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IT ALL ADDS UP:
DIABETES PREVENTION & MANAGEMENT
video series produced by the
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MODULE III: MANAGING TYPE 2 DIABETES WITH DIET AND PHYSICAL ACTIVITY

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So, you have been Diagnosed with type 2 diabetes – next steps

SECTION I

INTRODUCTION TO DIABETES SELF-MANAGEMENT EDUCATION AND HOW FOOD, DRINKS AND ALCOHOL AFFECT YOUR BLOOD SUGAR

Objectives

1. To introduce the concept of diabetes self-management to residents of Angelina County who have diabetes.
2. To raise awareness of the importance of diet and physical activity in managing diabetes.

At the end of this section, you should be able to:

1. Say what diabetes management means
2. Say what diabetes self-management means
3. Say how your blood glucose is affected by the foods you eat
4. List the major types of nutrients in food
5. Say what carbohydrates are
6. List some of the types of foods that contain carbohydrates
7. Say why eating or drinking foods that are sweet or have sugar added to them has to be done in moderation
8. Explain the importance of fiber intake to the functioning of the gut
9. Say why you should limit consumption of processed foods
10. Say how alcohol affects your blood sugar

I. Diabetes Management[23] (Self-management) defined

Managing your diabetes is critical to preventing or delaying health problems (complications) that can result from it. These health problems include the ones that are more known/familiar: coronary heart disease and heart failure, diabetic kidney disease, strokes, peripheral neuropathy, peripheral vascular disease, leg and foot ulcers, vision problems – blindness, as well as those that are now taking the spotlight: Cancer, vascular dementia, infections, liver disease, cognitive disability, functional disability, affective disorders – depression, anxiety[11].

Every person that has diabetes needs to be educated on how to manage it. Such education leads to better outcomes for individuals that have diabetes. Diabetes Self-Management (DSME) Education Programs are programs designed to provide people who have diabetes with the knowledge and skills necessary to make life choices that help them maintain blood glucose control[8].

Diabetes Self-Management (DSME) Education[8]

While DSME programs have different names, they have the same 7 self-management behaviors.

1. Healthy eating – what you eat and how much you eat.
2. Being active – daily physical activity (within your capability) can help with weight management and blood glucose control.
3. Monitoring blood glucose – blood glucose checks at the assigned times can help you make changes that will help you achieve better glucose control
4. Problem solving – this helps people who have diabetes to make changes that will help them to have better blood sugar control.
5. Taking medications at the right time and in the right amounts – medications help to reduce the risk of complications from diabetes.
6. Healthy coping – dealing with diabetes can sometimes be stressful, making it hard for people to manage the disease.
7. Delaying or preventing complications – doing the necessary things (getting regular exams on your eyes, feet, teeth, mouth and gums, quitting smoking) to reduce the risk of complications.

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By adopting the 7 DSME behaviors you can achieve better management of your diabetes. You can manage your diabetes by living healthy (adopting a healthy lifestyle), taking your medications, and monitoring your blood sugar.

To find a DSME program in Texas click on the following link.
https://www.adces.org/program-finder

Living healthy includes eating well, being active, getting enough sleep, staying hydrated, and managing stress.

II. How food (what you eat and drink) affects your blood sugar

Food contain three major types of nutrients. They are carbohydrates, proteins and fats. While all three are needed in our diet to help us stay healthy, not all types of these nutrients are healthy. When we eat or drink, our food is broken down into its smaller components and absorbed into our blood. Carbohydrate foods (except the fiber portion) are broken down into glucose and absorbed into our blood, increasing our blood glucose. The major types of carbohydrates (carbs) are starch, sugar and fiber. Your food may contain one, two or all three types of carbs. The total carbohydrate in a meal/food is the sum of all the types of carbs in it. Complex carbs (those that are not processed or minimally processed) are better as they contain more vitamins, minerals and fiber and are digested slower, so they are less likely to make your blood sugar increase quickly (spike). Whole grains and legumes are two examples of complex carbs.

Processed foods are usually high in refined carbs and low in fiber, vitamins and minerals. Limiting consumption of refined carbs is important to maintaining your health.

Types of foods that contain carbohydrates and how much you can eat[3]

Starches

Foods that contain a lot of starch include[3]:

Starchy vegetables — potatoes, corn, winter squash,

Legumes and Pulses — lentils, beans (pinto beans, black beans, kidney beans), peas (split peas, black eyed peas, garbanzo beans (chickpeas)

Grains — these include foods (pastas, noodles, breads, crackers) that are made from grains (wheat, rice, oats, barley, bulgur, quinoa, brown rice, farro, amaranth, rye etc.) Whole grains are a natural source of fiber, vitamins and minerals needed to maintain health. Processing removes these nutrients, which are replaced in grain products titled 'enriched'. You want the first ingredient in your grain food to be a whole grain, not an enriched product.

How much starch can you eat[3]?

Serve your meals on a nine-inch plate. Only a quarter of the plate should contain starches. The goal should be to make a half of your grain intake for the day be from whole grains.

Fiber

Foods that contain a lot of fiber include:

Pulses – examples (lentils and peas), beans and Legumes – examples (navy beans, small white beans, split peas, chickpeas, lentils, pinto beans)

Fruits – particularly those with edible skins apple, pears, and edible seeds (berries)

Vegetable – kale, collard greens, spinach, broccoli

Nuts – pistachios, almonds, sunflower seeds, pumpkin seeds, peanuts

Whole grains – quinoa, barley, bulgur, oats, brown rice, farro

Whole grain products (whole wheat bread, whole wheat pasta, whole grain cereal

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Foods rich in fiber are from plants. Fiber-rich foods include vegetables, fruits and whole grains. Fiber helps to move the food through our digestive system, to keep us feeling full and to lower cholesterol.

How much fiber should you eat in a day[3]?

The recommended amount is 14 grams of fiber per 1000 calories. It is important to drink water with a diet high in fiber to prevent constipation. If you are increasing your fiber intake, be aware that you may experience bloating and gas if you do so quickly. A gradual increase will allow your body time to adjust and may be easier on your digestive system. A good source of fiber will contain at least 2.5 grams per serving. An excellent source of fiber will have above 5 grams per serving.

Fiber supplements also are a source of fiber. Talk to your doctor before taking them.

Sugar

Sugar in foods either occur naturally (as in fruit and milk) or is added to the food (as in baked products - cakes, sweets, sodas, sweet tea).

The combination of sugar, solid fats like (butter, lard, fats in meat, margarine made from animal fat) and other high calories foods taken in excess can contribute to inflammation, diabetes, and cardiovascular disease.

Sugar has many names

Dextrose, fructose, lactose, table sugar, beet sugar, honey, corn syrup, turbinado and agave. Pay attention to food labels as you do not want to be eating sugar and not be aware of it.

How can I tell how much sugar is in a food?

Food may contain added sugar and sugar that is present in the food naturally. You want to avoid added sugar as much as possible. Food labels now include both so understanding food label is important in managing your diabetes.

III. How drinking alcohol affects your blood sugar[1]

There is no safe level of alcohol consumption[7]. Alcoholic beverages are usually a source of calories. They may contain a high amount of sugar. You should limit your consumption of alcohol. Alcohol may cause low blood sugar in people who take insulin. To avoid this, it is recommended that you eat before drinking alcoholic beverages and always check your blood sugar after drinking. Talk with your care provider if you are concerned about your drinking. Do not forget to include carbs from alcoholic beverages and all drinks you drank or plan to drink in your carb choices or carb counting. Drinking alcohol when you have not eaten for several hours (in a fasting state) can cause hypoglycemia in type 1 diabetics[7].

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SECTION II

SWEETENERS OTHER THAN SUGAR

Objectives

1. To increase understanding of sugar substitutes, their sources and safety.

At the end of this section, you should be able to:

1. Say what a sugar substitute is
2. Explain the term non-nutritive sweetener
3. Say what GRAS means with respect to sugar substitutes
4. Differentiate between a sugar alcohol and other sweeteners
5. Name some sugar substitutes and identify the brand names

I. Sugar Alcohol

Some foods/beverages are sweetened with sugar alcohol. They contribute about half of the calories that regular sugar would. These are usually natural products from some vegetables and fruits, while some are man-made. In spite of the name, they are not alcohol or sugar.

II. Sugar substitutes[2]

- Can replace sugar in foods / beverages / recipes
- Usually sweeter than sugar
- Most are non-nutritive (has little or no calories per serving, very little impact on blood sugar
- Several approved/recognized as safe for public and diabetics by the US Food and Drug administration (FDA).
- Safe when consumed at or below the acceptable daily intake (ADI) levels

List of Sugar substitutes[2]

- **Aspartame**
  - Brand names (Nutrasweet, Equal, Sugar Twin)
  - General purpose sweetener
  - ADI 75 packets
- **Acesulfame Potassium (Ace K)**
  - Brand names (Sweet One, Sunnet)
  - Heat stable – can be used for baking
  - ADI: 23 packets
- **Sucralose**
  - Brand name (Splenda)
  - General purpose sweetener
  - Heat stable – can be used for baking
  - ADI: 23 packets
- **Neotame**
  - Brand name (Newtame)
  - General purpose sweetener
  - Heat stable – can be used in baking
  - ADI: 23 packets
- **Advantame**
  - General purpose sweetener
  - Heat stable – can be used in baking
  - ADI: 4,920 packets

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- **Saccharin**
  - Brand names (Sweet and Low, Sweet Twin, Sweet'N Low, Necta Sweet)
  - Can be used in cooking
  - Can be added to beverages
  - ADI: 45

III. Plant or fruit-based sweeteners[2]

Steviol Glycoside

- Brand names (Truvia, Purevia, Enliten)
- Steviol Glycosides (form used as sweetener)
- From the leaf of the Stevia Rebaudiana Bertoni (stevia) plant
- General purpose sweetener in food
- GRAS
- ADI: 27

"The use of stevia leaf and crude stevia extracts is not considered GRAS, and their import into the U.S. is not permitted for use as sweeteners. For details, see Import Alert 45-06". GRAS (Generally recognized as safe).

Monk Fruit Extract

- Also known as Luo Han Guo, SGFE
- General purpose sweetener
- GRAS

Thuamatin

- From the west African katemfe fruit
- Can be used in various foods
- GRAS

How much sugar substitute can you consume in a day

"An acceptable daily intake (ADI) level is the amount of a substance considered safe to consume each day over the course of a person's lifetime". "For each of these sweeteners, the FDA determined that the estimated daily intake of the substance would not exceed the ADI, even when considering high exposure estimates. An additive does not pose safety concerns if the estimated daily intake is less than the ADI"[2].

For more information on sugar substitutes click on the following links

Aspartame and Other Sweeteners in Food | FDA

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SECTION III

EATING AFTER THE DIAGNOSIS- HOW TO MANAGE YOUR DIET

Objectives

1. To increase understanding of the importance of meal planning in maintaining the health of people who have diabetes.
2. To motivate people in Angelina County who have diabetes to start meal planning.

At the end of this section, you should be able to:

1. Select mealtimes based on the medications you take, your activities and lifestyle
2. Say the meaning of the terms carb choice and carb counting
3. Say what a meal plan is
4. List some of the foods that you could include in your meal plan
5. Be able to plan a week of meals
6. List some types of foods that are safe for people who have diabetes to enjoy frequently
7. List some of the foods you should enjoy less often

I. Mealtimes

Does it matter when I have my meals? When should you eat – the best times to eat and drink1

Meals and snacks throughout the day are typical for most people. When you eat, what you eat and how you eat matters1. While three meals and two snacks may work well for some people it is important to decide when you eat based on:

- The medications you are taking (whether you take an oral medication, an injectable or insulin)
- How active you are (if you take insulin and you exercise – you may need to eat before you take part in a sport/ physical activity)
- Your daily schedule (work, volunteering, etc)
- The health conditions or diseases you have, in addition to diabetes1

Talk with your health care provider so they can help you figure out the best time for your meals and snacks. There is a risk that your blood glucose could get too low during exercise or when you skip or delay meals1.

How much should you eat or drink in a day? (How many of your calories can come from carbohydrates?)

II. Carbohydrate (Carb) choice[4]

There are recommendations for how many carbs a person who has diabetes should eat in a day. No more than half of your calories should come from carbohydrates. A serving of carbohydrates is 15 grams. One serving of carbohydrate is called a carb choice.

For females:

3 – 4 servings of carbs (45 – 60 grams of carbs per meal) (3-4 carb choices).

For males:

4 – 5 servings of carbs (60 – 75 grams of carbs per meal) 5-6 carb choices

How many carbohydrates (carbs) can you eat in a day?

It is recommended that you eat no more than 180 grams of carbohydrates (12 carb choices or 12 servings of carbs per day). This can be divided among snacks, meals and beverages. Having more than the recommended amount of carbs in one sitting is not recommended. Schedule your meals and avoid doubling up if you missed one.

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Carb Choice[4]

1 carb choice = 15 grams of carbohydrates = 1 serving of carbohydrate

12 carb choices (12 x 15 grams) = 180 grams of carbohydrates.

The CDC has created a guide which tells how many carbs are in a serving of much of the foods we eat in the United States. Click on the link below to use this guide in your meal planning.
Carb Choices | Diabetes | CDC

III. Carbohydrate Counting

Carbohydrate counting is an important skill for people who have diabetes to learn. Carbohydrate counting can help you to estimate the amount of carbohydrates in your food. You can plan your meals easier when you know how much carbohydrate to include in each meal. It is based on the fact that each serving of carbohydrate contains 15 grams of carbs[1].

How to eat when you have diabetes

A concern of many people when they get diagnosed with diabetes is what can I eat?

You do not have to quit eating foods you love, though you may need to eat less of them or eat them less frequently[1]. This platform provides you with information on how to read food labels, measure foods, count carbohydrates, plan healthy meals and source healthy foods if you need food assistance.

IV. Meal Plan

A meal plan includes1:

- What you eat,
- How much you eat,
- And when you eat.

Meal planning1:

- Can help you to avoid overeating1
- May contribute to weight loss when combined with physical activity, adequate sleep, and other healthy lifestyle practices, if you are overweight or obese.

A meal plan for people who have diabetes is not a one size fits all. It may include1:

- Dairy or plant based dairy alternatives
- Fruits
- Non-starchy vegetables
- Protein foods
- Whole grains

A helpful thing to do is to check your blood glucose 1 to 2 hours after eating to see how the food that you ate affected your blood glucose. This will help you to know which foods to avoid or eat less frequently or in smaller quantities and which ones cause your blood glucose to spike less.

Why should people who have diabetes do meal planning?

When you eat food, it affects your blood glucose. Some foods (those that are high in fat, simple carbohydrates and calories) have a greater effect than others. Meal planning help you to decide what to include in each meal so you can choose the right combination of foods in the right amounts to help manage your blood sugar[1].

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V. Foods and beverages to enjoy[1]

- Eat foods that are high in nutrients (vitamins, calcium, fiber, healthy fats).
- Select beverages that have little or no added sugar (tap water, low fat or no fat milk, unsweetened tea and coffee, sparkling water).
- Have meals and snacks that are:
  - Low in saturated fats
  - Low in salt and sodium
  - Low in sugar

Your food can be flavorful and healthy, but you may need to replace some foods with healthier ones.

- You can replace saturated fats from animal sources with plant-based ones. For example,
  - Use vegetable shortening to replace lard
  - Use vegan butter to replace butter

Instead of dairy,

- You can replace whole milk with low fat (2%) milk
- Use low fat cheese or fat free cheese
- Use plant-based milk (soymilk, oat milk, etc.)

Instead of sugar you may:

- Use sugar substitutes or plant /fruit - based sweetener (sweeteners authorized as food additives in the USA)[2].

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SECTION IV

SKILLS (HOW TO MEASURE FOOD, ESTIMATE PORTION SIZES, UNDERSTAND FOOD LABELS)

Objectives:

1. To raise awareness of the importance of eating the correct serving of foods, especially carbohydrates.

At the end of this section, you should be able to:

1. Differentiate between serving size and portion size
2. Say the serving sizes of foods eaten frequently
3. Know how much to eat when in a setting where you cannot measure your food (restaurant, potluck, work events)
4. Understand why it is necessary for people who have diabetes to be able read food labels
5. List some of the types of information that you would find on a food label
6. Find added sugar on a food label

I. Serving sizes of some familiar foods[4,5]

Breads (1 carb choice = 15 grams of carbohydrates)

Bread: 1 slice (1 oz)
Bread – reduced-calorie light: 2 slices (1½ oz)
Biscuit: 1 biscuit (2½ inches across)
Bagel: ¼ large, ½ small
English muffin: ½ muffin
Pita bread: ½ pita bread
Cornbread: 1¾ inch cube (1½ oz)
Hot dog or hamburger bun: ½ bun (¾ oz)
Naan, Chapati, or Roti: 1 oz

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Pancake: 1 pancake (4 inches across, ¼ inch thick
Waffle: 1 waffle (4-inch square or 4 inches across)

Tortillas (1 carb choice = 15 grams of carbohydrates)
Corn: I small (6 inches across) or 1/3 large (10 inch across)
Flour (white or whole wheat): 1 small (6 inch across) 1/3 large (10 inches across)

Cereals (1 carb choice = 15 grams of carbohydrates)
Bran cereal (twigs, buds, or flakes), shredded wheat (plain), or sugar-coated cereal: 1/3 cup
Granola Cereal: ¼ cup
Hot cereal (oats, oatmeal, grits): ½ cup
Unsweetened ready to eat cereal: ¾ cup

Grains and grain products (1 carb choice = 15 grams of carbohydrates)
Bulgur, Kasha, Tabbouleh (tabouli) or wild rice: ½ cup
Barley, couscous, millet, pasta (white or whole-wheat, all shapes and sizes), polenta, quinoa (all colors), rice (white, brown, and other colors and types): 1/3 cup

Starchy Vegetables (1 carb choice = 15 grams of carbohydrates)
Cassava, dasheen, or plantain: 1/3 cup
Corn, green peas, mixed vegetables, or parsnips: ½ cup
Mixed vegetables (with corn or peas): 1 cup
Potato, baked with skin: ¼ large
Potato, French-fried (oven-baked): 1 cup (2 oz)
Potato, mashed with milk and fat: ½ cup
Yam or sweet potato plain: ½ cup (3½ oz)

B**eans and lentils** (1 carb choice = 15 grams of carbohydrates)
Baked Beans: 1/3 cup
Beans (black, garbanzo, kidney, lima, navy, pinto, white),: ½ cup
Lentils (any color): ½ cup
Peas (black-eyed and split), cooked or canned, drained and rinsed: ½ cup

Fruits 1 carbohydrate choice = 15 grams carbohydrate
NOTE: The weights listed include skin, core, and seeds.

Small whole (apple, pear, orange): 1 small apple (4 oz)
Medium, whole (nectarine, orange, pear, tangerine): 1 fruit (6 oz)
Banana: ½ banana (4 oz)
Blueberries: ¾ cup
Dried fruits (blueberries, cherries, cranberries, raisins, mixed fruits): 2 Tbsp
Fruit juice unsweetened: ½ cup
Grapes: 17 small grapes
Melon, diced: 1 cup
Strawberries whole: 1 ¼ cup
Canned fruit: ½ cup

Milk (1 carbohydrate choice = 12 grams carbohydrate)
Milk (nonfat, 1%, 2%, whole): 8 oz, 1 cup

Non-Starchy vegetables (1 serving = 5 grams carbohydrate)
Vegetables, cooked: ½ cup
Vegetables, raw: 1 cup
Vegetable juice: ½ cup

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To see the serving sizes for more types of food including dessert and sweets, fast foods, and combination foods click on the following link:
Carb Choices | Diabetes | CDC

II. Eating out

How to determine how much to eat when you cannot count or measure your food — at a restaurant, cookout, potluck, at a friend's house[5].

- Make a habit of measuring portion sizes at home so you will have an idea of what they look like when you are not able to do so.
- Learn to eyeball portion sizes
- Visualize portion sizes using everyday items.

A woman's fist can serve as a guide[5]

- A cupped hand: ½ cup
- The palm: 3-4 ounces
- A deck of cards: 3 ounces of lean meat
- ½ of a baseball: ½ cup ice cream
- A shot glass: two tablespoons of salad dressing or olive oil

You may read more on this subject at the link below.
https://diabetes.org/food-nutrition/understanding-carbs/eyeball-carbohydrate-servings

III. Understanding Food Labels[6]

It is important for you to be able to read and understand the information in food labels.

What kind of information does a food label provide?

- **Allergen information**
  - List of the 8 most common food allergens in the food:
    i. wheat ii. milk iii. tree nuts iv. fish v. crustacean shellfish vi. soybeans vii. eggs viii. peanuts
  - If the food was manufactured in a facility where other foods are processed making it possible for it to contain those food allergens.
- **Serving size**
  - Nutrition information given is based on the serving size.
  - Pay attention to serving size to avoid eating more than you intend to.
- **Amount per serving**
  - Allows you to compare similar foods
  - Helps you to choose options with lower amounts of sugar, sodium, saturated fat
- **Calories**
  - Calories per serving
  - Calories in the full amount
- **Total carbohydrate**
  - Sugar, starch and fiber in the food
- **Added sugar**
  - This shows you if sugar was added to the food and how much of it is in a serving of the food/drink).
- **Dietary Fiber**
  - A good source of fiber contains 2.5 grams or more per serving.

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- **Protein**
  - Listed in grams as well as percentage of daily value
- **Fats**
  - Amount of fat in one serving (look for trans fats – avoid eating these, look for saturated fat – limit how much you eat to reduce heart disease risk)
- **Sodium (salt)**
  - Does not increase blood glucose
  - Too much sodium in your food can increase your risk for high blood pressure and heart disease.
  - Food may have sodium and not taste salty
  - Pay attention to your daily sodium intake
  - Your health care provider can help you decide what your daily intake of sodium should be
- **List of ingredients**
  - Lists what is in the food beginning with the first ingredient
  - Look for whole grain, no added sugar, no trans-fat
- **Percent Daily Value (%DV)**
  - Found in the right column of the label
  - Tells the percentage of the daily value of each nutrient in the food
  - Based on a 2000 calorie diet

Choose options lower (containing 10% DV or less) in the nutrients (sugar, sodium, and saturated fat) you want to eat less of.

Choose options higher (containing greater than 20% DV or more) in nutrients you want to eat more of, ex. fiber, vitamin D, calcium, and iron[6].

For more information on food labels including the meaning of nutrient claims, you may click on the following link:
Reading Food Labels & Diabetes | ADA

IV. Recipes

Click on the links below for diabetic friendly recipes.

Mexican
https://www.eatingwell.com/recipes/23008/health-condition/diabetic/international/mexican/

Multicultural
https://www.diabetesfoodhub.org/
https://recipes.heart.org/en/
https://www.alabamapublichealth.gov/diabetes/assets/ndeprecipes.pdf
https://www.cdc.gov/diabetes/pdfs/managing/tasty_recipes_for_people_with_diabetes-508.pdf

African American
https://www.nhlbi.nih.gov/health/educational/healthdisp/pdf/recipes/Recipes-African-American.pdf

Asian American
https://www.eatingwell.com/diabetes-friendly-asian-recipes-7186970

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SECTION V

PHYSICAL ACTIVITY AND DIABETES[9, 10]

Objectives

1. To raise awareness about the importance of exercise in managing diabetes
2. To motivate residents of Angelina County who have diabetes to make regular physical activity part of their lives.

At the end of this section, you should be able to:

1. Say why exercise is an important part of diabetes self-management
2. List the two types of physical exercise that people who have diabetes need
3. List ways you can get physical activity into your day
4. List some types aerobic activities
5. Say the least amount of physical activity you need in a week
6. Say one benefit of physical exercise

Physical exercise is an important part of diabetes management. It is recommended that your exercise includes aerobic activity and resistance training. It is recommended that people who have diabetes should have 150 minutes or more of moderate to vigorous aerobic activity per week. This can be spread over five days (30 minutes per day) with two to three sessions of resistance exercises every other day or more. The type of activity that you do will depend on your level of fitness[9]. Consult with your health care provider before you begin an exercise regimen.

It is important that you use any opportunity available to get activity into your day. Examples include:

- Walking up the stairs instead of using the elevator
- Walking your pet
- Parking a little farther away and walking
- Using break times to walk instead of sitting
- Mowing the lawn

Examples of aerobic activities include[10]:

- Walking up stairs
- Brisk walking (6 kilometers /hour)
- Bicycling
- Running
- Jogging
- Swimming laps, water aerobics
- Playing a sport (pickle ball, tennis, socker, basketball, cricket, hockey) with friends
- Gardening (ex. Digging, hoeing)
- Hiking
- Dancing
- Pushing a cart around a grocery store

People who have diabetes and follow these activity guidelines are less likely to die from cardiovascular disease.[10]

For more on the benefits of exercise you may click on the following links

https://www.cdc.gov/physical-activity-basics/benefits/
https://www.ncbi.nlm.nih.gov/books/NBK549946/

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REFERENCES

1. NIDDK (n.d.). Healthy Living with Diabetes National Institute of Diabetes and Digestive and Kidney Diseases. https://www.niddk.nih.gov/health-information/diabetes/overview/healthy-living-with-diabetes#eatdrink
2. FDA (2023). Aspartame and Other Sweeteners in Food. https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food
3. ADA. (n.d.). Get to know Carbs. Diabetes.org. https://diabetes.org/food-nutrition/understanding-carbs/get-to-know-carbs
4. CDC. (2024, May 21). Carb Choices. Diabetes. https://www.cdc.gov/diabetes/healthy-eating/carbohydrate-lists-starchy-foods.html
5. ADA. (n.d.). How to Eyeball a Serving of Carbs. Diabetes.org. Retrieved May 21, 2024, from https://diabetes.org/food-nutrition/understanding-carbs/eyeball-carbohydrate-servings#:~:text=A%20woman
6. ADA. (n.d.). Reading Food Labels. Diabetes.org. https://diabetes.org/food-nutrition/reading-food-labels/making-sense-food-labels
7. Gray A, et al (2019). "Nutritional Recommendations for Individuals with Diabetes." Nih.gov, MDText.com, Inc. www.ncbi.nlm.nih.gov/books/NBK279012/
8. Georgia Department of Public Health (n.d.) "Diabetes Self-Management Education.", https://dph.georgia.gov/chronic-disease-prevention/diabetes/diabetes-self-management-education
9. Abushamat L, et al (2023). "The Role of Exercise in Diabetes." PubMed, MDText.com, Inc. www.ncbi.nlm.nih.gov/books/NBK549946/
10. National Heart, Lung, and Blood Institute (2022). "Physical Activity and Your Heart - Types | NHLBI, NIH." www.nhlbi.nih.gov/health/heart/physical-activity/types
11. Foundation to Advance Vascular Cures (n.d.) Diabetes and Vascular Disease. Retrieved June 4, 2024, from https://www.vascularcures.org/diabetes-and-vascular-disease