

**Cornerstones4Care™**



## **Understanding Diabetes: A Teaching Resource Guide**

# Diabetes: What it is and why it happens

- Diabetes is a condition that causes sugar levels in your blood to be high
- When you have diabetes:
  - Your pancreas makes little or no insulin, or
  - Your body prevents the insulin you do make from working right
  - As a result, glucose (sugar) cannot get into your cells, so it stays in your blood
  - That's why your blood sugar gets too high (also called hyperglycemia)



# Your diabetes care: it's a team effort

- You are not alone when it comes to managing your diabetes
- You may have a team of healthcare professionals working with you
- You may also have family members or friends who lend their help and support
- But the most important member of the team is you
- As the captain of your team, you need to:
  - Learn as much as you can about diabetes in general
  - Know as much as possible about your diabetes and your health

# Your diabetes care plan

- A typical diabetes care plan includes:
  - A meal plan
  - A physical activity plan
  - A plan for how and when to check your blood sugar
  - Your personal blood sugar goals
  - A schedule for taking your diabetes medicines
  - Other health goals (such as managing your weight and blood pressure)
  - A schedule for regular health checkups
  - Ways to deal with stress



# Your diabetes meal plan

- Healthy eating is important for everyone, but it's even more important for people with diabetes
- To manage your diabetes, you'll want to:
  - Eat meals and snacks at regular times each day
  - Match how much you eat with your activity level
  - Learn to count carbohydrates



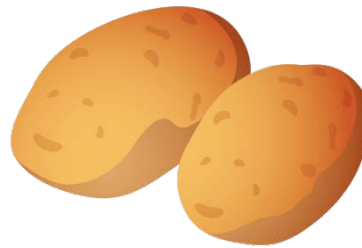
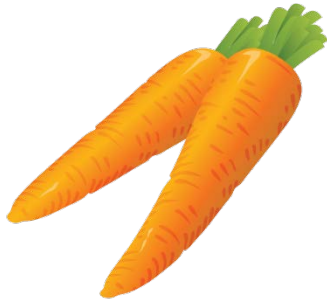
# Planning healthy meals

- With the American Diabetes Association's "Create Your Plate," you can:
  - Manage your portion sizes
  - Eat balanced meals



# Carb counting and diabetes

- Carbohydrates (“carbs”) are the main kind of food that raises blood sugar levels
- Carb counting can help you:
  - Manage your blood sugar
  - Be flexible in your choice of foods and mealtimes
  - Eat more foods that you enjoy



# How many carbs are in your favorite foods?

<b>Nutrition Facts</b>	
Serving Size 1 cup (40g) Servings Per Container 2.5	
<b>Amount Per Serving</b>	
<b>Calories</b> 150	<b>Calories from Fat</b> 10
<b>% Daily Value*</b>	
<b>Total Fat</b> 3g	4%
Saturated Fat 0.5g	2%
Trans Fat 0g	0%
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 10mg	1%
<b>Total Carbohydrate</b> 24g	9%
Dietary Fiber 4g	15%
Sugars 1g	
<b>Protein</b> 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

\* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.





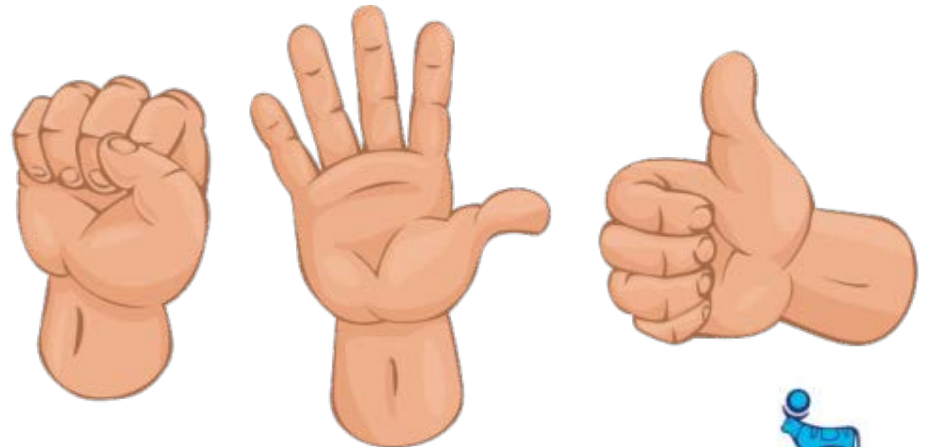
# Using exchange lists for meal planning

- Exchange lists can be used to count carbs and calories
- Each list has foods that have about the same amount of carbs, calories, protein, and fat
- The lists come in these groups:
  - Starch
  - Fruits
  - Milk
  - Sweets, desserts, and other carbohydrates
  - Nonstarchy vegetables
  - Meat and meat substitutes
  - Fats



# Portion sizes count!

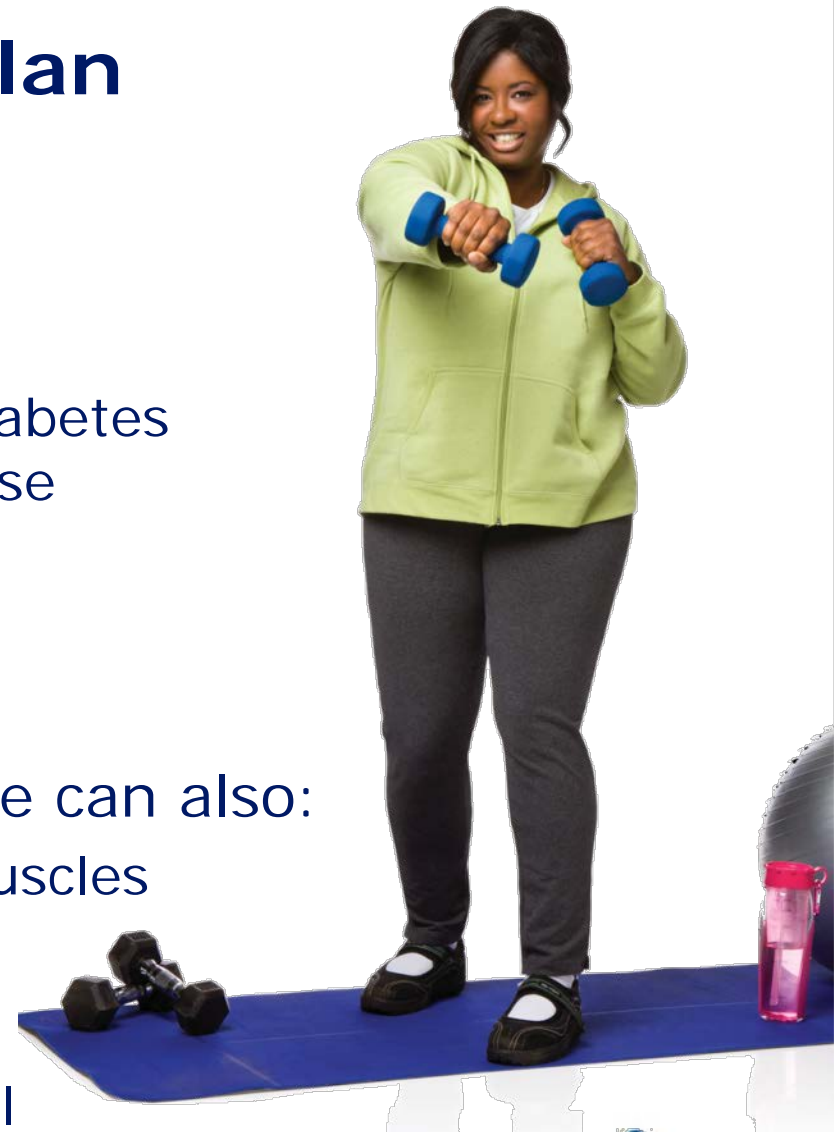
- It's important to eat not only the right types of foods, but also the right amounts
- Weigh and measure your foods when you first start carb counting and once in a while after that, just to make sure your portions haven't grown over time
- Use your hand to estimate portion sizes\*:
  - Your fist = 1 cup
  - Your palm = 3 ounces
  - Your thumb = 1 ounce



\*Hand sizes vary. Estimates are based on the size of a small hand. They are intended to be approximate guides only.

# Your physical activity plan

- Being active can help to:
  - Lower your blood sugar
  - Reduce your need for many diabetes medicines or help your body use insulin better
  - Improve your heart health
  - Manage your weight
- If that isn't enough, being active can also:
  - Strengthen your bones and muscles
  - Give you energy
  - Relieve stress
  - Improve how you look and feel



# 3 steps to starting your activity program

- Step 1: Check with your doctor before you start
- Step 2: Choose your activity:
  - Walking
  - Jogging
  - Bicycling
  - Swimming
  - Dancing
- Step 3: Set a goal:
  - At least 5 days a week
    - At least 30 minutes to maintain your current weight
    - 45 minutes if your goal is to lose weight

“What I did was find an exercise buddy — and not just a person, her dog too! If we ‘poop out,’ we’ve got those big doggie eyes to make us feel really guilty about it!”

—CJ B, Alabama

# Staying safe while being active

- Check your blood sugar before and after your activity
- Bring a fast-acting carb snack with you in case your blood sugar drops too low
- Don't exercise if you're not feeling well
- Wear a medical identification bracelet or necklace
- Protect your feet



# Diabetes medicines

The main types of diabetes medicines are:

- Pills taken by mouth
- Medicines taken by injection

“The doctor had someone from the diabetes center in the hospital come in and show me how to properly inject myself. I was afraid at first. After the first few times, it got easier.”

—Lillie E, Ohio



# Diabetes pills



- Diabetes pills work in one or more of the following ways:
  - Some help the body release more insulin
  - Some lower the amount of sugar that the liver releases
  - Some help insulin work better in muscle and fat
  - Some slow the breakdown of food into sugar
- Diabetes pills do not work for everyone
  - Sometimes they do not bring blood sugar levels down low enough
  - Or they sometimes stop working after a few months or years because of the loss of beta cells over time

# Non-insulin injectable medicines

- These medicines:
  - Are taken by using a special prefilled pen
  - May be taken once a day, twice a day, or before each meal (depending on the medicine)
  - Work in one or more of several ways:
    - By acting like the hormone GLP-1
    - By acting like natural amylin
    - By stopping the liver from releasing sugar into the blood when it is not needed
    - By slowing the movement of food through the stomach so sugar enters the blood more slowly





# Insulin

## Injected insulin:

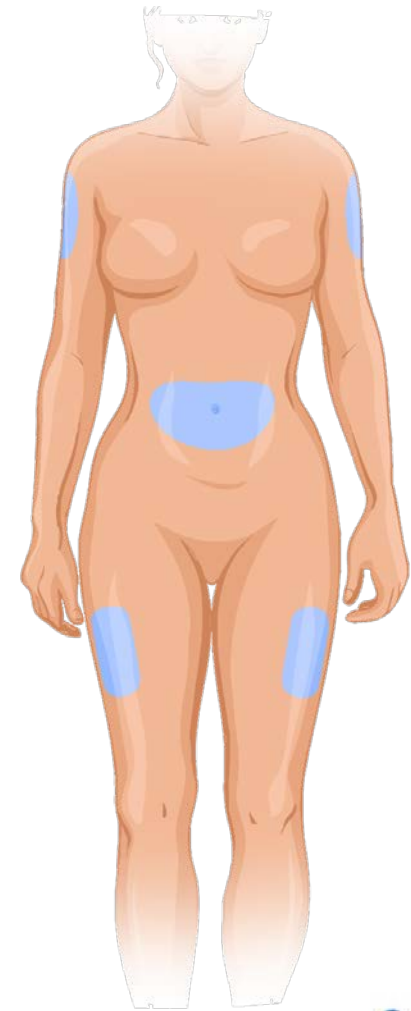
- Is like the insulin that the body makes
- Works to lower blood sugar by helping sugar move from the blood into your cells
- Must be taken by everyone with type 1 diabetes
- Is needed by many people with type 2 diabetes
- May make it possible to have more flexible eating and activity schedules

"I should have gone to injections as soon as it was suggested to me by my physician. If you are in fear, take my advice, try it."

—Michael A, Michigan

# Injecting diabetes medicines

- How (depending on the medicine):
  - Prefilled pen
  - Syringe filled from a vial of insulin
  - Insulin pump
- Where:
  - Abdomen (except a 2-inch circle around your belly button)
  - Thighs (top and outer parts)
  - Backs of the upper arms



# Storing injectable diabetes medicines

- Follow the instructions on the label
- Keep new, unopened containers in the refrigerator but not too close to the cooling element
- Do not freeze injectable diabetes medicine, and do not use it if it has been frozen
- It's usually okay to store injectable medicine at room temperature after you have opened it, but check the label to make sure
- Don't let injectable medicine become too hot or too cold
- Keep injectable medicine out of bright light and sunlight
- Do not use injectable medicine after the expiration date on the label



# Getting rid of used diabetes supplies

- Put the needle and any empty disposable pen in a sharps container or some type of hard plastic or metal container with a screw top, such as a detergent bottle. Seal these containers and throw them away the right way
- Do not throw away used needles and syringes in household trash or recycling bins



"I am a salesperson. With the pen, I can take my shots while sitting at a meeting, or while at dinner. I've even taken my shots in the car. The pen has helped me take care of my diabetes."

—Mayra A, New Jersey

# Target blood sugar levels for people with diabetes

## Goals for People With Diabetes

Before meals	70 to 130 mg/dL
1 to 2 hours after the start of a meal	Less than 180 mg/dL
A1C	Less than 7%

Adapted from the American Diabetes Association. Standards of medical care in diabetes—2011. *Diabetes Care*. 2011;34(suppl 1):S11-S61.

# Knowing your A1C

A1C Levels	Estimated Average Blood Sugar
6%	126 mg/dL
7%	154 mg/dL
8%	183 mg/dL
9%	212 mg/dL
10%	240 mg/dL
11%	269 mg/dL
12%	298 mg/dL

Adapted from the American Diabetes Association.  
Standards of medical care in diabetes—2011.  
*Diabetes Care*. 2011;34(suppl 1):S11-S61.

# Checking your blood sugar

- Checking your blood sugar yourself is often the best way to be sure your diabetes is under control. Checking often will tell you:
  - If your insulin or other diabetes medicine is working
  - How physical activity, the foods you eat, or stress affect your blood sugar
- Based on your care plan, you may want to test:
  - At bedtime and when you wake up
  - Before meals or large snacks
  - 1 or 2 hours after meals
  - Before and within minutes after physical activity



# Keeping a blood sugar diary

Day/ date	Time	Diabetes medicine type and dose	Blood sugar results*						Ketone test results	Carb intake	Activity	Notes
			Breakfast		Lunch		Supper					
Mon			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Tue			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Wed			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Thu			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Fri			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Sat			Before Time	After	Before	After	Before	After	Before			
			mg/dL									
Sun			Before Time	After	Before	After	Before	After	Before			
			mg/dL									

A1C  Date



# Your diabetes care schedule

- Daily:
  - Check blood sugar as recommended in your diabetes care plan
- Every 3 months:
  - Regular office visit
  - A1C test (if your blood sugar is not stable)
  - Blood pressure check
  - Weight check
  - Foot check
- Every 6 months:
  - A1C test (if your blood sugar is stable)
  - Dental exam



# Your diabetes care schedule, cont'd

- Every year:
  - Physical exam
  - Comprehensive foot exam
  - Blood fat and cholesterol tests (if your levels are normal)
  - Kidney tests
  - Dilated eye exam
  - Flu shot



# Managing changes in your blood sugar

- Low blood sugar (hypoglycemia)
- High blood sugar (hyperglycemia)

"I 'have' diabetes, but it does not have me. I use a blood test machine and two insulin pens to manage the disease."

—Kristen N, California



# Managing low blood sugar

- How you may feel:
  - Weak or tired
  - Hungry
  - Dizzy or shaky
  - Nervous or upset
  - Sweaty
  - Like your heart is beating too fast
  - Like your vision is blurry
- What you should do:
  - Eat or drink something high in sugar right away, such as:
    - 4 oz (½ cup) of regular fruit juice (like orange, apple, or grape juice)
    - 4 ounces (½ cup) of regular soda pop (not diet)
    - 3 or 4 glucose tablets
    - 5 to 6 hard candies that you can chew quickly (such as mints)



# Managing high blood sugar

- If your blood sugar is too high, you may:
  - Feel very thirsty or hungry
  - Need to pass urine more than usual
  - Feel like your mouth and skin are dry
  - Have blurry vision
  - Feel sleepy
  - Notice that infections or injuries you have heal more slowly than usual
- The best way to avoid high blood sugar is to follow your diabetes care plan



# Coping with diabetes

- It is not easy to cope with diabetes. But there are three key factors that can help:
  - Knowledge
  - Skill
  - Support

“For 26 years, I have lived with this disease. Some days I get knocked down, but every single time I get up because I know tomorrow is another day.”

—Nulcia M, Virgin Islands



# Making changes successfully

- When you need to make changes in your diabetes care plan:
  - Accept that change is part of life
  - Set small, realistic goals and reward yourself when you do achieve a goal, or even just for the effort you made toward achieving it
  - Think about joining a diabetes support group



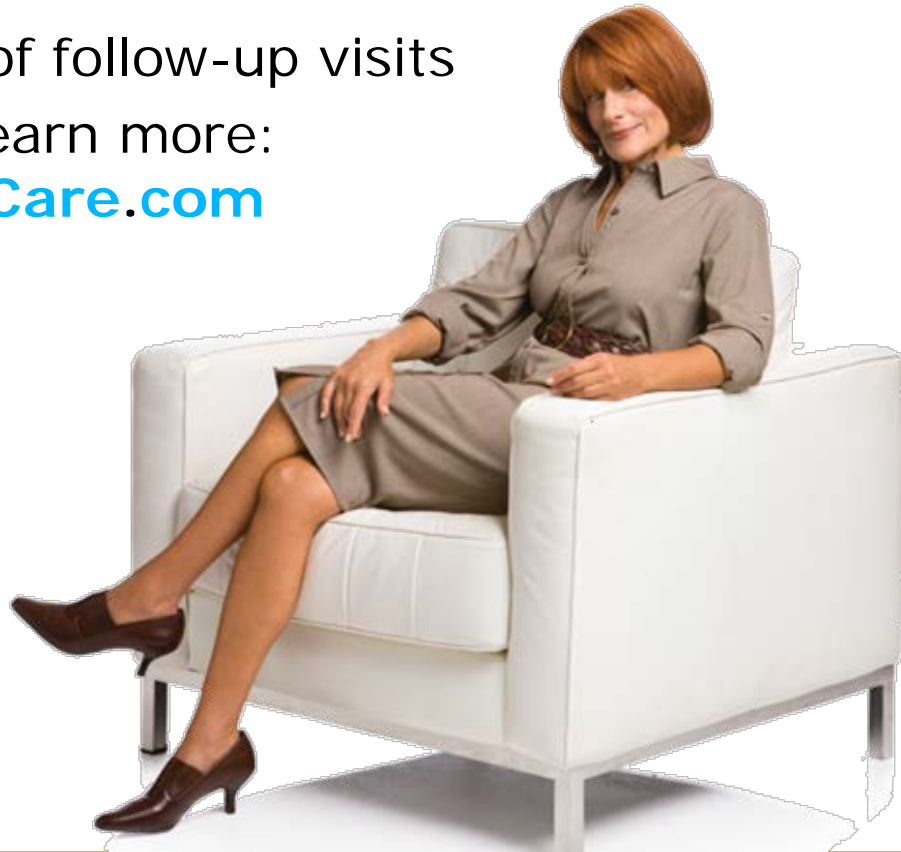
# Diabetes care plan checkup

- Make sure you know:
  - When and how to take your diabetes medicine
  - If you take insulin, when it starts working and when it will have its peak action
  - When and how to check your blood sugar and what the results mean
  - Your target blood sugar goals (before meals, after meals, and A1C)
  - Why it's important to keep your blood sugar levels in your target range
  - What you can do if your blood sugar levels are out of goal range
  - Possible causes of low blood sugar, how to prevent it, and what to do if it happens



# Diabetes care plan checkup, cont'd

- Make sure you know:
  - How to follow your meal and physical activity plans
  - When and how to contact us
  - The importance of follow-up visits
  - Where to go to learn more:  
[Cornerstones4Care.com](https://www.cornerstones4care.com)



# Time to take charge!

- Diabetes cannot yet be cured, but it *can* be managed
- You are not alone
- We will work together as a team to help you manage your diabetes
- The more you work to manage your blood sugar, the better you'll feel each day
- Diabetes doesn't have to stand in your way!



# The *Cornerstones4Care* educational series



For more information, visit [Cornerstones4Care.com](http://Cornerstones4Care.com).

For more information about Novo Nordisk products for diabetes care, call 1-800-727-6500.

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