DENYING DIABETES THROUGH DIET AND DRUGS

The incidence of diabetes is increasing here in Georgia and around the world at an alarming rate. Type 1 diabetes usually occurs in childhood. It is an autoimmune attack against the pancreas, the organ responsible for producing the hormone insulin, which in turn regulates the body's blood glucose level. Type 2 diabetes is the more common form and occurs when weight gain and abdominal fat lead to insulin resistance and overwhelm the body's ability to produce enough insulin. Type 2 diabetes also goes by the term non-insulin dependent diabetes (NIDDM) or adult onset diabetes.

Elevated blood sugars over time lead to many serious problems such as heart disease, stroke, renal failure, cataracts, blindness, peripheral neuropathy and amputations. Well over half of my patients have or are at risk for diabetes!

The first step towards prevention of diabetes is to know your risk. If you have a family history of diabetes or a personal history of gestational diabetes you are at increased risk. If you are of African American, Hispanic or of South Asian origin you are also at increased risk. Such individuals should get a fasting blood glucose and a hemoglobin A1c checked (this is a 3 month average of your glucose control). A fasting glucose less than 100 is normal while greater than 126 represents diabetes. In between is what is known as impaired glucose tolerance or "prediabetes". Similarly, an A1c of 5.6% or less is normal while 6.5% or more represents diabetes. In between once again is the pre-diabetes range.

Dietary measures are the first step to improving glucose control. Many websites such as **www.diabetes.org** can provide helpful guidance along with a dietician. In general cutting back on carbohydrates is essential. When choosing carbohydrates those with a low "glycemic index" (55 or less) are recommended. These include beans, small seeds, whole grains, fruits and vegetables. The lower the glycemic index the longer it takes the gut to break down the carbohydrate thereby providing a more gradual rise in blood glucose post meals. Reducing portion size and eating more frequent but smaller meals or snacks also improves blood glucose. Regular exercise complements dietary measures by improving blood flow to the muscles. This in turn improves uptake of glucose by muscles and decreases insulin resistance.

Obesity, defined as a body mass index (BMI) of greater than 30 is often a precursor to diabetes. Such individuals should also check their waist circumference and a blood fat called triglycerides. When both are elevated your risk of diabetes is much greater.

When dietary measures are not enough it is important to discuss medication options before the complications of diabetes set in. Metformin is usually our first drug of choice as it lowers sugar while causing some weight loss. Many other classes of drugs have also been developed but all have some limitations. Some cause weight gain, others increase cancer risk while most are unproven with respect to cardiovascular safety. Your physician will discuss the options and advise regarding the best regimen. If sugars remain elevated despite combination therapy then insulin delivered through intermittent injections or a continuous pump are another option. For some individuals bariatric (weight loss) surgery can provide significant benefit.

The diabetes epidemic can be reversed but it will take a concerted effort to change our diets at home, in our schools and in the choices we make at restaurants and grocers throughout our neighborhoods!

By: Narendra Singh, MD

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CASHING IN ON THE MEDITERRANEAN…DIET WISE

Lately the news from the Mediterranean has been discouraging financially However amidst the economic tumoil, a study out of Spain called PREDIMED has changed the way cardiologists and others view dietary patterns for the prevention of cardiovascular disease. Published in the prestigious New England Journal of Medicine in February 2013, the study looked at 7447 persons over the age of 55 who were free of heart disease. They were randomized to one of dietary treatment groups: a Mediterrranean diet supplemented with unlimited use of extra virgin olive oil, a Mediterrranean diet supplemented with unlimited consumption of mixed nuts, or a control diet with advice to consume less fat.

The study was terminated early in favor of both Mediterranean diets after a median follow up of just 4.8 years because of a 30% reduction in the combined endpoints of heart attacks, strokes and death from cardiovascular causes. The largest benefit came in the reduction of stroke. What made this study stand out was that it was randomized (removes potential selection bias) and rigorously monitored. The outcomes were meaningful. Rather than just looking at weight loss, caloric intake or lab values it focussed on what matters most to such patients: survival free of serious complications! The study also shattered the myth that restricting calories is more important that choosing the right foods. The olive oil group was asked to consume an extra 50 grams (4 tablespoons) daily of the polyphenol rich variety. The mixed nut group was asked to consume an extra daily serving consisting of 15gm walnuts, 7.5 gm almonds and 7.5 gm of hazelnuts.

« The largest benefit came in the reduction of stroke.»

In addition to these extra servings, the Mediterranean diet groups were recommended the following : olive oil – 4 or more tbsp/day, tree nuts and peanuts – 3 or more servings per week, fresh fruits – 3 or more servings a day, vegetables - 3 or more servings a day, fish (especially fatty fish),seafood - 3 or more servings per week, legumes-3 or more servings per week, Sofrito (tomato sauce with onions garlic, aromatic herbs and olive oil) – 2 or more servings per week, white meat instead of red meat and finally wine with meals for those that enjoy drinking – 7 or more glasses per week. These individuals were also asked to limit soda drinks to less than 1 drink a day and commeercial bakery goods, sweets and pasteries to < 3 servings per week , spread fats to less than 1 serving per day and red or processed meats to less than 1 serving a day.

All studies have their limitations and all diets have some challenges. Here in North America consumption of such a diet will undoubtably cost more. In addition, other social factors such as the amount of daily exercise, chronic stress levels, and medication compliance will all impact your cardiovascular health, but this is without a doubt a great way to start the process of better eating and healthier lives!

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LOVE YOUR HEART THROUGH EXERCISE!

February is heart month and you can show your heart some love through the benefits of exercise. If you are like me, the winter has taken a toll on the waistline and weight. In the landmark INTERHEART study 3 risk factors were deemed protective ; daily consumption of fresh fruits and vegetables, moderate > 3x/week consumption of alcohol and moderate to strenuous exercise.

Exercise has a wide range of benefits. Starting with the obvious, it burns calories and improves overall cardiovascular fitness. That's why cardiac rehabilitation programs are an essential component of recovery following a heart attack or surgery. While exercise initially may raise your blood pressure, with time it comes down. Exercise increases blood flow to muscles and thereby improves blood sugar levels by allowing better glucose uptake. Exercise is one of the best means for raising your HDL 'good' cholesterol. Through the release of various hormones exercise helps generate new blood vessels, improve vascular tone and decrease inflammation in the body as measured by hs-CRP. Exercise has also been shown to release endorphins, the body's 'feel good' substance that can lift depression ease anxiety and reduce stress!

« Exercise increases blood flow to muscles and thereby improves blood sugar levels by allowing better glucose uptake. »

So lets get started... If you have not been active for a long time, or have any chest discomfort symptoms, or have risk factors for heart disease, it may be worthwhile to see your doctor first to get some baseline bloodwork as well as an EKG and a simple treadmill test. Proper footware is essential to prevent injury. Your regimen should consist of both isometric exercises (designed to improve muscle tone and strenthen your body core) and aerobic exercises (designed to improve cardiovascular fitness and endurance).

The simplest form of exercising is brisk walking. It can be done in the comfort of your home, in a gym, indoor shopping malls or within your neighborhood streets. No equipment is needed but you do want to get out at least 5 days a week for a minimum of 30 minutes. Another useful target to acheive is counting footsteps. Inexpensive pedometers can help track each step you take towards a target of 7500-10000 a day.

Heart rate should be checked during exercise and in general we use the formula of 220 minus your age as the target heart rate. You should avoid exceeding the target heart rate for extended time periods and ideally workout at 85% of the target heart rate.

For some individuals arthritis and other medical conditions prevent one from walking. In those situations a stationary bicycle, elliptical equipment or water aoerbics may be easier to perform.

In our busy lives finding even 30 minutes a day sometimes seems challenging. Incorporating exercise into our daily activites can offer the same benefits. Walk to your destination a little faster, use stairs rather than elevators, use your coffee breaks to stretch rather than sip, hide the remote control or better yet unplug the TV!

If at anytime during exercise you notice unusual shortness of breath or chest discomfort, stop, and consult with you doctor. Otherwise enjoy your path to a trimmer and healthier self!

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