The Role of Nutrition in Treating Diabetes

The role food plays in both the prevention and management of diabetes cannot be stressed enough. It can be argued that those diabetics who do not follow a strict diet only ask for further complications, inasmuch as their bodies may very well endure considerable damage from being deprived of appropriate nutritional sustenance. Food serves as the buffer between fluctuating levels of blood glucose; without its constant presence in one form or another, the individual stands to suffer a diabetic episode. Protein, in particular, is an especially important component of a diabetic's diet. Interestingly, the source of protein is just as critical in one's overall health; particularly, evidence of this is the fact that a vegetarian protein source is far more advantageous to patients who suffer from the detrimental effects of diabetes.

Contrary to popular belief, having diabetes doesn't mean you have to eat only bland, boring foods. Quite the contrary. Modern diabetes diet management means you'll eat more fruits, vegetables, and whole grains — foods that are high in nutrition and low in fat and calories — and fewer animal products and sweets. Actually, diabetic diet control is the same eating plan that's recommended for everyone. Yet understanding what and how much to eat can be challenging (Anonymous, 2009).

Nutrition = Health

Protein coupled with complex carbohydrates from grains, fruits, and vegetables comprise the optimum diet for a diabetic. Choosing the appropriate sources of these two components,

however, often proves challenging for those with diabetes, especially when it comes to carbohydrates. Fiber is a particularly important element that helps keep the digestive

tract in good shape, however, eating white bread or canned vegetables will not only provide negligible fiber but those types of simple carbohydrates serve to increase glucose levels. Whole grains (multigrain bread) and fresh produce are considerably more appropriate choices to maintain desired levels because of the longer time they take to pass through the body. Sugars —both processed and natural — must be consumed in moderation.

The one aspect of diabetes that cannot be overlooked is the need to eat small amounts several times a day; without the appropriate levels of proteins and sugars available to the system on a regular basis, a diabetic can quickly complicate his or her condition. Diabetics also tend to suffer from ill effects of inactive muscles, as their bodies become less sensitive to their usual dose of insulin. As such, just the slightest decrease in appropriate food consumption is detrimental to the overall health and well-being of the diabetic. Often complicated by kidney problems, diabet-

ics have been shown to benefit from a low protein diet, especially when the protein source is vegetable-derived (Olendzki et al, 2006).

Because a balanced diet incorporates myriad foodstuffs that provide the adequate types of nutrition, appropriate calorie control and variety, it provides for the vastness of what a diabetic's diet should represent. A balanced diet allows for larger food portions (moderation) and more physical satiation than that of the meat-and-fat-laden, high-protein diet readily consumed in today's culture. Indeed, the initial sensation of a 20-ounce steak may well render the individual satiated; however, it will also make him sluggish, listless, and prone to lack of concentration, inasmuch as a great deal of blood is sent to the digestive tract in order to begin the difficult process of breaking down the animal protein. The nutritious and varied food plan of balanced diets, however, allows diabetics to consume a number of different provisions that provide the needed complex carbohydrates and plant proteins (Olendzki et al, 2006) that allow for a much more generous portion ratio while at the same time keeping natural control over glucose levels and adequacy.

The difference between a nutritious diabetic diet and, for example, a British diet is quite vast; while one is laden with saturated fat, too much animal protein, simple carbohydrates and over-processed vegetables, the other promotes the ingestion of fresh, unadulterated plant and grain products, focusing mainly upon the easily digestible and nutrient-rich food choices. Meat remains a staple of much of the global population; whether or not the related health concerns pose any worry for these meat eaters is not clear, however, what is clear is how the vast majority of the British population consumes a considerable amount of hard-to-digest animal flesh. Olendzki et al (2006) notes how the food pyramid has changed over the past several years by cutting back on animal flesh and augmenting the intake of whole grains, legumes, and fresh vegetables for the general public; these choices have long been staples of the proper diabetic diet. As a primary element of many diets due to reasons of economics and versatility, meat takes up much of the space where diabetic diets insert plant-based proteins and complex carbohydrates that provide natural portion and calorie control (one gets full faster from these long-lasting foods), adequacy (these foods are very bioavailable to the body), and variety. Indeed, it has been argued that if a balanced diet had been followed all the way through man's historical development, the struggle associated with diabetes would be all but nonexistent in the twenty-first century.

Although diabetes research is still ongoing, there are specific habits and foods proven to be detrimental to everyone. A good diabetic diet is a healthy diet. It's a low glycemic diet that's high in fiber, moderately low in fat — 25% to 30% of calories, with a focus on good fats — and high in diabetes nutrition (Greene, 2009).

Adolescents represent one group of diabetics more likely to experience diet-related health issues due to the typically poor nature of foods consumed. Modern diets of teenagers reflect the significant pressures placed upon impressionable adolescents; whether the influence is that of popular culture, athletics, religious affiliations or a

whole host of other persuasions, diabetic teenagers are faced with difficult choices when it comes to food. In order to maintain a sense of acceptance, teens often forego the necessary elements of a proper and healthful diet in exchange for one full of simple sugars, worthless carbohydrates and empty calories.

When protein is allowed into the diet, it is typically in the form of a fast food hamburger or other kinds of inadequate sources. Educating diabetic teenagers about the importance of proper nutrition is a difficult task, in that this particular age group has a tendency to follow the leader when it comes to dietary choices over and above the need to pay close attention to food consumption; indeed, this is not necessarily the time in an adolescent's life when smart nutritional choices are made even with a potentially life-threatening disease.

Eating disorders play a critical role in how well a diabetic adolescent does or does not control her disease. Eating disorders such as bingeing, purging, and anorexia are as much a part of teenage life as high school parties and football games. High school-age young women in particular are significantly more susceptible to eating disorders because they are keenly aware of their physical appearance, which is oftentimes distorted by an unbalanced self-esteem. One of the more readily utilized types of eating disorders is that of bingeing; unlike its counterpart of bingeing and purging, where the person induces vomiting or ingests large amounts of laxatives in order to get rid of the food, bingeing is a psychological disorder that manifests itself by loss of control.

Food, being a commodity the sufferer is unable to manage, becomes more of an enemy than an inanimate object. Rather new to the long list of established eating disorders, binge eating is said to "affect millions of Americans" (NIDDK, 2008). High school-age girls who are afflicted with this disorder are not immediately recognized, inasmuch as they are quite masterful at hiding their actions; however, it does not take long for diabetic teens to succumb when the body's systems are being so harshly compromised. Indeed, popular culture's obsession with weight, shape, and appearance inevitably push a number of high school-age girls towards developing an eating disorder despite the critical connection their wellbeing has with the consumption of appropriate foods.

What exactly motivates high school-age girls to lose control over their food consumption is an issue that is still not fully understood by the medical community. What is know about those who suffer from binge eating disorder, however, is enough to establish a reasonable theory: depression, sadness, boredom, anger, anxiety, and "other negative emotions can trigger a binge episode" (NIDDK, 2008). An impulsive personality is also associated with high school-age girls who have been diagnosed as having binge eating disorder. Unquestionably psychologically related, other mental conditions, such as chemical and metabolic imbalances, can stimulate binge

eating, as well. Other findings have demonstrated a connection between bingeing and the inability to cope with everyday stress. This is to say, therefore, that parents need to play an especially active role in helping the diabetic teen maintain a proper diet.

Religious Fasting

The extensive fasting performed during the holy months of Ramadan may have its roots firmly planted in the individual's spiritual development; however, for the diabetics who practice this sacred tradition, it poses grave consequences to their ability to effectively manage the disease. It is a known fact that the one aspect of diabetes that cannot be overlooked is the ability to eat small amounts several times a day. Without the appropriate levels of proteins and sugars available to the system, the fasting diabetic only serves to severely complicate his or her condition, ultimately threatening the chances for survival.

It has been noted that those diabetics who choose to participate in religious fasts stand to do considerable damage to themselves in exchange for respecting their religion. Diabetics who follow a fast do more harm than good, inasmuch as their bodies may very well endure considerable damage from being deprived of nutritional sustenance. Even under the best conditions, there is a specific plan to follow when fasting that becomes even more critical for those living with diabetes. The first and foremost consideration to make is how much to adjust the insulin intake in conjunction with the decrease in food. "If you fast without reducing your insulin or oral medication dosages, you risk low blood glucose. If you reduce dosages too

much or omit doses, you risk high blood glucose and even life- threatening ketoacidosis" (Bolderman et al, 1996, p. 48). Indeed, it remains to be of critical importance that diabetics understand how altering one's medication is most assuredly not something that should be done without physician consultation.

Even when a medical professional has ascertained the best dosage to take throughout the fast, it is still necessary to continually monitor the individual's blood glucose levels even when the person is feeling strong and healthy. As well, there is a slight difference in application for those who are insulin-dependent and those who are non-insulin-dependent. Guidelines for assisting with the adjustment period during the fast include:

- Non-insulin-dependent (type II) people who don't use any medication will experience considerably less glucose fluctuation. Continue checking levels.
- People who use pills often have the option of stopping or at least reducing the dosage while on the fast.
- Those with oral hypoglycemic agents and insulin may be advised to modify the times of these applications.

- Insulin-only people will likely have to modify the amount of short-acting insulin so as not to overmedicate; longer- acting insulin may or may not be reduced at all.
- Those with insulin-dependent (type I) who use a combination of short-, intermediate-, or long-acting insulin will likely be advised to continue such medication in order to offset the stress-related glucose released by the liver.
- Insulin pump users with accurately set basal rates are the least likely to make any medication changes during fasts, unless excessive exercise is also included (Bolderman et al, 1996, p. 48).

In order for those to successfully accomplish the fast, it is necessary to follow the advice of one's physician. Even the very devout must consider which choice has more priority: remaining healthy or abiding by one's religious beliefs while, at the same time, potentially jeopardizing one's diabetic condition. This is often not an easy decision to make, being that devoted practitioners experience an inner conflict that serves to cause great dissatisfaction. Inasmuch as "fasting cleans the body, mind, and spirit…you feel euphoric the next day" (Bolderman et al, 1996, p. 48), those diabetics who choose to fast cannot do so lightly, but rather they must adhere to the strict guidelines that are set by the personal physician most familiar with their disease.

Insulin-Associated Weight Gain

Insulin therapy or intensification of insulin therapy commonly results in weight gain in both type I and type II diabetes. This weight gain can be excessive, adversely affecting the cardiovascular risk profile. The specter of weight gain can increase diabetic morbidity and mortality when it acts as a physiological barrier to the initiation or intensification of insulin or affects adherence with prescribed regimens. Insulin associated weight gain may result from a reduction of blood glucose to levels below the renal threshold without a compensatory reduction in calorie intake. A defensive or unconscious increase in calorie intake caused by fear or experience of hypoglycemia.

There is, however, scope for limiting insulin associated weight gain. Strategies include limiting the dose by increasing insulin sensitivity through DIET and EXERCISE or by using insulin sparing pharmacotherapies such as pramlintide or metformin. Insulin replacement regimens that attempt to mimic physiological norms should also enable insulin to be dosed with maximum efficiency. This approach especially in conjunction with diet and exercise appears to lack the usual propensity for causing weight gain (Russell-Jones and Rehman Kahn – 2006).

Help Available for Diabetes

Given the fact that man's ancestors thrived upon nothing more than fresh meat, nuts, berries, roots, and other foods derived from the earth, it stands to reason how the fundamental concept of a diabetic diet harkens bMake sure they are manufactured by a company with NPA's certification for good manufacturing practices. ack to how man was meant to eat from the beginning of time. Only since the Industrial Revolution has such tremendous health issues existed — heart disease, high blood pressure, diabetes — which suspiciously coincides with the introduction of processed grains and sugar. This scientific basis for sustainable human health has completely escaped critics who continue to churn out the erroneous argument that simple carbohydrates are essential for energy. By dramatically reducing the recommended daily amount in one's daily diet, they claim how complementary components of protein and carbohydrates fail to strike a balance so necessary for optimum health. Nutrition has become an integral component in the overall concept of well being, with proper nutrition acting as the cornerstone of prevention and treatment alike for diabetics.

Supplementation

Regular exercise and a balanced healthy eating plan are essential for managing and preventing diabetes. Diabetics are also successfully relying on supplementation to help control their blood sugars. Below is a list of supplements that have been shown to benefit those with diabetes. Make sure they are manufactured by a company with NPA's certification for good manufacturing practices. Additional supplements may be recommended by your doctor.

Krill or Fish oil - essential source of omega 3 fatty acids, for heart health and decrease inflammation.

Gender Specific Multi-vitamin - to ensure all vitamin and mineral requirements are met daily.

Ubiquinol or CoQ10 - pure form of antioxidants, boost immune system and manage chronic disease

Super Greens and/or Resveratrol - pure form of antioxidants

Calcium/Magnesium/potassium

Chromium Chelete

Cinnamon

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