

SWEETENERS: THE GOOD, THE BAD, AND THE UGLY!

In an effort to consume less sugar in our diets, we often turn to the use of sweeteners. If you have spent any time in the baking aisle of the local grocery store, you know that there are lots of sweeteners and sugar substitutes available.

Zero calories are usually the only factor we consider when choosing a sweetener, but this may not be enough when trying to control your blood sugar and insulin response! Many sweeteners still stimulate an insulin response at a hormonal level which leads to weight gain, inflammation, and derails our efforts!

So how do you know which sweeteners are okay and which are off limits??

Understand how these sweeteners are labeled. Keep an eye out for the common names of sugar. And beware of products labeled as “no added sugar”.

Here is the comprehensive guide to sweeteners:

ASPARTAME

The most popular artificial sweetener in use today is aspartame, sold under the brand names of NutraSweet and Equal. It is used as sweetener in many diet products, including diet soda. Aspartame is not suitable for cooking because of its chemical instability. When heated, it breaks down into its chemical constituents and results in a very sour metallic taste. It also has been found to break down as it ages.

To make aspartame into a crystal, it is usually bound to dextrose or maltodextrin, which are sugars! Some products, such as some forms of Equal, have added acesulfame potassium, which is covered later in this guide. These additives spike insulin, cause weight gain and inflammation and increase the risk of diabetes.

In addition, mixed reports in the past few years have made aspartame controversial. Many people have experienced side effects, including headache, stomach upset, migraine, and worsening of depression.

Experts disagree on the use of aspartame. The use of diet soda to bridge the dietary changes from a traditional diet to a low carbohydrate diet is usually considered acceptable in moderation.

I do not recommend using Equal or NutraSweet packets. They contain dextrose and/or maltodextrin, which cause a rise in insulin and lead to weight gain and metabolic syndrome. You should not use aspartame in cooking or meal preparation, nor should you use products containing aspartame past their expiration date.

SWEETENERS: THE GOOD, THE BAD, AND THE UGLY!

ACESULFAME POTASSIUM

Many food and beverage companies use acesulfame potassium as a sweetener. It is sold under the brand names of Ace-K and Sunette. This sweetener is not fully absorbed by the gut, has no calories, and doesn't raise blood sugar. It has a slightly bitter flavor, so it is often combined with aspartame. The problem with acesulfame potassium is that a number of studies reveal that it significantly increase insulin response without raising blood sugar. And this is exactly what we are trying to avoid! These studies show that the insulin response is as remarkable as if a person had ingested an equivalent amount of glucose. Acesulfame potassium works directly on the pancreas to stimulate insulin release.

This product is one of the most popular sweeteners used in low-carb products from protein bars, shakes, and diet sodas.

Acesulfame potassium significantly limits weight loss and raises both triglycerides and small-dense LDL particles. I do not recommend using this sweetener at all!

SUCRALOSE

Sucralose- Splenda- is a liquid that is derived from regular sugar in such a way that the body doesn't recognize it, and it is not absorbed. When sucralose is bound to dextrose or maltodextrin, crystals form. It remains stable when heated and Splenda is available in bulk for cooking and baking and measures equivalently to table sugar in recipes.

The downside to sucralose is that it is not carbohydrate free. Because of the maltodextrin used to make it a crystallized product, it contains about 0.5 gram of carbohydrate per teaspoon. So, if you are cooking with Splenda, 1 cup has the same carbohydrate count as 2 tablespoons of sugar, which is 12-15 grams!

Sucralose does cause insulin release and often causes weight gain or difficulty with weight loss when used in excess. I do not recommend using this sweetener.

SACCHARINE

Saccharine is another unstable chemical when heated. Sold under the brand names of Sweet'N Low and SugarTwin, saccharine does not react chemically with other food ingredients and stores well. It is one of the original artificial sweeteners, and has been used for quite some time in many products. It was a staple in my home growing up! Its use has become less frequent as other sweeteners have been developed, but it is often combined with other sweeteners to preserve shelf life of foods.

SWEETENERS: THE GOOD, THE BAD, AND THE UGLY!

Saccharine doesn't increase blood sugar but does stimulate an insulin response. I do not recommend its use.

CYCLAMATE

Cyclamate is a sweetener available in Canada, sold under the brand names of SugarTwin and Sucaryl, and is often combined with saccharine. It is similar to sucralose. There is controversy over its use due to studies which show it is known to cause bladder cancer in rats. There has been no human occurrence in thirty years of study.

This product is currently banned in the United States.

STEVIA

Stevia in its liquid form is a non-caloric natural sweetener that contains no carbohydrate. It is derived from the *Stevia rebaudiana* plant that has sweet tasting leaves. The leaves are processed to form a liquid extract or a white powder. You can purchase stevia as an extract, powder, or powdered green herbal leaf. Plants are often found in many local garden centers. It has an intense sweet taste and has a potential to be slightly bitter.

Stevia's extreme sweetness means that it can be hard to measure just how much to use. Try liquid drops which are easier to gauge.

Stevia does not raise blood sugar or stimulate an insulin response. In fact, it appears to improve insulin sensitivity in the pancreas.

Be aware that because of its popularity, many manufacturers have combined stevia with dextrose or maltodextrin to add bulk! It is best to use an organic form and carefully review labels.

MONK FRUIT

Luo han guo, monk fruit, is one of the newer sweeteners on the market. It is a melon-like gourd found in Asia and was cultivated by monks years ago to be used as a folk remedy to treat coughing, constipation, and some metabolic deficiencies. It is 200-500 times sweeter than regular sugar.

Monk fruit is sold in a number of different brands. It does not raise blood sugar. It is easily used in cooking.

Monk fruit does stimulate insulin secretion in varying degrees among study subjects. Therefore, use this sweetener with caution.

SWEETENERS: THE GOOD, THE BAD, AND THE UGLY!

OLIGOFRACTANS

Fructooligosaccharides (FOS) are often called oligofractans. They are short-chain fibers derived from inulin. They have a sweetness between 30 and 50 percent of sugar and have been used commercially since the 1980s. Common sources are chicory root, bananas, onions, garlic, and blue agave. Because of their configuration, they resist breakdown by digestive enzymes and are instead broken down during a process of fermentation in the colon. Read- large amounts of FOS can cause gastrointestinal distress!

FOS combine well with other sweeteners and diminishes aftertastes. FOS do not raise blood sugar and have not been shown to affect insulin.

A great option to use for cooking is a product called Swerve, which is a combo of FOS and erythritol (see below).

SUGAR ALCOHOLS

Sugar alcohols are also called polyols. These are long-chain carbohydrates that are neither sugar nor alcohol. They include: maltitol, sorbitol, mannitol, xylitol, erythritol, lactitol and hydrolyzed starch hydrolysates (HSH). These long-chain carbs are incompletely absorbed by the intestine which can cause side effects like gas, bloating, and diarrhea for a significant number of people. These sweeteners affect blood sugar and insulin release differently and in varying degrees among individuals.

Maltitol, sorbitol, and xylitol are the worst offenders in this group of sweeteners- they cause insulin response of about half that of sugar. And xylitol is toxic to dogs, so beware if your home includes furry family members!

The exception is erythritol, which is absorbed and excreted unchanged and appears to have no insulin response.

Truvia is a sweetener made with a combination of stevia and erythritol. However, gastrointestinal distress can be a side effect when used in excess! Be aware that some Truvia products have added maltodextrin and should be avoided!

MY CONCLUSION

Organic stevia, FOS, and erythritol do not cause adverse metabolic responses. Options are readily available and work well with liquids, foods, and baked goods that are a part of our low carbohydrate dietary needs. Enjoy!