Pre Diabetes, Type 2 Diabetes, Insulin Resistance, Fatty Liver: Management and Reversal through Lifestyle and Nutrition

Peachy Seiden, Registered Dietitian-Nutritionist
Peachy’s Health Smart, LLC
Objectives

The attendees will:
- Understand the disease Type 2 Diabetes
- Discern the difference between Type 1 & Type 2 Diabetes
- Understand the development of Metabolic Syndrome and Insulin Resistance
- Recognize how Type 2 Diabetes relates with Neurological issues
- Revamp recipes to healthier versions
- Learn basic information on how nutrition affects diabetes
Overview

- Type 1 & Type 2 Diabetes
- Test to help control Blood Sugar Levels
- Insulin Resistance
- Carbohydrates
- Proteins
- Sweeteners & Artificial Sweeteners
- Exercise
- Meals
Type 1 vs Type 2

- Pancreas produces little or no insulin
- Causes: Auto Immune Disease, Viral, Bacterial
- Insulin almost always needed
- 5% of Diabetics

- Too much insulin
- Causes: Insulin resistance
- Can be controlled without insulin injections
- Comprises 95% of Diabetics
- Can be reversed and controlled with diet and exercise
Type 2 Diabetes

- Body’s inability to properly use insulin to move glucose into the cells; sugar and starches (glucose) are not used to create energy (person gets tired and thirsty)
- Most begin as insulin resistance
- Complex metabolic disorder involving many organs and tissues
Insulin Resistance

- Insulin receptors on cell’s surface do not respond to insulin → pancreas assumes cells need more glucose and produces more insulin, leading to: high blood glucose and high blood insulin

- Can be **induced by high fat levels** (triglycerides)

- Can be **corrected by regular exercise**
How Insulin Works

Diagram showing the process of how insulin works:
- Glucose and insulin are outside of the cell.
- Insulin binds to the insulin receptor, opening the glucose channel.
- Glucose enters the cell through the glucose channel.
- Glucose is inside the cell.

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10/4/2018
What Causes Insulin Resistance

- **Inactivity:** muscles uses glucose, and if we don’t move the body will conserve glucose
- **Chronic diet of empty calories and readily absorbed starches and sugar**

**RESULT:**
- High Insulin levels
- Increased appetite,
- Belly weight gain

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Facts about Type 2 Diabetes

- From 1983 to 2008, worldwide diabetes incidence has increased 7x from 35 to 240 million. In just the three years from 2008 to 2011, we have added another 110 million to the diabetic list.

- Even scarier is the fact that increasingly large numbers of small children as young as eight are being diagnosed with Type 2 diabetes.
More Facts on Type 2 Diabetes

- Research suggests that 1 out of 3 adults has prediabetes. Of this group, 9 out of 10 don't know they have it.

- 29.1 million people in the United States have diabetes, but 8.1 million may be undiagnosed and unaware of their condition.

- About 1.4 million new cases of diabetes are diagnosed in United States every year.

- More than one in every 10 adults who are 20 years or older has diabetes. For seniors (65 years and older), that figure rises to more than one in four.

- Cases of diagnosed diabetes cost the United States an estimated $245 billion in 2012. This cost is expected to rise with the increasing diagnoses.
Diabetes is Very Costly

- The economic burden of caring for people with pre-diabetes and diabetes will be $3.5 trillion over 10 years.
- American Diabetes Association states that the average cost of diabetes per person (in the US) is over $11,000/year
- Imagine paying that money out of your own pocket. Not good.
An eye-opening study published in March 2011 in the Journal Diabetologia revealed that diet changes alone (protein shake, low glycemic foods, plant-based low-calorie diet) in diabetics reversed most features of diabetes within one week and all features by eight weeks.
Findings, continued

- The beta cells - the pancreas’ insulin producing cells - woke up, and the fat deposits in the pancreas and liver went away.

- Blood sugars normalized in just one week, triglycerides dropped by 50% in one week and reduced 10-fold in three months.
Type 2 DM: Possible to Reverse

- September 2002 study in Diabetologia (again), compared traditional individual (and medicated) diabetes care with a model in which routine follow-up was managed by interactive group visits, diabetes education, and simple lifestyle modifications.
Type 2 DM: Possible to Reverse

THE RESULTS:

- Glycated hemoglobin (A1C) decreased
- HDL cholesterol (the good kind) increased,
- Body mass index (BMI) decreased, and knowledge about diabetes increased in the experimental group but not the control group.
- And its cost was substantially less than relying on Metformin and other meds.
Diabetes and Neurological Problems

Recent studies:
- supplementing diabetics with inositol improved neuropathy
- Providing 900 mg vitamin E to diabetics improve nerve conduction velocity

Inositol helps improve nerve function, convert food to energy; found in beans, whole grains, cantaloupe, liver, all citrus
Diabetes and Neurological Problems

- **Diabetic Polyneuropathy** - involves nerves supplying sensations to the feet
- **Nerve damage caused microvascular fiber damage**
Side Effects of Diabetes 2 Per Year

Currently, Type 2 Diabetes causes:
- 50,000 kidney failure
- 75,000 lower extremity amputations
- 650,000 cases of vision loss
- 75,000 deaths
Risk for Diabetes 2

- Extra belly fat
- Family history of diabetes
- Gestational diabetes
- Ethnic group (Asian, Hispanic, African American, Native American, Middle Eastern)
- High triglycerides (>150 mg/dl) or
- Low HDL (<50 mg/dl)
- High blood pressure

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Major Risk: High Fat High Sugar Diet

- Type 2 Diabetes is a consequence of prolonged poor dietary choices
To Find out if you have Type 2 DM

- Glucose Tolerance Test: 75-gram GTT will measure **BOTH fasting glucose and insulin**
- Repeat GTT one and two hours later
- Fasting **blood sugar should be less than 100 mg/dl**
- One and two hour **sugar levels should be less than 130 mg/dl**
- Fasting **insulin should be less than 10**
- One and two hour levels **insulin should be less than 35**
- **Triglycerides should be less than 150 mg/dl**
- **HDL should be over 50 mg/dl,**
- **Triglyceride to HDL ratio should be less than four.**
- **These ranges are meaningful only if you are on no medication**
A1C reflects average glucose levels during the past 6-8 weeks. It is a useful indicator of how well blood glucose is controlled during this time period. It is also known as Hemoglobin A1C, Glycosylated hemoglobin, Glycated hemoglobin, and Glycohemoglobin.
Diet for Prevention and Treatment

- Improve insulin resistance
- No simple sugars
- Clean, unprocessed foods
- Only good fats
Focus on:

- Low glycemic index foods
- High fiber
- Plant-based diet of vegetables, beans, nuts, fruits
- Good quality animal protein (if desired)
- Home cooked meals

You can get specific recipes and meal plans from a Registered Dietitian-Nutritionist

Or see Peachy’s website: PeachysHealthSmart.com
# Glycemic Index

Low GI (<55), Medium GI (56-69) and High GI (70+)

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Prevent, Reverse Type 2 Diabetes

1. Boost Your Nutrition
2. Regulate Your Hormones
3. Reduce Inflammation
4. Improve Your Digestion
5. Maximize Detoxification
6. Enhance Energy Metabolism
7. Soothe Your Mind

The 7 Keys to Curing Diabesity
Reversing Diabetes

We can delay or prevent complications of diabetes, such as progressive damage to the blood vessels, kidneys and eyes by reversing Type 2 Diabetes through:

1. Good Nutrition, which will in turn
2. Regulate hormones and
3. Reduce Inflammation
4. Improve our digestion
5. Detoxification
6. Enhance energy metabolism
7. Soothe the mind

**Caloric restriction** - blood glucose levels can normalize within a week AND will result in fats being pulled out of the muscles, liver and pancreas.

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Nutrition: most Important

- Eat fresh whole foods, no packaged foods
- Avoid sugar and its relatives
- **NO** artificial sweeteners
- **NO** high fructose corn syrup, *Read labels*
- **NO** hydrogenated fats and refined cooking oil
- **NO** foods with preservatives, artificial color
- Focus mostly on: plant based food, greens, nuts, seeds, roots and berries
- Take nutritional supplements

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Soothe the Mind

- Take deep long breaths
- Avoid draining people and situations
- Relaxation techniques; relaxation music
- Self massage
- Yoga
Alcohol and Diabetes

- **Potential health benefits of alcohol**
  Some studies have shown: light to moderate alcohol consumption may reduce the risk of cardiovascular disease, with mixed results.

- Most of the positive effects from drinking alcohol involve increasing high-density lipoprotein (HDL) cholesterol levels—by up to 12%.

- Red wine is the most cardioprotective form of alcohol.

- Another study: People who drank a moderate amount of alcohol had the best A1c (average blood glucose) levels, when compared to people who either abstained from alcohol or drank heavily.

- Some evidence also shows that moderate drinking reduced the incidence of diabetes development by 33%–56%.

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Amount of Alcohol

- Amount of alcohol should be ZERO for 6 weeks then may limit yourself to 2-3 drinks per week.

A drink is:
- 12 fluid ounces (fl oz) of beer
- 5 fl oz of wine
- 1½ fl oz of 80-proof distilled spirits
- 1 fl oz of 100-proof distilled spirits
Exercise and Diabetes

- **Walking:** Take a 30-minute walk every day. You do not need to make this a special event or a diversion from your normal routine. Walk to shops or the library, or even to see your doctor.

- **Swimming:** Start or resume swimming. Aim for 30 minutes every day.

- **The gym:** Join a gym.

- **Gentle exercises:** Take up tai chi or yoga. These are gentle exercises that do not strain the heart.

- **Effort level:** Always start exercising at a level within your capacity and increase gradually.

- **Warm-ups:** Before each session, warm up for 5–10 minutes.
Check Blood Glucose Levels

**before exercise**

- Check before and after your exercise session. This helps you decide whether your level is too high to exercise safely.

- To avoid hypoglycemia, the best time to exercise is 1–2 hours after a meal. If you like to exercise in the morning, eat a meal before you begin.

- **Hydration:** Drink about 2 cups of water before you exercise. Sip water throughout your exercise routine, drink 2 cups after you finish.
Bitter Melon and Diabetes

- Several of the chemicals in bitter melon are believed to lower blood glucose by:
  - Increasing uptake of glucose from the tissues
  - Increasing storage of glucose in the liver and muscle
  - Enhancing the oxidation of glucose
  - Increasing insulin secretion
  - Inhibiting the enzyme involved in glucose production
Other Bitter Melon Health Benefits

- Stomach and intestinal troubles
- Ulcers
- Colitis
- Constipation
- Intestinal worms
- Kidney stones
- Fever
- Psoriasis
- Liver disease
- HIV/AIDS
- Abscesses and wounds (topically)
- Good source of Vit A and C and Potassium
My Bitter Melon Vine

This summer

One summer day

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Fiber and Diabetes

- Soluble fiber lowers elevated blood sugar
- Fruits and berries
- Flax seeds, Nuts and other seeds
- Herbs
Carbohydrates

- Choose the grainiest and seediest breads
  - Whole Spelt, Quinoa, Brown, and Black rice
- Sweet potatoes, Parsnips, Kohlrabi
- Beans and legumes
- All vegetables esp. Cruciferous vegetables
- Cold climate fruits
Healthful Carbs
Proteins

Due to link of diabetes and heart disease:

- Avoid high fat meats
- Focus on plant proteins
- Fish and Seafood
- Small amounts of poultry
- Eggs

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More Protein foods

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Bring health home: Cook

- Healthy Cooking Classes,
- Saturdays 12:00-1:30 PM
Healthy Recipe of the Day
An Easy Peachy Side

Potatoes, Sweet Potatoes, Kabocha Squash, Onions, Peachy’s Herbs
Cook Chopped Onions and Garlic in EVOO
Cut sweet potatoes, kabocha squash and potatoes (large dice)
Add 1 tbsp Peachy’s Mixed Herbs and Squash
Cover with Lid, on medium low
Stir Every Now & Then
Cook for 10-12 minutes
Mix ‘em up! Add S&P as desired
Serve, Enjoy!!
Email Peachy: peachyseiden@gmail.com
Website: www.PeachysHealthSmart.com
Or Google Peachy Seiden!!! If you forget