**DIET SODA**

**ISN'T THE ANSWER TO WEIGHT LOSS**

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Lately, I have focused on good carbs versus bad carbs, and the champion of bad carbs is soft drinks.

A typical 12-ounce cola contains about 10 teaspoons of sugar, which exceeds the full daily allowance of sugar on a healthy diet. That's bad news, of course, so why do so many Americans continue to indulge in the health destroying habit of consuming garbage colas like they're going out of style?

One possible answer, according to some experts, is that sugar is addictive, psychologically and possibly physiolog-ically, and the more sugar you take in, especially in high quantities all at once as occurs with soft drinks, the greater the power of the addiction. Another explanation is that folks are unaware of the adverse health impact because they have been consuming colas all their life and not paying a price for it — yet.

One price associated with too much sugar intake that is quite high is developing prediabetes. This occurs when the body stores too much fat, especially around the midsection, which can lead to insulin resistance. In other words, your pancreas gland is doing its job and releasing insulin when you consume sugar. In turn, insulin is required to escort sugar out of the bloodstream and into the cells. When there is resistance to insulin, sugar cannot enter the cells and it accumulates in the bloodstream, leading to a high blood sugar concentration.

Experts contend that a whopping 35% of the adult American population has prediabetes, and if it worsens over time, which often is the case, it can morph into Type 2 diabetes, when the body has an extreme insulin resistance.

So, what can we do to prevent rising cases of prediabetes?

**Why is diet soda bad for you?**

It's high time we reduced our daily intake of sugar. But we Americans don't give up our guilty pleasures easily, and will do all we can to find an acceptable alternative. In other words, we are not willing to sacrifice much, if at all. This

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leads us to artificial sweeteners, which are found in thousands of food products, and especially soft drinks.

At first glance, artificial sweeteners seem like a no-brainer, substituting zero calories (kcals) in a soft drink for the fully loaded 150 calories. This, of course, was the sales pitch when Aspartame, one of the leading artificial sweeteners, was approved by the U.S. Food and Drug Administration more than 40 years ago. Americans are fat and getting fatter year by year, and the biggest cause is excess intake of sugar. Therefore, the assumption was that folks would endeavor to reduce fat accumulation by shying away from sugar and toward "diet" foods, especially "diet" soft drinks. This, in turn, would help lessen the accelerating "fatty" trend in our population.

Oops, not so.

Many who regularly consume soft drinks merely added a diet drink or two to their daily regimen, thinking that it's a "freebie" with no consequences. Still others bit the bullet and shifted entirely to "diet" soft drinks, but even so, they kept getting fatter.

Consuming diet drinks and still getting fatter isn't fair, plus it makes no sense. Isn't it true that when you consume excess calories, the body gets fatter, and therefore if you consume fewer calories you should lose body fat? Yes, of course. It's the proverbial "calories in versus calories out" argument. When the "out" calories are greater, you enter a negative caloric balance and should lose body fat.

So, what went wrong? The answer may be found in the body's response to insulin.

**What does gastro-intestinal bacteria have to do with insulin resistance?**

Recent research indicates that chronic use of "diet" soft-drinks can alter certain bacteria in the gastro-intestinal tract, which can contribute to insulin resistance. Typically, excess body fatness, especially around the midsection, is the prime factor in insulin resistance. However, chronic intake of diet drinks, even if they reduce calories and body fatness, can still contribute to insulin resistance.

Several years ago, before this topic gained much attention, one of my students conducted her senior thesis research study on this topic. She had two groups of subjects that were very similar (same age, gender, body composition, physical activity level, etc.), except that one group regularly consumed a large amount of Aspartame daily (Consumers), while the other group consumed little or none (Abstainers). Both groups underwent an oral glucose tolerance test (OGTT) that entailed being fasted for at least 12-hours, then they consumed 50 grams of glucose with blood samples taken every 15 minutes over 90 minutes to trace the impact on blood glucose concentration.

When you take an OGTT test, the blood sugar (glucose) concentration suddenly spikes upward as sugar rushes from quick digestion into the blood stream. This causes a powerful insulin response from the pancreas gland to move sugar into the cells. In a healthy response, the blood sugar level soon peaks, then comes back down to the resting level. However, with insulin resistance, the blood sugar level remains elevated for a prolonged period.

Results from this study indicated that Abstainers demonstrated a better OGTT, with a lower peak blood glucose concentration and a much faster clearance of glucose from the blood. In other words, Abstainers responded in a healthy way

to a glucose challenge, while the response of Consumers was compromised. These findings support the notion that Consumers were, to some degree, insulin resistant when compared with Abstainers.

Over time, this could contribute to increased body fatness that, in turn, could lead to prediabetes, and ultimately to Type 2 diabetes, plus the potential for other negative health implications. Since then, we have conducted several additional research studies on this topic in our lab, and others have as well, and the results support these findings.

The bottom line is, choosing between a sugary soft-drink versus a diet softdrink is a Sophie's choice, meaning neither choice is good. A third and healthier alternative, like drinking water, is a much better way to go.

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