Diabetes: What is it?

Diabetes is a group of diseases where blood glucose (commonly blood sugar) is effected. Glucose is an important source of energy for the body and especially the brain. There are different types of diabetes (type 2, type 2 and gestational) but in all of them there is too much glucose in the bloodstream. Progression of this disease may lead to serious complications.

In the United States 18.8 million people have been diagnosed with diabetes, and there are thought to be another 7 million people with undiagnosed cases. To add to that, close to 80 million people have pre-diabetes. (diabetes.org)

Pre-Diabetes

Pre-diabetes is when blood glucose levels are higher than normal but not yet high enough to be called diabetic. In many cases, if pre-diabetes is detected and lifestyle changes are followed, diabetes (type-II) may not develop.

Type 1 and Type 2 Diabetes

Insulin is involved in taking glucose from the blood and transporting it into the cells for storage. With type 1 diabetes there is a total lack of insulin. With type 2 diabetes there is too little insulin or insulin is used ineffectively.
Risk Factors for Type 2 Diabetes

The factors listed below may increase your risk for developing type 2 diabetes:

**Body Composition**—Primary risk factor; the more fatty tissue the body has, the more resistant to insulin the body becomes.

**Fat Distribution**—The more fat the body stores around the abdomen, the higher the risk.

**Inactivity**—Being less active creates greater risk.

**Family History**—If parent or sibling has diabetes risk increases.

**Race**—Certain races have increased risk of diabetes including African Americans, Hispanics, American Indians and Asian-Americans.

**Age**—After age 45 there is an increased risk.

**Pre-diabetes**—As stated before, pre-diabetes is an elevated level of blood sugar not yet classified as type 2 diabetes, which may lead to a diagnosis of type 2 diabetes.

**Gestational Diabetes**—If you are diagnosed with gestational diabetes developed during pregnancy, there is an increased risk to develop type 2 diabetes later.

Screening

If you think you may have some of the symptoms previously listed or may be at an increased risk, it may be necessary to be screened. Here are some of the different types of tests used to determine diabetes:

**Glycated hemoglobin (A1C) test:** This tests average blood sugar levels over the past two or three months. It measures the amount of glucose attached to the blood cell (specifically hemoglobin). A1C level above 6.5% (on two separate tests) indicates diabetes, 5.7–6.4% indicates pre-diabetes, and normal is below 5.7%.

**If the A1C test is not available there are other options:**

- **Random blood sugar test:** This is a blood sugar test taken at a random time.
- **Fasting blood sugar test:** This is a blood sugar test after a night of fasting.
- **Oral glucose tolerance test:** This is a blood sugar test after a night of fasting and then monitored after given a sugary drink.

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<tr>
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<th>Diabetes</th>
<th>Pre-diabetes</th>
<th>Normal</th>
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<tbody>
<tr>
<td>Random</td>
<td>200 and over</td>
<td>140–199</td>
<td>under 140</td>
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<tr>
<td>Fasting (2 tests)</td>
<td>125 and over</td>
<td>100–125</td>
<td>under 100</td>
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<tr>
<td>Oral Glucose (2 hrs)</td>
<td>200 and over</td>
<td>140–199</td>
<td>under 140</td>
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All numbers are in milligram per deciliter (mg/dl).

*source: (mayoclinic.com)

Whether you currently have pre-diabetes, type 2 diabetes, or just want to lead an overall healthy lifestyle, turn to page 3 for more information about maintaining and achieving the following:

- Healthy blood glucose levels
- Normal cholesterol and triglyceride levels
- Healthy blood pressure
- “Ideal” body weight

*This newsletter is for illustration purposes only. Remember, it is always important to check with your doctor if you show signs and symptoms of diabetes.
Maintaining blood sugar levels: carbohydrates have the greatest impact on blood sugar so quantities need to be monitored. Pasta, rice and white bread (and obviously soda, candy and sweets) can cause spikes in blood sugar. Instead try whole grain pasta, brown rice and whole wheat bread instead of the previously mentioned items. They break down more slowly and help keep blood sugar more stable.

Using the glycemic index can help you pick out which foods are better for blood sugar maintenance. It is designed to give information about how long it takes for sugars to enter your bloodstream. The lower the score the slower the food is broken down, and this causes a steady flow of sugar into the bloodstream instead of a sugar spike.


Achieve and Maintain Normal Cholesterol and Triglyceride Levels

Eating whole grain products (whole wheat bread, cereals, whole wheat pasta, brown rice) can aid in consumption of fiber, which can help in lowering cholesterol and triglyceride levels. Also, decrease your intake of saturated fat by consuming lean meats (especially fish and skinless chicken), olive or canola oil, and low fat milk and dairy products instead of fatty meats, butter and full-fat milk products.

Achieve and Maintain Normal Blood Pressure Levels

Control blood pressure: Consider trying the DASH diet plan which targets eating whole grains, poultry, fish, and nuts and has reduced amounts of fats, red meats, sweets, and sugared beverages. By limiting the amount of added salt in the diet, you can decrease your chances of developing high blood pressure. Try adding spices and herbs, or Mrs. Dash products to your cooking instead of salt.


Achieve and Maintain “Ideal” Body Weight

Achieving an ideal body weight is not always an easy thing to do. In fact, weight is just a number. Instead of placing importance on how many pounds the scale reads, ask yourself how you feel in your body. Remember that losing just a bit weight and maintaining that loss can lead to better health outcomes. Michael Stack will discuss the importance of exercise related to diabetes on page 6.
Here are some smart and healthy recipes for anyone, but are especially good for those with Diabetes:

**Citrus Tilapia**

1. Preheat oven to 350°F. Coat baking sheet with cooking spray and set aside.
2. Rinse fish under cold water and pat dry with paper towels.
3. Arrange fish, in single layer, on baking sheet.
4. In small bowl, mix dill, paprika, salt, and pepper. Sprinkle over fish, then spray lightly with cooking spray.
5. Bake until fish flakes easily with a fork, about 10 minutes.
6. Serve with 2 lemon quarters

**Ingredients:**
- 4x4 oz tilapia filets
- 1 tsp dried dill weed
- 3/4 tsp paprika
- 1 lemon or lime (cut in quarters)
- Salt and pepper to taste
- Cooking spray

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**Chicken Cacciatore (Hunter’s Chicken)**

Ingredients:
- 3 1/2 lbs. skinless chicken breast
- 2 tbsp. olive oil
- 1 clove garlic
- 1 tsp. oregano
- 1 1/2 c. sliced mushrooms
- 1 (16 oz.) can stewed tomatoes
- Salt, pepper and parsley as needed

Brown chicken in oil with garlic. Before turning, sprinkle with oregano, salt and pepper. Remove garlic. Add mushrooms, brown lightly. Add tomatoes. Cover and simmer 30 minutes, uncover. Continue cooking until sauce is reduced to consistency desired and chicken is very tender. Garnish with parsley.

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**Black Bean Burger**

Ingredients:
- 1 16 ounce can of black beans rinsed and drained
- 1/2 green pepper finely diced
- 1/2 onion finely diced
- 3 cloves of garlic minced
- 1 egg
- 1 tbsp cumin, and chili powder
- 1/2 cup bread crumbs

After draining and rinsing the beans, put into a bowl and mash with a fork. Next add the finely diced green pepper, onion, minced garlic, cumin, chili powder and bread crumbs. Mix together and add the egg as mixing. To cook, form into patties (4) and place in oven on aluminum foil sprayed with cooking spray. Bake around 10 minutes on each side oven at 375.

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Recipes from dLife.com, diabeticgourmet.com, allrecipes.com
Want to make healthier choices? See the *Eat this, Not That* list below.
Food Gatherers, ann arbor’s 107one and Kroger are delighted to announce that we have met our 200 ton food and fund drive goal. Following the final Rockin’ for the Hungry broadcast on Sunday, December 9, annarbor’s 107one continued a “Post-Rockin’” campaign urging donors to make donations on Food Gatherers’ website.

Online gifts, combined with two significant recent gifts, brought the total up to 200 tons.

Exercise!

What if I told you there is a disease that afflicts nearly 25 million Americans and this disease leads to blindness, kidney and nerve disorders, and even limb amputation. What if I told you that nearly one-quarter of those who suffer from this disease don’t even realize they have it.

Sounds scary, doesn’t it? Now what if I told you this disease was nearly entirely treatable by diet and exercise, would you believe me? Sounds a little hard to believe, but is absolutely true for Diabetes.

First, I should clarify we’re talking about the behaviorally-induced type 2 diabetes that is characterized by the ineffectiveness of insulin (a storage hormone) on the cells of the body to store sugar properly. As opposed to type 1 diabetes, an autoimmune disorder, that destroys the cells that make insulin. Type 2 diabetes is largely caused by poor eating and exercise habits, type 1 diabetes is something you’re born with.

Although there are a host of medicinal treatment options for type 2 diabetes, all healthcare professionals universally agree exercise is one of the most effective treatments for type 2 diabetes. How effective? Well, effective enough to nearly eliminate need for any medicinal treatment.

The mechanism by which this occurs is quite simple. With type 2 diabetes, insulin is rendered ineffective at the cellular level. Insulin is like the key that unlocks the doors to all the cells of body to store nutrients (like sugar). Essentially, with type 2 diabetes the key has been used so many times it gets worn out and doesn’t work anymore. This is where exercise steps in, as there’s another way to unlock the door to the cells of our body.

Exercise acts to “kick in” the door on the cells of our body forcing the sugar in, thereby reducing the need for insulin to unlock the door. This is referred to clinically as non-insulin dependent glucose uptake, and it is the very reason exercise is such an effective treatment for type 2 diabetes.

Research suggests that for prevention and treatment of type 2 diabetes, individuals should engage in approximately 150 minutes of aerobic exercise per week (spread out over 3-4 days, with no more than 48hrs between workouts). This exercise could be walking, bike riding, using an elliptical trainer, swimming, or any rhythmic continuous movement you enjoy. You should increase your heart rate and breathing rate significantly, as well as break a sweat. Further research suggests that the addition of resistance or circuit training 1-2 days per week (training all the major muscle groups of the body) can greatly augment the benefits of aerobic training, leading to even better management and prevention of type 2 diabetes.

This is a no-brainer folks; get out, get moving, and get rid of your type 2 diabetes.

By Michael Stack, BS CFP CSCS*D, Exercise Physiologist and Owner of Applied Fitness Solutions (www.appliedfitsolutions.com), to contact Michael you can email him at stack@appliedfitsolutions.com or call 734-994-8570.