

Treating Diabetes From A Nutritional Perspective – PART THREE

DAVID KROLL, CERTIFIED NUTRITIONIST

www.milkandhoneyhealthfoods.com
healthycell@aol.com

Many diabetics, wishing to continue consuming their favorite products, will switch to using sugar substitutes in their attempt to regulate blood sugar levels. Some sugar substitutes have been shown to be safe and effective. Others have not. Here is a review of sugar substitutes and what the research shows.

ASPARTAME

Aspartame (NutraSweet or Equal) is found in many beverages and a variety of food products. Both NutraSweet and Equal contain sugar disguised as dextrose and/or maltodextrin. Of greater concern is the fact that 75% of all non-drug complaints registered with the FDA concern aspartame and at least 70 different symptoms and five deaths have been associated with its use. Some research has indicated that aspartame destroys neurons and contributes to the development of brain and nervous system disorders. Aspartame has also been associated with reduction of sight, including blindness. This sweetener is made from the amino acids phenylalanine, aspartic acid and the wood alcohol, methanol. There are serious concerns as to how well these elements, as combined in aspartame, are metabolized by the body. Methanol, in particular, is known to be toxic in even modest amounts. I would strongly recommend staying away from aspartame.

ACESULFAME K (A-SCH-SUHL-FAYM-K)

This non-caloric sweetener, also known as acesulfame potassium, was approved by the FDA in 1988. It is sold commercially as Sunette or Sweet One. It is 200 times sweeter than sugar and retains its sweetness when heated. It is synthesized from a combination of carbon, nitrogen, oxygen, hydrogen, sulphur and potassium atoms. This sweetener has undergone numerous studies over 15 years and has been found to be relatively safe. However, concerns have been raised by the Center for Science in the Public Interest (CSPI) as to acesulfame K being a

potential carcinogen. The CAPI has charged that previous tests done on acesulfame K did not follow adequate protocols. I urge caution relative to this sweetener.

SUCRALOSE

This sweetener, sold under the brand name Splenda, is a recent entry into the artificial sweetener market. It is made by changing the chemical structure of sucrose by using chlorine. Sucralose is non-caloric and about 600 times sweeter than sucrose. Few human studies have been done with this sweetener. Research with animals has identified a variety of problems, including shrinking of the thymus gland, enlarged liver and kidneys, and decreased red blood cell count. Some European countries have yet to approve Sucralose until more research is done. I personally will avoid products containing Sucralose until I see some positive human trials.

SACCHARIN

This is the oldest of the artificial sweeteners. It was introduced over a hundred years ago and is synthesized from coal-tar derivatives and is therefore completely artificial. It has no calories and requires no insulin. Sold under the brand name Sweet-n-Low, this sweetener came under fire in 1977 when studies revealed that male rats given large amounts of saccharin developed bladder cancer. This led the FDA to require a warning label on saccharin and it was also included in the FDA's list of known carcinogens. The 1977 rat study has since been shown not to apply to humans and the FDA has removed saccharin from its list of carcinogens and no longer requires a warning on labels of products containing this substance. Saccharin appears to be completely eliminated from the body unchanged and therefore is not metabolized. No current evidence suggests this sweetener is a threat to human health.

STEVIA

I can recommend the herb stevia as a sugar substitute. This herb is non-caloric, has 200 to 300 times the sweetness of sugar and will not raise blood glucose levels. Stevia can be purchased as a powder or liquid and can be used to sweeten drinks and foods. There are recipe books available that show how to use stevia in a variety of ways. This sweetener has been used all over the world for decades and proven to be safe.

AGAVE NECTAR

This sweetener is derived from the Blue Agave, a cactus-like plant native to Mexico. It is best known for its use in making tequila. This is not a non-caloric herbal sweetener like stevia, but it is 25% sweeter than sucrose, yet with a rating of only 11 on the glycemic index. With such a slow rate of glucose response, this sweetener can be used by most diabetics.

SUGAR ALCOHOLS

Sugar alcohols, also known as polyols, are derived from monosaccharides (single molecule sugars such as fructose). They also occur naturally in foods. They provide about one-half to one-third less calories than regular sugar. They convert to glucose more slowly and require little or no insulin for metabolism. Common sugar alcohols are mannitol, sorbitol and xylitol. These sugar alcohols are often found in products labeled as "sugar-free." These products include such items as hard candies, cookies, chewing gums, soft drinks and candy bars.

Technicality speaking, these products are not sugar free. Part of the chemical structure of a sugar alcohol molecule does involve components of sugar with the other part having components of alcohol. The sugar part of the molecule is still a carbohydrate and must be listed on a label as part of the total carbohydrates shown to be in the product. The alcohol in a sugar →

alcohol is not ethanol alcohol as found in alcoholic beverages. The advantage of sugar alcohols are that they require little insulin for their metabolism and are very low in calories. They appear to be relatively safe for human health. Their only known negative is they can cause bloating and diarrhea if consumed in excessive amounts.

DIABETIC DRUGS

Millions of diabetic Americans are using injectable insulin and/or are taking a variety of drugs to control their blood sugar levels. While such usage may be necessary in a number of cases, there are a variety of risks involved. The drug Rezulin is known to cause liver damage and a number of deaths have been associated with this drug. Glucophage (Metformin hydrochloride) comes with the warning that it increases the risk of overall mortality and heart disease. This drug has been shown to lower levels of folic acid, vitamin B12 and increase levels of homocystene, a protein by-product

that damages the arteries. The drugs Tolbutamide and Phenformin have been implicated in an increase in cardiovascular problems. The drug Acarbose (Precose) has shown some evidence of carcinogenicity to the kidneys and testicles.

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Because of the potential side effects of diabetic medications, many diabetics have sought to control their blood sugar levels by more natural means. In part four of this series we will look at a variety of supplements that are available for maintaining acceptable blood glucose levels. Visit www.milkandhoneyhealthfoods.com for comprehensive articles on many aspects of health and nutrition.