Class One

What is Diabetes?

Objectives

In this class, you will:

- Share what you already know about diabetes and what you would like to learn
- Learn the role of blood sugar and the role of insulin
- Learn why someone has diabetes (type 1 and type 2)
- Learn the long-term complications of diabetes
- Identify resilience resources that enhance diabetes management
- Share an experience when your resilience resources helped you manage your diabetes

R01DK123146, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
National Institutes of Health (NIH)
Contact: Dr. Mary Steinhardt, msteinhardt@austin.utexas.edu, The University of Texas at Austin
512-232-3535 (UT), 512-567-1204 (cell)

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GROUP DISCUSSION

What Do You Already Know About Diabetes?

Since you have diabetes, you may know more than most people. Let's start by discussing what you already know about diabetes.

What I Already Know. ***(think of at least 1 thing, write it down below)***

_____

_____

_____

_____

What I Would Like to Learn. ***(think of at least 1 thing, write it down below)***

_____

_____

_____

_____

The Negatives and Positives of Diabetes.

We're going to explore both the negative and positive aspects of diabetes. Take time to think of a few and write them down below.

Negatives of Diabetes	Positives of Diabetes

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Why Do I Have Diabetes?

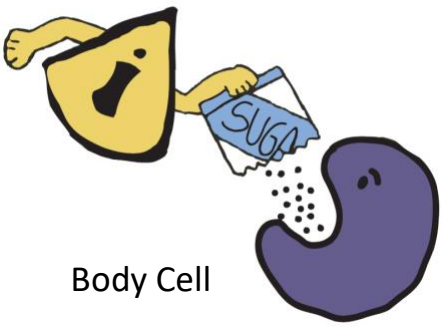
A family history of diabetes is a strong indicator of whether you will have diabetes. People with diabetes have difficulty with **glucose** (sugar) and **insulin**. They cannot use **glucose** properly, so it builds up in their blood and causes health problems. **Insulin** (a hormone produced by the pancreas) normally helps our bodies use glucose and keeps our blood glucose from getting too high or too low. For most people, this process is automatic, but for those with diabetes, this process is not working smoothly.

The Role of Glucose (Sugar)

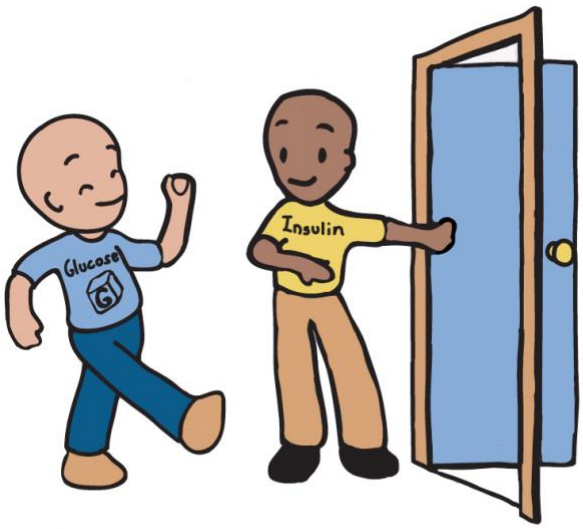
We all need sugar to use as energy for our bodies so we can walk, talk, think, and do other activities each day. There are different types of sugars, but **glucose** is the main sugar our bodies use, especially our brains. For our bodies to use glucose, it has to be able to move out of our blood and into our cells.

The Role of Insulin

Glucose in the blood cannot get into cells by itself to be used as energy – it needs help. When our bodies function normally, insulin helps glucose enter the cells to provide energy.



Body Cell



Very simply, **insulin is the helper, and opens the door for glucose to enter our cells. Without insulin, our cells would starve!** For most people, this process happens automatically throughout the day.

When your body has the right amount of glucose and insulin is available and working properly, insulin can open the door to let glucose inside the cell. This process makes sure your cells have the energy they need and your blood sugar level is kept in balance.

See handout: What is Diabetes?

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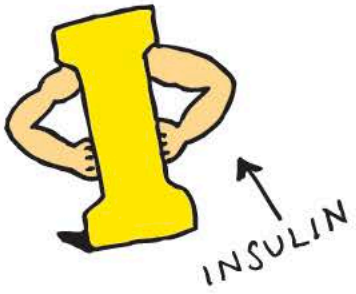
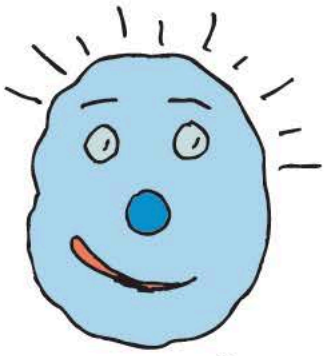
WHAT IS DIABETES?

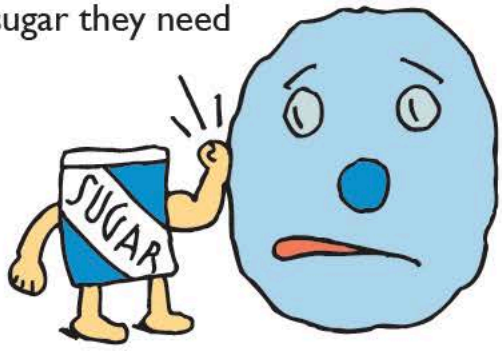


Diabetes means you have too much sugar in your blood. High blood sugar problems start when your body no longer makes enough of a chemical, or hormone, called insulin.

Your body changes much of the food you eat into a type of sugar called glucose. This sugar travels in your blood to all the cells in your body. Your body cells need the sugar to give you energy.



Insulin helps sugar move from your blood into your cells. Without insulin, your cells can't get the sugar they need to keep you healthy.



By moving sugar from your blood to your body's cells, insulin helps keep your blood sugar level normal (not too high; not too low). When you don't have enough insulin to lower high blood sugar levels, you have diabetes.

No one knows what causes diabetes. You can't catch diabetes and you can't give it to someone else.

Diabetes can, and must, be treated. High blood sugar levels can cause serious health problems.

A simple test can tell you if you have diabetes. Talk to your doctor or health clinic for more information.

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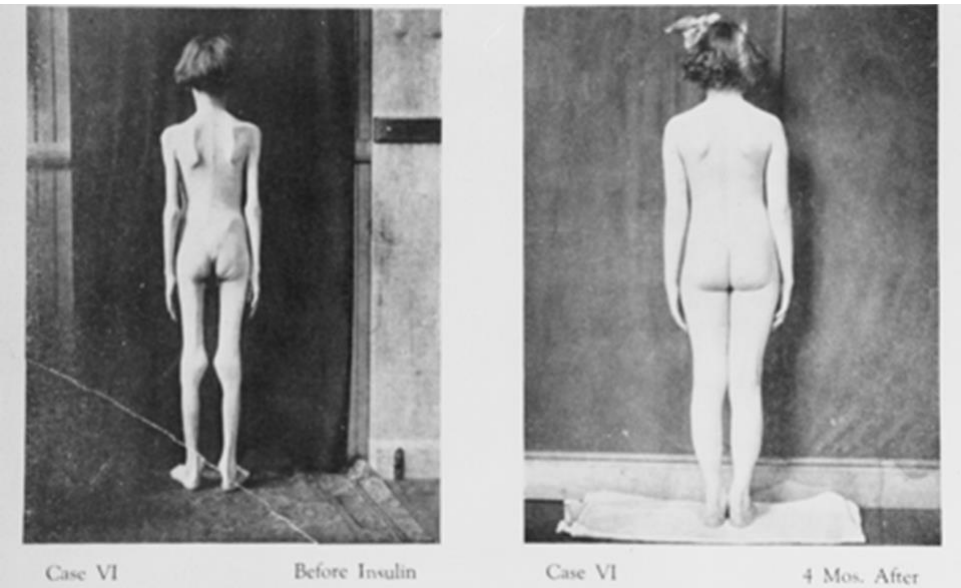
What Happens When Someone Has Diabetes?

Type 1 Diabetes

For people with type 1 diabetes, **the body produces no insulin**. Without insulin, glucose cannot get into cells to provide energy for the body. So, their cells are starving. Our bodies must have insulin to live.

Before insulin was discovered in 1921, everyone with type 1 diabetes died. Now, people with type 1 diabetes receive insulin injections in order to stay alive.

The picture of the little girl on the left is before she received insulin. The picture on the right is 4 months after receiving insulin treatment. We can learn from this picture that insulin is not bad. In fact, **insulin saved the girl's life.**



Before receiving insulin

4 months after receiving insulin

See handout: Type 1 Diabetes

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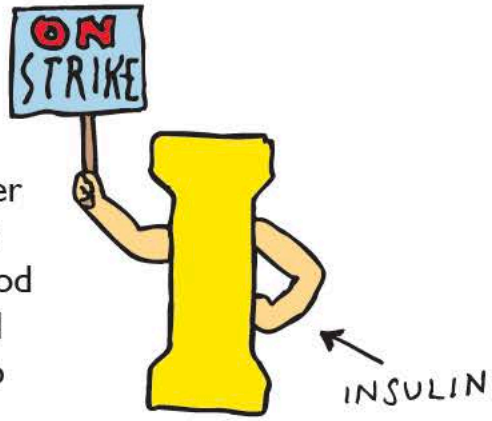
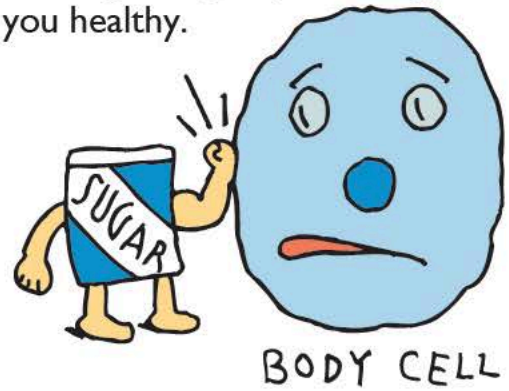
512-232-3535 (UT), 512-567-1204 (cell)

TYPE 1 DIABETES



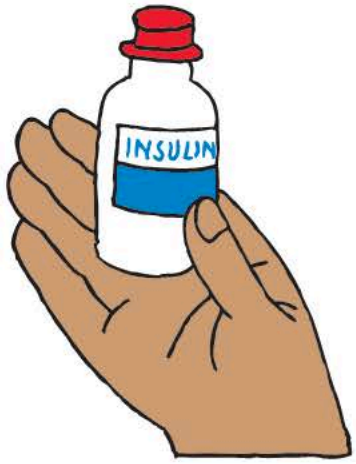
In type 1 diabetes, your body no longer makes insulin. Insulin helps sugar from the food you eat move from your blood into your body's cells. Your cells need this sugar to give you energy and keep you healthy.

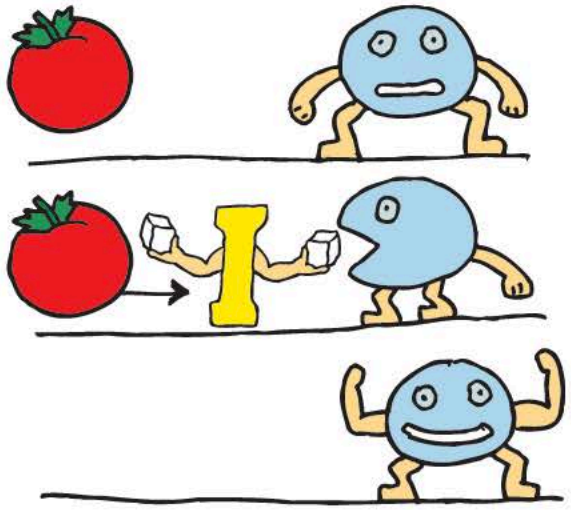


If your cells can't get the sugar they need for energy, your blood sugar levels become high. Diabetes is the medical word for people with a "high blood sugar" problem.

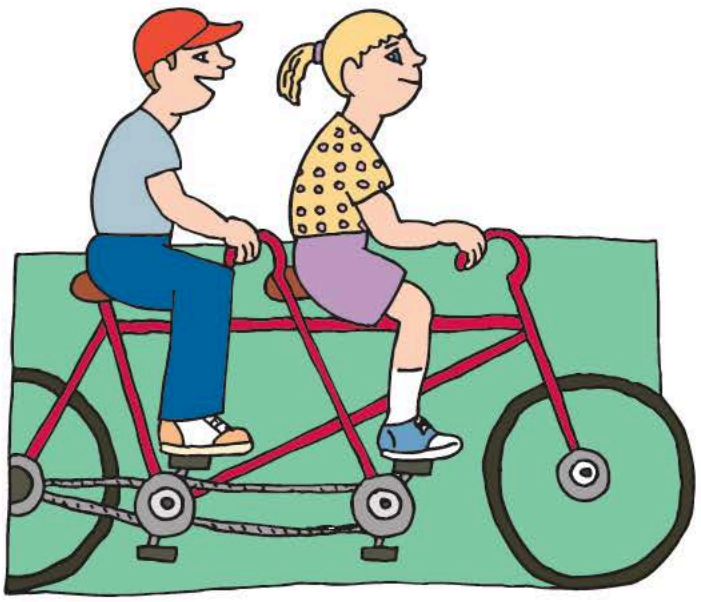
People with type 1 diabetes must take insulin.

Most people with type 1 diabetes are children or young adults, but you can get it at any age.





Diabetes is a serious problem, but it can be controlled. People with type 1 diabetes can lead full and happy lives.



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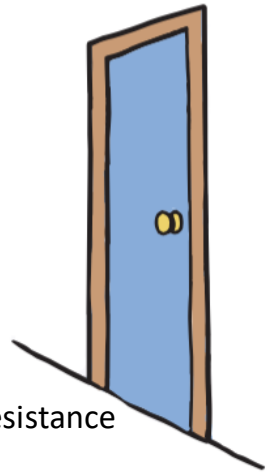
Type 2 Diabetes

People with type 2 diabetes **produce insulin, but their cells are resistant to it**. Because of this, insulin cannot do its job. **Insulin resistance leads to type 2 diabetes.** The process of going from insulin resistance to type 2 diabetes takes about 10 years.

What is Insulin Resistance?

When insulin is unable to open the cell door, this is called insulin resistance. People with insulin resistance produce insulin, but the **insulin is not effective**. It's as though the door in their cells that allows glucose to get in is stuck, so not enough glucose gets into the cells. The extra glucose that builds up in the blood causes health problems. **If you can lower insulin resistance, you can help the insulin work better.**



Insulin Resistance

What Causes Insulin Resistance?

People today eat more higher calorie, processed foods and exercise less than our grandparents did. The portion sizes of the foods we eat today are much larger than in the past, we are less likely to walk or bike to work, and we spend a lot of time sitting in traffic or at a desk. Many of us work hard all day and come home feeling tired, so we sit in front of the television to relax, often with our snacks. These changes have contributed to insulin resistance.

Portion Sizes: 25 years ago, versus today

We get less exercise and sit for longer periods in front of our TV and other devices.

See handout: Type 2 Diabetes

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National Institutes of Health (NIH)
Contact: Dr. Mary Steinhardt, msteinhardt@austin.utexas.edu, The University of Texas at Austin
512-232-3535 (UT), 512-567-1204 (cell)

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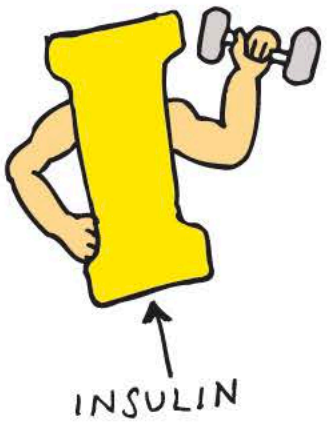
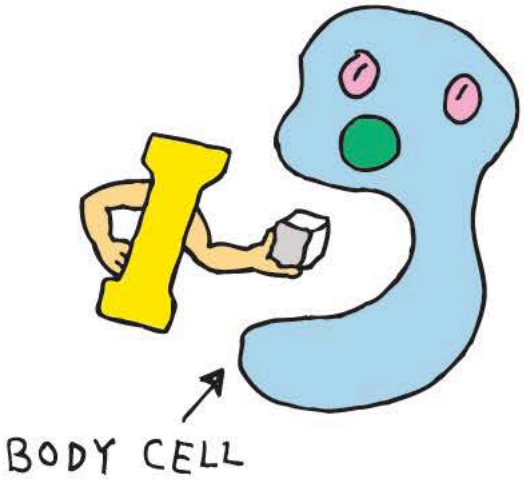
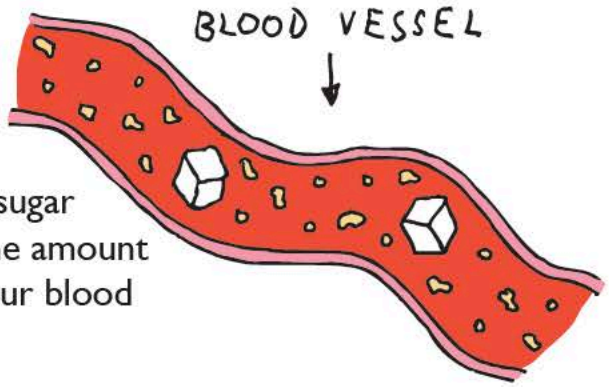
TYPE 2 DIABETES

With type 2 diabetes, your body makes some insulin, but not enough. Or, the insulin your body makes does not work right.





Much of the food you eat is changed by your body into a kind of sugar. The medical word for this sugar is glucose. Insulin helps sugar move from your blood into your body's cells.



If you don't have enough insulin to move sugar from your blood into your body's cells, the amount of sugar in your blood goes up. When your blood sugar levels stay high, you have diabetes.

Type 2 diabetes is more common in adults, but the number of children and young people with type 2 diabetes is growing. Eating healthy foods, in the right amounts, and being physically active can help people lower their blood sugar. Most people with type 2 diabetes take diabetes pills and many also take insulin.

Diabetes cannot be cured, but you can control it! People who control their blood sugar levels can lead full and happy lives - just like everyone else. Talk to your doctor or health clinic for more information.

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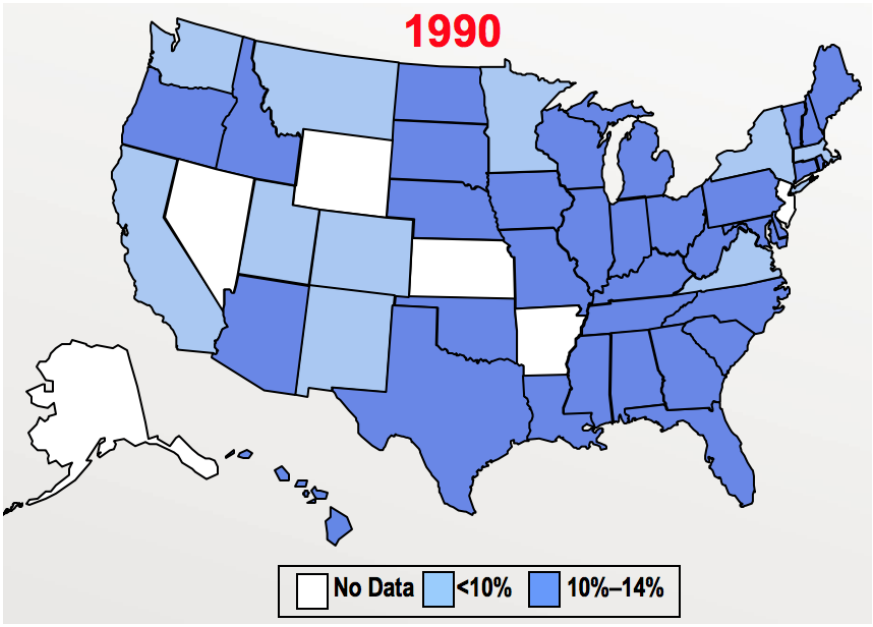
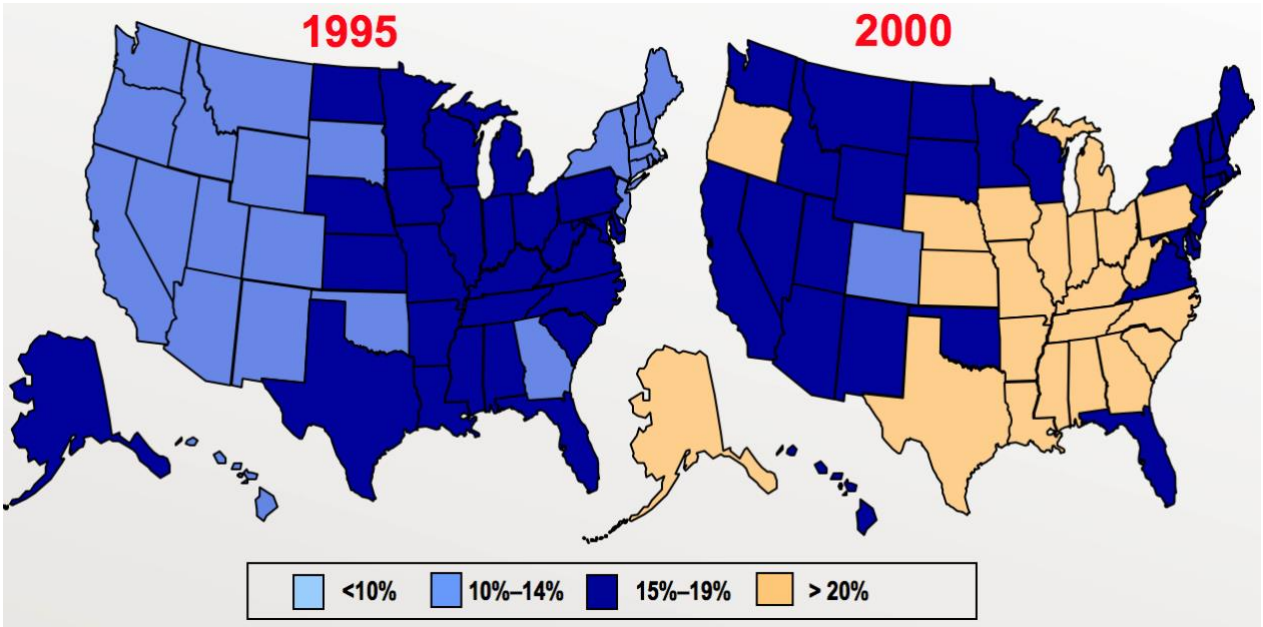
Obesity rates have risen over the years because of our lifestyles. Body Mass Index (BMI) is a useful indicator of overweight and obesity based on a person's height and weight. A high BMI increases one's risk for many diseases and health conditions. If overweight or obese, losing 5–10% of body weight can improve insulin resistance and decrease fasting blood sugar.

Pictures below from the Centers for Disease Control (CDC). Obesity rates have increased over the years because of our lifestyles, especially among African Americans.



Obesity Trends Among U.S. Adults
(BMI ≥ 30, ~ 30 lbs. overweight for 5'4" person)



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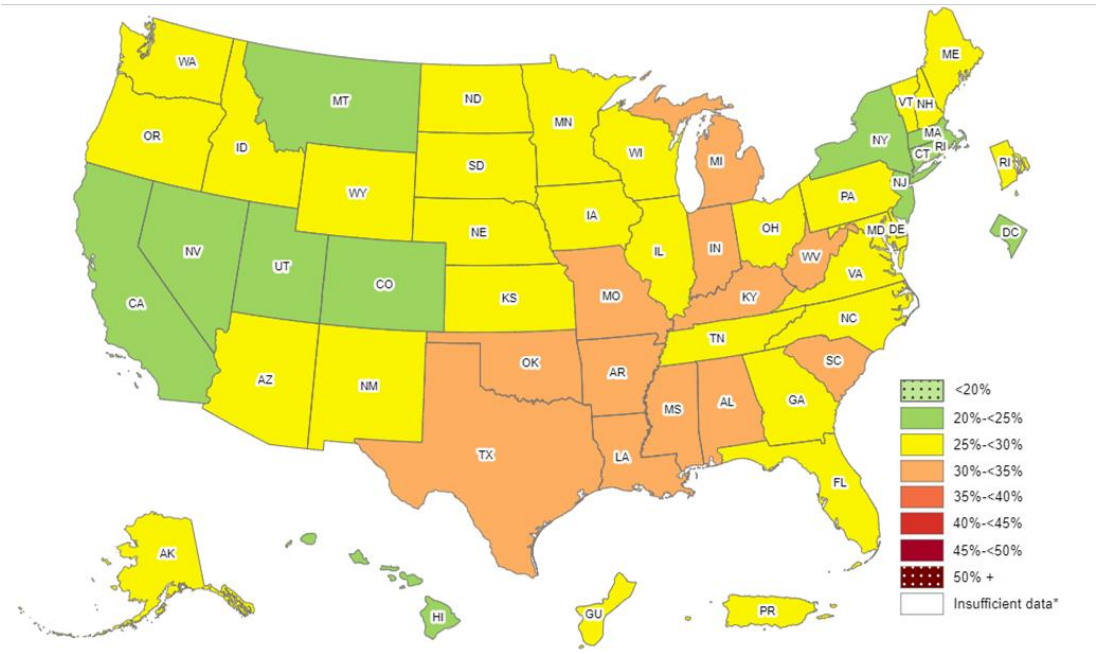
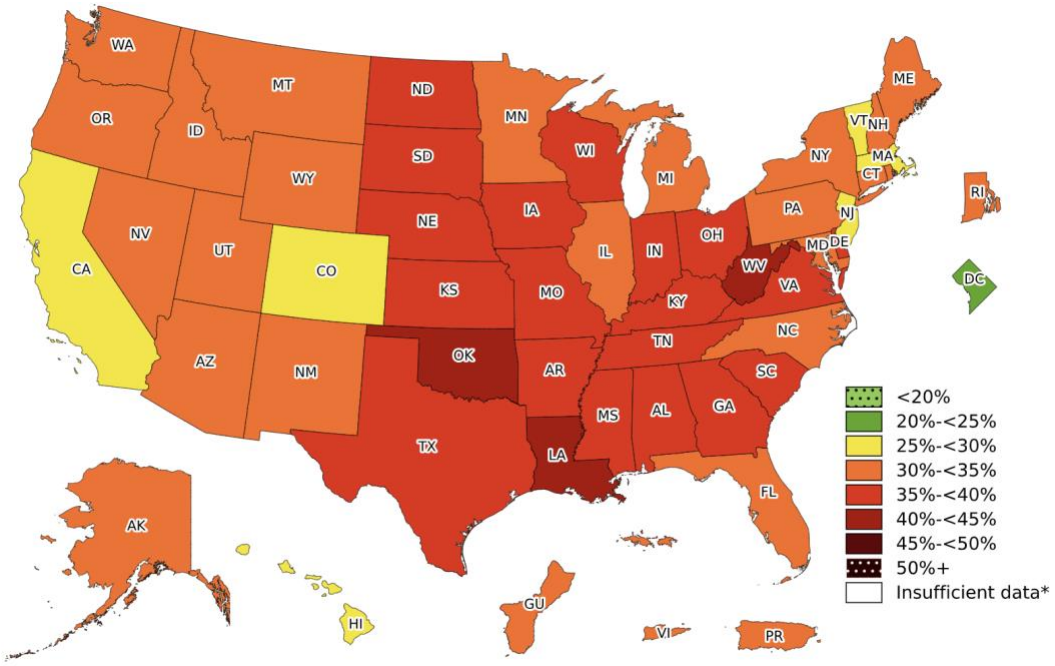
Obesity Trends Among U.S. Adults

(BMI ≥ 30, ~ 30 lbs. overweight for 5'4" person)

2011



2022



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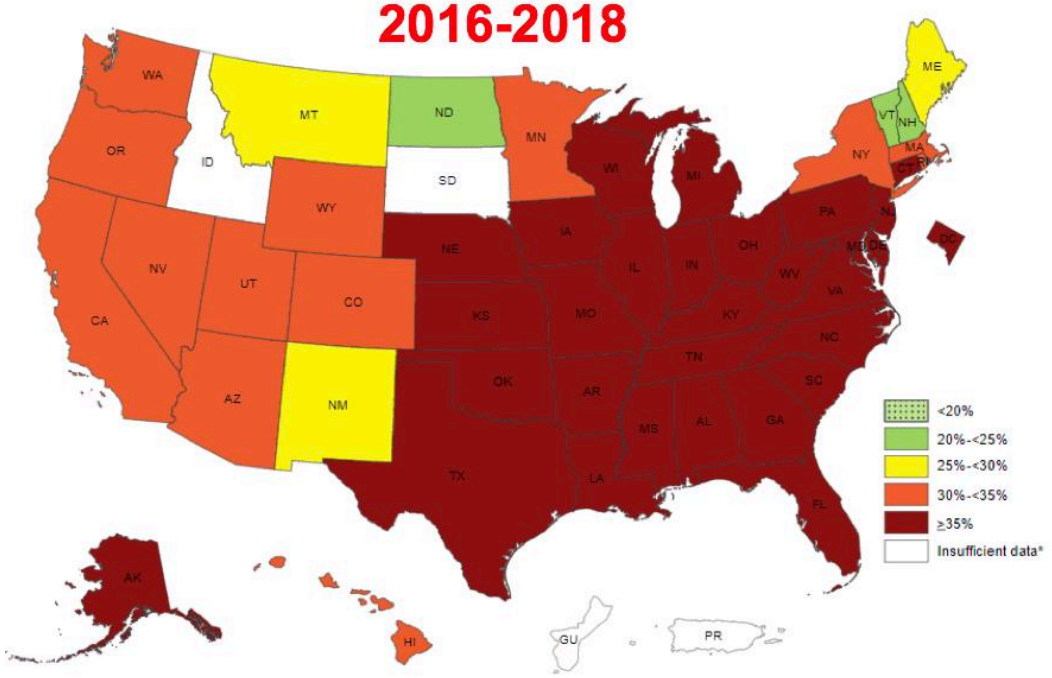
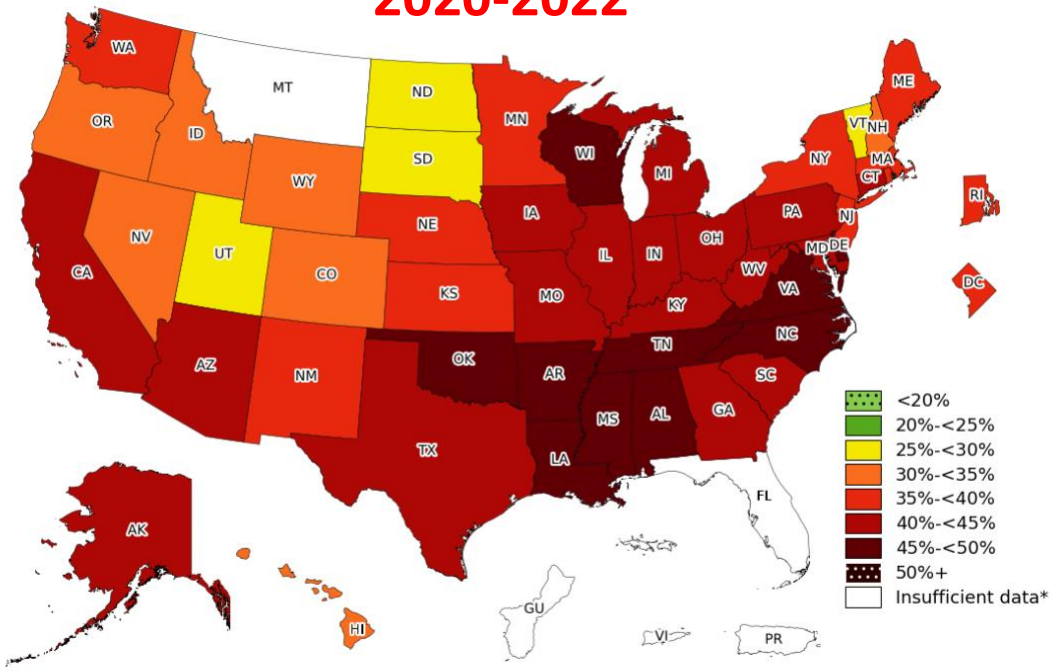
Obesity Trends Among African American U.S. Adults

2016-2018



2020-2022



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Early on, your pancreas can control insulin resistance by producing more insulin – this forces the cell door open and blood sugar remains normal or a little elevated. However, over time the door becomes very stiff and heavy, and the pancreas gets tired from having to produce extra insulin. An overworked pancreas will eventually not produce enough insulin. This is often referred to as a 'pooped pancreas' and causes high blood sugar and eventually diabetes.

The Cost of Uncontrolled Type 2 Diabetes

The longer someone has uncontrolled high blood sugar, the greater the chance they will have complications. High blood sugars over many years lead to complications and a lower quality of life:

- Damage to vessels of the eyes can lead to **blindness**.
- Nerve damage to the feet and hands may lead to **painful neuropathy**.
- If blood flow to the legs is compromised, it can lead to **amputations**.
- Fat build up in the liver may lead to **cirrhosis**.

Some of the leading causes of death resulting from high blood sugar include:

- **Heart disease** – damage to arteries (clot) in the heart.
- **Stroke** – damage to arteries (clot) in the brain.
- **Kidney failure** – diabetes is the leading cause for dialysis.

GROUP ACTIVITY

Resilience Resources Can Help Us Better Manage Our Diabetes

People with type 2 diabetes produce insulin, but their bodies are resistant to it. Insulin is unable to do its job – it's as if the door that allows glucose into their cells is stuck.

Stress is a crucial factor in diabetes control. Reducing stress, eating a healthy diet, and increasing physical activity all lower your insulin resistance. **Our resilience resources** can help us reduce our stress and lower insulin resistance so that insulin can do its job.

Let's do an activity to illustrate how our **resilience resources can help us reduce stress and better manage our diabetes.** All we need is a door and a few volunteers to be glucose, insulin, insulin resistance, and resilience resources.

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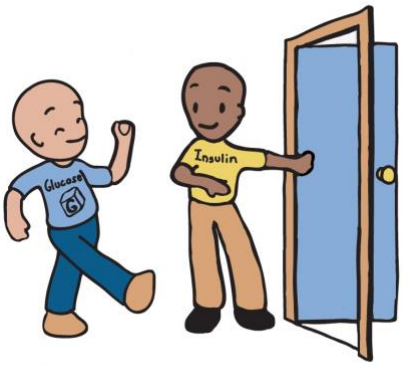
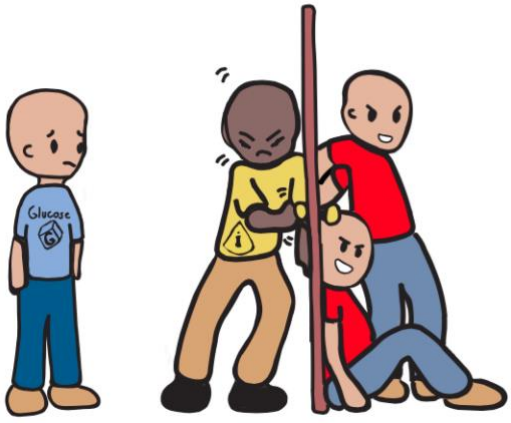
When our bodies function normally. The role of insulin is to help glucose enter the cells to provide energy. To illustrate this:

- glucose moves toward cell
- insulin opens the door to the cell
- glucose enters and provides energy



For individuals with type 2 diabetes, there is resistance, which makes it difficult for insulin to open the door.

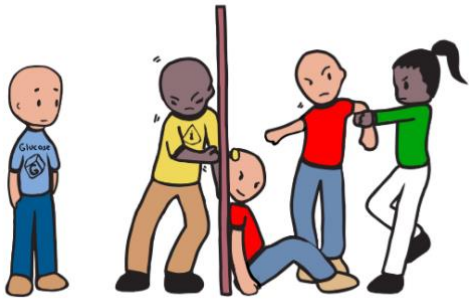


To illustrate this:

- resistance leans against the door
- insulin can't open the door
- insulin calls for help
- pancreas sends more insulin

It is possible to add so much resistance that the body can't produce enough insulin to open the door and the pancreas gets tired from being overworked. At this point, you have type 2 diabetes and require lifestyle changes and/or additional medication, often including insulin.

The good news - Your resilience resources can help lower the resistance so that insulin can open the door.



The Diabetes and Stress Connection

Stress that we are unable to manage well and that lasts for days and days (chronic stress) raises our cortisol (a stress hormone) and aggravates our diabetes. Relieving stress and adapting well to the stress in our lives helps bring down our blood sugar.

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Resilience Resources Help You Live A Long and Healthy Life with Diabetes

Resilience is your ability to bounce back from setbacks and become even stronger and healthier. Growing your resilience resources will enhance your diabetes care. Whenever you have a setback, your resilience helps you bounce back on the path to living your best life – including controlling your diabetes. You can live a long and healthy life with type 2 diabetes.

Let's pause for a moment and discuss how our resilience develops.

Let's watch a brief video: ***Inspirational Video: Dad and Daughter***
https://www.youtube.com/watch?v=pC4WTc3CT5w

- What's the impact on the little girl?
- What's the impact if someone says or does something mean to the little girl?
- What if an adult didn't get these inspirational messages as a child? How do they develop resilience?
- What do we do about our initial negative automatic thoughts?
- What message does this video have for us as adults? For living with diabetes?

GROUP DISCUSSION

Using Resilience Resources to Manage Diabetes

Share an experience when you were struggling with your diabetes. How did you use the resilience resources below to deal with it? If you didn't use them, how might they be helpful?

Finding Positive Meaning – Thinking about the positive things associated with diabetes.

Coping Strategies – Thoughts and behaviors that enable you to cope effectively with diabetes (e.g., engaging in enjoyable activities; asking for help; support from family, friends, and significant others; spiritual/faith practices).

Managing Your Emotions – Awareness and acceptance of your emotions. Strategies to balance positive and negative emotions and express emotions in a healthy way.

Using Stress to Grow – To bounce back; to persevere and adapt positively even while experiencing stress and adversity.

Building Self-Confidence – Confidence in managing diabetes even when you are stressed.

Until We Meet Again

1. Notice when you are taking good care of your diabetes. Notice how your resilience resources are helping you.
2. Notice when you are struggling with your diabetes. Notice how you deal with your diabetes during these times. Try not to judge yourself. Just notice.

Bring to Our Next Class

Your diabetes notebook

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