Carbohydrate counting is a meal planning method. This method is based on how many grams of carbohydrate you eat at each meal and focuses on foods that increase glucose the most. This allows you to be flexible and enjoy carbohydrates throughout the day. The total number of carbohydrates eaten at every meal is based on your activity level, height and current weight.

Steps in Carbohydrate Counting

1. Identify foods that have carbohydrates.

Know what a carbohydrate serving is. (See previous lists.)

One serving or choice = 15 grams of carbohydrate

Examples of a carbohydrate serving:

- 1 slice of bread (1 ounce)
- ⅓ cup of pasta
- 1 small piece of fruit
- 1 cup milk

2. Decide how many servings you will eat each day.

3. Spread your carbohydrate servings over the entire day.

4. Check your glucose two hours after the start of a meal.

If your glucose is greater than 180 mg/dL, you may need to adjust your carbohydrate intake.

Carbohydrate needs vary for each person. A Registered Dietitian or Certified Diabetes Care and Education Specialist can determine how many carbohydrate grams are right for you.

Grams of Carbohydrate	How to count
0 - 5 grams	Do not count
6 - 10 grams	Counts as ½ carbohydrate serving
11 - 20 grams	Counts as 1 carbohydrate serving
21 - 25 grams	Counts as 1½ carbohydrate servings
26 - 35 grams	Counts as 2 carbohydrate servings

PROTEIN

Protein is broken down into amino acids. Amino acids are used to repair and replace body tissues. Protein has much less effect on your glucose levels than carbohydrates. It does not easily turn into glucose.

Protein is found primarily in meat, fish, poultry, eggs, cheese, milk, nuts and dried beans. It is recommended that you eat 2-3 servings per day. Select lean meats, poultry, and low-fat or fat-free dairy and beans (remember that some dairy choices and beans count as carbohydrates, too).

Meat and Meat Substitutes: 1 choice = 0 grams of carbohydrate, 7 grams of protein, 3-8 grams of fat and 45-100 calories			
Meat (1 ounce)		**Meat Substitutes**	
! Beef	Turkey	Cottage cheese	¼ cup
Chicken	Pork	! Cheese	1 oz.
Fish	Salmon	Egg	1
! Hot dog	Shellfish	Tofu	½ cup
Lamb	Tuna	! Peanut butter, almond butter	1 Tbsp

Plant-Based Proteins: count as 1 meat and 1 starch or 1 carbohydrate			
✓ Baked beans	½ cup	✓ Lentils	½ cup
✓ Beans, cooked (black, lima, pinto)	½ cup	✓ Black-eyed peas	½ cup
✓ Hummus	1/3 cup	✓ Split peas	½ cup
		✓ Refried beans	½ cup

! Extra fat, or prepared with added fat. Count as 1 starch + 1 fat

✓ More than 3 grams of dietary fiber per serving

Nutrition

FATS

A small amount of fat in the diet is necessary to maintain good health. However, most of us consume more fat than we need. There are different types of fat. Some fats are healthier than others. Too much saturated and trans fat increases your risk for heart disease. It can also cause weight gain and insulin resistance. Updated guidelines suggest following a more "Mediterranean" way when choosing healthy fats (monounsaturated and polyunsaturated) in the diet. Eating more foods like salmon (fatty fish), avocados, nuts (almonds, walnuts, pistachios), flaxseed, wheat germ and using canola, olive or avocado oils when cooking.

Foods with Fat

- Butter, margarine, oil
- Salad dressing, mayonnaise, sour cream
- Whole milk and cheese
- Nuts
- Fried foods
- High fat meats (bacon, hot dogs, processed lunch meat, etc.)

Saturated Fat

- Saturated fat increases cholesterol levels and the risk of heart disease.
- Saturated fat is found mainly in animal products.
- Saturated fat is solid at room temperature.
- 5%-6% of your daily calories should come from saturated fat.[1]
- Foods high in saturated fat include high-fat red meats, bacon, sausage, butter, whole milk, cheese, and coconut and palm oils.

Unsaturated Fat

- Unsaturated fat may help lower cholesterol.
- Unsaturated fat is found mainly in plant products.
- Unsaturated fat is liquid at room temperature.
- Examples of Polyunsaturated ("good") fats:
    - Corn, safflower, sunflower, soybean and sesame oils
    - Omega-3 fatty acid is found in soybean and canola oils, high-fat fish flaxseed and walnuts
- Examples of Monounsaturated ("best") fats (which may actually increase "good" cholesterol):
    - Canola, olive and peanut oils
    - Avocados and nuts

1. https://healthyforgood.heart.org/eat-smart/articles/saturated-fats. Accessed 04/2024

Nutrition

TRANS FAT

(Hydrogenated Fat)

- Trans fat is made when hydrogen is added to vegetable oils.
- It increases cholesterol levels, even more than saturated fats.
- It is found in commercially baked goods, stick margarines, fried food and other processed foods.

Fats: 1 choice = 0 grams of carbohydrate, 5 grams of fat and 45 calories	
Unsaturated Fats – Monounsaturated Fats	
Avocado	2 Tbsp
Peanut Butter (trans fat-free)	1½ tsp
Nuts - almonds, cashews, mixed (50% peanuts)	6 nuts
Oil – canola, olive, peanut	1 tsp
Olives – black (ripe)	8 large
Olives – green, stuffed	10 large
Polyunsaturated Fats	
Margarine, lower-fat spread (trans fat-free)	1 Tbsp
Margarine, stick, tub (trans fat-free)	1 tsp
Mayonnaise, regular	1 tsp
Mayonnaise, reduced-fat	1 Tbsp
Oil – corn, soybean, safflower	1 tsp
Salad dressing, regular	1 Tbsp
Salad dressing, reduced-fat	2 Tbsp
Saturated Fats	
Butter, reduced-fat	1 Tbsp
Butter, stick	1 tsp
Cream, half and half	2 Tbsp
Cream, whipped, pressurized	¼ cup
Cream cheese, reduced-fat	1½ Tbsp
Shortening, solid	1 tsp
Sour cream, regular	2 Tbsp
Sour cream, reduced-fat or light	3 Tbsp

480 mg more of sodium per serving

Nutrition

Daily Calories from Fat

- Total fat intake should be less than 25–35% of your total calories each day.[1]
- Saturated fat intake should be 5-6% of total daily calories.[2]
- Trans fats should be limited to less than 1% of your total daily calories.
- Remaining fat intake should come from monounsaturated and polyunsaturated fats such as nuts, seeds, fish and vegetable oils.

Calories	Total Fat (30%)	Saturated Fat (5-6%)	Poly and Mono Unsaturated Fats
1200	40 gm	7-8 gm	31-32 gm
1500	50 gm	8-10 gm	40-42 gm
2000	67 gm	11-13 gm	54-56 gm

FAT TIPS

- Choose vegetables, whole grains and fat-free or low-fat dairy.
- Bake, broil, grill or steam rather than fry foods.
- Select mono-unsaturated and polyunsaturated fats.
- Use liquid oils rather than solid spreads.
- Cook with olive oil rather than butter.
- If soft margarines are used, look for “0 g trans fat” on label.
- Avoid fried foods.
- Limit store-bought, ready-made baked goods.
- Eat baked, broiled or grilled fish, two or more times each week.
- Select lean meats and poultry.
- Remove skin from poultry.

1. https://www.heart.org/en/about-us/heart-attack-and-stroke-symptoms Accessed 04/2024

2. https://www.helpguide.org/articles/healthy-eating/choosing-healthy-fats.htm Accessed 04/2024

How Much Should I Eat?

Managing diabetes means eating the right portions. Too much or too little food can impact your blood glucose levels. Talk to your healthcare provider about how much to eat. If you don't have access to a food scale or measuring cups, the chart below may help you.

CONTROLLING PORTIONS

1 thumb
1 oz.

4 dice
1 oz.

size of a
deck of cards
3 oz.

a thumb
tip
1 tsp.

a walnut
(in shell)
2 Tbsp.

a golf ball
¼ cup

a fist
1 cup

IMPORTANT THINGS TO REMEMBER

- Everyone with diabetes should have a meal plan. Your healthcare provider can help you develop a meal plan that works for you. Schedule your meals and snacks into your day the way you would schedule important appointments. Try not to let anything interfere with your meal “appointments.”
- Practice weighing and measuring foods so you develop a trained eye for portion size.
- Food portions should be large enough to satisfy you but not so large they cause you to feel overly full.
- Meals should be approximately the same size and spread evenly throughout the day.
- Meals should include a variety of foods from all of the food groups.

Nutrition

Reading the Food Label

The type and amount of foods you eat affects how high and how fast your glucose rises. Knowing how to read food labels can help you manage your diabetes. The "Nutrition Facts" section has essential information:

Servings Per Container: One package of food may have more than one serving. You may see a double column label showing you nutrition information for the entire package.

Serving Size: Pay close attention to this. The new label has updated the portion to reflect the amount of foods and beverages people are actually eating, not what they should be eating. All the information on the label: calories, fat, carbs, etc. is based on the portion stated here. It may be more or less than what you normally eat. Be aware of the amount you typically eat.

Calories: The total number of calories from all nutrients (fat, carbohydrate, and protein) in ONE serving.

Total Fat: This is divided into types of fat. Limit saturated fats and avoid trans fats.

Sodium: The recommended upper limit is 2,300 mg. An ideal limit is no more than 1,500 mg per day.[1]

Total Carbohydrates (CHO's): These CHO's are converted to glucose (sugar) when digested, however different CHO's affect blood sugar differently.

Fiber: It does not convert into sugar and keeps you full longer. Aim for 25-30 grams of fiber per day from food, not supplements.[2] Sugar will quickly raise your blood sugar levels. The new food label now includes **Added Sugars.** Aim for less than 10% of your calories to come from added sugars (about 25-30 grams of added sugars or less per day).

Ingredients: This list shows you the ingredient with the greatest contribution to the product in weight. The less ingredients, the less processed it is. A long list of ingredients will tell you that it is a highly processed food.

Aim for LESS: Saturated fat, trans fat, sodium and added sugars.

Get MORE: Dietary fiber, vitamin D, calcium, iron

Nutrition Facts

2 servings per container
Serving size 1 1/2 cup (208g)

Amount per serving	
Calories	**240**
	% Daily Value*
Total Fat 4g	**5%**
Saturated Fat 1.5g	**8%**
Trans Fat 0g	
Cholesterol 5mg	**2%**
Sodium 430mg	**19%**
Total Carbohydrate 46g	**17%**
Dietary Fiber 7g	**25%**
Total Sugars 4g	
Includes 2g Added Sugars	**4%**
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%

* 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.

Ingredients: Bulgur Wheat, Sauce (Water, Half and Half [Milk, Cream], Parmesan Cheese [Pasteurized Skim Milk, Cultures, Salt, Enzymes], Cheddar Cheese [Pasteurized Milk, Cultures, Salt, Enzymes], Olive Oil, Spice, Butter, Sugar, Xanthan Gum), Lentils, Corn, Green Beans, Red Beans, Potatoes. Contains: Wheat, Milk

1. Diabetes Care Volume 44. Supplement 1,S53 January 2021

2 . www.ucsfhealth.org/education/increasing_fiber_intake/ Accessed 04/2024 https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ LabelingNutrition/ucm385663.htm?utm_source=msn#highlights, Accessed 04/2024.

TIPS FOR SUCCESS

- Have a meal plan and schedule your meal “appointments”
- Reading and understanding food labels can help you make healthy choices
- Portion size is important. When you can't weigh and measure your food, remember to reference the portion size.

Sugar Substitutes

Commonly used sweeteners are table sugar, honey, fructose, carob, dextrose and corn syrup. They may be called “natural sweeteners,” but that does not mean they are healthier for you. A few do have the benefit of tasting sweeter than regular sugar, so less is needed. But they still contain calories and carbohydrates that can affect your glucose levels. There are two types of sugar substitutes: sugar alcohols and low-calorie sweeteners. Sugar alcohols include sorbitol, mannitol, maltitol and xylitol. They are used in many “dietetic foods” such as chewing gum, candies and desserts. Sugar alcohols provide about half the calories and carbohydrates of sugar.

SUGAR ALCOHOLS

Sugar alcohols do not contain alcohol. These sugar alcohols digest more slowly, but half of them can be converted to sugar, thus raising your blood sugar levels. Some people find eating even small amounts of foods containing sugar alcohols causes gas, cramps, bloating and/or diarrhea.

LOW-CALORIE SWEETENERS

Low-calorie sweeteners are also called “artificial sweeteners.” The most common ones are aspartame, sucralose, saccharin, acesulfame-K and stevia. These products are many times sweeter than sugar, so only a very small amount is needed. Because such a small amount is used, they do not provide calories or carbohydrates. These sweeteners do not affect your blood sugar. Replacing regular sugar with these products in foods does lower the calorie and carbohydrate level (e.g., diet soda vs. regular soda). You will not need to count them in your meal plan because they are “free foods.”

Diabetes Care Volume 44, Supplement 1, January 2021, S59-S60. Accessed 03/2021.

Nutrition

SUGAR TIPS

Remember always to read the food label carefully.

- Do not assume “sugar-free” or “fat-free” foods are carbohydrate-free or calorie-free. You still need to read the nutrition label closely.
- An alternative to using sugar substitutes is to simply cut back on the amount of sugar called for in recipes.
- Add nutmeg, vanilla, cinnamon or almond extract in place of sugar in recipes for a sweet flavor without adding calories and carbohydrates.

Fiber

Ensuring an adequate intake of fiber can be a challenge for many individuals. According to the 2020 to 2025 Dietary Guidelines, a vast majority—90% of women and 97% of men—fall short of meeting the recommended daily fiber intake. To support optimal health, it's advised that most healthy adults aim to include the following amounts of fiber into their daily diet:

- Men: Aim for 38 grams of fiber per day (About 14 grams for every 1000 calories[2]).
- Women: Aim for 25 grams of fiber per day (About 14 grams for every 1000 calories[2]).

Age	Female	Male
2-3 yrs	14 gm	14 gm
4-8 yrs	17 gm	20 gm
9-13 yrs	22 gm	25 gm
14-18 yrs	25 gm	31 gm
19-30 yrs	28 gm	34 gm
31-50 yrs	25 gm	31 gm
+50 yrs	22 gm	28 gm

Fiber is not digested, does not convert to sugar, and therefore does not raise blood glucose levels.

- Makes you feel full sooner and longer
- Lowers blood cholesterol
- Prevents constipation

1. Academy of Nutrition and Dietetics https://www.eatright.org/health/essential-nutrients/carbohydrates/easy-ways-to-boost-fiber-in-your-daily-diet

2. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Accessed 04/2024.

INSOLUBLE FIBER

- Found in bran, whole grains, some vegetables and nuts.
- Helps prevent constipation by increasing stool volume and aiding it to pass easily through the intestines.
- Found in oats, beans, citrus fruits and barley.
- May help lower glucose and cholesterol.

SOLUBLE FIBER

Increase fiber slowly – add no more than 5 grams a day. Adding it too quickly can cause diarrhea, gas and bloating. Drink plenty of water and non-calorie fluids. A high-fiber diet can cause constipation if you do not get enough fluid.

INCREASING FIBER INTAKE

- Use brown rice rather than white rice.
- Include beans at least 3 x per week
- Eat whole fruit rather than drinking juice.
- Snack on fruits, vegetables, popcorn or high fiber crackers.
- Eat the skin on fruits and vegetables when possible.
- Increase vegetable portions at lunch and dinner.
- Use whole grain bread rather than white bread. Whole grain should be the first item listed on the food label. Avoid large amounts of processed grains.

Nutrition

Average Fiber Content

Fruits	Serving Size	Grams of Fiber Per Serving
Apple with skin	1 medium	4 gm
Figs, dried	2 medium	4 gm
Pear	1 medium	5.5 gm
Strawberries	1 cup	4 gm
Grains, Cereals and Pastas	**Serving Size**	**Grams of Fiber Per Serving**
Bran cereal	⅓ cup	8 gm
Brown rice, cooked	½ cup	2 gm
Pumpernickel bread	1 slice	3 gm
Whole wheat pasta	½ cup	3 gm
Vegetables	**Serving Size**	**Grams of Fiber Per Serving**
Broccoli	½ cup	2 gm
Brussels sprouts	½ cup	3 gm
Spinach	½ cup	2 gm
Legumes, Nuts and Seeds	**Serving Size**	**Grams of Fiber Per Serving**
Baked beans, canned	½ cup	5-8 gm
Lentils	½ cup	8 gm
Peanuts, dry roasted	¼ cup	3 gm
Sunflower seeds	¼ cup	2 gm

https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf Accessed 04/2024.

Sodium

The body needs sodium to function properly. Sodium is needed for:

- Sending nerve impulses.
- Maintaining fluid balance in the body.
- Helping muscles to contract and relax.

There is natural sodium and added sodium. Natural sodium is a mineral found in many foods. However, most of the sodium we consume is added to the food we eat. Added sodium comes from processed and prepared foods, which should be kept to a minimum. It also comes from adding table salt or soy sauce to our foods. The kidneys help keep sodium levels in balance. When you have too much sodium in your body, the kidneys get rid of it. When you have too little sodium in your body, the kidneys save it. When too much sodium stays in the bloodstream, it can cause your blood pressure to increase.

REDUCING SODIUM

Daily sodium intake should be less than 2,300 mg per day.[1]

People with diabetes may have high blood pressure, so they should keep their sodium intake low.

- Eat plenty of fresh fruits and vegetables.
- Always check food labels to see how much sodium is in one serving.
- Choose frozen or canned food items with low or no salt added.
- Use salt-free herbs and spices.
- Avoid fast foods.

1 teaspoon of sodium = 2,300 mg

1. Reference: American Diabetes Association. Diabetes Care_2021 Jan;_44(Supplement 1):_S53. Access 07/2021. https://care.diabetesjournals.org/content/44/Supplement_1/S53

Nutrition

Snacking Tips

Snacks are important because they can prevent overeating at a meal. Snacks are also a way to increase your intake of fruits and vegetables. Eating smaller meals helps even out your glucose levels throughout the day by avoiding a big load of carbohydrates at one time. Try to choose snacks that are low in fat and high in fiber. A typical snack may have 15 grams of carbohydrates and some protein. Remember, if you inject insulin for meals, talk with your healthcare provider as you may need additional insulin for snacks that contain carbohydrates.

HEALTHY SNACK EXAMPLES

- 3-4 tablespoons of nuts
- 6-8 whole grain crackers with 1 oz. low-fat cheese
- 6 oz. plain yogurt with ¼ cup low-fat granola or ½ cup of fruit
- ⅓ cup of hummus with carrot sticks or cucumbers
- 1 oz. of lean deli meats and 1 slice whole grain bread
- 15-20 fat-free tortilla chips and salsa

DINING OUT TIPS

- Choose the restaurant wisely. Avoid buffet and fast food restaurants when possible. Check the menu choices online before you go out.
- Watch your portion sizes. Share an entrée or order an appetizer as your main course. Ask for a to-go container before your meal comes.
- Eat slowly and chew your food thoroughly.
- Use salads or broth soups as appetizers. Avoid cream soups.
- Skip the bread basket and the free chips.
- Order baked, broiled, grilled or steamed foods. Avoid fried and breaded appetizers and meals.
- Order salad dressings, sauces and gravies on the side.
- Count your carbohydrate servings.
- Consult your healthcare provider regarding recommended times to take your insulin if you are dining out.

Nutrition

Diabetes and Alcohol

If you choose to drink alcohol, the American Diabetes Association has guidelines to follow. The ADA recommends two drinks or less per day for men and one drink or less per day for women.[1]

There are some people who should avoid alcohol completely:

- Those with a history of alcohol abuse
- Women who are pregnant
- Those with other medical problems, such as pancreatitis, high triglycerides or nerve damage in arms or legs

There are also some medications that may be dangerous when combined with alcohol. Your pharmacist or healthcare provider can advise you about these medications.

Beverage	One Serving
Regular Beer	12 oz.
Light Beer	12 oz.
Wine	5 oz.
Hard Liquor	1.5 oz.

OTHER THINGS TO CONSIDER

Too much alcohol can impair judgment. It could cause you to forget to check your glucose or to take your medications. You might also eat too many foods that could raise your glucose. In addition, alcohol contains calories and can cause you to gain weight. If you need to lose weight, these calories need to be accounted for in your meal plan.

If you choose to drink alcohol, here are some tips:

- Never drink alcohol on an empty stomach; always drink it with a meal.
- Select drinks that are lower in sugar and alcohol.
- Light beers and dry wines are good choices.
- Choose sugar-free drink mixers.
- Avoid activity before, during or after drinking alcohol.
- Wear an ID that notes that you have diabetes. If you are in a setting where people are drinking alcohol, hypoglycemia may be mistaken for being drunk.
- Alcohol can cause hypoglycemia after drinking and/or up to 24 hours later. If you have been drinking, you should consider checking your blood sugar more often: Before you drink, while you drink, before going to bed, and throughout the night.

1. https://www.diabetes.org/healthy-living/medication-treatments/alcohol-diabetes Accessed 04/2024.

Diabetes and Weight Loss

Being overweight can make diabetes more diffcult to control. Losing weight is often helpful in improving glucose by decreasing your body's resistance to insulin, lowering blood pressure and blood fats (cholesterol and triglycerides). Even a small amount of weight loss can make a difference.

Before starting any weight loss program, check with your healthcare provider. Also, as you lose weight, you should consult with your healthcare provider to check whether your diabetes medicine may need to be adjusted.

GETTING STARTED

- Set realistic and specific goals. Losing even 5% of your current body weight by consuming less calories and changing your lifestyle has shown benefits for people who are overweight with diabetes, prediabetes, and those at risk of developing diabetes. A weight loss of about ½ pound to 1 pound per week is good. When you meet your goals, reward yourself.
- Develop a plan for healthy eating. A dietitian is a good person to help you set up a meal plan. Make sure the plan fits your tastes and your lifestyle. Increase your activity level. Activity burns calories, reduces stress and can make you feel less hungry. Try to move for 30-45 minutes a day.
- Keep a food and exercise diary. Writing down what you eat for each meal and snack and what you do for activity will help you stay on track. You can also track using a multitude of phone apps that are available.
- Try not to use food to cope with stress or feelings such as anger, sadness or boredom. Learn healthier ways to cope.

Activity

Diabetes and Activity

Exercise is any activity that gets your arms and legs moving. Activity can improve your health in many ways:

- Lower your blood sugar levels
- Lower your blood pressure
- Help your body use its insulin better
- Lower your blood fats
- Help you lose weight and keep it off
- Make your muscles strong
- Make your heart and lungs work better
- Lower stress levels

THREE TYPES OF EXERCISE

Aerobic Exercise (150 minutes per week, over at least 3 days)

- Walking, swimming, biking, dancing, and water aerobics
- Strengthens your heart and lungs

Strength Training Exercise (2-3 times per week)

- Lifting weights
- Builds muscle and helps with losing weight and maintaining bone density

Stretching Exercise (2-3 times per week)

- Helps prevent injury and improves flexibility
- Yoga, Tai Chi, or stretching

HOW OFTEN SHOULD YOU MOVE?

The American Diabetes Association recommends activity for at least 150 minutes every week.[1] This should be aerobic activity of moderate intensity. You could walk for 21 minutes every day or 30 minutes five days a week. Doing some activity every day is ideal. Do not go more than 2 days in a row without activity. If you cannot do 30 minutes all at once, break it up into two or three "mini" sessions. Start with a warm-up, such as five minutes of stretching activities. End your activity with a cool-down for about 5-10 minutes and some more stretching. Make it a habit to interrupt long periods of sitting with short breaks every half-hour. You should consult with your healthcare provider before starting any new activities

1 https://care.diabetesjournals.org/content/44/Supplement_1/S53. Accessed 04/2024

Activity

GETTING STARTED ON AN ACTIVITY PROGRAM

Before starting an activity program, check with your healthcare provider.

- Select the activities you like.
- Try to combine all three types of activity into your program.
- Start your program slowly.
- Set goals.
- Keep an exercise log.
- Do not let yourself become discouraged. If you miss some days, get back into your routine as soon as possible.
- Check your glucose each time before you an activity.
- You may want to check your glucose after an activity. This is important if you do an activity for a long period of time. Checking also helps you learn how activities may lower your glucose. Be aware that activities can continue to lower your glucose up to 12 hours after you complete the activity.
- Drink lots of water before, during and after activities.
- Wear medical identification.
- Stay out of very cold or very hot weather.

ACTIVITY TIPS

If you have foot problems:

- Wear shoes that fit well and soft socks.
- Use insoles for more cushioning.
- Check your feet before and after activities.
- If you do not have feeling in your feet or you have severe foot problems, try swimming, biking, chair activities, arm activities and rowing.

If you have severe eye problems, avoid vigorous-intensity aerobic or resistance activites such as:

- Weight lifting
- High impact dance classes
- Jogging
- Racquet sports

If your glucose is over 250 mg/dL and you have ketones in your urine, do not exercise.[1]

You should consult with your healthcare provider before restarting any activity. Wait until your blood sugar is lower and the ketones go away. **See page 40 to learn more about ketones**

1.https://care.diabetesjournals.org/content/39/11/2065. Accessed 04/2024.

ACTIVITY AND FOOD

Walking is considered an excellent activity for most people with diabetes.[1]

Activity may lower glucose. If you take insulin or glucose-lowering pills, your blood sugar may get too low during or after an activity. It is important to snack on appropriate foods at the appropriate time. Please note, that for some people, certain activities may raise glucose levels temporarily. If this is the case for you, you do not have to have a snack prior to the activity.

If a snack is needed, your snack should contain either starch or sugar.

If your glucose is normal before the activity, but usually drops once you start an activity, you should aim to have a snack that contains a starch before starting the activity. How many carbohydrates you need depends on:

- Your glucose when you start the activity
- How long you plan on doing the activity for
- If you are taking insulin, when was the last dose of your rapid-acting insulin

Here are examples of a starch plus a protein snack with the correct portion size to eat or drink:

- 5-6 crackers and cheese cubes (1 oz)
- 1 slice bread or rice cake with 1 Tbsp peanut butter
- ¼ cup of cottage cheese and 1 cup fresh fruit

If your glucose drops below 70 mg/dL during the activity, you will need a source of fast acting sugar. These foods increase your glucose quickly. One serving size of carbohydrate equals 15 grams.

Here are examples of quick carbohydrates with the correct portion size to eat or drink:

- ½ cup of juice
- 1 cup of milk
- 1 small piece of fruit
- 1 cup of light yogurt
- 2 Tbsp or 1 small box of raisins
- ½ cup sugar-free pudding
- 3 glucose tablets

1 https://care.diabetesjournals.org/content/44/Supplement_1/S53. Accessed 04/2024

Activity

Glucose Level	Recommendations for Activity	Recommended Snack Based on Length of Activity
(Hyperglycemia) Lower than 100 mg/dL	Glucose may be too low to do activities safely. Eat a snack before doing activity (see page 42).	**Activity for 30 minutes or less –** 1-2 carbohydrate choice(s) depending on glucose Activity for about 1 hour – 2 carbohydrate choices plus protein **Activity for 2 hours or more –** Do not do activity until glucose is over 100. Eat 1 carbohydrate choice and recheck glucose. Repeat as needed.
100 - 150 mg/dL	Safe glucose range for most people to be active. Eat a snack to prevent blood sugar from dropping during an activity.	**Activity for 30 minutes or less –** 0-1 carbohydrate choice(s) depending on glucose **Activity for about 1 hour –** 1-2 carbohydrate choice(s) depending on glucose **Activity for 2 hours or more –** 2 carbohydrate choices plus protein
150 - 200 mg/dL	Safe glucose range for most people to do an activity. May need to eat a snack to prevent glucose from dropping during an activity.	**Activity for 30 minutes or less –** No snack needed **Activity for about 1 hour –** 0-1 carbohydrate choice depending on glucose **Activity for 2 hours or more –** Check glucose each hour. Eat carbohydrate choice, if needed, based on glucose reading.
200 - 250 mg/dL	Safe glucose range for most people to be active. May need to eat a snack to prevent glucose from dropping during an activity.	**Activity for 30 minutes or less –** No snack needed **Activity for about 1 hour –** No snack needed **Activity for 2 hours or more –** Check glucose each hour. Eat carbohydrate choice, if needed, based on glucose reading.
250 - 300 mg/dL	Safe glucose range for most people to be active.	**Activity for 30 minutes or less –** No snack needed **Activity for about 1 hour –** No snack needed **Activity for 2 hours or more –** Check glucose each hour. Eat carbohydrate choice, if needed, based on glucose reading.
Over 300 mg/dL	Glucose may be too high to do an activity safely. Ask your healthcare provider what glucose range is safe for you.	

This information is to be used as a guideline only. Everyone responds to exercise and food differently. Please discuss these recommendations with your physician.

https://diabetes.org/health-wellness/fitness/blood-glucose-and-exercise accessed 04/2024

Management

Management

DIABETES MEDICATION

If your diabetes cannot be managed with diet and exercise, you may need medication. Diabetes medications can be taken by mouth or injected through the skin. All medications for diabetes work differently. You may be on more than one medication.

NOTE: While people with type 1 diabetes must take insulin, there are times when additional therapies may play a role.

ORAL MEDICATIONS

The following medication lists may not be inclusive of all diabetes medications depending on FDA approval times. Please consult with your healthcare provider regarding any medications or the use of additional therapies.

Brand Name	Generic Name	Drug Class	How it Works	Side Effects
Glucophage Glucophage XR, Glumetza, Fortamet	Metformin Metformin extended release	Biguanide	Lowers the amount of glucose produced by the liver.	Bloating, gas, diarrhea, upset stomach, and loss of appetite. Lactic acidosis may occur in people with abnormal kidney or liver function.
Amaryl Glucotrol Glucotrol XL	Glimepiride Glipizide Glipizide extended release Glyburide	Sulfonylureas	Helps beta cells in the pancreas release more insulin.	Low blood glucose, occasional skin rash, irritability, upset stomach, and weight gain.
Starlix Prandin	Nateglinide Repaglinide	Meglitinides	Helps beta cells in the pancreas release more insulin.	Effects diminish quickly and they must be taken with each meal. May cause low blood glucose.
Actos	Pioglitazone	TZDs	Helps insulin work better in muscle and fat cells. Lowers glucose production in the liver.	May cause side effects such as swelling or fluid retention. Increased risk of congestive heart failure in those at risk.
Precose Glyset	Acarbose Miglitol	Alphaglucosidase inhibitors	Blocks the breakdown of starches in the intestines.	Gas, diarrhea, upset stomach, and abdominal pain.

TYPE 2 ORAL MEDICATIONS (CONT.)

Always take your medication as prescribed. Talk with your healthcare provider or pharmacist to understand how to use your prescription medications safely and effectively. According to ADA, glucose targets are individualized based on patient age and with presence of diabetes related complications.

Brand Name	Generic Name	Drug Class	How it Works	Side Effects
Nesina Tradjenta Onglyza Januvia	Alogliptin Linagliptin Saxagliptin Sitagliptin	DPP-4 inhibitors	Prevents the breakdown of GLP-1, a compound in the body that lowers blood glucose levels.	Stomach discomfort, diarrhea, sore throat, stuffy nose, and upper respiratory infection
Welchol	Colesevelam	Bile acid sequestrants	Lowers cholesterol and blood glucose levels.	Constipation, nausea, diarrhea, gas, heartburn, and headache (may interact with glyburide, levothyroxine and contraceptives).
Cycloset	Bromocriptine quick release	Dopamine-2 agonists (not available as a generic)	Helps lower blood glucose levels after a meal.	Effects diminish quickly and they must be taken with each meal. May cause low blood glucose.
Invokana Farxiga Jardiance Steglatro (Ertugliflozin) SGLT2	Canagliflozin Dapagliflozin Empagliflozin	SGLT2 inhibitors (not available as a generic)	Blocks glucose from being reabsorbed by the kidneys. Excess glucose is released in the urine.	Dehydration, dizziness, weakness, yeast infection, urinary tract infection, low blood sugar, nausea, and upper respiratory tract infection.
Rybelsus	Semaglutide	GLP1 receptor agonist	Helps release insulin when glucose rises with meals and reduces glucose from the liver.	Decreased appetite, nausea, vomiting, and abdominal pain.

Some medications for diabetes are combinations of medicines. Do not combine medications without a prescription from a healthcare provider.

Brand Name	Generic Name
Kazano	Alogliptin & Metformin
Prandimet	Repaglinide & Metformin
Invokamet	Canagliflozin & Metformin
Xigduo	Dapagliflozin & Metformin
Glyxambi	Empagliflozin & Nagliptin
Synjardy	Empagliflozin & Metformin
Segluromet	Ertugliflozin & Metformin
Steglujan	Ertugliflozin & Sitagliptin

Brand Name	Generic Name
Metaglip	Glipizide & Metformin
Glucovance	Glyburide & Metformin
Jentadueto	Linagliptin & Metformin
Avandamet	Rosiglitazone & Metformin
Actos Plus Met and XR	Pioglitazone & Metformin
Oseni	Alogliptin/Pioglitazone
Duetact	Pioglitazone & Glimeperide
Avandryl	Rosiglitazone & Glimepiride
Janumet and XR	Sitagliptin & Metformin
Kombiglyze XR	Saxagliptin & Metformin
Juvisync	Sitagliptin & Simvastatin

https://www.pdr.net./. Accessed 04/2024

If your diabetes medication is not listed in these charts, it may be new. Ask your healthcare provider to explain how it works.

Mayo Clinic, Diabetes Treatment: Medications for Type 2 Diabetes, 3/11/2021.

https://dtc.ucsf.edu Accessed 03/2021.

Management

INSULIN AND OTHER INJECTABLE MEDICATIONS

Insulin is a hormone made of protein. It is made in the pancreas. Insulin allows glucose to enter most body cells. This lowers the level of glucose in the blood. In diabetes, there is either not enough insulin or the body will not let it work the way it should. Insulin cannot be taken by mouth, because it is destroyed by normal stomach acid. Insulin may be prescribed along with diabetes pills or other diabetes injectables to manage glucose.

There are many types of insulin. Insulins differ by how quickly they start to work and how long they work in the body. The amount of insulin taken varies from person to person. Your healthcare provider will determine the right dose for you and whether any adjustments may be needed.

TYPE 2 INJECTED MEDICATIONS (NON-INSULIN)

Brand Name	Generic Name	Drug Class	How it Works	Side Effects
Symlin	Pramlintide	Amylin (not available as a generic)	Slows food moving through the stomach. Also indicated for type 1 diabetes.	Low glucose, nausea, vomiting.
Eperzan, Trulicity Byetta Bydureon, Bydureon BCise Victoza Adlyxin Ozempic	Dulaglutide Exenatide Exenatide extended release Liraglutide Lixisenatide Semaglutide	GLP-1 receptor agonists (not available as a generic)	Helps release insulin when blood glucose is high and lower the amount of glucose produced by the liver.	Diarrhea, nausea, and vomiting.
Mounjaro	Tirzepatide	GIP & GLP-1 RA	Increases insulin secretion and slows gastric emptying.	Nausea, diarrhea, decreased appetite, constipation, indigestion; pancreatits

RAPID-ACTING INSULIN

Always take your medication as prescribed. Talk with your healthcare provider or pharmacist to understand how to use your prescription medications safely and effectively. According to ADA, glucose targets are individualized based on patient age and with presence of diabetes related complications.

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Fiasp	Insulin aspart	Syringe; prefilled, 300-unit disposable pen	2.5 min.	50 to 70 min.	About 5 hours
NovoLog	Insulin aspart	Syringe; prefilled, 300-unit disposable pen; reusable pen with 300-unit cartridges; pump	10 to 20 min.	40 to 50 min.	3 to 5 hours
Apidra	Insulin glulisine	Syringe; prefilled, 300-unit disposable pen; pump	10 to 20 min.	30 to 90 min.	2 to 4 hours
Afrezza	Insulin human (inhaled powder)	Inhaler with 4-, 8-, and 12-unit cartridges	3 to 7 min.	12 to 15 min.	1.5 to 3 hours
Humalog	Insulin lispro (Also available in U-200)	Syringe; prefilled, 300-unit disposable pen; reusable pen with 300-unit cartridges; prefilled, 600-unit disposable pen; pump	10 to 20 min.	30 to 90 min.	3 to 5 hours
Admelog	Insulin lispro	Syringe; prefilled, 300-unit disposable pen; reusable pen with 300-unit cartridges; prefilled, 600-unit disposable pen; pump	15 min.	60 min.	2 to 4 hours
Lyumjev	Insulin lispro	Syringe; prefilled, 100-unit disposable pen; quick pen with 200-unit cartridges	15 to 20 min.	2 to 3 hours	4 to 8 hours

Reminder: Keep rapid-acting insulin injection site separate from long-acting.

SHORT-ACTING INSULIN

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Humulin R	Regular	Syringe	30 to 60 min.	2 to 4 hours	5 to 8 hours
Novolin R	Regular	Syringe	30 min.	80 to 120 min.	Up to 8 hours

Management

INTERMEDIATE-ACTING INSULIN

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Humulin N	NPH	Syringe; prefilled, 300-unit disposable pen	1 to 3 hours	8 hours	12 to 16 hours
Novolin N	NPH	Syringe	90 min.	4 to 12 hours	Up to 24 hours

LONG-ACTING INSULIN

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Levemir	Insulin detemir	Syringe; prefilled, 300-unit disposable pen	1.6 hours	No peak	Up to 24 hours
Basaglar	Insulin glargine	Prefilled, 300-unit disposable pen	1 hour	No peak	24 hours
Semglee	Insulin glargine	Prefilled, 300-unit disposable pen	1 hour	No peak	24+ hours
Tresiba	Degludec	Insulin Pen or vial Pre-filled 100u/ml (pen & vial); 200u/ml (pen)	1 hour	No peak	42 hours
Lantus (Basaglar)	Glargine	Insulin pen or vial; u100 concentration	1-2 hours	No peak	24 hours
Toujeo Solostar & Toujeo Max	Glargine	Insulin pen 300u/ml 1.5ml pen or 3.0ml pen	6 hour	No peak	36 hours

References:

https://diabetes.org/health-wellness/medication/insulin-basics. Accessed 04/2024

https://diabetes.org/health-wellness/medication-treatments. Accessed 04/2024

www.cdc.gov/diabetes/basics/type-1-types-of-insulin.html

https://www.lantus.com

www/toujeo.com

INSULIN MIXTURES

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Humalog Mix 50/50	50% lispro protamine (NPL)/50% insulin lispro	Syringe; prefilled, 300-unit disposablepen	10 to 15 min.	Varies	16 to 22 hours
Humalog Mix 75/25	75% lispro protamine (NPL)/25% insulin lispro	Syringe; prefilled, 300-unit disposable pen	10 to 15 min.	Varies	16 to 22 hours
NovoLog Mix 70/30	70% aspart protamine/ 30% insulin aspart	Syringe; prefilled, 300-unit disposable pen	10 to 20 min.	Varies	Up to 24 hours
Humulin 70/30	70% NPH/ 30% Regular	Syringe; prefilled, 300-unit disposable pen	30 to 60 min.	Varies	12 to 16 hours
Novolin 70/30	70% NPH/ 30% Regular	Syringe	30 min.	30 to 90 min.	Up to 24 hours

Brand Name	Generic Name (U100, except where noted)	Delivery	Onset	Peak	Duration
Humulin R U-500	Regular U-500	Syringe; disposable pen	30 min	4 to 8 hours	Up to 24 hours

INSULIN PENS

Insulin can be given with a syringe and some insulin is available in pen form, which is an easy way to use insulin. Insulin pens fall into two groups:

- **Reusable insulin pens** require you to load them with a cartridge of insulin. When the insulin is used, you replace the cartridge with a new one. A reusable pen can often be used for several years.
- **Disposable insulin pens** come filled with insulin. They are thrown away when they are empty. These are easier to use than reusable pens.

OTHER MIXED MEDICATIONS: INSULIN + INCRETIN

Soliqua: Lantus & Lixisenatide	Once opened, good for 28 days after first use.	Inject separate from rapid acting.
Xultophy: Tresiba & Victoza	Once opened, good for 21 days after first use.	Inject separate from rapid acting insulin.

Management

INCRETIN - THESE DRUGS ARE BEST REFRIGERATED UNTIL TIME OF USE.

Trulicity (Dulaglutide)	Inject once a week same day of week. Pen is stable at room temperature for 14 days if left out. One time use only.
BCise (Bydureon)	Inject once a week same day of week. Pen one time use only. New unused pen, best to store pen flat in refrigerator till use. If left out of refrigerator, good for 4 weeks at room temp.
Ozempic	Inject once a week. Multi-dose pen; after first use, pen good for 56 days.
Victoza	Inject daily per dosage guidelines in office. Multi-dose pen, stable at room temperature for 30 days.

Reminder: Keep incretin injection site separate from insulin injection site.

Each vial of insulin or box of insulin pens come with steps on how to store it. As long as vials or pens are stored unopened in the refrigerator (at 36-46 degrees F), they are good until the expiration date. Before first use, insulin pens or cartridges should be stored in the refrigerator. After that, they can be stored at room temperature.

Opened vials of the following insulins and mixtures are stable for 28 days either at room temperature (86 degrees F) or in a refrigerator (36-46 degrees F): insulin glargine (Lantus), insulin glulisine (Apidra), insulin aspart (NovoLog), insulin lispro (Humalog), Novolin-N, Humulin-N, Novolin-R, Humulin-R, and mixtures of insulin (Novolin 70/30, Humulin 70/30, NovoLog Mix 70/30, Humalog Mix 75/25, and Humalog Mix 50/50). Opened vials of insulin detemir (Levemir) are stable for up to 42 days at the recommended conditions. Insulin should not be allowed to freeze; if vials or pens are found to be frozen, they should be discarded and replaced with fresh supplies.

STORAGE OF OPENED HUMULIN R U 500 VIALS Storage of opened 500 units/mL Vials: Store in a refrigerator (36-46 degrees F) or at room temperature (86 degrees F); discard after 40 days. Do NOT freeze.

STORAGE OF OPENED HUMULIN R 500 KWIKPEN Storage of opened HUMULIN R 500 units/mL KwikPen: Do NOT refrigerate. Store at room temperature (86 degrees F); discard after 28 days.

Please check manufacturer guidelines regarding insulin storage.

Sharps Disposal

Syringes and lancets should be thrown away in an approved sharps container. You can purchase one at most drug stores. Many cities and towns have a free sharps disposal program. You can get information from your local hospital or local/county health departments. More information is available on the Coalition for Safe Community Needle Disposal website: **www.SafeNeedleDisposal.org.**

DIABETES TECHNOLOGY

Diabetes technology (hardware, devices, software) helps patients living with diabetes manage their care. This technology is typically grouped into two categories: insulin pumps and continuous glucose monitors (CGM).

INSULIN PUMPS

An insulin pump is a tool used to manage diabetes that provides freedom and flexibility compared to daily injections. Before pump therapy, individuals are often taking 3-4 injections of insulin per day. With a pump, the insulin can be adjusted at any time, helping you to manage your diabetes more effectively. You and your health care provider work together to achieve the best settings for the pump.

The pump is a small, battery-operated device that delivers insulin similar to how a pancreas delivers insulin. Only rapid-acting insulin is used in the pump. The Basal setting delivers small amounts of insulin continuously over 24 hours. The Bolus insulin covers your meals and for corrections when your blood glucose is high. The user must tell the pump what they are eating. Then based on the meal and current glucose, the pump calculates the correct amount of insulin to take.

A pump reservoir holds 2-3 days of insulin. An infusion set attaches to your body, like a patch. The insulin passes from the pump reservoir through the tubing to your body. The reservoir, tubing, and site are changed every 2-3 days.

For pumps with infusion sets, you can disconnect if necessary. Some pumps are tubeless, however, you cannot disconnect from the tubeless system. Many new pumps work with CGM (continuous glucose monitoring) devices which automatically adjust insulin based on the CGM reading.

CGM (CONTINUOUS GLUCOSE MONITORING)

CGM is a glucose monitoring system that measures your glucose readings continuously. It is used in diabetes management to identify the trends of your blood glucose levels.

A CGM is composed of a glucose sensor that is inserted under the skin, a transmitter, and a receiver device that reads your glucose readings. This can be a separate reader or a smartphone.

References:

Clinical Pharmacology. (2018, May 31). Clinical Comparison. Retrieved from clinicalkey.com: https://www.clinicalkey.com/pharmacology/login
Joslin Diabetes Center. (2018, May 31). Oral Diabetes Medications Summary Chart. Retrieved from Joslin.org: http://www.joslin.org/info/oral_diabetes_medications_summary_chart.html
Standards of Medical Care in Diabetes—2022 : https://diabetesjournals.org/care/issue/45/Supplement_1

Management

GLUCOSE MONITORING

Monitoring your glucose with your meter is one of the best ways to see how well you are managing your diabetes. Every time you check your blood sugar with your meter, the results show you and your healthcare provider how well your medicines are working, and how your food and activity affect your levels. Check with your healthcare provider to determine how many times a day you should check your glucose. It can vary depending on what type of diabetes you have, if you are sick, or whether or not you are on insulin. It is helpful to check your glucose at various times of the day to see glucose patterns. Checking two hours after a meal lets you see if what you ate raised your glucose too high. You should also check when you make changes in your food, work or activity schedule. Write down your results, and talk to your healthcare provider about them. You and your healthcare provider can make changes as needed to prevent future problems.

GLUCOSE GOALS

Preprandial (before meals)	80-130 mg/dL
Postprandial (1-2 hours after the start of the meal)	Less than 180 mg/dL

Diabetes Care, Volume 44, Supplement 1, January 2021 S79. Accessed 03/2021

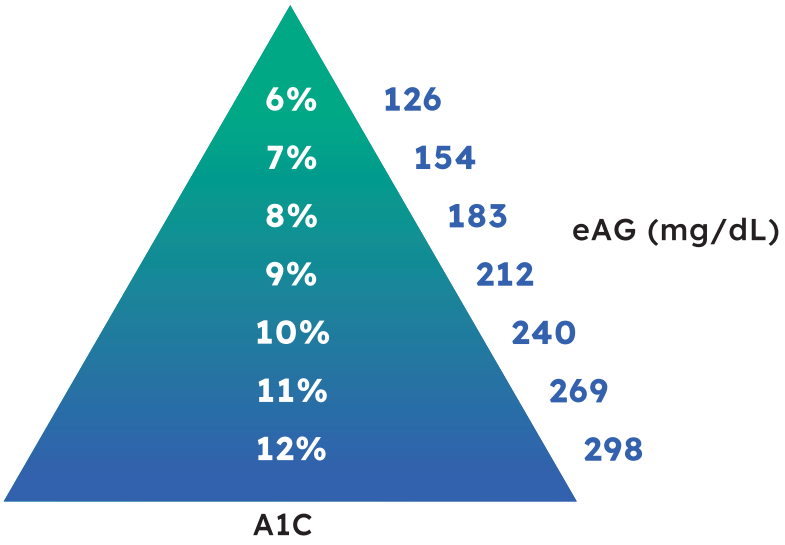
HAVE THE FOLLOWING SUPPLIES READY BEFORE YOU CHECK YOUR GLUCOSE:

- **Test strips.** Make sure they are not out of date, they are the right strips for your meter, and that the meter is coded to match the strips.
- **Soap and water** to clean your hands.
- **Your lancing device.** Most meters now allow checking on sites other than your fingertips.
- **A blood glucose meter.** Ask your diabetes educator or pharmacist for help in learning how to use one, if needed.
- **A log or record book** to write down the results, even if your meter has a memory. If you misplace your meter, you will always have a written record to show your healthcare provider.

Checking your glucose may seem hard at first. It becomes easier with practice. Most meters come with a toll-free customer service number that you can call if you need additional assistance.

A1C is a laboratory blood check. It shows how well you have been controlling your glucose levels for the past three months. The normal A1C range for people without diabetes is less than 5.7%. When the results of this check fall within the normal range, it means that your glucose levels have been within the target range for the past three months. Results may vary slightly from one lab to another. Ask your healthcare provider to find out what the normal range is for the lab he/she uses. Keeping A1C levels at 7% or lower helps to prevent or delay complications of diabetes. Some healthcare providers set the goal at 6.5%.

The following graphic shows how the results relate to estimated average blood glucose (eAG) levels:



TIME-IN-RANGE, OR TIR

Another measurement to monitor is called time-in-range. Time-in-range, or TIR, is the amount of time your glucose level is in your target range, something your A1C doesn't tell you. Knowing both your A1C and your time-in-range can help you better manage your glucose. Your CGM will automatically calculate your TIR.

ESTIMATED AVERAGE GLUCOSE

Estimated Average Glucose or eAG is another term used to describe the A1C in a way that is similar to what you observe when you check your blood sugar with your monitor.

KETONE TESTING

If you have type 1 diabetes or are pregnant, your healthcare provider may want you to check for ketones. Ketones occur when there is not enough insulin in the body to use glucose for energy. The body uses the fat stores for energy. The breakdown of fat produces ketones. Ketones build up in the blood. **This can lead to a serious condition called ketoacidosis.** Your healthcare provider and the sick day guidelines (see page 44) will let you know when to check for ketones. This is a urine check. You will need to have a box of ketone strips. The box will explain how to check your urine. Call your healthcare provider if your ketones are "moderate" or "high."

Diabetes Care, Volume 44, Supplement 1, January 2021. S74. Accessed 03/2021

HYPOGLYCEMIA (LOW GLUCOSE)

Low glucose = glucose less than 70 mg/dL

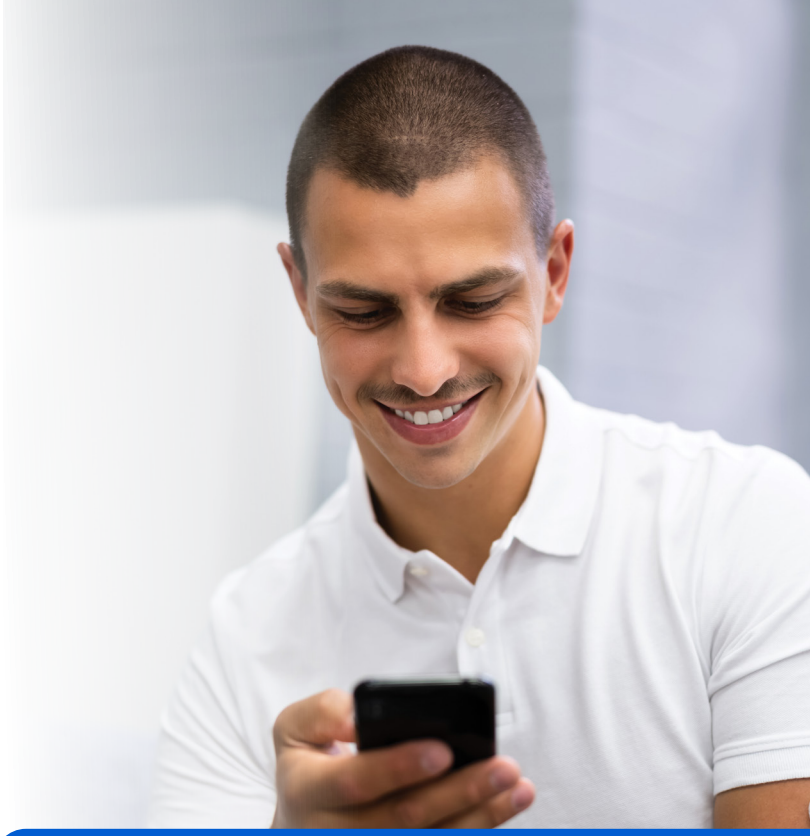
If you take insulin or some diabetes medicines, your glucose may drop too low, which can occur very quickly. This is called hypoglycemia or an insulin reaction.

SYMPTOMS

- **Dizziness**
- **Blurred Vision**
- **Headache**
- **Shakiness**
- **Fast Heart Beat**
- **Sweatiness**
- **Irritability**
- **Fatigue**

CAUSES OF LOW GLUCOSE

- Too much insulin or some diabetes medicines
- More exercise or activity than usual
- Not enough food or skipping a meal
- Drinking alcohol without enough food



PREVENTING LOW GLUCOSE

- Eat at regular times – do not skip meals.
- Only drink alcohol with food.
- Take medicine as prescribed.
- Plan your exercise.
- Keep a glucose log to see patterns or trends.
- Always carry glucose tablets or a quick source of carbohydrate.
- Wear easily seen identification indicating that you have diabetes.
- If you take insulin, ask your healthcare provider about having glucagon on hand.

DANGERS

- Loss of consciousness
- Seizures (convulsions)
- Death

If you have low glucose that you cannot explain more than once in a week, contact your healthcare provider.

TREATING LOW GLUCOSE

Rule of 15 Based on the ADA Standards of Care[1]

1. Take 15-20 grams of carbohydrates.

Here are some examples (choose one):

- 3-4 glucose tablets
- 4-6 oz. regular soda
- 4-6 oz. fruit juice
- 1 cup (8 oz.) skim or 1% milk

2. Wait 15 minutes.
3. Recheck glucose. It should be above 70 mg/dL.
4. Repeat, if glucose has not increased.
5. After two treatments with carbohydrates, if glucose is not above 70 mg/dL, call your healthcare provider or 911.

Note: If your glucose returns to normal, but it will be more than 30 minutes until your next meal, eat a snack that contains protein and carbohydrates (such as half a sandwich).

1. https://diabetes.org/health-wellness/fitness/blood-glucose-and-exercise
2. Diabetes Care, Volume 44, Supplement 1, January 2021. S74. https://care.diabetesjournals.org/content/44/Supplement_1/S73 Accessed 07/2021.

Management

GLUCAGON

Glucagon is a hormone made in the pancreas. It raises glucose when levels drop too low. When an unconscious person is not able to swallow a fast acting carbohydrate, glucagon can be given. The glucagon kit has to be prescribed by a healthcare provider. Like an insulin injection, it is given with a syringe or through the nose (Baqsimi-nasal powder). A family member or friend needs to learn how to give the injection or give through the nose. This glucagon kit is only used in an emergency. Always check its expiration date.

GN CON BS 24 Jul2019 Eli Lilly and Company

HYPERGLYCEMIA (HIGH SUGAR)

High glucose = glucose greater than target range

- Greater than 130 mg/dL before a meal
- Greater than 180 mg/dL two hours after a meal

SYMPTOMS

Because high glucose occurs slowly, symptoms may be missed. Some people show no symptoms.

- Increased Thirst
- Blurred Vision
- Dry Skin
- Increased Urination
- Hunger
- Drowsiness

PREVENTING HIGH GLUCOSE

- Check your glucose more often.
- Keep a glucose log to see your patterns or trends.
- People with type 1 diabetes should check for ketones in their urine.
- Ask your healthcare provider if your medicine needs to be adjusted.
- Call your healthcare provider right away if blood sugar levels are above targeted range and/or over 250 mg/dL twice in a row.
- Follow your meal plan.
- Drink plenty of water every day.
- See your healthcare provider at least twice a year, and more often if gluose levels are not controlled.
- Call your healthcare provider immediately if your blood sugar is over 300 mg/dL.

CAUSES OF HIGH GLUCOSE

- Skipping diabetes medicine or not taking the right amount
- Not enough activity or exercise
- Eating too much
- Stress
- Illness
- Infection

Sick Day Guidelines

Being sick can raise your blood sugar. Even a cold can cause your glucose to rise. Talk with your healthcare provider about how you should take care of your diabetes when you are sick.

1. **Check your blood sugar at least every two to four hours.** Write down the results. Check more often if you are not sure how you are doing.
2. **Keep taking your insulin and/or diabetes medicine.** Even when you cannot keep food down, you still need your insulin and/or diabetes medicine. For people with type 2 diabetes, insulin may be needed to keep glucose in better manage.
3. **Follow your meal plan:**
    - Drink plenty of sugar-free liquids. Drink at least 8 oz. every hour you are awake.
    - If you cannot eat your usual food, try crackers, gelatin, clear soup, popsicles or applesauce.
    - If it is hard for you to eat or you have trouble keeping food down, eat or drink fluids with sugar. Try ginger ale or regular soda (not diet), non-citrus fruit juice or apple juice.
4. **If you have type 1 diabetes, check your urine for ketones if your glucose is over 250 mg/dL.** Call your healthcare provider if your ketones are “moderate” to “high.”
5. **Tell a family member that you are sick. Ask someone to stay with you, if possible.**
6. **Call your healthcare provider when any of the following occurs:**
    - Your glucose is more than 250 mg/dL twice in a row.
    - You vomit more than once.
    - You have diarrhea, which occurs more than five times a day or lasts longer than six hours.
    - You have moderate or large urine ketones.
    - You feel weaker than usual or you cannot think clearly.
    - You have trouble breathing.
    - You cannot keep any fluids down.
    - You are unsure you can take care of yourself.
7. **When you call your healthcare provider, be ready to tell him/her the following:**
    - Your symptoms (vomiting, diarrhea, pain).
    - Your blood sugar and urine ketone levels during the time you have been sick.
    - The foods and fluids you have been able to keep down.
    - Any medicines you have taken, including insulin and/or diabetes pills and over-the-counter medications, such as cough syrup, pain relievers, etc.
    - How long you have been sick.
    - Any concerns or questions you have.
8. **If your glucose is greater than 300 mg/dL, call your healthcare provider immediately, go to the emergency room or call 911.** If you go to the hospital or the emergency room, tell the healthcare providers and nurses that you have diabetes.

Management

Complications

WHY WORRY

High glucose levels can cause serious complications. Complications can begin even before you know you have diabetes. High levels of glucose damage the small vessels of the eyes, kidneys and nerves, and the large vessels that lead to the heart, head, arms and legs. Oxygen and other nutrients cannot reach these areas, which can lead to long term damage of the veins and arteries. High blood pressure and smoking can also add to this damage.

You can prevent or delay complications by managing your glucose.

Complication	Problems
Heart & Blood Vessel Disease (Cardiovascular Disease)	Heart attack Stroke Decreased blood flow in legs and arms High blood lipids (fats) High blood pressure
Nerve Disease (Neuropathy)	Burning, tingling and numbness in legs, feet & hands Heartburn Stomach pain Diarrhea Urinary tract infection Sexual problems Gastroparesis
Kidney Disease (Nephropathy)	End-stage renal disease Dialysis
Eye Disease (Retinopathy)	Cataracts Blindness
Dental Disease	Gum infections

Cardiovascular Disease – Heart Attack or Stroke

Atherosclerosis, or hardening of the arteries, is the most common cause of heart disease in a person with diabetes. It begins with damage to the inner wall of the arteries. Cholesterol (plaque) builds up on the blood vessel walls and can break off. When the plaque breaks off, a clot can form in the blood stream. This blocks blood flow, which can prevent oxygen from getting to the heart or brain. This can lead to a heart attack or stroke. The symptoms of heart attack or stroke require immediate emergency medical care. Early treatment of these symptoms is vital.

WARNING SIGNS OF A STROKE	WARNING SIGNS OF A HEART ATTACK
Numbness or weakness in the face, arm or leg, especially on one side of the body Confusion, trouble speaking or understanding Trouble seeing in one or both eyes Trouble walking, dizziness, loss of balance or coordination Severe headache with no known cause	Chest discomfort Discomfort in other area of the upper body (jaw, neck, back, one or both arms, stomach) Shortness of breath Other signs can be cold sweats, light-headedness or nausea

Seek medical attention immediately or call 911 if you have these symptoms.

Complications

Peripheral Vascular Disease (PVD) or Decreased Blood Flow

PVD occurs in the blood vessels in the legs or arms when there is a lack of blood flow through these vessels. It may cause the legs to hurt or feel numb. Wounds may not heal as quickly. This can lead to infection and tissue death.

Hyperlipidemia

Hyperlipidemia means "high lipids" or high fats in the blood. The liver produces these fats. They also come from the food we eat. The American Diabetes Association recommends that adults with diabetes have a blood lipid check done at least annually.

Lipid (Blood Fats)	Goal
LDL Cholesterol (also known as "bad" cholesterol)	Below 100 mg/dL
HDL Cholesterol (also known as "good" cholesterol)	Greater than 40 mg/dL in men Greater than 50 mg/dL in women
Triglycerides (main form in which fat travels in the blood)	Below 150 mg/dL

Nerve Disease (Neuropathy)

Damage to nerve cells is called neuropathy. Damaged nerve endings can no longer send messages through the body normally. Nerve damage can happen slowly and may not be noticed early. Signs of nerve damage are numbness or tingling, pain and burning, and loss of feeling. Because you are unable to feel heat or pain, you can injure yourself without realizing it.

Kidney (Nephropathy)

Blood is filtered by the kidneys. They keep the nutrients the body needs in the blood and they get rid of waste products and water through the urine. High glucose can damage the small blood vessels of the kidney, which prevents them from filtering the blood normally. When this happens, waste products and protein build up in the blood. Usually there are no symptoms until the disease has progressed. Blood and urine lab checks done on a annual basis are the best way to see if your kidneys are having problems. Early detection and treatment can prevent or slow down kidney disease.

Diabetes Care, Volume 44, Supplement 1, January 2021, S130. Accessed 03/2021.

Management

Complications

Sexual Complications

Men and women with diabetes can have sexual problems. Physical problems that can affect both men and woman are poor bladder control and urinary tract infections. Sexual activity may also be difficult when there is nerve damage to a limb, a missing limb or joint disease. If you have high glucose, you may be too tired for sexual activity.

Women:

Vaginal dryness, which is a result of nerve damage, may affect women with diabetes. Over-the-counter lubricants may help. Vaginal infections may cause pain and discomfort, which can make sexual intercourse difficult or painful. This is more frequent when glucose levels are high. Talk with your healthcare provider about any of these problems.

Men:

Erectile dysfunction can occur in men when glucose levels are poorly controlled. This condition is caused by damaged nerves and/or blood vessels in the penis. Another problem occurs when the discharge of the semen is backed up into the urinary bladder, which prevents climax. There are many treatments available from your healthcare provider.

Eyes (Retinopathy)

Eye disease occurs when weak spots develop in the walls of the tiny blood vessels in your eyes. This causes the vessels to leak, swell or break. There is no pain, but your vision can become very limited or blurred. Another problem that can occur is cataracts. This is caused by a build-up of glucose in the lens of the eye, resulting in swelling and clouding. Annual eye exams are important to protect your eyesight. Treatment at an early stage can often prevent severe visual loss and blindness.

Wellness

Wellness

Guidelines for Optimal Health

Good medical care is important for everyone. However, it is even more important for people with diabetes. Clinical studies have shown that high glucose levels may increase the risk for developing many serious complications of diabetes. Good diabetes care can help avoid many complications.

What is "good" care?

The American Diabetes Association sets standards for healthcare providers to follow. The guidelines let you know what to expect from your healthcare provider and ways to manage your diabetes. They are meant to give you the power to be well informed. Good diabetes care includes a team approach. Your healthcare team may include a healthcare provider, diabetes educator, dietitian, heart doctor, eye doctor, foot doctor and dentist.

HOW CAN YOUR HEALTHCARE PROVIDER HELP?

At each visit your healthcare provider should do the following:

- Evaluate your glucose results and adjust your diabetes medication.
- Discuss what you can do to reach your target ranges.
- Check your blood pressure and weight.
- Check your feet.
- Review results from lab work (which should be done prior to the visit).
- Refer you to other health care providers, if needed.

Frequency	What To Do
Daily:	• Monitor your glucose as your healthcare provider recommends • Follow a healthy meal plan • Physical Activity • Examine your feet
Every 6 Months:	• Dental exam and cleaning • A1C check (more often if you are on insulin or have trouble controlling your glucose)
Once a Year:	• Complete history and physical exam • Blood check for lipids and serum creatinine • Urine sample for protein and microalbumin • Eye exam (including having your eyes dilated) • Flu vaccine • Pneumonia vaccine (every 1-5 years)[1]

1. https://www.cdc.gov/vaccines/vpd/pneumo/hcp/who-when-to-vaccinate.html. Accessed 04/2024.

Remember, you are the captain of your team.

You know more about yourself than anyone. Your role is vital in the daily care of your diabetes. It is important to follow the plan of care that you and your team have chosen. Stress can affect your diabetes by raising your glucose. Stress can be caused by the feelings inside you or things going on around you. The way stress raises glucose varies among people. But learning healthy ways of coping with stress is key to everyone's diabetes care.

WAYS TO COPE WITH STRESS

- Reading
- Talking with a supportive person
- Meditation
- Yoga
- Taking a warm bath
- Drinking warm tea
- Exercising
- Breathing and relaxation exercises

Diabetes and Smoking

If you have diabetes and smoke, this could increase your risk for diabetes complications, such as heart and kidney disease, poor circulation, and eye problems. It also narrows the blood vessels. In a person with diabetes, these effects are intensified, and the risk of heart attack, stroke, and other blood vessel complications are much greater. People who quit smoking see benefits right away.

Nicotine Replacement Therapy (NRT)

This provides nicotine to the smoker but does not contain all the other poisons found in cigarette smoke. There are many NRT substitutes such as nicotine gum, patch and nasal spray.

Zyban or Wellbutrin (bupropion hydrochloride) or Chantix (varenicline)

These help decrease the withdrawal symptoms. Your healthcare provider may choose to prescribe one of them. By the time your quit date arrives, your desire to smoke should decrease.

Your chance of success is greater when you also use a smoking cessation program.

For help in finding a smoking cessation class:

American Heart Association
1.800.242.8721
https://www.heart.org
(information available in Spanish or English)

American Lung Association
1.800.586.4872
https://www.lung.org

Free Help
National Cancer Institute (NCI)
1.800.QUIT.NOW
https://www.smokefree.gov/

Daily Living with Diabetes

Living with diabetes involves daily care. In addition to managing your diabetes through meal planning, exercise and monitoring, there are other daily care activities. These include foot care, skin care and dental care. It also means paying attention to your diabetes whether at home, at work or when traveling. It is a good idea to wear medical identification. If you get hurt, this lets people know you have diabetes. Get information on purchasing medical identification:

Medic Alert Foundation International
1.800.354.1327 or www.medicalert.org

FOOT CARE

- Check your feet daily. Look for any changes, such as redness, dry or hot areas.
- Wash your feet every day. Make sure you dry your feet and toes well.
- Use lotion to keep skin soft. Do not use lotion between your toes.
- Cut toenails straight across regularly.
- Choose shoes that are comfortable.
- For corns or bunions, do not use home treatments.
- Do not go barefoot. Always wear shoes and clean socks that protect your feet and slippers that have a hard sole.
- See a foot healthcare professional or your physician for additional information on foot care.

SKIN CARE

- Keep skin clean and dry.
- Moisturize your skin to prevent chapping, especially in cold or windy weather. Use a non-alcohol based lotion. Avoid very hot baths and showers, which can further dry your skin.
- Treat cuts right away. Wash minor cuts with soap and water. Use an antibiotic cream or ointment. Cover minor cuts with sterile gauze or an adhesive bandage. See a healthcare provider right away if you get a major cut, burn or infection.
- See a healthcare provider about skin problems that do not go away.

Wellness

DENTAL CARE

- Brush and floss your teeth and gums every day.
- Change your toothbrush every three months.
- Have your teeth examined and cleaned every six months.
- See your dentist if you have unusual pain, swelling or bleeding.

MEDICATION

- Always make sure you understand when and how to take your medication. Do not make changes without your healthcare provider's approval.
- If you forget to take your medication do not double up on a dose. Ask your healthcare provider what to do.
- Always carry a list of your medications with you. This list should include the dose and when you should take the medications.
- Make it a priority to renew your prescription early to ensure you don't run out of medication.

Diabetes at Work

People with diabetes successfully perform all types of jobs. It is a good idea to tell your employer you have diabetes. You may need “reasonable accommodations” at your place of work. These may include regular work schedules, meal/snack breaks, and a private place to check your blood sugar or to take your diabetes medicine.

The Americans with Disabilities Act is a federal law that prohibits discrimination against individuals with disabilities. Most problems in the workplace related to diabetes are due to a lack of understanding about the condition. If you are having problems in the workplace due to diabetes, the American Diabetes Association’s Legal Advocacy Team can be a resource to you. You can reach them by calling 1.800. DIABETES
(1.800.342.2383).

Diabetes and Traveling

Always plan ahead. This will make the trip more enjoyable and less stressful.

- See your healthcare provider for a check-up four to six weeks ahead of a long trip.
- Have your healthcare provider write a letter explaining your diabetes medications and supplies. (You may want to make an extra copy).
- If you will change time zones, ask your healthcare provider for help adjusting your diabetes medication.
- Keep some healthy snacks, glucose tablets and extra diabetes supplies.
- Keep them with you in your carry-on luggage.
- Check your glucose more often to see if traveling affects it.

Wellness

Diabetes and Pregnancy

If you are pregnant or planning to have a baby, you need to take extra care of yourself. Keeping your glucose at a good level may also help you have a healthy baby.

Women who already have diabetes (either type 1 or type 2) and become pregnant can have healthy babies. Keeping glucose levels in a good range and seeing a healthcare provider often are necessary. Your glucose levels may be harder to manage as the pregnancy continues. This is due to higher levels of hormones. You will need to check your glucose levels often, eat healthy and take the insulin your healthcare provider recommends.

GESTATIONAL DIABETES MELLITUS

Women who have never had diabetes, but develop high blood sugar levels during pregnancy may have gestational diabetes. Gestational Diabetes Mellitus (GDM) occurs in about 10% of all pregnant women.[1] It is first seen in the second or third trimester. GDM does put a woman at risk for type 2 diabetes.

TIPS

- Meet with your healthcare provider to work out a plan to tightly manage your glucose levels.
- Make an appointment with a dietitian about a meal plan.
- Check your glucose levels as often as your healthcare provider tells you.
- This may be four to six times a day, or more.
- Check your urine for ketones, if advised. Your healthcare team can help you understand the results and what to do.

For more information about gestational diabetes or diabetes and pregnancy, visit https://www.diabetes.org/diabetes/gestational-diabetes

1 https://diabetes.org/about-diabetes/gestational-diabetes. Accessed 04/2024.

Diabetes Resources

A variety of resources are available on the Internet. Search under the heading “diabetes”. Make sure to check your resources and the sponsors of the website.

Here are a few reputable sites to check first:

American Diabetes Association

https://www.diabetes.org

1.800.DIABETES (1.800.342.2383)

Provides a listing of ADA educational programs, events, and up-to-date information on diabetes. You can even find cookbooks, journals and newsletters to order on this site.

Association of Diabetes Care & Education Specialists

https://www.diabeteseducator.org

1.800.338.3633

Helps you locate diabetes educators in your local community.

Academy of Nutrition and Dietetics

https://www.eatright.org

1.800.877.1600 ext. 5000

Helps you locate registered dietitians in your area and provides recipes and topics on nutrition.

National Institute of Health

https://www.niddk.nih.gov

Provides information on diabetes, as well as links to other diseases.

Centers for Disease Control

https://www.cdc.gov

Provides current diabetes statistics and links to other programs, information and articles. Search this website with the word “diabetes.”

ccsmed.com

Insurance Verification Form

Fax form with patient's signature to (toll-free fax)

ATTENTION: ALL SECTIONS MUST BE COMPLETED

CCS Medical Rep: _____

CCS Rep Phone Number: _____

1 PATIENT INFORMATION *Alternatively attach a patient demographic sheet for questions 1 & 2

Name _____

Phone _____ **Alt. Phone** _____ **Email** _____

Address _____ **City** _____ **State** _____ **Zip** _____

Date of Birth _____

Relative/friend authorized on account _____ **Phone** _____

I want to be a part of the CCS program and authorize the release of any medical information necessary to approve or verify my insurance eligibility, claims, or rebates. I assign CCS all payments of medical benefits for services provided and this assignment is continuous until cancelled. I am interested in learning more about CCS's home delivery program and by signing below, I agree that CCS may contact me by telephone at the number provided herein (including instant messages with respect to mobile devices), and by direct mail and email for the purposes of informing me about new products and services, and for CCS's marketing, promotions and advertising activities. I acknowledge that I have already received or am scheduled to receive the supplies and equipment indicated herein and confirm that I have been trained and understand how to use the supplies and equipment that is designed for home use.

▶ **Date** _____ ▶ **Patient Signature** _____

This form cannot be processed without a patient signature. (If Under 18, Parent or Guardian Signature / Si menor de 18 anos, firma de padre o guardian.)

2 INSURANCE INFORMATION

Primary Insurance _____

ID # _____ _____

Subscriber Name _____

Secondary Insurance Name (if any) _____

ID # _____ **Group #** _____

Subscriber DOB _____

3 PHYSICIAN INFORMATION

Primary Care Doctor's Name _____ **Phone #** _____

Diabetes Care Doctor's Name _____ **Phone #** _____

4 Interested in: Please check and/or circle

Pumps: New or Upgrade

Medtronic:
- ☐ 770G
- ☐ 630G
- ☐ 630G w/CGM

Tandem: ☐ t:slim X2

Insulet: ☐ OmniPod

Meter Preference

_____

CGMS

- ☐ Medtronic Guardian 3
- ☐ Medtronic Guardian Connect
- ☐ Dexcom: G6
- ☐ Freestyle Libre

☐ Pump & Testing Supplies

Set _____

Length _____

Cannula _____

Confidential Health Information

Diabetes Type

- ☐ Type 1 _____
- ☐ Type 2 _____
- ☐ Other _____

Times Testing _____

BG Range: _____ **to** _____

Insulin Requirements

Times Injecting: _____

Types: _____

Units per Day: _____

Hypoglycemia

- ☐ Nocturnal
- ☐ Hypo Unawareness
- ☐ Low Assistance
- ☐ Low Assistance/ER visit

Other complications

- ☐ DKA
- ☐ Dawn Phenomenon
- ☐ Wide BG Fluctuations
- ☐ A1C > 7.0

Pump S/N _____

Pump warranty date _____

IMPORTANT NUMBERS

_____

Diabetes Healthcare Provider

_____

Phone

_____

Foot Healthcare Provider

_____

Phone

_____

Eye Healthcare Provider

_____

Phone

_____

Dentist

_____

Phone

EMERGENCY NUMBER: 9-1-1

AMERICAN DIABETES ASSOCIATION:
1.800.DIABETES
https://www.diabetes.org

AMERICAN ASSOCIATION OF DIABETES EDUCATORS:
1.800.338.3633
https://www.diabeteseducator.org

** Based on recommendations of the American Diabetes Association's Clinical Practice Guidelines. Only your physician can recommend your personal healthcare guidelines.*

BASIC GUIDELINES*

The American Diabetes Association recommends that persons with diabetes see their healthcare provider at least twice each year. Use this form to keep track of the results of your tests. (Pregnant women with diabetes and parents of children with diabetes should ask for information specific to their special needs.)

Review Glucose Records (every visit) ADA Goal: Pre-meals 80 - 130 mg/dL **Target**(pre-meals):_____ ADA Goal: 1-2 hours after the start of the meal <180 mg/dL **Target**(post-meals):_____	**Date:**				
	Value:				
Blood Pressure (every visit) ADA Goal: Sys < 130 / Dia < 80mmHg **Target:**_____	**Date:**				
	Value:				
Weight (every visit) **Target:**_____	**Date:**				
	Value:				
Thorough Foot Exam (visually examined every visit)	**Date:**				
HbA1C Blood test to measure past 3 months' glucose levels (2 or more times a year) ADA Goal < 7.0% **Target:**_____	**Date:**				
	Value:				
Microalbuminuria Urine kidney test (once a year) ADA Goal < 30 mg **Target:**_____	**Date:**				
	Value:				
Creatinine Blood kidney test (once a year) **Target:**_____	**Date:**				
	Value:				
Dilated Eye Exam (once a year)	**Date:**				
Blood tests to measure "fats" important to heart disease					
Cholesterol (every 1-2 years, based on risk) **Target:**_____	**Date:**				
	Value:				
Triglycerides (every 1-2 years, based on risk) ADA Goal < 150 mg/dL **Target:**_____	**Date:**				
	Value:				
HDL and LDL (every 1-2 years, based on risk) HDL **Men** > 40 mg/dL **Women** > 50 mg/dL LDL < 100 mg/dL **Target:**_____	**Date:**				
	Value:				
Flu Shot (once a year)	**Date:**				
Pneumonia Vaccine (once lifetime)	**Date:**				
Other:_____	**Date:**				

How to Reorder Supplies

MyCCSMed

MyCCSMed, our customer portal is the easiest and fastest way to reorder your supplies.

Getting started with MyCCSMed is simple:

1. Visit myccsmed.com or scan the QR Code
2. Register your account with the email address on file
3. Authorize your next eligible reorder

Need help?

Call us Toll-free at 1.888.MEDICAL (1.888.633.4225)
8 a.m-6 p.m. ET, Monday-Friday

CGM Systems & Supplies | Insulin Pump & Supplies | Diabetes Monitoring Supplies | Pharmacy | Diabetes Education

CCS is proud to be accredited by:

CHAP · Exemplary Provider Accredited by TheComplianceTeam · The Joint Commission National Quality Approval · ADCES DEAP Diabetes Education Accreditation Program · urac Accredited · NABP Accredited Digital Pharmacy · ACHC

D27788_0424