

# BEHAVIOR:

## Diabetes Basics

### THIS CLASS WILL DISCUSS:

- What is diabetes, insulin, insulin resistance and insulin sensitivity
- What is a hemoglobin A1c and how does it differ from blood glucose checks?
- How does the doctor know if you have diabetes?

**“We want to help people live as well as they can for as long as they can.”**

- Keith Helton, MD,  
CEO of One to One Health

### DIABETES

**Diabetes** is characterized by the resulting consequences that occur when your pancreas does not produce enough insulin, or the insulin you produce does not work very well. When functioning properly, the pancreas produces insulin which allows glucose from the blood stream into cells to use for energy. All cells in your body need glucose for energy, but insulin must be present and working properly to move glucose from the blood stream into most body cells.

Without functioning insulin, glucose builds up in the blood stream resulting in high blood sugars which can damage blood vessels, nerves and organs. Learning how to manage blood glucose (BG), also known as blood sugar, can help you avoid feeling sick and delay long term complications.

When you have a buildup of high blood sugars in your body, you may or may not have one of these symptoms of high blood glucose:

- **Increased thirst**
- **Urinating more than usual**
- **Feeling tired**
- **Blurry Vision**
- **Frequent infections with slow healing**
- **Dry, itchy skin**
- **Loss of feeling in feet and/or fingers**

**“Learning how to manage blood glucose (BG), also known as blood sugar, can help you avoid feeling sick and delay long term complications.”**

**Insulin Resistance** is a condition where your pancreas is producing insulin, but your body cells cannot use it the right way. Your cells have become resistant to insulin so both blood glucose and insulin become elevated. This often happens when people are overweight and leads to type two diabetes.

**Insulin Sensitivity** refers to how sensitive your body is to the effects of insulin. One person may only need one unit of insulin to decrease blood sugars from 200 to 150, while another person may need 10 units to see the same effect.

## Type 1 and Type 2 Diabetes:

With each type, the glucose level is high but for different reasons. If you have either type of diabetes, you are at risk for other health problems.

Your blood glucose levels can change drastically from one hour to the next. An instantaneous blood check, sometimes referred to as an Accu-check shows your glucose level for that moment in time, but your blood sugar levels are variable and always changing. Depending on your insulin sensitivity or medications, you will be asked to check blood glucose levels before and after meals, before bed, after medication, at consistent intervals throughout the day or a combination of all of the above. Checking your blood glucose only one time per day may not be sufficient enough to see the big picture of how well you are controlling it.

### This is where a hemoglobin A1c (HbA1c) level comes into play.

This lab test can be done on a blood draw to tell you your average blood glucose levels over the past two to three months. This is routinely used to determine blood sugar control in people with diabetes. If you walk into the doctors office with a blood glucose check of 90, but A1c of 15%, then one could conclude:

**“In this moment, your blood glucose is at a normal level, but over the last 60 to 90 days, you have not had good control over your blood sugar.”**

TYPE 1 DIABETES	Previously called juvenile onset diabetes
	1 out of 10 people with diabetes has type 1
	A genetic trait must be present to get type 1 diabetes and is usually diagnosed under the age of 30
	Your body is no longer able to make insulin because the cells in your pancreas that make insulin are destroyed
	Insulin is required daily to use glucose for energy

TYPE 2 DIABETES	Previously called adult onset diabetes
	9 out of 10 people with diabetes has type 2
	People who are more likely to have type 2 diabetes usually are overweight, have a family history of DM, are over the age of 30, have a history of gestational diabetes, have high blood pressure/ lipids, have a sedentary lifestyle
	Occurs when the pancreas over produces insulin for a prolonged period of time, which results in cells not using insulin properly or the pancreas does not make enough insulin
	Can be managed with diet & exercise, but oral and/ or injection medication may be needed

## American Diabetes Association Criteria for Diagnosing Diabetes

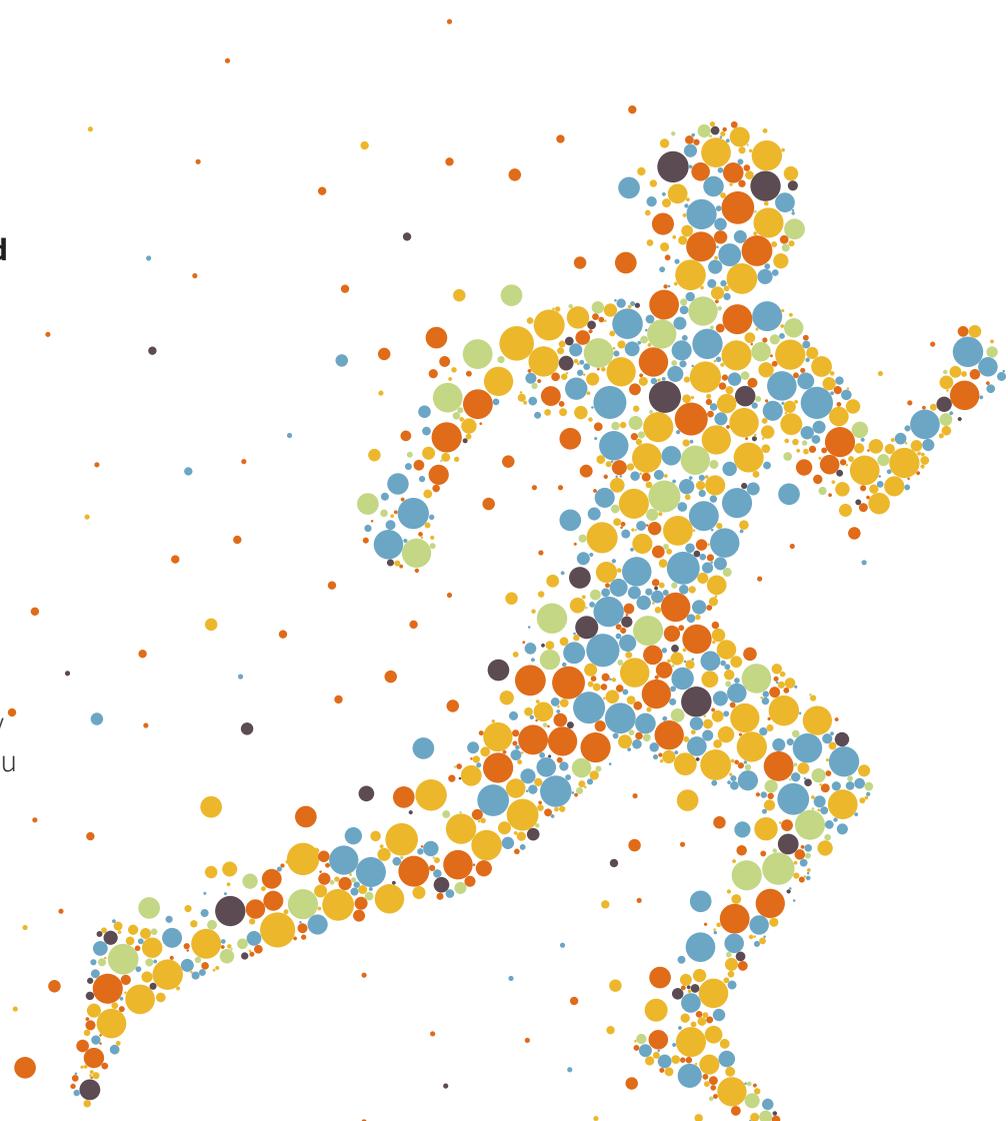
### You have diabetes if:

BG 126 mg/dl or higher when fasting ( <i>no food or drink with calories in the last 8 hours</i> ).	BG 200 mg/dl or higher with symptoms of diabetes without regard to when you last ate.	BG 200 mg/dl or higher during a 2-hour oral glucose tolerance test ( <i>blood glucose is checked after you drink a form of glucose</i> ).	A1c of 6.5% or higher.
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So, if the ultimate effect of diabetes is a buildup of glucose in the blood, how can you take control of your diabetes and keep your blood sugars within a target range to prevent complications?

- **Learn all you can about diabetes**
- **Ask your health care team and health coach questions**
- **Take your medication as prescribed**
- **Get 150 minutes of physical activity weekly**
- **Follow guidelines for healthy meal planning**

In the classes that follow, we will dive deeper into managing your health and the lifestyle changes you can make to feel your best! By learning the basics of diabetes, you are taking important steps toward managing your health and living life to the fullest.



## CHECK YOUR UNDERSTANDING:

1. What does insulin do?

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2. What is diabetes?

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3. How do blood glucose checks differ from A1c?

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## ACTION PLAN:

1. What is one thing I learned today and want to know more about?

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## NOTES: