**Gestational Diabetes**

This form of diabetes occurs in pregnant women (with no previous diagnosis of diabetes) who develop high blood sugar, usually during the 3rd trimester. Experts believe that it is due to the baby inadvertently interfering with insulin receptors. The symptoms are minor, and so it is typically diagnosed during regular pregnancy tests. About 10% of pregnancies result in this form of diabetes, and while it typically does not last after pregnancy, 5-10% of women who have gestational diabetes will develop Type 1 or 2 diabetes after giving birth (usually type 2).

50% of diabetics die of heart disease and stroke.

71% of adults with diabetes also have hypertension.

44% of all kidney failures in 2011 were the result of diabetes.

60% of all non-traumatic amputations of lower limbs occur in people with diabetes dueto nerve damage.

7,686 cases of diabetic retinopathy were diagnosed in 2010, and this number is up from 2,063 in the year 2000. Diabetic retinopathy is the leading cause of blindness in adults age 20 to 74.

Diabetics are two times more likely to suffer from depression.

Birth defects, large babies and other dangerous complications to the mother and baby can result from uncontrolled diabetes during pregnancy.

**Healthy Plate**

25% starches ang grain

25% lean protein

50% Non strachy Veggies

Non Starchy Vegetables

50% of the entire plate should be filled with non-starchy vegetables, which include:

All Greens, Kale and Spinach

Carrots

Mushrooms

Cucumbers

Tomatoes

Onions

Broccoli

Cauliflower

Peppers

Green beans

Beets

Okra

Mushrooms

Turnips

And others

Starches and Grains25% of the plate should be filled with grains and starches. This includes:

Corn

Sweet Potatoes

Peas

Beans

Oatmeal

Whole grains: rice, pasta, bread and cereals

Choose whole grains over processed white varieties, including pasta, rice, and bread. Whole grains are not stripped of vital nutrients like their white counterparts and they are high fiber, an essential nutrient for managing blood sugar. Fiber in food allows blood sugars to increase gradually during and after eating, as opposed to radical spikes. Repeated studies document that whole grains can prevent the onset of type 2 diabetes by 21% to 30% and they go a long way to helping those diagnosed with either type 2 diabetes or prediabetes maintain low blood glucose levels.

final section of the plate is for lean protein, which includes:

Chicken

Fish

Seafood

Eggs

Tofu

Low Fat Cheese

Since diabetics are at a higher risk for heart disease, it is important to consider fat intake in the diet. Animal protein is typically higher in saturated fat than other protein choices and therefore can make more of an impact on heart health.

Limit high fat meats or processed meats. They can only raise your cholesterol levels, making complications of diabetes more likely. Lean turkey meat, and white skinless chicken contain less saturated fats and are quality protein choices.

All fish is a wonderful option, and especially, fattyfish that provides healthy omega-3 fatty acids and is found in herring, trout, sardines, albacore tuna, and salmon.

**Healthy Fats**

Healthy fats in moderation, including monosaturated and polyunsaturated should be included in any diet, including that for type 2 diabetes because they greatly contribute to heart health.

Healthy Fats Come Two Forms:

Monosaturated Fat Foods

Olive oil, canola oil, peanut oil, safflower oil, and sesame oil

Avocados

Peanut butter

Many nuts and seeds

Polyunsaturated Fat Foods

Omega-6 Fatty Acids Sources

Soybean, corn oil and safflower

Walnuts and seeds

Omega-3 Fatty Acids Sources

Salmon, herring, Albacore tuna, rainbow trout, mackerel and sardines

Soybean and canola oil

Walnuts

Flaxseed

Soybeans

Tofu

Shrimp

Brussels Sprouts

Cauliflower

Saturated fats should be limited to 7% or less of one’s daily caloric intake. Trans fats should be kept to 1% or less, as they are the most harmful for the heart. Heart disease is of special concern for those with diabetes because they are at higher risk for it, therefore eating healthy fats andlimiting unhealthy varieties is of utmost importance.

**Simple Carbohydrates**

Simple carbohydrates are simple sugars made upof only one or two sugar (saccharide) chains. This category includes fast acting carbohydrate sugars and starches. Simple carbs are digested very quickly by the body and therefore cause sudden floods of glucose into the blood stream.

Simple Carbohydrates Include: table sugar, candy, soda, fruit, honey, syrup, and juices.

**Complex Carbohydrates**

Complex carbohydrates are starches and are comprised of thousands of sugar chains. Complex carbs are digested slowly by the body, which incur gradual rises in blood glucose levels.

Complex Carbohydrates Include: starchy vegetables like corn and peas, along with potatoes, beans, rice, cereals and grains and fiber.

The main difference between simple and complex carbs is how they are digested and absorbed in the body along with chemical structure.

**The Role Of Fiber**

Those with impaired glucose tolerance and insulin resistance have a higher risk for cardiovascular disease because increased bloodglucose and insulin concentrations are associated with high cholesterol (LDL) and decreased good (HDL) cholesterol, both of which are risk factors for cardiovascular disease.

Fiber helps to lower bad cholesterol and prevent heart disease.

Fiber helps to essen the impact of carbohydrates on blood glucose levels. Soluble fiber especially, delays the absorption of nutrients in the body and therefore slows the rise of blood sugars after a meal.

Fiber is the reason that whole grains are recommended over processed grains because the processing strips the grain of fiber, leaving higher impact carbs.

Fiber is also the reason whole fruit is recommended over juicing because the juicing process removes the pulp of the fruit where the fiber lies, and therefore makes juice higher in sugar impact carbs than eating the whole fruit.

The more fiber a food has, the less impact it will have on blood sugars.

**Fiber Rich Foods:**

Fresh fruits and vegetables

and especially green and leafy green varieties

Nuts and seeds

Dried beans and peas

Whole Grains: bread, wild rice, whole grain flours, and crackers

Brown rice and wild rice

Non-starchy vegetables that are high in fiber and low in calories are some of the best sources of fiber.

Whole grains “brown” starches are much better choices than their “white” processed counterparts that have a much lower fiber content.

Note: While whole grains provide valuable nutrients, they still have more impact on blood glucose than vegetable carbs, and so portion size should always be considered.

**GI**

The glycemic index (or GI) is a ranking of carbohydrates on a scale from 0 to 100 according to the extent to which they raise blood sugar (glucose) levels after eating. Foods with a high GI are those which are rapidly digested, absorbed and metabolised and result in marked fluctuations in blood sugar (glucose) levels. Low GI carbohydrates – the ones that produce smaller fluctuations in your blood glucose and insulin levels – is one of the secrets to long-term health, reducing your risk of type 2 diabetes and heart disease. It is also one of the keys to maintaining weight loss. Here is the evidence.

For diabetes: All of the evidence based recommendations for the management of diabetes from the major diabetes organisations around the world (the American Diabetes Association; Canadian Diabetes Association and Diabetes UK for example) now advise people with type 1 and type 2 diabetes to use the GI or GL as part of the nutritional management of their condition.

For gestational diabetes: In their recently released guidelines, Initiative on gestational diabetes mellitus: A pragmatic guide for diagnosis, management, and care, the International Federation of Gynecology and Obstetrics have recently recommended a focus on lower GI foods. “Low GI diets are associated with less frequent insulin use and lower birth weight than in control diets, suggesting that it is the most appropriate dietary intervention to be prescribed to patients with GDM,” they say.

For cholesterol: An analysis of 28 randomised controlled trials provided high-level evidence that high-fibre, low GI diets can significantly reduce total and LDL cholesterol levels, independent of weight loss.

For weight maintenance: The Diogenes study from Europe found that a moderately high protein, low GI diet is the best for longer-term weight management.

**Measuring the GI**

Following the international standard method, the GI value of a food is determined by feeding 10 or more healthy people a portion of the food containing 50 grams of digestible (available) carbohydrate and then measuring the effect on their blood glucose levels over the next two hours. For each person, the area under their two-hour blood glucose response (glucose AUC) for this food is then measured. On another occasion, the same 10 people consume an equal-carbohydrate portion of the sugar glucose (the reference food) and their two-hour blood glucose response is also measured. A GI value for the test food is then calculated for each person by dividing their glucose AUC for the test food by their glucose AUC for the reference food. The final GI value for the test food is the average GI value for the 10 people.

The GI of foods has important implications for the food industry. Terms such as complex carbohydrates and simple sugars are now recognised as having little nutritional or physiological significance. The WHO/FAO recommend that these terms be removed and replaced with the total carbohydrate content of the food and its GI value.

**Factors That Influence Glycemic Load**

One of the factors in assessing glycemic load is the level at which a food is processed, typically the more processed a food, the higher the GI score. For example, one whole peach has a GI of 42, while a fruitroll up has a GI of 99. Instant oatmeal has a higher GI than steel cut oats.

Certain combinations of carbs can influence glycemicload, as is the case when a high GI food is eaten with a lower one where the lower one can help to counteract the effects of the other.

Cooking times make a difference because cooking further breaks down starches, which causes them to digest faster.

Acidity makes a difference where pickling can lower the GI of a food. Sourdough bread contains an acid that make it lower on the GI scale than white bread.

The naturally occurring coat on food makes a difference in glycemic load, such as the case in beans, seeds, and plant cell walls found on whole grains that act as a physical barrier to slow digestion as the carbs are broken down in the stomach. This is one of the reasons that whole grain foods have a lower GI than processed ones where that coat is removed.

What Science Says About Low GI Diets In Diabetes

Several large studies report that a diet high on the GI scale is associated with an increased risk of developingtype 2 diabetes. However, the many studies conducted into a "low GI diet” for diabetes have yielded mixed results.