

Our nutrition parachute

By Clyde Wilson, PhD

We are born with a reward response to sugar, fat, calories, and the more the better. Our food industry provides us a little TLC (tasty, low-cost, and convenient food) to satisfy this drug response in our brain. Eating has thus evolved into a series of drug hits to momentarily relieve our tense busy schedules with brief necessary food pauses so we can go on. The World Health Organization tells us we have globally crossed over into more disease from non-communicable diseases than communicable, mainly associated with eating refined foods and animal products. Thus, our busy excuses have ballooned both waste lines and onto the global scale. Wholesome foods are for moments when we can pause to think about genuinely taking care of ourselves, the environment, and future humanity. But pausing in our day is a luxury, and we succumb to food-as-drug because we want or need some quick TLC to keep us going. Being confronted with the extra body fat, together with the personal and global disease risk, might lead to eating wholesome foods half the time with great effort, but what about the other half?

It turns out we have a parachute to slow the digestion of junk and fast food without eliminating it or even reducing it in our lives. In 2011, research showed that eating vegetables before carbs lead to dramatically better metabolism (insulin sensitivity) in type-2 diabetics compared to comprehensive healthy eating (a food exchange system, the standard of care for diabetics) [1]. These benefits were clear at 6 months and continued unabated for the 2 years of the study. This is not meant to imply that eating vegetables along with junk food is better than over-all healthy eating. Instead, it is saying if you can change only one thing in your eating, change the one thing that has the greatest effect. Trying to change more things has the potential for even greater benefits, but that might be overwhelming and therefore lead to less benefit. Change is generally easiest if it is done one step at a time, does not eliminate things you enjoy, and if that one step is so effective it is all you ever need for the majority of the effect you are after.

In 2012 it was shown how much vegetables it takes for these benefits: metabolic rate improves significantly with 200 grams of daily vegetables or just 70 grams of specifically green vegetables [2]. This correlates to about 3 cups of raw or lightly cooked veggies (mix of colors) or greens. Since green vegetables are often leafy greens, and leaves are less dense on the plate, 70 grams is still the same 3-cup volume as 200 grams of denser vegetables like broccoli. Three cups is the magic amount. Only when the vegetables were green was there also a drop in body weight, body fat, and waist circumference. We tend to cook green vegetables less than those of other colors since salads are mostly green. Cooked vegetables are softer, so they would not slow stomach emptying and digestion as much, meaning their impact on raising metabolic rate would be less. The correlation to green is likely just a crunchy-vegetable factor since that makes the stomach work harder than softer vegetables.

In 2013 it was shown how important timing is: having vegetables 10 min before carbs resulted in much slower meal digestion than when the vegetables were eaten 10 min after the carb [3]. This means having a lot of vegetables won't help you slow digestion much if you have already digested much of your meal before you eat them. Imagine putting your parachute on to slow your fall only after having jumped out of the plane. It is shocking that 1/3 of the carbohydrate in meals is already digested and entering the bloodstream in just 10 minutes. This demonstrates how unhealthy carbohydrates have become in our toxic food environment in which most everything is processed. Fortunately, we have vegetables to save us from this mess without getting rid of the mess we hold so dear to our hearts.

Presumably, eating vegetables together *with* the rest of your meal would be as helpful as eating them right before the meal, since either way the vegetables are in your stomach with the rest of the food. But this has not yet been tested. I personally choose to eat my vegetables together with the rest of my meals

because it is easier to eat a lot of vegetables when you eat them with tasty food. Spinach tastes like pizza when you eat it with pizza. Kale tastes like a burger when you eat it with a burger. You don't need dressing or other flavor enhancers when the main dish itself is loaded with TLC to begin with.

Something profound to make us re-consider the concept of disease: Blood sugar excursion, meaning the rate that a meal digests and therefore how quickly blood sugar rises, is *twice* as good an indicator of cardiovascular mortality for diabetics than whether or not they are diabetic to begin with (defined by fasting blood sugar levels) [4]. This means you can be diabetic but cut your cardiovascular morbidity risk in half by slowing the digestion rate of your meals. And eating the very foods that helped drive you into diabetes but together with vegetables can cut your medications in half as well [1]. Although adding a lot of vegetables to your diet might be challenging for a variety of reasons, it can be incredibly comforting to know that you can keep eating all of the other things you love and actually make physiological, medical, and quality-of-life headway without ever going on a diet. In fact, the effects are profoundly stronger than if you *had* gone on a diet. In this case, instead of dieting, you are eating the things you love, to the point of fullness, with no restrictions other than wanting to stop eating because of a fuller stomach.

Changing what you love to do is (by the definition of love) hard and in the long term practically impossible, at the very least from an enjoyment point of view. Adding something to your life that you don't particularly love (like vegetables) while continuing to do what you love (like pizza) is absolutely possible. Use your favorite foods as a trigger to remember vegetables as a path to more years of enjoyment. One of my past students once summarized my course as: "There is no best way to eat, but there is a best way to eat pizza." And that would *not* include finding a healthier pizza, but rather sinking your teeth into the one you really want, and having a bunch of vegetables with it so it doesn't hurt you.

References

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