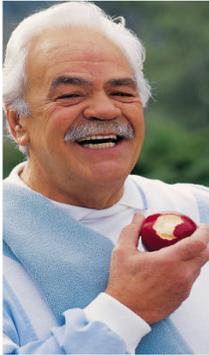


# Blood glucose, insulin, and Type 2 diabetes

Oregon Diabetes Resource Bank  
Handouts to help people with diabetes



When you eat, your body digests the food and turns some of it into "blood glucose."

## Blood glucose is the fuel that provides energy for your body

Blood glucose is sometimes called "blood sugar." Your blood vessels carry blood glucose throughout your body and your cells use it for energy.

## To be able to use blood glucose for energy, your body must have insulin

"Insulin" is a substance produced naturally inside the body by an organ called the "pancreas." Insulin is needed to help move blood glucose from the blood into other parts of the body where it is used for energy.

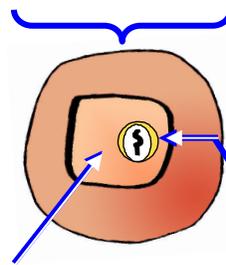
## If you have Type 2 diabetes, there's a problem with your insulin

Normally, the body makes as much insulin as it needs. This happens automatically for people who do not have diabetes. But if you have Type 2 diabetes, it means that you have one or more problems with insulin. Your body might not be making as much insulin as you need. Your insulin might not be working as well as it should.

## Insulin works with cells of your body like a key works with a lock

The pictures below explain why you need insulin and how insulin works in your body. The pictures show comparisons to a lock and key.

There are many trillions of cells in your body. Imagine that the drawing below is one of the cells in your body.

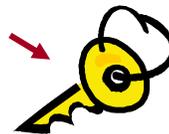


This "door" into the cell is closed and locked.

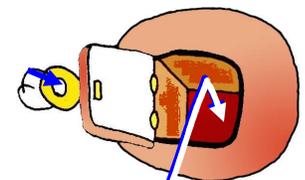
The right key in this "keyhole" will unlock the door.

To let blood glucose into the cell, the door to the cell has to be unlocked.

Insulin is the "key" that unlocks the door.



If the insulin "key" works in the lock, the door will open.

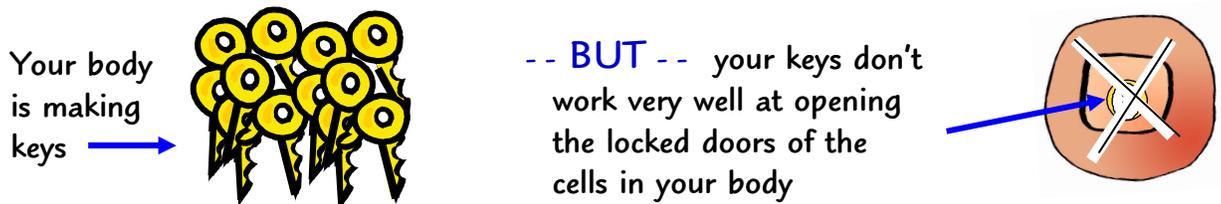


When insulin unlocks the cell, glucose can move from the blood into the cell to provide energy.

more on the next page →

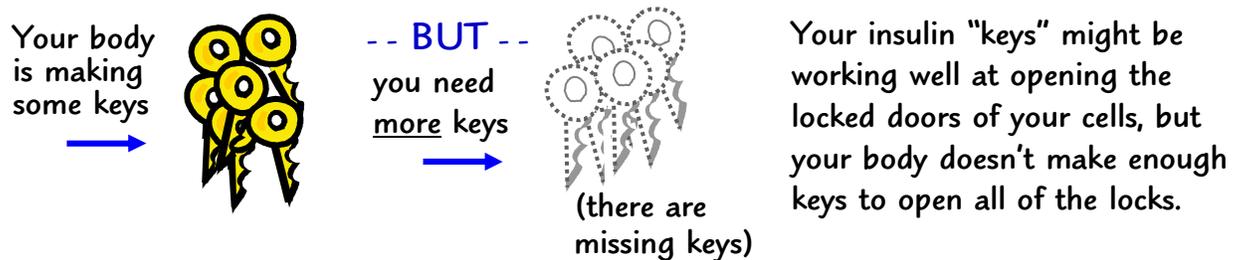
 When you have Type 2 diabetes, you can have *either or both* of these two types of problems with insulin:

**1** Your body makes insulin, but the insulin does not work as well as it should



When the keys and locks are not working well together, it's hard for blood glucose to move from your blood into cells of your body the way it should.

**2** Your body makes insulin, but not as much as you need



When there are not enough keys to open all the locks, it's hard for enough blood glucose to move from your blood vessels into the cells of your body.

 Because of these problems with insulin, the level of blood glucose in your blood can get too high

When your blood glucose stays too high for a long time, it can lead to serious health problems. To stay healthy with Type 2 diabetes, you must keep your level of blood glucose under control.

To help control your level of blood glucose, it's important to watch what you eat and to stay physically active. Some people with Type 2 diabetes take medications as well. Be sure to see your doctor regularly and follow your doctor's instructions for checking and controlling your level of blood glucose.