

WELCOME TO THE DIABETES TOOLBOX

I AM PETE THE PANCREAS,
I WILL BE YOUR GUIDE!

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Inspired by the previous content of
Nancy Johnson RN, CDCES

WHAT IS DIABETES

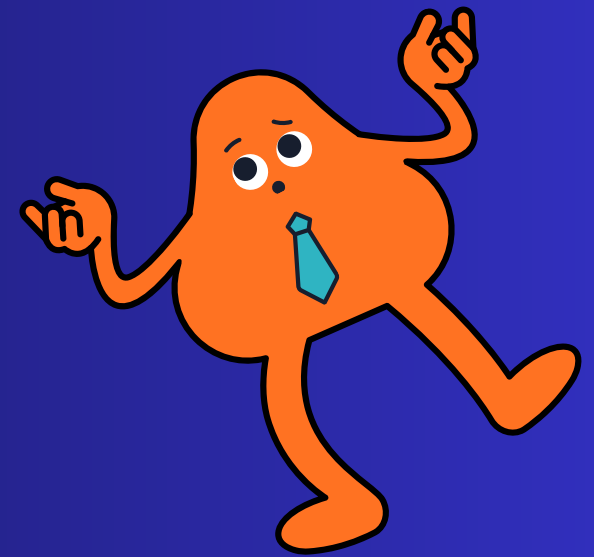


First, let's take a look at a few terms you will see in regards to diabetes

Carbohydrates: body's main source of energy; starches, fruits, dairy, and grains.

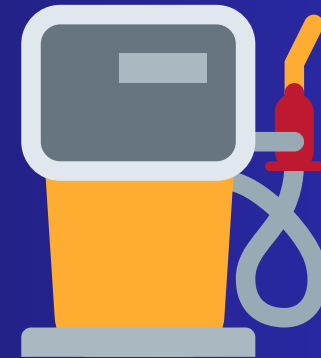
Glucose: sugar; when we eat carbohydrates, the body breaks it down into glucose.

Insulin: protein hormone made in the **pancreas**, acts as the key to unlock the body cells and let the glucose go from bloodstream to cell.



Just like a car needs gas to move...

Our bodies need carbohydrates for our body to move and work



- When we eat carbohydrates, our body breaks it down into glucose (sugar)
- The glucose enters the bloodstream
- This triggers the beta cells of the pancreas to release insulin which works to unlock the cell and let the glucose in
 - The cells want glucose so they can work and if the glucose cannot enter the cell, we feel tired

If the body cannot get the glucose from the blood into the cells, it causes high blood sugar which is indicative of **Diabetes**

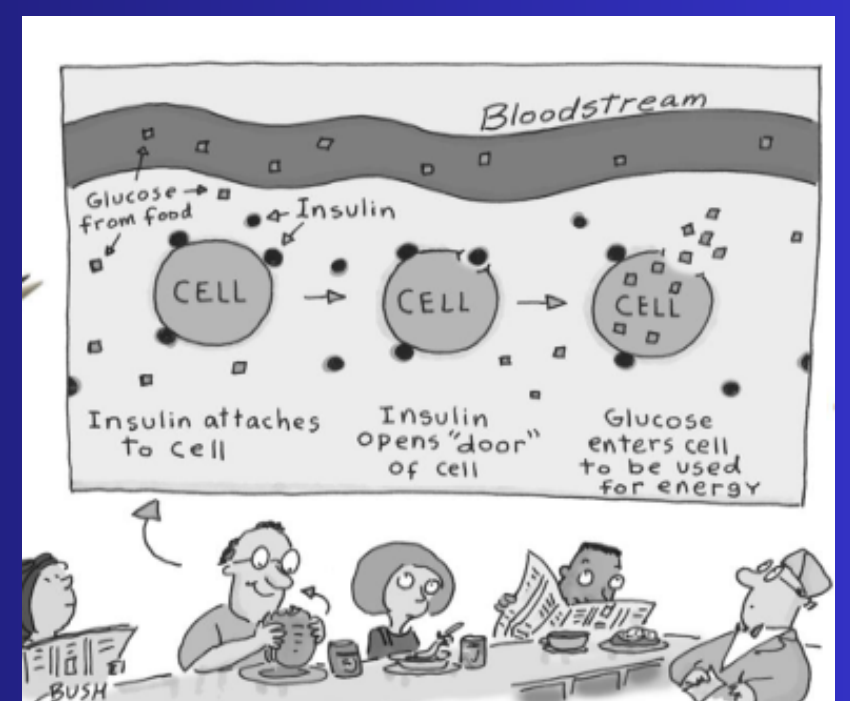


There are a few potential causes for this:

1. Your body does not make insulin
2. Your body does not make enough insulin
3. Your body is not able to use the insulin it makes effectively (insulin resistance)

Therefore we end up with too much sugar in the blood (AKA hyperglycemia)

Now, let's review the different types of diabetes



TYPE 1 DIABETES



Type 1 Diabetes, also known as Autoimmune Diabetes

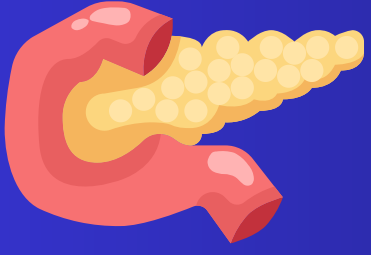
In Type 1 Diabetes, the pancreas no longer makes insulin. The beta cells of the pancreas have been destroyed and the body requires insulin shots or an insulin pump to use glucose.

Cause: Unclear, but it is NOT caused by eating too many sweets

Treatment: Insulin, blood sugar monitoring, and lifestyle modifications

Symptoms:

- Increase in thirst (Polyuria)
- Increase in Urination (Polydipsia)
- Increased hunger (Polyphagia)
- Significant, unintentional weight loss



If you have any of these symptoms, contact your doctor right away



PREDIABETES

Prediabetes is when your blood sugar is higher than normal, but not high enough to call it Type 2 Diabetes.

Having prediabetes does not mean you will get Type 2 Diabetes, but it does increase your risk of developing Type 2 Diabetes.



If you know the risk factors, you may be able to make some lifestyle changes to prevent Type 2 Diabetes

Risk Factors:

- Gestational Diabetes (Diabetes during pregnancy)
- Family history of Diabetes
- Race (Hispanic, African American, Native American, Asian American)
- Belly fat (waistline more than 40 inches in males and more than 35 inches in females)
- Sedentary or low active lifestyle
- Overweight/Obesity
- Tobacco/alcohol use
- Poor diet
- High Blood Pressure (greater than 130/80)
- High Triglycerides (greater than 200)
- High Total Cholesterol (greater than 200)
 - High LDL (greater than 100)
 - Low HDL Cholesterol (less than 40 for males and less than 50 for females)

TYPE 2 DIABETES



In Type 2 Diabetes the body still makes insulin, but it does not respond well to it. This is also known as insulin resistance. People with Type 2 Diabetes may need oral medications and/or insulin to help use glucose.

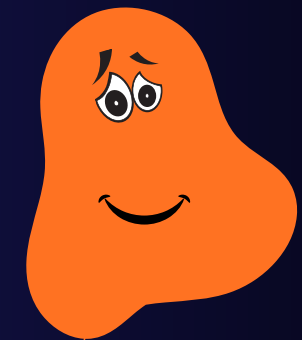
Cause: Unclear, but it NOT caused by eating too many sweets.

Treatment: Mainly with diet and exercise. Sometimes regardless of lifestyle a person may need medication to help them.

Symptoms

- Increase in thirst (Polyuria)
- Increase in Urination (Polydipsia)
- Increased hunger (Polyphagia)
- Fatigue, blurry vision, numbness in hands/feet, difficulty healing, and sexual problems
- Unintentional weight loss

If you have any of these, contact your doctor right away.



Gestational Diabetes is a type of diabetes that can occur during pregnancy and may increase risk for mom's risk for Type 2 Diabetes in the future.



HOW CAN WE PREVENT IT?



If you know the risk factors, you may be able to make some lifestyle changes to prevent Type 2 Diabetes

Risk Factors:

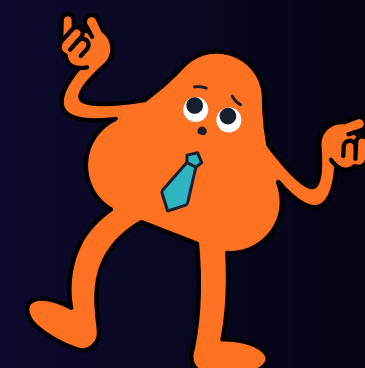
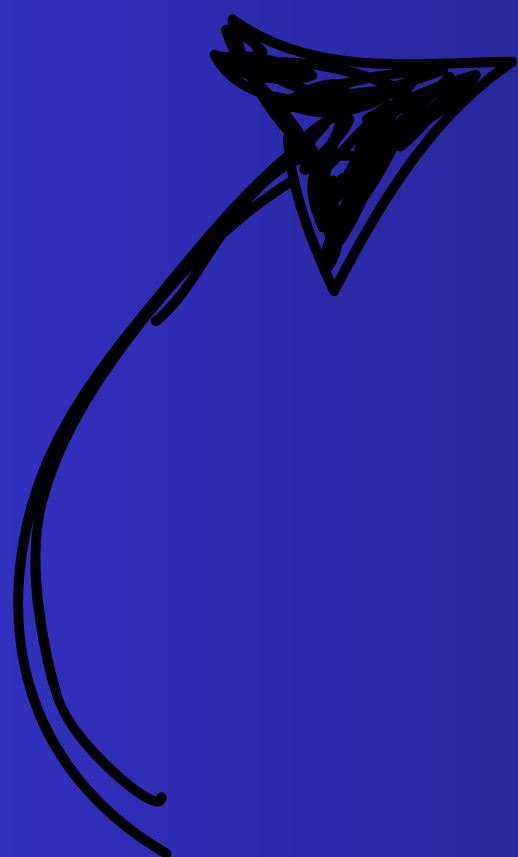
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American Diabetes Association (ADA) recommends:

- Lose between 5-10% of your body weight if you are overweight.
- Start a moderate exercise routine - at least 30 minutes, 5 days a week.
- Eat healthy foods like fruits, vegetables, and whole grains.

Work with your provider and dietitian to get started today!



MONITORING MY BLOOD SUGAR

Hello!

What's in it for me?

Meet Grace the Glucometer. She will help answer this question.



There are 3 ways we can monitor our blood sugars.

1

Using a meter (glucometer) to test our blood sugar as directed by your diabetes team.

You may test throughout the day to get an idea of what your blood sugar is at that moment. This can help when trying to trouble shoot or identify causes of how you are feeling.

2

For those who are on insulin or are at risk for low blood sugar, a Continuous Glucose Monitor (CGM) may be an option.

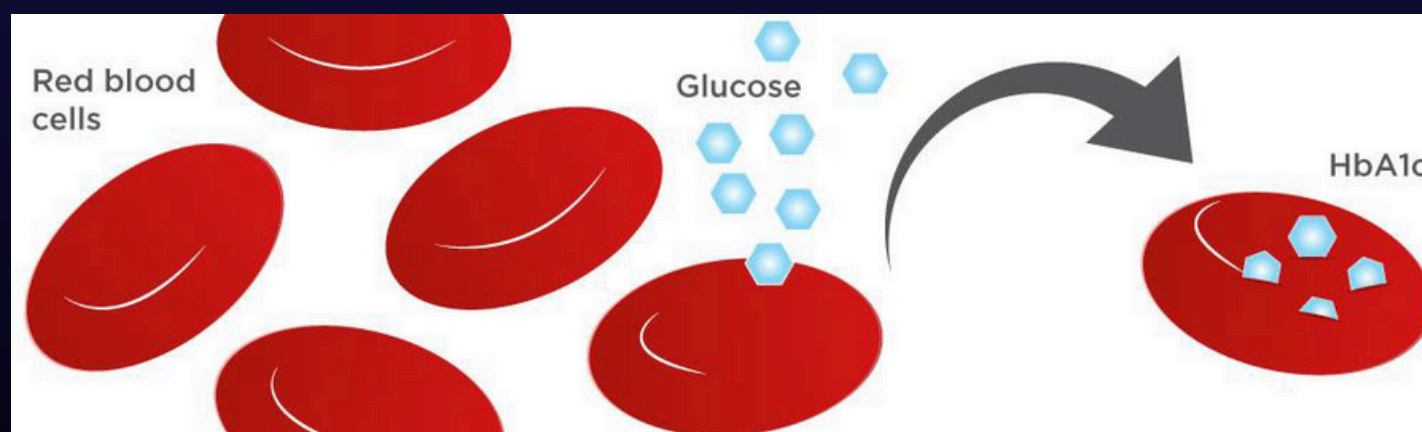
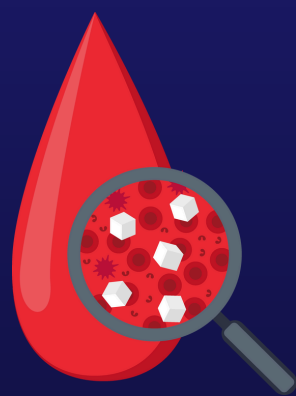
- Small device worn on your skin (on the back of the arm or the stomach) for 7-14 days
- Automatically tests your blood sugar every 5 minutes, without having to prick your finger.

CGMs are a great way to get more detail into patterns that may indicate the need for lifestyle modifications or alteration of medications with the guidance of your diabetes team.

3

HgA1c (Hemoglobin A1c) is a blood test that reflects your average blood sugar over the past 3 months.

- It measures the percentage of hemoglobin proteins in your blood are coated with sugar.



MEDICATIONS



There are several different classes of medications to treat diabetes

Oral and Injectable Diabetes Medications

- Metformin
- Dipeptidyl peptidase 4 (DPP-4) inhibitors
- Glucagon-like peptide 1 (GLP-1) and dual GLP-1/gastric inhibitory peptide (GIP) receptor agonists
- Sodium-glucose cotransporter 2 (SGLT2) inhibitors
- Sulfonylureas
- Thiazolidinediones (TZDs)



Insulin

- Rapid-acting insulin
- Regular or short-acting insulin
- Intermediate-acting insulin
- Long-acting insulin
- Ultra long-acting insulin



Medications should be used in **combination** with lifestyle modifications for optimal diabetes management.



Nutrition is not a one-size-fits-all. What works for one person with diabetes may not work for another. Work with your RD or CDCES to find the best plan for you.



Individuals with diabetes must follow a healthy lifestyle including eating a variety of nutritious foods and incorporating exercise.

It is a common misconception that people with diabetes should avoid eating Carbohydrates.

Carbohydrates (carbs) are important for energy however they are not all created equally!

There are three different types of Carbohydrates:



	Fiber	Starch	Sugar
	Complex Carbohydrates	Complex Carbohydrates	Simple Carbohydrates
Sources	Whole grains, fruits, vegetables, beans, legumes, nuts, & seeds	Potatoes, peas, corn, & winter squash, pasta, white bread, white rice, cereal	Added to desserts, candy, processed foods, & sugar-sweetened beverages. Found naturally in fruit, & dairy
Energy	The body does not digest fiber, so it can help us to feel full and prevent us from overeating.	Broken down into simple sugars to be used for energy	Quick energy source
Benefits	Blood sugar and cholesterol management, weight management, & bowel regularity	When eaten in appropriate portion sizes, can be part of a balanced diet & provide your body with energy.	Can help to treat low blood sugar (hypoglycemia).

Start with the **Plate Method** and adjust to your individual needs.

9 inch plate

- NON-STARCHY VEGETABLES:** Broccoli, Carrots, Cauliflower, Celery, Cucumbers, Asparagus, Lettuce Greens, Brussel's Sprouts, Peppers, Onions, Mushrooms, Green Beans
- PROTEIN:** Boneless/Skinless Chicken Breast, Ground Chicken/Turkey, Eggs, Venison, Pork loin, Fish/Seafood, 90% Lean ground beef, Beans & Lentils, Tofu/Tempeh, Non-fat plain Greek yogurt, Low fat cottage cheese
- CARBS:** Potatoes, Peas, Corn, Winter Squash, Bread, Rice, Pasta, Cereal

Why is managing your diabetes so important?



There are several chronic complications associated with diabetes

By managing your diabetes, you can lower your risk for:

- Chronic Kidney Disease
- Cardiovascular Disease
- Diabetes-related eye disease
- Neuropathy
- Foot complications
- Skin complications
- Hearing loss
- Diabetic Ketoacidosis
- Stroke



The American Diabetes Association recommends the following goals for people with diabetes:

A1c: 7% or less

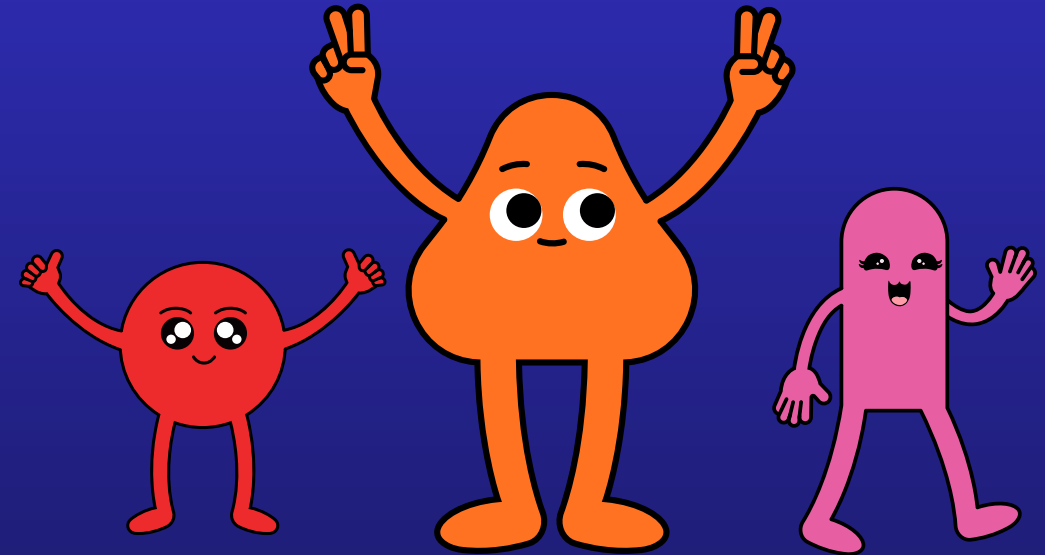
Fasting blood sugar: 70-130 mg/dL

Postprandial (1-2 hours after a meal): 180 mg/dL or less

BUILD YOUR DIABETES CARE TEAM!



Use this check list to make sure you have all of the MVPs!



A Primary Care Provider (PCP) or
Endocrinologist (Diabetes Specialist)

Optometrist
(Eye Specialist)

Diabetes Care and Education Specialist
(CDCES)

Nephrologist
(Kidney Doctor)

Registered Dietitian
(Nutrition Expert)

Mental Health Provider
(Personalized to your needs)

Podiatrist
(Foot Specialist)

Pharmacist
(Medication Expert)

Dentist
(Teeth and Mouth Care)

Audiologist
(Hearing Specialist)

Diabetes Self-Care Checklist



- | | |
|---|--|
| <input type="checkbox"/> HgbA1c every 3 Months | <input type="checkbox"/> Take your medications and/or insulin as prescribed |
| <input type="checkbox"/> See your Diabetes providers every 3 months | <input type="checkbox"/> Test your blood sugar regularly |
| <input type="checkbox"/> Kidney Function test once per year | <input type="checkbox"/> Check in with your RD or CDCES |
| <input type="checkbox"/> Get an Annual Eye Exam | <input type="checkbox"/> Lipids (Cholesterol and Triglycerides) every 6 months |
| <input type="checkbox"/> Check your feet daily | <input type="checkbox"/> Regular Exercise |

Is it time to check in with your educator?

Here are the four times you may want to check in with your educator

At diagnosis

Change in
condition

Change in
lifestyle

Annually

Helpful Links

[American Heart Association](#)

[American Diabetes Association](#)

[Diabetes Food Hub](#)



American
Heart
Association.

