
Diabetes Life Lines



A newsletter from your County Extension Office
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Diabetes in Exercise and Sport Association

If you are interested in physical activity, you may wish to join the Diabetes in Exercise and Sport Association. This organization was started by a nurse who had Type 1 diabetes. The organization's main goal is "to enhance the quality of life for people with diabetes through exercise and physical fitness." It also attempts to improve the skills of health care providers who want to help their clients with diabetes to be physically active.

The membership fee is very reasonable at \$20 for adults, \$10 for students and \$30 for health professionals. Members have access to a quarterly newsletter called *The Challenge* and to members-only

sections of the association Web page including a member's forum where ideas and advice can be exchanged.

There is also a yearly conference where sessions for those with diabetes and medical professionals address all aspects of diabetes and physical activity. This year's conference in Colorado Springs, CO offered sessions on new diabetes technology and medications and how they affect physical performance, sports nutrition, especially for the serious athlete, updates on diabetes research and panel discussions featuring athletes who have diabetes from a variety of sports.



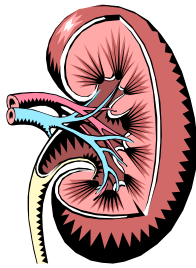
Go to www.diabetes-exercise.org to join. Unfortunately most of the Web site is only available to members, but they do offer some nice video clips and transcripts on a variety of health topics for free.

Diabetic Kidney Disease

Fewer new cases of nephropathy (ne-fro-pa-thee) or diabetic kidney disease have been diagnosed in recent years. However, 651,000 people with diabetes may be treated for end stage kidney disease by the year 2030. Diabetic nephropathy is the main reason for

dialysis and kidney transplant in this country.

The American Diabetes Association recommends that any person with Type 2 diabetes who is newly diagnosed or pregnant have a microalbuminuria (mic-row-al-bu-min-ure-a) test done right away. Anyone who has had Type 1 diabetes for at least 5 years also needs this test.



This test along with a creatinine (cre-a-ti-neen) level needs to be done yearly in all adults with diabetes. Creatinine is a waste product filtered out of the body by the kidneys. If the kidneys are not working well, creatinine will rise in your blood. With regular screening, any kidney changes can be found early and treated quickly to slow or even prevent them from getting worse. This screening is very important if you have a family history of kidney disease.

Controlling blood pressure and high blood glucose, cholesterol and triglyceride levels will protect your kidneys. Have your blood pressure checked every time you visit your doctor and check your cholesterol and triglycerides every year. Your doctor may tell you to check your blood pressure along with your blood

glucose at home. Even if you do not have serious kidney disease yet, you may be sent to a kidney specialist to get special care.

Medications like ACE inhibitors to control blood pressure can protect the kidney from damage. Kidney disease changes how you use protein and affects the balance of calcium, phosphorus, potassium and sodium. A special meal plan from a dietitian and medication can help you to handle these changes and stay as healthy as possible.

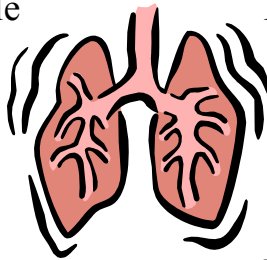
As kidney changes occur, diabetes control may be harder. You may also have less energy and not feel like eating much. Working closely with your medical team can help you handle these challenges better.

You are not doomed to get nephropathy. Good control of blood glucose, cholesterol, triglycerides and blood pressure can prevent or at least slow down the disease.

The Down Side of Inhaled Insulin

Most people do not relish injecting insulin. That is why many people were excited about the new inhaled insulin, Exubera®. While this new insulin may be great for some people, it will not work for everyone.

Inhaled insulin works more like short-acting insulin analogs. Therefore you take it right before you eat. Since it is in a large inhaler instead of in a syringe or pump, it is more obvious you are taking insulin. Also the inhaled insulin is a powder and comes in blister packs of 1 and 3 milligrams. The 1 milligram pack gives a dose equal to 3 units of regular insulin and the 3 milligram packs give a dose equal to 8 units. This is confusing because people expect three doses of the 1 milligram packs to equal the 3 milligram pack. Instead three 1 milligram packs will equal 9 units of regular insulin instead of 8 units. Manufacturers do offer tables or guidelines for dosing, but you must work very closely with your medical team to know the right amount for you. You will need to check your blood glucose often as you learn to use Exubera®.



with lung disease, asthma or who have smoked in the last 6 months can not use it. Some medicines like broncodilators for asthma can really change how the insulin is absorbed. Doctors have been told to test lung function in all people before they start inhaled insulin using a spirometer. This test should be repeated 6 months after inhaled insulin is started and once every year after that.

Like all insulin, inhaled insulin can cause low blood sugar reactions. However, it can also cause a cough within a few seconds after it is used. Few people found this annoying enough to stop using it. A very small number of people also got sores on their lips, ear infections, sore throats, problems breathing and general chest pain after using Exubera®.

Also if you need a large amount of insulin to cover your meals, inhaled insulin will not work for you. Before Exubera® was released, the maximum dose per meal tested was equal to 16 units of insulin. This is much less than some people need, especially if they are overweight or very insulin resistant.

Since inhaled insulin is absorbed through the lungs, people

Certainly inhaled insulin is a great breakthrough and many people may benefit from it. However anyone interested in Exubera® must consider these drawbacks before starting it.

Understanding the Glycemic Index

What is the Glycemic Index? It is a method for ranking foods by how quickly and how high they raise the blood glucose. While some people are

sold on this system, others think it's not worth the effort.

Many people think the glycemic index (GI) is a low carb diet. It is not. Jennie Brand-Miller from Australia who co-wrote the book, *The New Glucose Revolution: Low GI Guide to Diabetes*, says that the ideal diabetic diet based on the glycemic index is a high carb diet that is low in fat. Her book recommends that carbohydrate foods be consumed with every meal and snack. The difference is that half the carbs chosen should have low GI values.

The GI is based on how 50 grams of carbohydrate from a food raises the blood glucose of 8-10 people without diabetes tested several times. This value is then compared to how pure glucose raises these same individuals' blood glucose. Pure glucose has a glycemic index of 100 while all the other foods are usually ranked below 100. For example, a cup of brown rice has a GI of 50.

Several things affect a food's GI because they slow digestion:

- Soluble fiber like in oats and apples
- Sugar (slows starch digestion)
- Acid in a food
- Fat

The form a food is in also changes its GI:

- Cooking or processing a food can raise its GI
- Fibrous coats like on beans lowers GI
- Type of starch in a food
- Size of food particle (white flour has a higher GI than stone ground whole grain)

If you look at ethnic diets from all over the world, most use mainly low glycemic foods. It is only when ethnic groups adopt our American diet that the GI tends to increase for their meals.

Those who support the GI plan do not totally reject higher GI foods. Rather they use them for quick energy before a physical workout or when they need to treat a low blood glucose reaction.

Here are some comparisons of similar foods that are high and low in the glycemic index.

Comparison of High and Low Glycemic Index Foods

High GI Food	Low GI Food
White Bread	Stone ground whole wheat bread, rye, pumpernickel or sourdough bread
Instant oatmeal or cream of wheat	Old fashioned oats

High GI Food	Low GI Food
Mashed or fried potatoes	Sweet potatoes, peas or acorn squash
Bagel, donut or English muffin	Apple or oat bran muffin
Canned fruit cocktail, pineapple or watermelon	Apple, orange, banana, peaches, grapes, strawberries

No one eats 50 grams of carbohydrate from each food they consume. To adjust for this fact, the glycemic load (GL) was created. To get the GL, the glycemic index is multiplied by the actual amount of carbohydrate a person eats from a certain food. This figure is then divided by 100. This can really change how high a food looks. For example, the GI of 50 grams of carbohydrate from carrots is 47, but the GL is only 3 for a half cup serving. So clearly portion control matters.

Low GI foods recommended for the person with diabetes are whole grains, beans and peas, cooked noodles and pasta, non-starchy vegetables, and fruit.



Many diabetes experts feel the glycemic index is too hard and may only work for single foods not meals. When you eat foods with different GIs together, you do get a different GI for the entire meal.

Only in 2006 did the American Diabetes Association concede that the GI may have some effect on after meal blood glucose values. Instead, critics of the GI system suggest that you check your blood glucose two hours after eating to get your own personal GI for meals and snacks you eat often. Ideally your blood glucose 2 hours after a meal should be less than 140 milligram per deciliter on your blood glucose monitor if you want to have good diabetes control.

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Recipe Corner

Baked Apples

¼ cup granulated artificial sweetener
½ tablespoon cornstarch
1/2 teaspoon cinnamon
1/4 teaspoon nutmeg
1 cup apple cider or juice
½ tablespoon soft margarine
4 baking apples
Non-stick vegetable oil spray

1. Preheat oven to 350 degrees F.
2. Combine sweetener, cornstarch, spices and cider in medium saucepan. Heat to boiling.
3. Reduce heat and simmer 5-10 minutes until cider mixture is reduced to about ½ cup. Add margarine and stir to melt.
4. Core apples but do not cut through the bottom. Peel one inch around the top. Place apples in baking dish sprayed with non-stick spray.
5. Pour apple cider mixture into and around apples.
6. Bake, uncovered for 45 minutes or until apples are tender when pierced with a fork.

Serves 4

Calories: 105 Carbohydrate: 22 grams Protein: <1 gram
Fat: 1 gram Cholesterol: 0 milligrams
Sodium: 19 milligrams Fiber: 3 grams
Exchanges: 1 ½ fruits

Suggested Menu

<u>Menu Item</u>	<u>Exchanges</u>	<u>Carbohydrate</u>
Chili with beans, 1 cup	2 starches, 1 medium fat meats	30 grams
Cornbread, 2 inch square	1 starch, 1 fat	15 grams
Tossed salad, 1 cup	Free	0 grams
Light French dressing, 2 tablespoons	½ carbohydrate	7 grams
*Baked Apple, 1	1 ½ fruits	22 grams
Diet Drink, 12 ounces	Free	0 grams

**This month's featured recipe. Portions may need to be adjusted for your meal plan.*

The University of Georgia

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Dear Friend,

Diabetes Life Lines is a bi-monthly publication sent to you by your local county Extension agent.

It is written by Food and Nutrition Specialists at the University of Georgia, College of Family and Consumer Sciences. This newsletter brings you the latest information on diabetes, nutrition, the diabetic exchange system, recipes, and important events.

If you would like more information, please contact your local county Extension office.

Yours truly,

County Extension Agent

Connie Crawley, Principal Writer

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