

# DIABETES



**Diabetes** is a chronic disease characterized by a high level of glucose in the blood in which the body can't produce or use insulin. Insulin is a hormone needed to convert sugars, starches and other foods into energy needed for daily life.

## TYPES OF DIABETES

**TYPE 1** | The body does not produce insulin. Usually it is diagnosed in children and teenagers.

**TYPE 2** | The body does not produce enough insulin or the cells do not make use of the insulin.

## GESTATIONAL DIABETES

It is diagnosed during pregnancy. It presents a high level of glucose in the blood because the body cannot produce or use all the insulin it needs for pregnancy.



## Diabetes in THE UNITED STATES

According to the National Diabetes Statistics Report in 2014, published in the American Diabetes Association:

- In 2012, approximately 29.1 million Americans had diabetes (9.3 % of the population).
- The prevalence of Diabetes in adults over 20 years or older was 12.3 % in 2012 compared with 11.3 % in 2010.
- It is estimated that about 8.1 million people are undiagnosed.
- A 25.9% of the population are 65 years or older.
- In 2012, 1.7 million new cases were identified.
- Diabetes was the seventh leading cause of death in the United States in 2010.
- According to the Centers for Disease Control and Prevention in 2014, it is estimated that the prevalence of gestational diabetes is 9.2 %.



## Diabetes in PUERTO RICO

According to the national survey "Behavioral Risk Factor Surveillance System" conducted by the Centers for Disease Control and Prevention in Atlanta:

- The prevalence of diabetes in Puerto Rico increased from 10.8 % in 1996 to 12.8 % in 2010.
- During this period (1996-2010), Puerto Rico has been leading in the first position among the US and its territories with the highest prevalence of diabetes.
- From 1989-2008, diabetes occupies the third leading cause of death in Puerto Rico, showing an ascending trend.

## Risk Factors

- Body mass index greater than or equal to 25 kg/m<sup>2</sup>
- Physical inactivity
- Family history
- Race and ethnicity group: african americans, latinohispanics, native americans, native hawaiians, pacific islanders and asian americans
- Gender: men
- Age
- Women who have had babies of 9 pounds or more, or who have been diagnosed with gestational diabetes
- Hypertension
- A1c greater than or equal to 5.7 %
- Obesity
- History of cardiovascular disease

## Symptoms

- Frequent urinating
- Excessive thirst
- Increased appetite
- Weight loss
- Extreme fatigue
- Lack of interest and concentration
- Tingling sensation or numbness in hands or feet
- Blurred vision
- Frequent infections
- Slow healing wounds
- Vomiting and stomach pain
- Dryness of the skin

## Diagnosing Diabetes

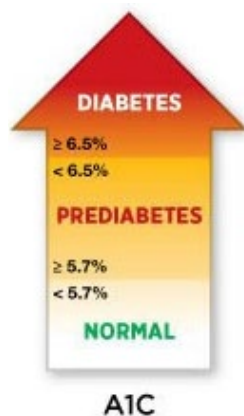
There are several ways to diagnose diabetes. Each test usually needs to be repeated a second time to diagnose diabetes. Testing should be carried out in a health care setting (such as your doctor's office or a lab).

### Tests

#### A1C Test

The A1C test measures your average blood glucose for the past 2 or 3 months. The advantages of being diagnosed by this test is that no fasting or drinking is required.

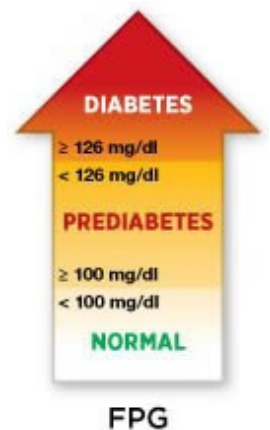
Diabetes is diagnosed at an **A1C  $\geq 6.5\%$**



#### Fasting Plasma Glucose (FPG)

This test checks your fasting blood glucose levels. Fasting means that you must not eat or drink anything (except water) for at least 8 hours prior to the test. This test is performed early in the morning or before breakfast.

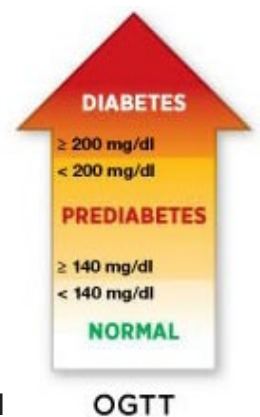
Diabetes is diagnosed at:  
**Fasting blood glucose  $\geq 126$  mg/dl**



#### Oral Glucose Tolerance Test (OGTT)

The OGTT is a two-hour test that checks your blood glucose levels before and 2 hours after drinking a specially formulated drink. It tells your physician how your body processes glucose.

Diabetes is diagnosed at:  
**2 hour blood glucose  $\geq 200$  mg/dl**



## Pre Diabetes

Blood glucose levels are higher than normal but not high enough to be diagnosed as diabetes. It means that you have risk to develop diabetes type 2.

- **A1C Results: 5.7% – 6.4 %**
- **Fasting blood glucose of 100-125 mg/dl**
- **An OGTT 2 hour blood glucose of 140-199 mg/dl**

## General recommendations for managing Diabetes

Diabetes types 1 and 2 cannot be cured but can be controlled. People with diabetes must learn about their condition and how to control it to reduce complications. The treatment consists of: education, diet, exercise, medications and daily monitoring of blood sugar level.

### Education

This is the most important step in knowing your condition and learning how to take care of yourself in order to feel better. Good care lowers the risk of complications.

### Exercise

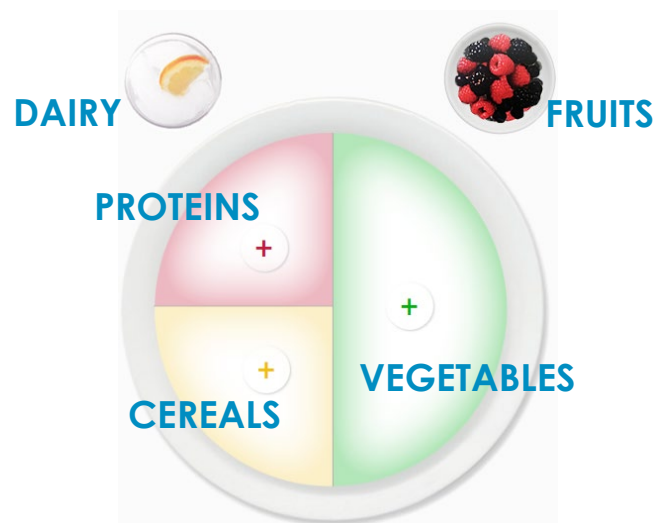
Choose a physical activity that you enjoy such as walking, dancing or jogging, at least three times per week for 15 to 20 minutes. Check with your doctor before getting started with physical activity.

### Medications

Following your established medication therapy will help you maintain, control and prevent complications such as vision, kidney or leg problems. Each patient requires an individualized medication plan; therefore, you should not use another patient's medication even if you have the same condition.

### Diet

Plan your meals. Foods should be low in sugars and fats. It is advisable to eat healthy foods in adequate portions at scheduled times. Also, an evaluation performed by a nutritionist is very important.



### Nutrition

- Fill half of your plate with vegetables:
  - Dark green plants: spinach, broccoli.
- Fill a quarter part of the plate with whole grains foods:
  - Excellent content of fiber: 5 grams or more per serving.
  - Avoid refined flour bread, pastries, cakes.
  - Prefer sweet potatoes instead of potato for its high content of fiber, vitamin A and lower glycemic index.
  - Legumes (beans, green pigeon peas, chick peas): contains a high content of fiber, magnesium, and potassium.
- Fill another quarter of the plate with protein:
  - Choose lean or low-fat meat and poultry.
  - Include fish at least 2 times per week. Fish is an excellent source of omega 3.
  - Nuts contain healthy fats and fiber which provides satiety.
- Add a portion of fruit:
  - Fruits: prefer citrus fruits which are high in fiber and vitamin C: oranges, grapefruits.
- Include fat free or low-fat dairy:
  - Dairy: good source of calcium and vitamin D
- Choose healthy fats such as vegetable oils, seeds, nuts, avocado, among others.
- Take at least 8 glasses of 8 oz of water a day.
- Choose foods with a low content of sugar, sodium, and/or fats:
  - low in sugar: 5 grams or less per serving
  - low sodium: 140 mg or less per serving
  - low fat: 3 grams or less per serving

## Specific recommendations for care of eyes and feet

### Eye care measures

- Keep your blood sugar levels under control.
- Control your blood pressure. High blood pressure levels can make eye problems worsen.
- Quit smoking.
- Visit an eye specialist at least once a year for the dilated eyes test.

### Consult your eye care professional if you have:

- Blurry vision with spots or double vision
- Difficulty reading
- Pain in one or both eyes
- Redness in eyes
- Pressure in eyes
- Other symptoms

### Foot Care

There are many things you can do to keep your feet healthy.

- Keep your blood glucose level in your target range.
- Check your feet every day. Look at your feet for red spots, cuts, swelling, or blisters. If you cannot see the bottom of your feet, use a mirror or ask someone for help.
- Be more active. Plan your physical activity program with professional.
- Wash your feet every day. Dry them carefully, especially between the toes.

- Keep your skin soft and smooth. Rub a thin coat of skin lotion over the tops and bottoms of your feet, but not between your toes.
- Trim your toenails straight across and file the edges with an emery board or nail file.
- Wear shoes and socks at all times. Wear comfortable shoes that fit well and protect your feet.
- Protect your feet from heat. Don't put your feet on hot surfaces; you can possibly get burned.
- Keep the blood flowing to your feet. Elevate your feet when sitting and move them for several minutes. Avoid crossing your legs for long periods of time.
- Visit a foot specialist at least once a year.

### EVENTS

**Encaminada: Encendiendo la Luz por la Diabetes** is the main event of the Puerto Rican Diabetes Association in November, National Diabetes Month. Various elements come together in a friendly atmosphere to guide the community about this condition.

For more information about this event, radio programs and other community services, you can contact the Puerto Rican Diabetes Association at (787) 729-2210 / 1-800-281-0617.

For more information, please call the Health Education Unit in Triple-S Salud at (787) 277-6571.

### References

- National Data Fact Sheet about Diabetes, 2014 (published Jun 10, 2014) <http://www.diabetes.org>
- <http://www2.pr.gov/agencias/diabetes/Documents/Diabetes>
- 2015 American Diabetes Association (ADA) Diabetes Guidelines Summary Recommendations from NDEI



Federal Employee Health Benefit Program