

# type 2 diabetes

is a condition where glucose builds up in the bloodstream due to insulin resistance and low insulin levels

## Pancreas

The pancreas produces insulin and glucagon

## Insulin

Insulin is the "key" that unlocks the cells to allow glucose to enter and provide needed energy

## Cells

Your body is made up of cells, and those cells need glucose for energy

**Insulin**  
lowers  
blood glucose

**Glucose**  
The food you eat gets broken down into glucose

Glucose cannot enter most cells directly

**Glucagon**  
raises  
blood glucose

**Glucagon**  
Glucagon is the "key" that unlocks glucose storage units in the liver

Your "blood glucose" (or "blood sugar") is a measure of the amount of glucose in your bloodstream at any given time

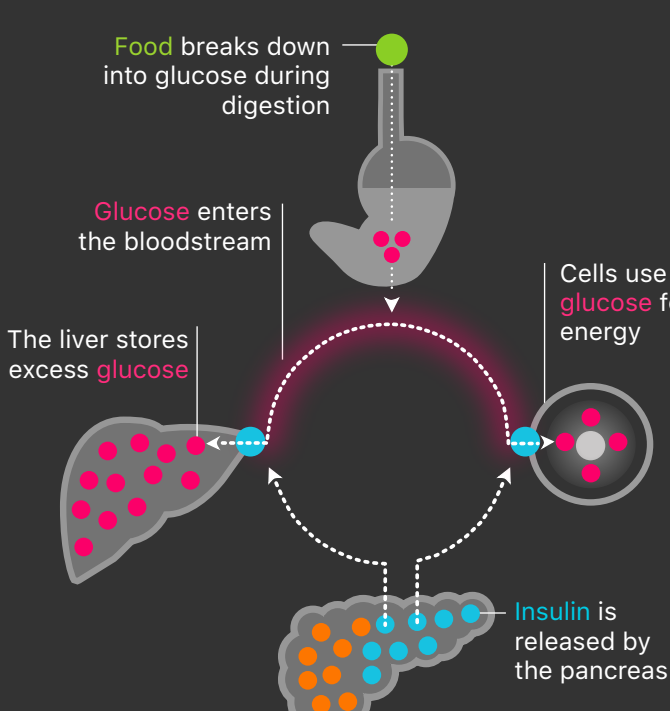
Glucagon stimulates the liver to release glucose when blood glucose levels are too low to provide energy for cells

## glucose-insulin balance

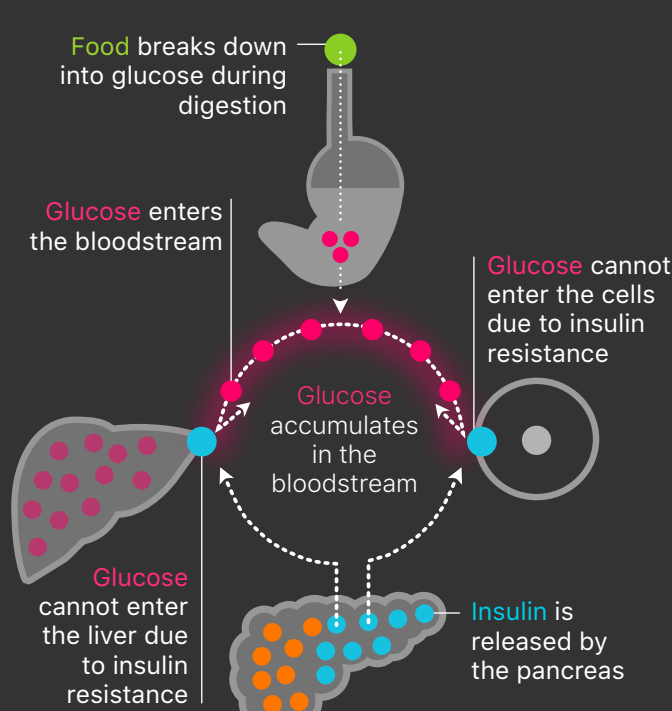
In people without diabetes, insulin and glucagon work together to keep blood glucose in a tight range (70-140 mg/dl, 3.9-7.8 mmol/l).

When you have T2D, the glucose-insulin balance is off and blood glucose levels rise too high.

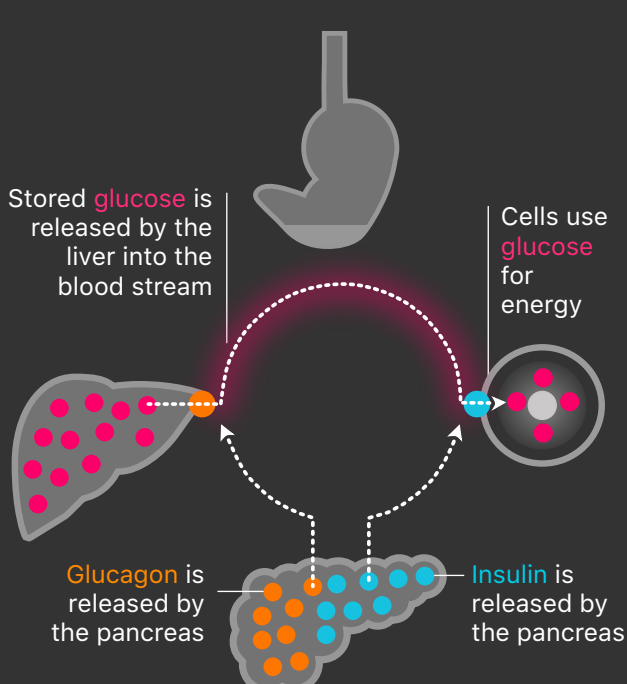
### Meal (no diabetes)



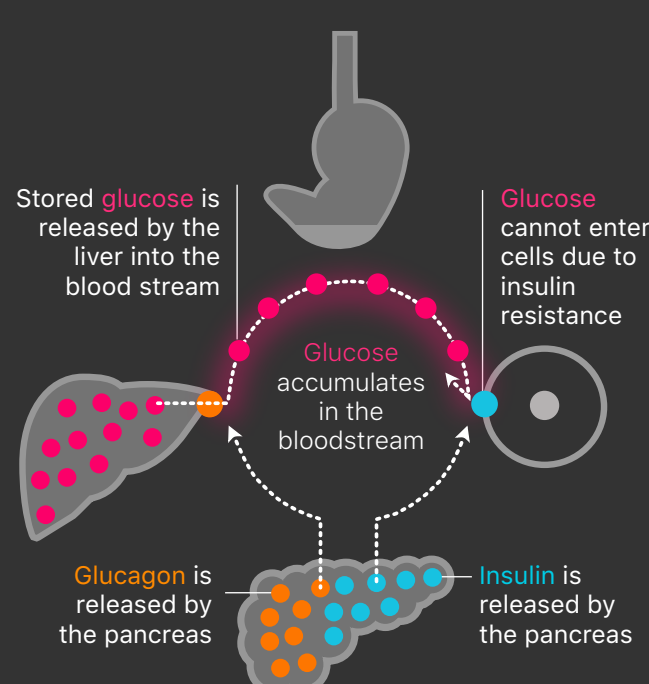
### Meal (T2D)



### Fasting (no diabetes)



### Fasting (T2D)



## How to help your body achieve balance:

### Eat Low Carb Foods

Low carb diets can help you lose weight, lower blood glucose levels, and decrease your insulin/medication needs.

### Lose 7% Body Weight

Losing just 7% of your body weight can reduce your insulin resistance.

### Walk for 30 Minutes

Walking for 30 minutes at least five days per week decreases insulin resistance and lowers blood glucose levels.

Navigating diabetes, together.

[www.onedrop.today](http://www.onedrop.today)



#### References:

1. Calorie for Calorie, Dietary Fat Restriction Results in More Body Fat Loss than Carbohydrate Restriction in People with Obesity, *Cell Metab.*, Sept 2015, Volume 22, Issue 3, pp 427-436, available at [http://www.cell.com/cell-metabolism/fulltext/S1550-4131\(15\)00350-2](http://www.cell.com/cell-metabolism/fulltext/S1550-4131(15)00350-2).
2. Effects of Low-Carbohydrate and Low-Fat Diets: A Randomized Trial, *Ann Intern Med.*, 2014, Volume 161, Issue 5, pp 309-318, available at <http://annals.org/article.aspx?articleid=1900694>.
3. Carbohydrate Restriction has a More Favorable Impact on the Metabolic Syndrome than a Low Fat Diet, *Lipids*, April 2009, Volume 44, Issue 4, pp 297-309, available at <http://link.springer.com/article/10.1007%2Fs11745-008-3274-2>.
4. The Diabetes Prevention Program (DPP): Description of lifestyle intervention, *Diabetes Care*, 2002, Volume 25, Issue 12, pp 2165-2171.
5. Exercise and Type 2 Diabetes: The American College of Sports Medicine and the American Diabetes Association: Joint Position Statement, *Diabetes Care*, Volume 33, Issue 12, e147-e167.