



Corporate Fitness Works

Dynamics of Diabetes



Agenda

- Diabetes Overview
- Disease Process
- Types of Diabetes
- Blood Glucose Levels
- Management



A hand holding a blue marker is writing the word "DIABETES" in blue capital letters on a white surface. A blue horizontal line is drawn underneath the word.

DIABETES

A disease in which the body does not produce enough or properly use insulin (a metabolism regulating hormone) that is needed to convert sugar, starches and other food into energy for daily life.

~American Diabetes Association





Did You Know...

- **29.1 million** people (9.3%) of the U.S. population have diabetes.
- An estimated **86 million** Americans have pre-diabetes (early Type 2 diabetes).
- **9 out of 10** do not know they have pre-diabetes.



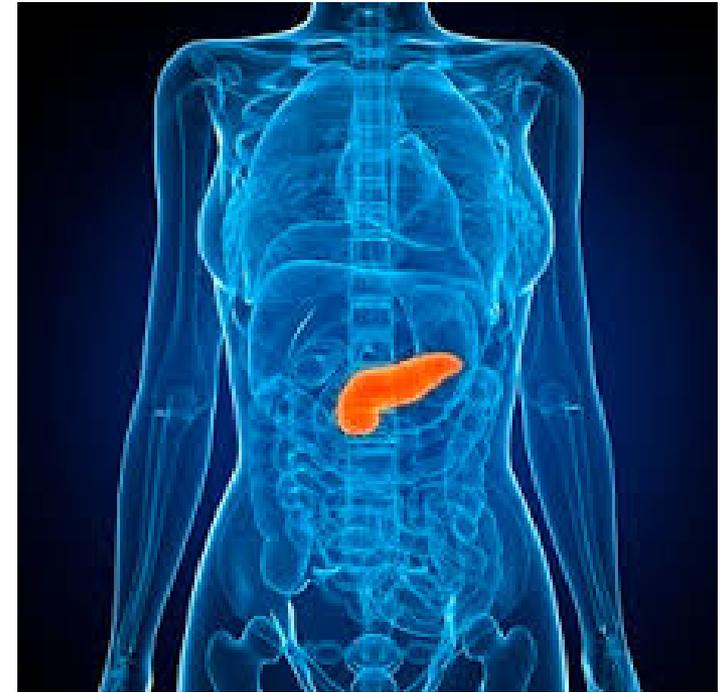


Terms to Know

Glucose

Pancreas

Insulin





Diabetes Disease Process

1. When you eat, your intestines break down the food into sugar.
2. Insulin allows the sugar to move from the bloodstream into your cells, where it is used for energy.
3. Your pancreas makes and releases insulin when the sugar passes through the bloodstream.
4. If your body cannot produce insulin or you are insulin resistant, the sugar stays in the bloodstream where it will travel to the body's organs causing damage.



Diabetes Disease Process



<http://bcove.me/vj6er49m>



Types of Diabetes

- **Type I**
- **Type II**
- **Pre-Diabetes**
- **Gestational Diabetes**



Type I

- 5 – 10 % of diabetic population
- Body does not produce insulin
- Potential Causes/Risk factors
 - Genetics
 - “Environmental Triggers”
 - Unidentified Virus triggers, an autoimmune reaction



Type II

- 90% – 95% of diabetic population
- The pancreas still produces insulin, but cells resist it.
- Risk Factors
 - Non- modifiable
 - Lifestyle Factors





Diabetes Symptoms

Type I

- Constant thirst
- Extreme hunger
- Rapid weight loss
- Nausea or vomiting
- Blurred vision
- Lack of energy (fatigue)
- Irritability
- Frequent need to urinate

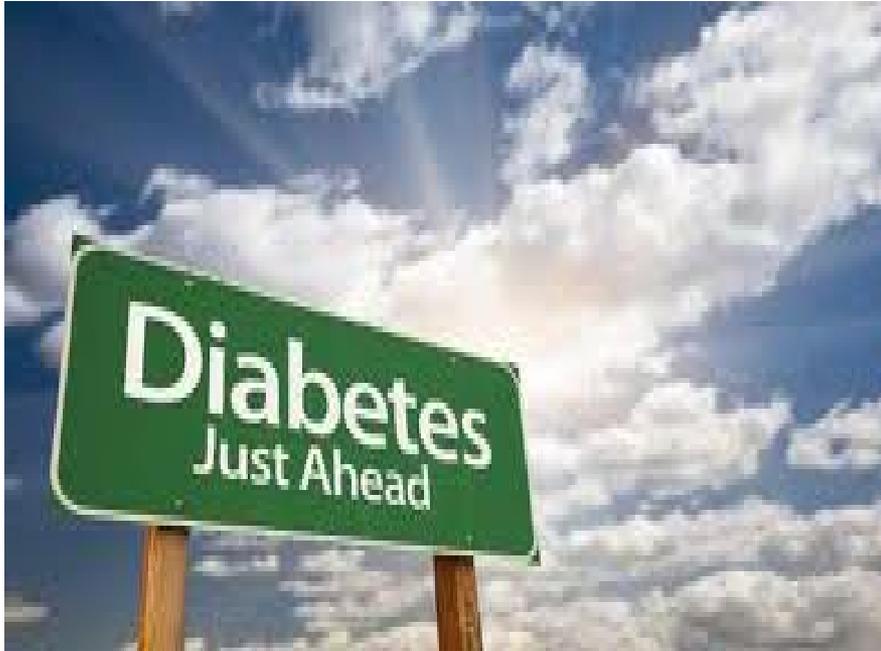
Type II

TYPE I SYMPTOMS *plus...*

- Frequent infections
- Dry, itchy skin
- Numb or tingling hands or feet
- Slow healing wounds or sores



Pre Diabetes



- Blood glucose levels that are higher than normal
- Not yet high enough to be diagnosed as diabetes
- 86 million people in the United States have pre-diabetes
- Research has shown that healthy lifestyle improvements can delay or prevent type 2 diabetes from ever developing





Gestational Diabetes

- Occurs in non-diabetic pregnant women
 - Affects 4% of all pregnant women annually in US (roughly 135,000 cases)
- Develops during late pregnancy
- Cause is unknown, but current research shows:
 - Hormones from placenta block insulin response in her body (insulin resistance)
- Poorly controlled GD can have adverse effects on the mother and baby





Blood Glucose Levels

Talk to your doctor about a Fasting Blood Test

>126 **Diabetes**

100 - 125 **Pre-diabetes**

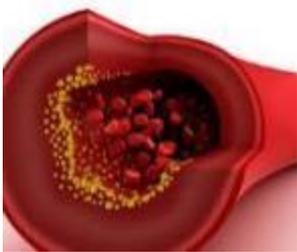
70 - 99 **Normal**

Blood glucose of < 70 is too low!



Why is Diabetes Dangerous?

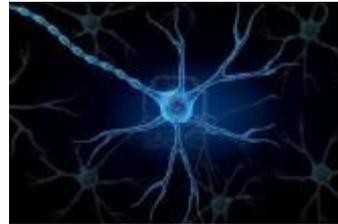
Arteries



Heart



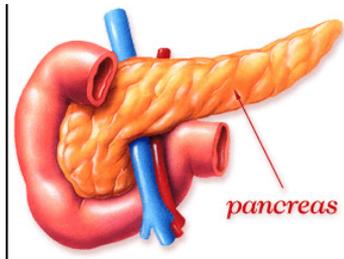
Nerves



Brain



Pancreas



Eyes



Kidneys



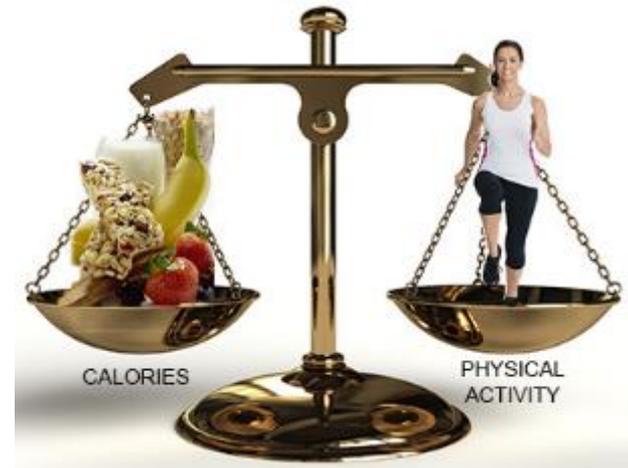
Management of Diabetes

- Weight Management
- Proper Nutrition
- Regular Exercise
- Self Monitoring of Blood Glucose
- Manage Stress
- Quit Smoking
- Medications



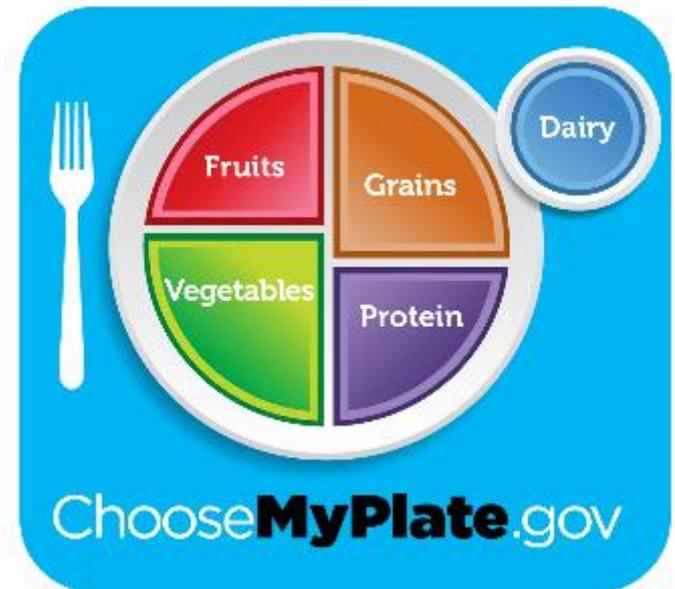
Weight Management

- Caloric Intake
 - Through food you eat
- Caloric Expenditure
 - Through physical activity, thermic effect of feeding , and basal metabolic rate



Choose Nutrient Dense Foods

- Variety of fruits and vegetables
- Whole grains
- Lean protein
- Low-fat dairy products
- Healthy fats





Proper Nutrition Fact of Myth?

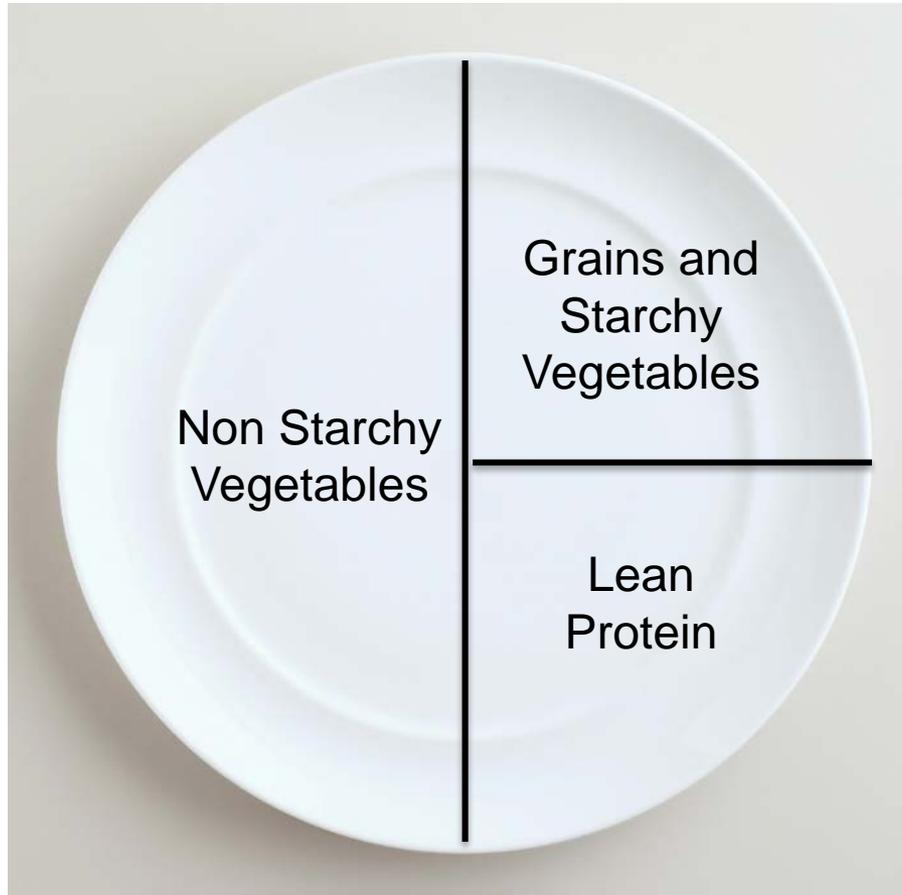
People with Diabetes need special Diabetic foods.

Myth





Plate Method



“Carb Counting”

45 – 60 grams at each meal

15 – 20 grams at each snack

- Reading food labels is a great way to know how much carbohydrates is in a food.
- The two most important lines with carbohydrate counting are the serving size and the total carbohydrate amount.

Serving Size 1 cup (228g)	
Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
<i>Trans</i> Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%





“Carb Counting”

There are about 15g of carbohydrate in:

- 1 slice (1oz) of bread
- 1 six inch tortilla
- ½ cup of black beans or starchy vegetable
- ¼ (3 oz) of a large baked potato
- ½ cup of canned or frozen fruit
- 1 (4 oz) small piece of fresh fruit
- 4 - 6 crackers





Physical Activity Benefits

- Weight Management
- Improves blood glucose levels
- Decreases risk for diabetes, high blood pressure, heart disease, and some cancers
- Boosts Mood, reduces stress
- Improves sleep



Regular Physical Activity

- Anything that gets you moving!



Aerobic



Resistance



Flexibility





Physical Activity Recommendations

- 30 – 60 minutes of moderate activities on most days of the week
- Strength training 2 – 3 days/week
- Stretch 5 – 7 days/week



Exercise Precautions

- Obtain doctor's permission
- Wear appropriate footwear
- Check blood glucose levels frequently
- Carry a snack with you
- Wear an ID bracelet
- Be aware of neuropathy



Continual Management

- Self Monitoring
- Regular Check-ups
- Manage Stress Effectively
- Smoking Cessation
- Medications and Insulin Therapy
 - Talk to your doctor



Thank You!

References

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002194/>

www.diabetes.org

<http://www.cdc.gov/diabetes/consumer/learn.htm>

