



What the Heart Says About Inflammation: A Case Study

SweetWater Health recently added a food-sensitivity test to its iPhone app, SweetBeat™. The original SweetBeat monitored stress, so (you might ask), what do food sensitivities and stress have in common?

It turns out they both create inflammation deep in the body. Stress causes the body to release stress hormones like cortisol. Cortisol, in addition to readying the body for fight or flight, regulates energy consumption by the body by selecting the right type of energy source (fat, carbohydrate or protein) the body needs to meet its physiological demands. When cortisol is chronically present due to stress, cortisol prepares the body for a fight-or-flight response by flooding it with glucose, supplying an immediate energy source to large muscles. In doing this, cortisol inhibits insulin production in an attempt to prevent glucose from being stored, giving priority to its immediate use.

Food sensitivities also set up inflammation, but through a different mechanism. Whenever the body detects a threat such as bacteria in a cut, a bruise, or a substance perceived as harmful, it sets up inflammation as a means of combatting the potential intrusion. This can take many forms, such as redness, swelling, itching, nausea, etc. With food sensitivities (as opposed to food allergies), the reaction often takes place deep in the cells, but has little or no detectible symptoms. Nevertheless, inflammation is present and can create health problems.

In our fast-paced modern lives, we tend to be continually stressed, constantly flooding our bodies with cortisol. Undetected food allergies add to the problem. The result is chronic inflammation throughout the body.

But you wouldn't necessarily know this was happening to you, especially if the inflammation is as a result of food sensitivities. With a food allergy, the cause and effect is usually apparent with obvious symptoms such as difficulty breathing, hives, swelling, etc. Food sensitivities cause inflammation, but it may not be noticeable in the form of clear symptoms. Instead, inflammation lurks deep in the cells, undetected, but creating damage nonetheless.

Because cortisol inhibits insulin production and reduces insulin response, people who are chronically stressed or eating foods to which they are sensitive will also find it more difficult to lose weight. You can be doing everything right—diet, exercise, the works—and still not lose weight if your body is inflamed from too much cortisol. The frustration this causes often results in people just plain giving up. After all, there's no point in depriving yourself and sweating a lot if it doesn't make any difference.

Because there is no other app out there that can detect food sensitivities, here is user D.L.'s experience with the food sensitivity detection function of SweetBeat:

Day in a Life of Pulse Testing

By D.L.

I took my morning pulse today, as instructed. I had a morning pulse of 54 beats per minute, taken 30 minutes after rising.

I ate breakfast at 7:30 am, about one hour after my morning pulse was taken. I take supplements with two ounces of grapefruit juice and I ate oatmeal with maple syrup and fresh raspberries for breakfast along with my morning tea and recorded it in SweetBeat (see Figure 1).

Figure 1. I recorded what I ate for breakfast.



Source: SweetWater health, LLC

You can see I had no food sensitivities (Figure 3). My pulse dropped into the 40s, which is not unusual for me in the morning. I was reading at my desk during the 90 minutes after my breakfast. I drink green tea in the morning and iced green tea during the day. You can see that the morning tea did not have enough caffeine to affect my readings.

Figure 2. If I had eaten something to which I was sensitive, my pulse rate would have gone up, not down.



Source: SweetWater Health, LLC

Since I rise so early on weekdays, I eat my lunch around 11 am. I had homemade guacamole with salsa, a sprinkling of cheese and some whole grain corn tortilla chips (Figure 4). Although it appears that I have a food sensitivity, the pulse test was invalid—my dog became restless while I was working at my desk and I walked him two miles for about 40 minutes. Even though my heart rate recovered quickly, my pulse was still high compared to my morning reading. You can also see that I skipped a pulse reading for my second meal while I was walking my dog (Figure 5).

Figure 3. I recorded what I had for lunch.



Source: SweetWater Health, LLC

Figure 4. False positive. The elevated pulse rate was due to walking the dog. (Note to self: avoid exercise while testing for food sensitivities!)



Source: SweetWater Health, LLC

At about 2 pm, I decided to have a snack (Figure 6). I bought my teenaged son some gorp to carry in his backpack while at school. You remember gorp? It's trail food to be eaten while hiking or backpacking.

Figure 5. I recorded my snack.



Source: SweetWater Health, LLC

I usually make my own trail mix, but I bought this pre-made mix from my local market. I didn't think about the ingredients since I assumed it had a healthy mix of nuts and dried fruit with a few M&Ms thrown in... harmless right? Within minutes, I could feel a headache coming on. I have known food and inhalant allergies from serum allergy testing performed many years ago. I also have some food sensitivities revealed through prior elimination diet testing. I break out in hives and/or have a headache following meals or exposure to pollens and pollutants and food additives.

This trail mix had enough corn syrup and chemicals to trigger a failed pulse test reading (Figure 7). You can see my pulse slowly increasing over the 30 minutes intervals after I ate the trail mix (Figure 8). And I had a wicked headache to go along with it. Unlike the prior meal where I was exercising, after this meal I was sedentary, reading and working at my desk. I'll pass on the store-bought trail mix next time. I prefer my homemade mix with premium dark chocolate chips, walnuts and dried cranberries anyway!

Figure 6. So much for “healthy” store-bought trail mix!



Source: SweetWater Health, LLC

Figure 7. A true food sensitivity reading. My pulse went from 57 beats per minute to 70 bpm!

