

# Urban EcoLab Curriculum

<http://www.urbanecolabcurriculum.com>



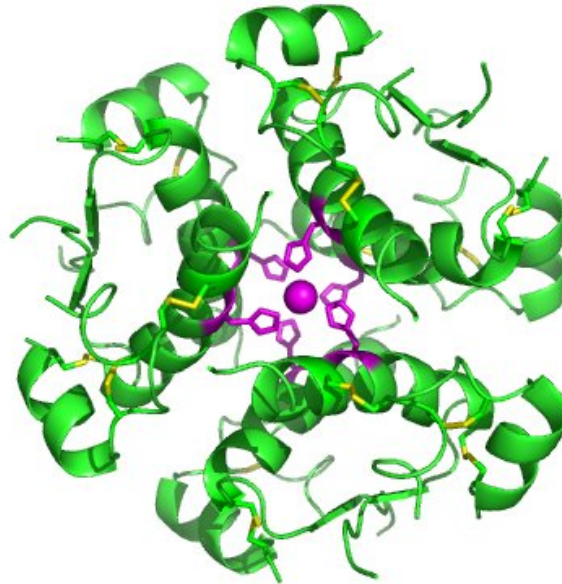
## What is Type 2 Diabetes

### Module 5 Lesson 7



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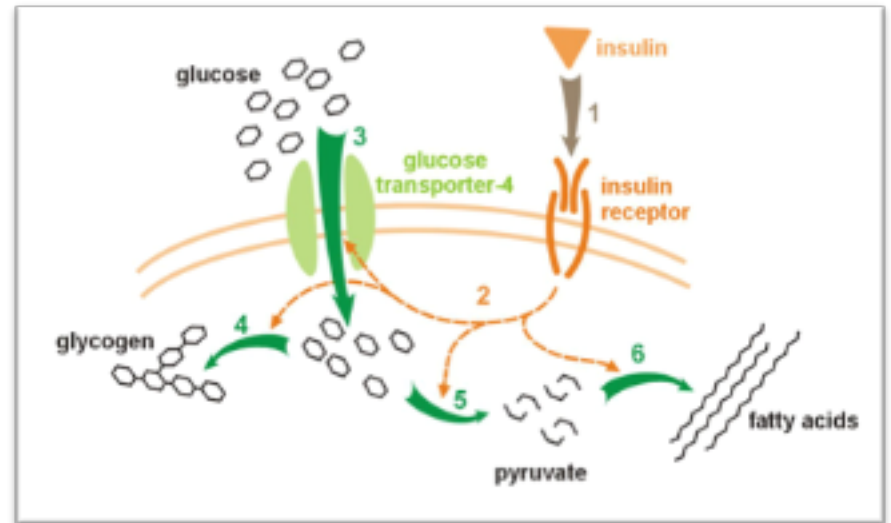
Type 2 Diabetes is a disease in which the body no longer responds to *insulin*.



<https://secure.wikimedia.org/wikipedia/en/wiki/File:InsulinHexamer.jpg>

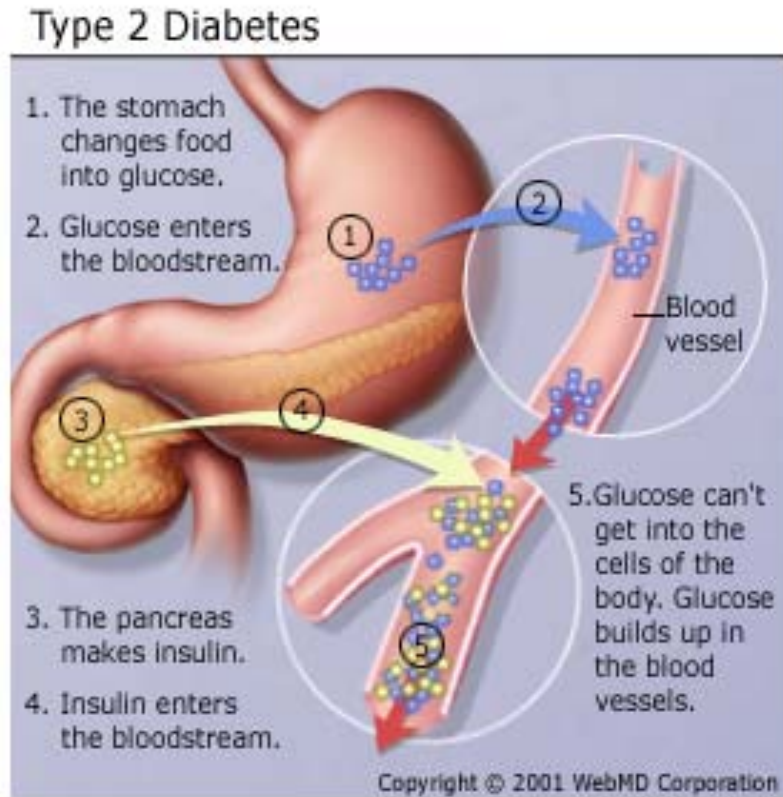
# Why Is Insulin Important?

Insulin is involved in managing the amount of glucose in the blood stream and in helping the body to effectively store glucose.



[http://commons.wikimedia.org/wiki/File:Insulin\\_glucose\\_metabolism\\_ZP.svg](http://commons.wikimedia.org/wiki/File:Insulin_glucose_metabolism_ZP.svg)

# How Does Type 2 Diabetes Work?



<http://diabetes.webmd.com/guide/understanding-diabetes-basics?page=2>

In Type 2 Diabetes, the body either:

- Does not produce enough insulin; or
- No longer recognizes insulin.

When that happens, the body can no longer efficiently regulate glucose in the blood stream.

# What Happens With Type 2 Diabetes?

## Symptoms

- Increased Thirst
- Increased Hunger
- Dry Mouth
- Nausea and Vomiting
- Frequent Urination
- Fatigue
- Blurred Vision
- Numbness of Hands or Feet
- Frequent Infections

## Major Problems

- Dehydration
- Diabetic Coma
- Tissue Damage, such as:
  - Hardening of arteries
  - Stroke
  - Retinopathy (vision loss)
  - Kidney Damage
  - Poor Blood Circulation and Nerve Damage



# Type 2 Diabetes in the US

## Type 2 diabetes in the United States

One in three adults could have diabetes by 2050, compared with today's 1 in 10, according to the Centers for Disease Control and Prevention. Type 2, the most common form of diabetes, can usually be controlled with diet, exercise, weight loss and oral medication.

### Number of people with diabetes in the U.S.

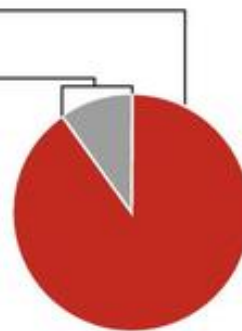
(In millions)



### Percentage of all cases that are Type 1 or Type 2

Type 2:  
90-95%

Type 1:  
5-10%



### Some diabetes-related complications

Number of diabetics who have visual impairment

**3.7**  
million  
(in 2008)

Number of diabetics with cardiovascular disease

**5.9**  
million  
(in 2007)

Number of diabetics who had non-traumatic lower limb amputations

**71,000**  
(in 2005)

Note: Figures shown are for the most recent year available.

Sources: National Institute of Diabetes and Digestive and Kidney Diseases, Centers for Disease Control and Prevention

Graphics reporting by TIA LAI

<http://www.latimes.com/health/lat-b82485127z.1-20101029223751-000gs20101029,0,3776283.graphic>

Los Angeles Times

# Can Type 2 Diabetes Be Cured?

Diabetes can't be “cured,” but it can be managed through:

- Balancing Sugar Intake
- Weight Loss
- Lowering Blood Pressure
- Medication
- Exercise

# How Can Exercise Help Type 2 Diabetes?

- Improving your body's use of insulin.
- Burning excess body fat, helping to decrease and control weight (decreased body fat results in improved insulin sensitivity).
- Improving muscle strength.
- Increasing bone density and strength.
- Lowering blood pressure.
- Helping to protect against heart and blood vessel disease by lowering 'bad' LDL cholesterol and increasing 'good' HDL cholesterol.
- Improving blood circulation and reducing your risk of heart disease.
- Increasing energy level and enhancing work capacity.
- Reducing stress, promoting relaxation, and releasing tension and anxiety.



# What Promotes Exercise In Urban Areas?



<http://www.americantrails.org/resources/health/medmile06.html>

## Urban Green Spaces