## Are YOU Carbohydrate Sensitive?

**By Lisa Schilling RN**

Many people struggle with food because they never feel full. For them, eating can be both pleasure and pain. They fall into a group I have dubbed as "**carbohydrate sensitive**" or CS for short. CS people need to choose an eating plan that balances the carbohydrate-insulin-serotonin connection. Learning about what causes the hunger and fullness cycle is an important part of that.

CS people tend to sustain a ***higher*** insulin level in the blood. The reason is not fully understood, but it seems to coincide with a decreased number and sensitivity of insulin receptor sites. **Too much insulin** in the blood **for too long** causes the cells to change in such a way that less insulin is able to enter and there is a decrease in the actual number of receptor sites. Subsequently, this causes your body to stop responding to insulin ***(insulin resistance),*** and instead grab every calorie it can and deposit it as fat. So no matter how little you eat, you will gradually gain weight. At the same time, your cells cannot absorb the glucose they need, so they signal your brain that you need more carbohydrates or sugars. The result is persistent food cravings.

CS people face very real chemical and hormonal changes upon eating carbohydrates. For them, carb consumption will ***increase hunger*** and ***decrease the sense of fullness*** that non-CS people would feel. It actually produces a ***compulsion*** to eat. Eating carbs initially produces a pleasurable feeling, followed by an uneasy feeling, weariness, and an urge to snack ***more*****.** For some unknown reason, CS people accumulate an excess of insulin. This signals the body to conserve energy. They actually become hungrier with each carb-rich meal or snack. The body will then begin to store the excess insulin in form of *fat*. Because of this, CS people need to eat in a way that stops the cycle of excess insulin production. When carbs are eaten less frequently, less insulin will be produced. The body will have a decreased tendency to store the excess calories in its fat cells and will be more capable of breaking down stored fat.

The body releases insulin in two phases. The first *preload phase* begins within minutes of eating carbohydrates. During this phase the pancreas releases a **fixed amount of insulin**, no matter how many carbs are consumed. This is determined by the amount of carbs consumed in the previous meal. The *second phase* takes place about seventy-five to ninety minutes after eating. It is dependant on the number of carbs consumed during that eating episode.

Brain chemistry is also affected when signals are not sent and received normally. For CS people, the carbohydrate-insulin-serotonin connection has malfunctioned. Their serotonin levels do not rise sufficiently. As a result, the feeling of "being satisfied" is never delivered. This leads the CS person to overeat and begins a ***cycle*** of craving more carbohydrates. The constant "needing something more" feeling can never quite be squelched. The production of insulin will continue to rise with each subsequent consumption of carbohydrates. Larger quantities of carbs may be consumed, more frequently, without any increase in satisfaction. Balancing eating episodes becomes a key. Dietary fat and protein do not stimulate insulin secretion. The body uses protein for essential functioning. It helps build muscle and sustains blood sugar and insulin levels. Protein consumption can *reduce* cravings and help maintain feelings of fullness.

Most CS people do not get enough protein in their natural diet. They tend to not choose those sources when given starchy or sugary options. ***Mindful addition*** of protein to each eating episode is a place to start. Be extremely cautious of eating a sweet treat by itself. This will seem pleasurable at first but realize the destructive journey it can lead you on. Save those treats to consume ***with*** your meal. You can eat them, just think *when* and *what to eat them with* so that you do not begin the cascading spiral of craving and pleasure food seeking. Understanding how you react differently to carb consumption will make choosing foods less difficult.