Welcome to Super yoUniversity! For six weeks we will be exploring ways to empower our bodies and minds with super skills that will enable us to fight the “villains” that undermine our health. Each week you will receive a packet of information that focuses on a different “villain.” The first page of your packet has seven tickets with activities based on the information in the rest of the packet. Complete as many of these activities as you like. Then fill out the tickets, cut them apart and submit them in the box located at our Information Desk. Alternatively, you can fill out an online version of the tickets by visiting our web page: www.jesspublib.org. A PDF version of the packet is available on our web page as well. For every ticket you submit, you will receive an entry into our drawing to win a $250 gift card to Hibbett Sports in Nicholasville. Good luck in becoming a more super you!

**Lesson 3: Fight Against Diabetes (June 22 - June 28)**

**Read the entire Fight Against Diabetes packet.**

Name: ___________________ Phone Number: ___________________

**Avoid all sodas and sweetened beverages for the entire week.**

Name: ___________________ Phone Number: ___________________

**Walk for at least 20 minutes every day of the week.**

Name: ___________________ Phone Number: ___________________

**Try at least 3 of the meals in the Outsmart Diabetes meal plan.**

Name: ___________________ Phone Number: ___________________

**Try one of the diabetes online risk assessment tools or forms.**

Name: ___________________ Phone Number: ___________________

**Try the Wonder Workout at least one time.**

Name: ___________________ Phone Number: ___________________

**Count the carbohydrates & calories in all your foods for one day.**

Name: ___________________ Phone Number: ___________________
Meet the Villain: Diabetes

Our cells depend on a single simple sugar, glucose, for most of their energy needs. That’s why the body has intricate mechanisms in place to make sure glucose levels in the bloodstream don’t go too low or soar too high. When you eat, most digestible carbohydrates are converted into glucose and rapidly absorbed into the bloodstream. Any rise in blood sugar signals the pancreas to make and release insulin. This hormone instructs cells to sponge up glucose. Without it, glucose floats around the bloodstream, unable to slip inside the cells that need it.

Diabetes occurs when the body can’t make enough insulin or can’t properly use the insulin it makes.

One form of diabetes occurs when the immune system attacks and permanently disables the insulin-making cells in the pancreas. This is type 1 diabetes, once called juvenile-onset, or insulin-dependent, diabetes. Roughly 5 to 10 percent of diagnosed diabetes cases are type 1 diabetes.

The other form of diabetes tends to creep up on people, taking years to develop into full-blown diabetes. It begins when muscle and other cells stop responding to insulin’s open-up-for-glucose signal. The body responds by making more and more insulin, essentially trying to ram blood sugar into cells. Eventually, the insulin-making cells get exhausted and begin to fail. This is type 2 diabetes.

Both type 1 diabetes and type 2 diabetes are chronic disease.

Prediabetes — when your blood sugar levels are higher than normal, but not high enough to be classified as diabetes — and gestational diabetes, which occurs during pregnancy but may resolve after the baby is delivered—are both reversible forms of the disease.

This packet will focus on preventing prediabetes and type 2 diabetes.

Harvard T.H. Chan: Simple Steps to Prevent Diabetes
http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/
<table>
<thead>
<tr>
<th><strong>Type 1 Diabetes</strong></th>
<th><strong>Type 2 Diabetes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Your body makes too little or no insulin. Beta cells in pancreas are being attacked by body’s own cells and therefore can’t produce insulin to take sugar out of the blood stream. Insulin is not produced.</td>
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<tr>
<td></td>
<td>Your body can still make insulin, but doesn’t use it properly (insulin resistance). Diet related insulin release is so large and frequent that receptor cells have become less sensitive to the insulin. This insulin resistance results in less sugar being removed from the blood.</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Genetic, environmental and auto-immune factors, idiopathic</td>
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<td></td>
<td>Genetic, obesity, physical inactivity, high/low birth weight, poor placental growth, metabolic syndrome</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>Increased thirst &amp; urination, constant hunger, weight loss, blurred vision and extreme tiredness, glycouria</td>
</tr>
<tr>
<td></td>
<td>Feeling tired or ill, frequent urination, unusual thirst, weight loss, blurred vision, frequent infections and slow wound healing, asymptomatic</td>
</tr>
<tr>
<td><strong>Bodily Effects</strong></td>
<td>Believed to be triggered autoimmune destruction of the beta cells; autoimmune attack may occur following a viral infection such as mumps, rubells cytomegalovirus</td>
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<tr>
<td></td>
<td>Appears to be related to aging, sedentary life-style, genetic influence, but mostly obesity</td>
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<tr>
<td><strong>Estimated Percentage of Occurrence</strong></td>
<td>5% - 10% of the 171 million of people affected by diabetes in 2000</td>
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<tr>
<td></td>
<td>90% - 95% of total cases. Although the projected number of Americans that will have type II diabetes in the year 2030 will double from 171 million to 366 million cases.</td>
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<tr>
<td><strong>Cure</strong></td>
<td>None</td>
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<tr>
<td></td>
<td>There is no cure for type 2 diabetes, although sometimes gastric surgery and/or lifestyle/medication treatment can result in remission. Physical exercise, healthy loss of weight &amp; diet control are advised.</td>
</tr>
</tbody>
</table>

**TWO TYPES OF PROBLEMS IN DIABETES**

1. **Insulin insufficiency**
   - Insulin is not produced.
   - Remaining blood sugar is not converted into usable energy.

2. **Insulin resistance**
   - Insulin resistance results in less sugar being removed from the blood.
   - Cells become resistant to insulin and do not get replenished with energy.

Diffen.com: Type 1 Diabetes VS. Type 2 Diabetes
http://www.diffen.com/difference/Type_1_Diabetes_vs_Type_2_Diabetes
Obesity or being overweight. Research shows this is a top reason for type 2 diabetes. Because of the rise in obesity among U.S. children, type 2 diabetes is affecting more teenagers.

Impaired glucose tolerance. Prediabetes is a milder form of this condition. It can be diagnosed with a simple blood test. If you have it, there’s a strong chance you’ll get type 2 diabetes.

Insulin resistance. Type 2 diabetes often starts with cells that are resistant to insulin. That means your pancreas has to work extra hard to make enough insulin to meet your body’s needs.

Ethnic background. Diabetes happens more often in Hispanic/Latino Americans, African-Americans, Native Americans, Asian-Americans, Pacific Islanders, and Alaska natives.

High blood pressure. That means blood pressure over 140/90.

Low levels of HDL (“good”) cholesterol and high levels of triglycerides.

Gestational diabetes. If you had diabetes while you were pregnant, you had gestational diabetes. This raises your chances of getting type 2 diabetes later in life.

Sedentary lifestyle. You exercise less than three times a week.

Family history. You have a parent or sibling who has diabetes.

Polycystic ovary syndrome. Women with polycystic ovary syndrome (PCOS) have a higher risk.

Age. If you’re over 45 and overweight or if you have symptoms of diabetes, talk to your doctor about a simple screening test.

Web MD: What Increases My Risk of Diabetes?

My Health Advisor: A Powerful Tool to Quickly Calculate Your Risk for Several Health Problems
American Diabetes Association

Type 2 Diabetes Risk Assessment Form
http://www.idf.org/webdata/docs/FINDRISC_English.pdf
The pancreas is an important organ that helps you digest food and maintain your blood glucose (sugar) levels. It is important to have a firm understanding of how your pancreas works so that you can recognize and address problems when they arise. The pancreas is located in the abdomen, near the back and behind the stomach. It is part of the digestive system, interacting with the liver, gallbladder, intestinal tract (large and small bowel) and bile passage. The pancreas is composed of the pancreatic duct, exocrine glands and endocrine glands. These form the head, body and tail of the pancreas.

The pancreas has two functions:
Digestive (exocrine): The pancreas helps your body digest carbohydrates, fats, proteins and acids. Exocrine tissue enables this process, delivering enzymes into a network of ducts (tube-like vessels) that are joined to the main pancreatic duct, which runs the length of the pancreas.
Hormonal (endocrine): The pancreas secretes insulin and glucagon, hormones that regulate the level of glucose (sugar) in the blood and other hormones. Endocrine tissue enables this process, and is made up of islets and Langerhans, regions of the pancreas that secrete hormones into the bloodstream.

How does the pancreas work?
When food enters the stomach, the pancreas receives electrical signals from the body’s nervous system, and creates enzymes to help break food down. These enzymes then travel to the duodenum (the part of the gut just after the stomach) via ducts.
The pancreas also monitors the level of glucose (sugar) in the blood. Your body uses glucose as energy. When your blood glucose level is too low, your pancreas produces glucagon, a hormone that helps to raise blood glucose by metabolizing and releasing glucose in the blood.
When your blood glucose level is too high, your pancreas secretes insulin, a hormone that decreases the amount of glucose in the blood.

The pancreas is an important part of the body and if there are problems with it, serious illness can result, including diabetes, pancreatitis, pancreatic cancer and cystic fibrosis.

The symptoms of a diseased pancreas depend on the underlying cause, but they may include:

- Pain in the upper abdomen
- Loss of appetite
- Yellowing of the skin and eyes (jaundice)
- Back pain
- Bloating
- Nausea
- Vomiting
- Digestive upsets
- Foul-smelling and fatty stool

iTriage Understand Your Body: Pancreas
https://blog.itriagehealth.com/understand-body-pancreas-infographic-2/
Myths & Facts About Diabetes

American Diabetes Association http://www.diabetes.org/diabetes-basics/myths

Myth: Diabetes is not that serious of a disease.

Fact: If you manage your diabetes properly, you can prevent or delay diabetes' complications. However, diabetes causes more deaths a year than breast cancer and AIDS combined. Two out of three people with diabetes die from heart disease or stroke.

Myth: If you are overweight, you will eventually develop type 2 diabetes.

Fact: Being overweight is a risk factor for developing this disease, but other risk factors such as family history, ethnicity and age also play a role. Unfortunately, too many people disregard the other risk factors for diabetes and think that weight is the only risk factor. Most overweight people never develop type 2 diabetes, and many people with type 2 diabetes are at a normal weight or only moderately overweight.

Myth: Eating too much sugar causes diabetes.

Fact: The answer is not so simple. Type 1 diabetes is caused by genetics and unknown factors that trigger the onset of the disease; type 2 diabetes is caused by genetics and lifestyle factors. Being overweight does increase your risk for developing type 2 diabetes, and a diet high in calories from any source contributes to weight gain. Research has shown that drinking sugary drinks is linked to type 2 diabetes. The American Diabetes Association recommends that people should avoid intake of sugar-sweetened beverages to help prevent diabetes. Sugar-sweetened beverages include beverages like regular soda, fruit punch, fruit drinks, energy drinks, sports drinks, sweet tea and other sugary drinks. These will raise blood glucose and can provide several hundred calories in just one serving!

Myth: People with diabetes should eat special diabetic foods.

Fact: A healthy meal plan for people with diabetes is generally the same as a healthy diet for anyone – low in saturated and trans fats, non-starchy vegetables, whole grains, healthy fats and fruit. Diabetic and "dietetic" foods generally offer no special benefit. Most of them still raise blood levels, are usually more expensive and can also have a laxative effect if they contain sugar alcohols.

Myth: People with diabetes can't eat sweets or chocolate.

Fact: If eaten as part of a healthy meal plan, or combined with exercise, sweets and desserts can be eaten by people with diabetes. They are no more "off limits" to people with diabetes than they are to people without diabetes. The key to sweets is to have a very small portion and save them for special occasions so you focus your meal on more healthful foods.

Myth: People with diabetes are more likely to get colds and other illnesses.

Fact: You are no more likely to get a cold or another illness if you have diabetes. However, people with diabetes are advised to get flu shots. This is because any illness can make diabetes more difficult to control, and people with diabetes who do get the flu are more likely than others to go on to develop serious complications.

Myth: If you have type 2 diabetes and your doctor says you need to start using medication, it means you're failing to take care of your diabetes properly.

Fact: For most people, type 2 diabetes is a progressive disease. When first diagnosed, many people with type 2 diabetes can keep their blood glucose at a healthy level with oral medications. But over time, the body gradually produces less and less of its own insulin, and eventually oral medications may not be enough to keep blood glucose levels normal. Using insulin to get blood glucose levels to a healthy level is a good thing, not a bad one.

Myth: Fruit is a healthy food. Therefore, it is ok to eat as much of it as you wish.

Fact: Fruit is a healthy food. It contains fiber and lots of vitamins and minerals. Because fruits contain carbohydrates, they need to be included in your meal plan. Talk to your dietitian about the amount, frequency and types of fruits you should eat.
How Many Carbs Should You Eat a Day?


What's the Connection Between Carbs, Insulin, and Blood Sugar?
If carbohydrate from any food (whether a healthy food source or not) raises blood sugar, then it seems logical to restrict carb intake. However, research shows it’s not that simple. The biggest key to controlling blood sugar levels, particularly after eating, is having sufficient insulin at the ready—whether that’s insulin you make in your pancreas or insulin you take as a medication. If you have available insulin, then you'll be able to make use of the glucose from the carbohydrate and control after-meal blood glucose levels.

Why Should I Eat Foods that Have Carbs?
Some foods that contain carbs provide essential calories (energy), vitamins, and minerals important for good health, such as whole grains, legumes, fruits, vegetables, and low-fat dairy foods. Other than low-fat dairy foods, these foods are your main sources of dietary fiber. If you don’t eat enough carbs, studies show you’ll likely eat more fat, which could be unhealthy saturated fat. Remember, calories only come from three nutrients: carbohydrate, protein, and fat.

What's All the Buzz About Low-Carb Diets and Diabetes?
There’s an ongoing debate about the value and necessity of restricting carbohydrate consumption if you have diabetes. This debate is fueled by websites, books, and other sources of information that often overpromise weight loss or reversal of diabetes. However, well-conducted research studies over one to two years haven’t demonstrated that low-carb eating plans are better than eating plans with moderate or higher carbs. This is true whether a person has prediabetes or type 2 diabetes and wants to lose weight and/or to achieve control of blood sugar and cholesterol.

Research does show that if you want to lose weight to hit your blood glucose targets and control or slow progression of your prediabetes or type 2, you’ll need to eat fewer total calories. The emphasis should be on total calories consumed versus eating more or fewer carbs, protein, or fat.

Two large, multi-year studies funded by National Institutes of Health—the Diabetes Prevention Program (DPP) in prediabetes and Look AHEAD (Action for Health in Diabetes) in type 2 diabetes—used a lower-calorie eating plan and encouraged people to be more aware of their fat consumption by counting fat grams and calories. They didn’t focus on carbs. Both studies showed that people who lost weight and kept as much off as possible experienced numerous health benefits over the years. Both studies also encouraged physical activity almost every day.

What Percentage of Calories Should Come from Carbs?
If you think Americans eat a big percentage of calories from carbs, that’s incorrect. We eat about 50 percent of our calories from carbohydrate. The biggest problem is too many total calories and the types of calories consumed. Research shows Americans eat too much added sugar (22 teaspoons a day, which translates to about 350 calories!) and not enough fruits, vegetables, whole grains, and low-fat dairy foods. Rather than focusing on the amount of carbs you eat, concentrate on increasing the quality of the sources of carbs you eat. Plus, minimize those sugary foods and sweets.

The Dietary Guidelines for Americans recommend a wide range of calories from carbohydrate—45–65 percent. This considers varying nutrition needs and styles of eating, from meat eaters to plant-based vegetarian eaters. Research also shows that eating this amount of carbohydrate helps people stay at a healthier body weight.

Also check out these helpful websites:

Diabetes Forecast: Are Carbs the Enemy?

Sugar Stacks: Comparing Amounts of Sugar Cubes in Various Foods & Beverages
http://www.sugarstacks.com/
GLYCEMIC INDEX AND DIABETES

The glycemic index, or GI, measures how a carbohydrate-containing food raises blood glucose. Foods are ranked based on how they compare to a reference food or white bread. A food with a high GI raises blood glucose more than a food with a medium or low GI. Meal planning with the GI involves choosing foods that have a low or medium GI. If eating a food with a high GI, you can combine it with low GI foods to help balance the meal. Examples of carbohydrate-containing foods with a low GI include dried beans and legumes (like kidney beans and lentils), all non-starchy vegetables, some starchy vegetables like sweet potatoes, most fruit, and many whole grain breads and cereals (like barley, whole wheat bread, rye bread, and all-bran cereal). Meats and fats don’t have a GI because they do not contain carbohydrate. Below are examples of foods based on their GI.

Low GI Foods (55 or less)
- 100% stone-ground whole wheat or pumpernickel bread
- Oatmeal (rolled or steel-cut), oat bran, muesli
- Pasta, converted rice, barley, bulgar
- Sweet potato, corn, yam, lima/butter beans, peas, legumes and lentils
- Most fruits, non-starchy vegetables and carrots

Medium GI (56-69)
- Whole wheat, rye and pita bread
- Quick oats
- Brown, wild or basmati rice, couscous

High GI (70 or more)
- White bread or bagel
- Corn flakes, puffed rice, bran flakes, instant oatmeal
- Shortgrain white rice, rice pasta, macaroni and cheese from mix
- Russet potato, pumpkin
- Pretzels, rice cakes, popcorn, saltine crackers
- Melons and pineapple

What Affects the GI of a Food?

Fat and fiber take longer to digest and therefore affect your blood glucose more slowly and tend to lower the GI of a food. As a general rule, the more cooked or processed a food, the higher the GI; however, this is not always true. Below are a few specific examples of other factors that can affect the GI of a food:
- Ripeness and storage time — the more ripe a fruit or vegetable is, the higher the GI
- Processing — juice has a higher GI than whole fruit; mashed potato has a higher GI than a whole baked potato, stone ground whole wheat bread has a lower GI than whole wheat bread.
- Cooking method — how long a food is cooked (al dente pasta has a lower GI than soft-cooked pasta)
- Variety — converted long-grain white rice has a lower GI than brown rice but short-grain white rice has a higher GI than brown rice.

Other Considerations

The GI value represents the type of carbohydrate in a food but says nothing about the amount of carbohydrate typically eaten. Portion sizes are still relevant for managing blood glucose and for losing or maintaining weight. The GI of a food is different when eaten alone than it is when combined with other foods. When eating a high GI food, you can combine it with other low GI foods to balance out the effect on blood glucose levels. Many nutritious foods have a higher GI than foods with little nutritional value. For example, oatmeal has a higher GI than chocolate. Use of the GI needs to be balanced with basic nutrition principles of variety for healthful foods and moderation of foods with few nutrients.

American Diabetes Association: Glycemic Index and Diabetes
The Glycemic Index (GI) is a measure of how much your blood sugar level rises after a food is ingested. High GI foods cause blood sugar to rise quickly, whereas a food with a low GI causes a smaller rise in blood sugar and may help control established diabetes, aid in weight loss, and lower cholesterol.

<table>
<thead>
<tr>
<th>Grain/Starch</th>
<th>Grain/Starch</th>
<th>Vegetable</th>
<th>Fruit</th>
<th>Dairy</th>
<th>Protein</th>
<th>Sweets</th>
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<td>LOW Rice bran 27</td>
<td>MODERATE (cont.)</td>
<td>LOW Peas, dried 32</td>
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Berkeley HeartLab, Inc.
1 (800) Heart-89 • 1 (800) 432-7889
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**PLANT-BASED DIABETES DIET**

*Leafy greens and other non-starchy vegetables:* Green and non-starchy vegetables have almost nonexistent effects on blood glucose, and are packed with fiber and phytochemicals. A recent meta-analysis found that greater leafy green vegetable intake is associated with a 14% decrease in risk of type 2 diabetes. One study reported that each daily serving of leafy greens produces a 9% decrease in risk. Greens, mushrooms, onions, garlic, eggplant, peppers, etc. are essential components of an anti-diabetes (or diabetes reversal) diet.

**Beans:** Beans, lentils, and other legumes are the ideal carbohydrate source. Beans are low on the glycemic index due to their moderate protein and abundant fiber and resistant starch, carbohydrates that are not broken down in the small intestine. This reduces the amount of calories that can be absorbed from beans; plus, resistant starch is fermented by bacteria in the colon, forming products that protect against colon cancer. Accordingly, bean and legume consumption is associated with reduced risk of both diabetes and colon cancer.

**Nuts and seeds:** Nuts are low in glycemic index, promote weight loss, and have anti-inflammatory effects that may prevent the development of insulin resistance. The Nurses’ Health Study found a 27% reduced risk of diabetes in nurses who eat five or more servings of nuts per week. Among nurses who already had diabetes, this same quantity reduced the risk of heart disease by 47%.

**Fresh fruit:** Fruits are rich in fiber and antioxidants, and are a nutrient-dense choice for satisfying sweet cravings. Eating three servings of fresh fruit each day is associated with an 18% decrease in risk of diabetes. For those who are already diabetic, I recommend sticking to low sugar fruits like berries, kiwi, oranges, and melon to minimize glycemic effects.
The Outsmart Diabetes Diet is based on new research that found four specific nutrients—fiber, vitamin D, omega-3s, and calcium—work together to help balance blood sugar and encourage weight loss. Build your daily meal plan by choosing one breakfast, one lunch and one dinner, plus two snacks—any combination gets you approximately 1,400 calories a day and a healthy dose of the "Fat-Fighting 4." Remember to eat about every 3 hours and practice portion control. Follow this mix and match meal plan—adapted from The Outsmart Diabetes Diet—for the next five weeks to help fight fat, maintain healthy blood sugar levels, boost energy, and reduce your diabetes risk.

**BREAKFAST**

**Fruity bagel breakfast:** Spread 1 Tbsp cream cheese and 1 tsp 100 percent fruit spread on ½ of a whole grain bagel. Serve with 1 c milk.

**Crunchy yogurt:** Combine 6 oz yogurt, ¼ c granola cereal, 1 Tbsp ground flax seed, and 1 Tbsp chopped nuts. Add ground cinnamon and/or sugar substitute to taste.

**Eggs and English muffin:** Scramble 1 egg in a pan coated with 1 tsp olive oil; top with ¼ c chopped tomato, onion, and chili salsa. Serve with toasted 100 percent whole grain English muffin, spread with 2 Tbsp cottage cheese, and 1 c milk.

**Good Morning Blend:** Stir together 6 ounces yogurt, 2 Tbsp dried mixed fruit, 2 Tbsp ground flax seed and 2 Tbsp chopped almonds, walnuts, or pecans.

**Nutty Oatmeal:** Top 1/2 c cooked oatmeal with ¼ c walnuts or other nuts; add ground cinnamon and/or sugar substitute to taste. Serve with 1 c milk or calcium-enriched soy or rice beverage.

**Bagel and cream cheese:** Spread 1/2 100% whole grain bagel with 1 Tbsp cream cheese. Serve with 1 c milk or calcium-enriched soy or rice beverage.

**Veggie omelet:** Cook 1 egg white in a pan with 2 tsp olive oil. Add ½ c spinach leaves, ½ c mushrooms, onions, garlic, and herbs as desired; and top with 2 Tbsp cheese. Serve with 1 slice 100% whole grain toast spread with 1 tsp butter and 1 c milk or calcium-enriched soy or rice beverage.

**SNACKS**

1 medium orange or tangerine and 2 T dry roasted almonds (no added salt)
1 c fresh strawberries and ¼ c unsalted nuts
1 c seasonal melon and 6 oz fat-free light yogurt
4 dried apricot halves (or 3 dried plums) and 7 walnut halves
2 fresh or dried figs and ¼ c unsalted nuts
1 kiwi and 12 whole almonds
1 medium apple, sliced, with 2 Tbsp all-natural peanut butter
2 graham crackers spread with 1 Tbsp all natural peanut butter
3 c light popcorn and 16 oz light lemonade
¼ c cashews, almonds, walnuts or other nuts
4 vanilla wafers and 1 c fat-free milk or calcium-enriched soy or rice beverage
6 oz yogurt and ¼ cup blueberries, raspberries or blackberries
½ c ice cream (choose ice cream with no more than 2 grams saturated fat and 20 grams total carbohydrates)
Stir 1 Tbsp chopped dried fruit and 1 Tbsp chopped nuts into 6 oz yogurt.
LUNCH

Tuna melt: Top 1 toasted whole grain English muffin with 1/4 c tuna mixed with 1 tsp mayonnaise, 1 Tbsp minced dill pickle and/or chopped celery and 1 oz cheese. Place in pre-heated oven (450ºF) for 5 to 10 minutes (or microwave for 30 seconds until cheese melts). Serve with 8 baby carrots with 2 Tbsp ranch dressing, and 1 c milk or calcium-enriched soy beverage.

Lean-body salad: Toss 2 c mixed dark greens, 1/2 c canned garbanzo beans (rinsed well), 1 oz Mozzarella shredded cheese and 2 Tbsp Italian dressing. Serve with 1 fresh peach.

Chicken salad: Combine 2 c mixed dark greens, 2 stalks chopped celery, and 1/4 c sliced green or red grapes. Top with 2 oz cooked chicken breast, and drizzle with 2 Tbsp honey mustard dressing (such as Newman's Own). Serve with 1 slice reduced-calorie 100 percent whole grain toast, spread with 1 tsp butter.

Roast-beef sandwich: Layer 2 oz lean roast beef, 1/2 c chopped romaine lettuce and 1/2 sliced tomato on 2 slices reduced calorie 100 percent whole grain bread, spread with 1 tsp mayonnaise and/or mustard.

Pesto pizza: Split and toast a 100 percent whole grain English muffin. Top each half with 1 Tbsp pesto basil sauce, 1 slice tomato or 1/2 c canned tomatoes, and 1/2 slice cheese. Broil or bake in oven until cheese melts.

Bean tostada: Bake 1 corn tortilla in 400-degree oven until crisp. Spread with 1/2 c cooked or canned pinto beans (rinsed) and 2 Tbsp shredded Mexican blend cheese. Return to oven for 5 to 10 minutes until cheese melts. Top with 1/4 c salsa. Serve with a cabbage salad (1 c shredded cabbage and 1 chopped tomato with 2 Tbsp dressing).

Tuna salad: Mix 3 oz water-packed tuna with 2 stalks chopped celery, 4 chopped green olives, and 1 tsp regular mayonnaise. Add 1 Tbsp seasoned rice vinegar, if desired. Scoop tuna onto 2 c mixed dark greens, and top with 1 Tbsp chopped almonds. Serve with 1 oz 100 percent whole grain crackers.

DINNER

Barbecue chicken: Grill or roast 3 oz chicken and top with 2 Tbsp barbecue sauce. Serve with 1 slice garlic sourdough toast, spread with 1 tsp olive oil and garlic, and colorful coleslaw (mix 1 c shredded red and green cabbage and carrots with 1 Tbsp regular coleslaw dressing or 2 Tbsp dressing).

Roast beef and rice: 3 oz lean roast beef, sliced, with 2/3 c cooked brown rice and 1 c cooked spinach, seasoned with 1 tsp olive oil and 1 tsp balsamic vinegar.

Halibut and potatoes: 3 oz foil-baked halibut or other fish with 1 c green peppers and onions. Serve with 1/2 c red potatoes, roasted in 1 Tbsp olive oil and seasoned with herbs and spices.

Pasta with meatballs: Toss 1 c cooked whole grain pasta in garlic and 1 Tbsp olive oil and garlic. Top with 3-oz lean meatballs (made with turkey, chicken or soy) and 1 tsp grated Parmesan cheese. Serve with cucumber salad (toss 1 c mixed greens, 1 c cucumber slices, 10 halved cherry tomatoes, 1/4 c chopped red onions and 2 Tbsp Italian dressing).

Shrimp salad bowl: Mix 1/3 c cooked brown rice and 2 Tbsp crumbled feta cheese. Scoop onto 2 c mixed greens, and top with 3 oz grilled or sautéed shrimp and 2 Tbsp reduced-fat dressing. Serve with 2 whole grain rye crispbread crackers, spread with 2 Tbsp ricotta or cottage cheese.

Oven fried chicken: Toss 4 oz raw chicken breast in 1 Tbsp Italian dressing, coat with 2 Tbsp seasoned bread crumb and olive oil. Place on lightly oiled cookie sheet. Bake at 350ºF for 30 minutes or until browned and no longer pink inside. Serve with 3-bean salad (toss 1/2 c green beans, 1/4 c garbanzo beans, 1/4 c red beans, 2 Tbsp chopped onion and 2 Tbsp Italian dressing).

Tofu stir fry: Stir-fry 3 oz tofu and 2 c mixed vegetables (broccoli, cauliflower, green beans, onions) in 2 Tbsp reduced sodium stir fry sauce and 1 Tbsp olive oil. Serve over 2/3 c cooked brown rice
DIABETES & ALCOHOL

1. BE SURE TO GET YOUR MEDICAL TEAM'S RECOMMENDATIONS ABOUT WHETHER DRINKING ALCOHOL IS SAFE FOR YOU. TALK TO YOUR DR.

2. CARRY IDENTIFICATION (MEDICAL ALERT BRACELET, WALLET CARD, ETC.) THAT SAYS YOU HAVE DIABETES.

3. GLUCAGON WILL NOT HELP TREAT ALCOHOL-INDUCED HYPOGLYCEMIA. AFTER 1 OR 2 DRINKS, YOUR LIVER'S PRIMARY FUNCTION IS CLEANING THE ALCOHOL FROM YOUR BLOOD, NOT PRODUCING AND RELEASING GLUCOSE. GLUCAGON WILL NOT WORK UNTIL YOUR LIVER IS FINISHED THIS PROCESS.

4. KNOW YOUR DRINKS
   - KNOW THE ALCOHOL LEVEL OF BEER AND WINES
   - KNOW THE PROOF OF DISTILLED SPIRITS
   - KNOW THE CARE OF HYDRATES, JUICES, SODAS AND MIXERS

5. EDUCATE YOUR DRINKING BUDDIES
   YOUR DRINKING BUDDIES SHOULD HAVE A WORKING UNDERSTANDING OF TYPE 1 DIABETES. THEY SHOULD KNOW YOU HAVE DIABETES AND WHAT TO DO IN AN EMERGENCY. ESPECIALLY BECAUSE INTOXICATION CAN LOOK LIKE HYPOGLYCEMIA.

6. EAT A SNACK
   NEVER DRINK ON AN EMPTY STOMACH. ONCE YOU START DRINKING, YOUR LIVER WILL STOP PRODUCING GLUCOSE AND YOU'LL NEED IT FROM FOOD TO PREVENT HYPOGLYCEMIA.

7. TEST YOUR BLOOD
   BOTH EXERCISE AND DRINKING LOWER BLOOD SUGAR LEVELS. (PRO TIP: DANCING COUNTS AS EXERCISE!)

8. SEVEN: BE PREPARED
   BRING YOUR BLOOD TESTING KIT.
   BRING GLUCOSE TABLETS OR GELS.
   MAKE SURE YOUR DRINKING BUDDIES KNOW WHAT TO DO IF YOU GO LOW.
   HAVE A PLAN TO GET HOME.

9. TEN: AFTER THE PARTY
   REMEMBER ALCOHOL CAN LOWER YOUR BLOOD SUGAR HOURS AFTER YOU'VE CONSUMED IT. BEFORE YOU GO TO BED, CHECK YOUR BLOOD SUGAR AND HAVE A SNACK TO BE SAFE. IF YOU DRANK A LOT, CONSIDER SETTING AN ALARM TO WAKE YOU UP TO TEST YOUR BLOOD IN THE MIDDLE OF THE NIGHT.

10. USE ALCOHOL AID APP
    - ALCOHOL AID: http://www.alcoholaid.com
    - ALCOHOL AID: http://www.alcoholaid.com

Sources:
Wondering why physical activity is so important? Regular activity is a key part of managing diabetes along with proper meal planning, taking medications as prescribed, and stress management. When you are active, your cells become more sensitive to insulin so it can work more efficiently. Your cells also remove glucose from the blood using a mechanism totally separate from insulin during exercise.

So, exercising consistently can lower blood glucose and improve your A1C. When you lower your A1C, you may be able to take fewer diabetes pills or less insulin. Physical activity is also important for your overall well being, and can help with many other health conditions.

Regular physical activity:

- lowers blood pressure and cholesterol
- lowers your risk for heart disease and stroke
- burns calories to help you lose or maintain weight
- increases your energy for daily activities
- helps you sleep better
- relieves stress
- strengthens your heart and improves your blood circulation
- strengthens your muscles and bones
- keeps your joints flexible
- improves your balance to prevent falls
- reduces symptoms of depression and improves quality of life

You’ll see these benefits even if you haven’t been very active before.

American Diabetes Association
http://www.diabetes.org/food-and-fitness/fitness/physical-activity-is-important.html

Web MD: Guide to Summer Fitness: 7 Most Effective Exercises
http://www.webmd.com/fitness-exercise/summer-fitness-8/7-smart-workouts

Prevention.com: 14 Walking Workout to Burn Fat and Boost Energy

Health.com: 15 Exercise Tips for People with Type 2 Diabetes
http://www.health.com/health/gallery/0,,20425548,00.html
The Wonder Workout

THE GOAL: Blast belly fat, improve insulin resistance, and regulate blood sugar in 8 weeks. This workout and diet plan was designed to fight prediabetes, but it’s great for anyone.

THE RESULTS: The six prediabetic women who followed the plan saw their risk factors diminish in just 8 weeks. They dropped pounds and even lowered cholesterol and blood pressure.

THE EXPERTS: The workout/diet was designed by Jacqueline Shahar, a clinical exercise physiologist at the Joslin Diabetes Center in Boston, and Osama Hamdy, MD, PhD, director of the center’s obesity clinical program, with nutritionist and exercise physiologist Martica Heaner, PhD.

TONE & SCULPT

Do 3 sets of 15 reps of each of the 7 exercises 3 days a week. Once you’re able to do the final reps of each set easily, follow the Make It Harder suggestion.

Equipment: 5-pound dumbbells and 2 strengths of resistance bands

1 SQUAT WITH ROW

Targets: Butt, thighs, back

Hold dumbbells and stand with feet hip-width apart. Push arms straight out in front of you as you bend knees and lean torso forward. Pull elbows back in by sides and press into heels to straighten legs, keeping torso forward.

Make It Harder: Hold heavier dumbbells.
2 HAMMER CURL ▶
Targets: Upper arms
Stand on middle of band with both feet. Hold a handle in each hand, arms down by sides, palms facing in. Bend elbows to raise handles in front of shoulders. Hold, then slowly lower to starting position.

Make It Harder: Use a heavier band or add dumbbells while using the band.

3 TRICEPS KICKBACK ▶
Targets: Arms, shoulders, back
Stand on band with right foot, 1 handle in left hand. Step back with left foot. Rest right elbow on right thigh. Bend left elbow alongside waist, then extend arm straight back. Bend arm for 1 rep. After 15 reps, switch sides.

Make It Harder: Use a heavier band or hold dumbbells while using the band.

TONE & SCULPT

4 BACK LUNGE WITH OVERHEAD PRESS ▶
Targets: Butt, thighs, shoulders, abs, back
Hold dumbbells in front of shoulders, palms facing in, and stand with feet shoulder-width apart. Push arms overhead. Lower dumbbells to shoulders as you step back into a lunge with right foot. Return to standing. Do 15 reps with right foot, then switch sides.

Make It Harder: Use heavier dumbbells, or use the same weight but add a resistance band, standing on middle of band with front foot.
5 LAT PULL-DOWN
*Targets:* Back, upper arms, shoulders
Secure center of resistance band around a sturdy pole, so band is about forehead height. Stand with feet hip-width apart, facing band with a handle in each hand. Band should be taut when arms are straight ahead. Bend elbows as you pull arms back, stopping when they reach just past your shoulders. Pause, then slowly extend arms to the starting position.

*Make It Harder:* Use a heavier band or take a step back to increase the resistance.

6 CORE TWIST
*Targets:* Abs, back
Secure center of resistance band around pole at chest height. Hold handles together in front of chest, elbows bent wide and band taut. Rotate torso to the right, keeping arms in front of chest and hips still. Hold, then slowly rotate back to starting position. After 15 reps, switch sides.

*Make It Harder:* Use a heavier band.

7 CHEST PRESS
*Targets:* Chest, shoulders
Secure resistance band around pole at chest height. Face away from pole, holding a handle in each hand in front of shoulders with elbows bent and palms facing in. Keep band taut. “Punch” both arms straight in front of chest. Bend elbows to return to starting position.

*Make It Harder:* Use a heavier band or take a step forward to increase the resistance.
CARDIO TO BURN FAT

Choose between walking, dancing, cycling, or swimming—or anything else that gets your heart rate up. Add a 10-minute warm-up and a 5-minute cool-down to each workout.

WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 | WEEK 6 | WEEK 7 | WEEK 8
-------|-------|-------|-------|-------|-------|-------|-------
Day 1  | 20–30 min | 25–35 min | 30–35 min | + Intervals 30–35 min | 20–25 min | + Intervals 35–40 min | 45–50 min | 25–35 min
Day 2  | REST | Tip! Feel free to vary workout days; just complete all the sessions each week. | 35–40 min | 30–35 min | 40–45 min | REST | + Intervals 35–40 min | 45–50 min | 20–25 min
Day 3  | 20–30 min | 25–35 min | 35–40 min | + Intervals 30–35 min | 40–45 min | REST | + Intervals 35–40 min | 45–50 min | 20–25 min
Day 4  | REST | 35–40 min | 30–35 min | + Intervals 30–35 min | 40–45 min | REST | + Intervals 35–40 min | 45–50 min | 20–25 min
Day 5  | 25–35 min | REST | REST | Tip! Fit in half of your cardio in the morning and half at night. | + Intervals 35–40 min | REST | + Intervals 35–40 min | 45–50 min | 20–25 min
Day 6  | 25–35 min | 25–35 min | 35–40 min | + Intervals 30–35 min | 40–45 min | 45–50 min | REST | + Intervals 35–40 min | 45–50 min | 20–25 min
Day 7  | REST | 35–40 min | 35–40 min | + Intervals 30–35 min | 40–45 min | 45–50 min | + Intervals 35–40 min | 45–50 min | 20–25 min

+ ADDING INTERVALS For an extra fat-burning boost, include interval training starting in week 4, alternating higher- and lower-intensity bouts throughout the workout.

During the “hard” sections you should feel winded but still able to speak. For the “easy” portion, recover by moving at a gentler pace. Each week you’ll increase the time you spend working “hard.”

| Week 4: 30 seconds hard/2 minutes easy |
| Week 5: 45 seconds hard/2 minutes easy |
| Week 6: 60 seconds hard/2 minutes easy |
| Week 7: 90 seconds hard/2 minutes easy |
| Week 8: 2 minutes hard/2 minutes easy |

Prevention.com: The Wonder Workout
**BOOKS AVAILABLE AT JCPL**

**What You Can Do to Prevent Diabetes: Simple Changes to Improve Your Life** by Annette Maggi 616.46205 MAGG
Offers advice to those who feel they might be at risk for developing diabetes by explaining how to prevent the disease by altering lifestyle, exercise, and dietary habits.

**Sugar Nation: The Hidden Truth Behind America's Deadliest Habit and the Simple Way to Beat It** by Jeff O'Connell 616.462 OCON
Diagnosed with the pre-signs of diabetes despite his healthy lifestyle, a renowned health journalist details his 18-month journey, from the aisles of the supermarket, to the halls of Congress, to discover how he developed the same disease crippling his father and what he could do to save his own life.

**The Essential Diabetes Book** by Mayo Clinic 616.462 MAYO
A resource for the millions of people who have or are at risk of developing diabetes provides practical advice to help successfully manage diabetes and reduce the risk of serious complications.

**Plan D: How to Lose Weight and Beat Diabetes (Even if You Don't Have It)** by Sherri Shepherd HEALTH DIET 613.25 SHEP
Filled with humor and life-changing advice, the comedienne and co-host of The View reveals how she, with the help of a leading endocrinologist from Columbia University, devised her own diet plan, which allowed her to lose weight, regain her health and control her type 2 diabetes.

**Diabetes Meals on $7 a Day-- or Less** by Patti Bazel Geil 641.56314 GEIL
Leading nutrition experts explain how to create healthy great-tasting meals inexpensively while offering advice on menu planning, shopping, and food preparation.

**The Prediabetes Diet Plan** by Hillary Wright 616.4620654 WRIG
An empowering guide to managing and reversing prediabetes through diet and exercise shares comprehensive, jargon-free coverage of topics ranging from meal planning and grocery shopping to dining out and using supplements.

**The Everything Guide to Managing and Reversing Pre-diabetes** by Gretchen Scalpi 616.462 SCAL
A pre-diabetes diagnosis is a wake-up call. Scalpi provides helpful tips not only on what to eat and when, but how to prepare delicious, healthy meals, with a ten-week plan to help you start seeing results immediately.

**Living with Diabetes** by M. K. Ehrman TEEN HEALTH 616.462 EHRMAN
Describes what diabetes is, its causes and risk factors, how it is treated and managed, and how to mentally and emotionally deal with the disease.

**Diabetes Rising: How a Rare Disease Became a Modern Pandemic, and What to Do about It** by Dan Hurley HEALTH CONDITION 362.196462 HURL
Examines the current epidemic of type 1 and type 2 diabetes and the environmental factors that may be contributing to it, as well as prevention strategies and the potential possible cures.

**The Blood Sugar Solution** by Mark Hyman 612.12 HYMA
A doctor explains how balanced insulin levels can prevent not just diabetes, but a variety of diseases--from heart disease to dementia--and offers a six-week healthy-living plan as part of his seven keys to achieving wellness.

**The Best Life Guide to Managing Diabetes and Pre-diabetes** by Bob Greene 616.4620654 GREE
Oprah Winfrey's personal trainer and the author of the best-selling Best Life books provides a comprehensive plan for living well with diabetes that encourages gradual change for lasting results, in a resource that covers diet--including meal plans and recipes, health and medication--as well as information on diabetes in children and teens.

**The Diabetes Manifesto: Take Charge of Your Life** by Lynn Crowe 616.462 CROW
Provides information for diabetes sufferers on such topics as learning about medications, selecting a doctor, and handling complications, and offers guidance on managing the disease and addressing it with a positive, assertive attitude.
Am I at Risk for Type 2 Diabetes? - National Diabetes Information Clearinghouse
This article explains the risk factors for diabetes and provides tips for how to lower your risk.

My Health Advisor: American Diabetes Association®
http://www.diabetes.org/are-you-at-risk/my-health-advisor/
A tool from the American Diabetes Association to help you assess your risk for type 2 diabetes, heart disease, and stroke. To get the best estimate, you need to know some information about yourself (blood pressure, cholesterol levels, etc.)

Type 2 Diabetes Risk Test: American Diabetes Association®
A quick type 2 diabetes risk test from the American Diabetes Association. This test requires you to know less information than My Health Advisor (listed above).

Choose More than 50 Ways to Prevent Type 2 Diabetes
http://ndep.nih.gov/media/NDEP71Choose50Ways_4c_508.pdf
50 simple things you can do to prevent type 2 diabetes from the National Diabetes Education Program.

Did You Have Gestational Diabetes When You Were Pregnant?
http://ndep.nih.gov/media/NDEP88_DiabetesWhilePregnant_4c_508.pdf
If you had gestational diabetes, you may be at greater risk for type 2 diabetes. This article provides prevention tips specifically for these women.

Kentucky: Cabinet for Health and Family Services - Diabetes
http://chfs.ky.gov/dph/info/dpq/d/diabetes.htm
Information from the Kentucky Diabetes Prevention and Control Program, including a link to the Diabetes Resources Directory, which lets you search for “classes, support groups, and coalitions” in your area.

Learn How to Lower Your Risk for Type 2 Diabetes
http://www.healthfinder.gov/HealthTopics/Category/health-conditions-and-diseases/diabetes/take-steps-to-prevent-type-2-diabetes#the-basics
Type 2 diabetes prevention tips. Also available in Spanish.

NIHSeniorHealth: Diabetes - Prevention
http://nihseniorhealth.gov/diabetes/prevention/01.html
Diabetes prevention tips for seniors.

Simple Steps to Preventing Diabetes
http://www.hsph.harvard.edu/nutritionsource/preventing-diabetes-full-story/
This article from the Harvard School of Public Health discusses recent diabetes prevention studies in clear, easy to understand language. It explains what causes the disease and gives tips to prevent it.

Your Game Plan to Prevent Type 2 Diabetes
http://ndep.nih.gov/media/NDEP60_GAMEPLAN_bw_508.pdf
This printable booklet offers a game plan to help you prevent type 2 diabetes. Includes discussion of risk, a food and activity tracker, and suggestions for eating and exercising.

Best Diabetes Diets | US News Best Diets
The best diets for preventing and managing diabetes, as rated by US News and World Report.

Preventing Diabetes: Top Foods + Recipes
http://www.acouplecooks.com/2015/03/preventing-diabetes-top-foods-recipes/
A Couple Cooks presents the best foods for preventing diabetes, plus recipes.