How You Feel is *Data*

Do any of these symptoms sometimes apply to you?

Fatigue	Dizziness
Mental fatigue	Forgetfulness
Depression	Weak spells
Confusion	Hunger, nibbling
Restlessness	Noise and light sensitivity
Anxiety or panic attacks	Nausea
Craving	Poor concentration
Irritability	Moodiness
Heart Palpitations	Insomnia
Excessive sweating	Mood swings that mimic mental illness

Or perhaps a free floating feeling that something is just not quite right

These symptoms are all at times associated with low blood sugar and the bad mood chemistry that goes along with it. They are gathered from books written by doctors and nutritionists who advocate stabilizing blood sugar as a component of treatment for weight and mood problems, learning issues, and addictions. (See Readings.) As you can see from the list, the symptoms of low blood sugar are wide-ranging and include physical, mental, emotional, and psychological effects. Many of them are very common complaints, like fatigue, moodiness, and food craving. They are also non-specific, meaning you could experience them for a number of different reasons.

You May Have a Foolish Appetite

If you have these issues *and* you crave processed food, you probably experience "appetite foolishness". Appetite foolishness happens when your body wants food and drinks that destabilize your blood sugar or mood chemistry. The more you eat processed foods to manipulate your mood and energy levels, the more dependent you become on them. The details are complicated, but you don't need to understand them to flip the switch of healing. Briefly, eating carbohydrates raises blood sugar and triggers the release of insulin, the chemical that prevents the sugar levels from going too high. Junk food carbs make this happen a lot faster than healthy carbs like fruits and vegetables. If you've been eating poorly for a long time, you're very likely to experience spikes and crashes, part of the progression toward type 2 diabetes. If you experience comfort or relief from symptoms after eating something sweet, you probably just used sugar as self-medication for low blood sugar and/or the bad mood chemistry that often goes hand in hand.

At Suppers, we consider how you feel *data.* Since one out of three American children are now expected to become diabetic in their lifetimes, we want people to understand the language our bodies use to warn us there's a big problem coming. When it comes to blood sugar, the language is often loud but inarticulate -- like anxiety or palpitations -- and the feelings can present in different combinations in different people. So one person may be mostly aware of fatigue and poor concentration while another feels hijacked by panic attacks, different problems but both related to how their individual bodies experience poor blood sugar regulation. The good news is that poor blood sugar regulation can usually be improved with diet and lifestyle change. It is a subject that comes up frequently at Suppers meetings, and there is plenty you can do about it.

Sane Person, Crazy Body

Psychologists who include nutrition in their recommendations are typically concerned with the effects of refined foods on focus and mood because they can have such dramatic affects on one's mental and emotional health. (See Ross in Readings.) They know that the brain is typically the most sensitive organ to poor nutrition. So the spikes and crashes of eating junk food mimic mental health issues. Normalizing blood sugar and mood chemistry with whole food is part of a comprehensive approach to dealing with depression, anxiety, learning issues, obesity, diabetes and problems with alcohol. We call these problems "health relatives" at Suppers because -- even though they sound like very different problems -- they require similar solutions because they all can be caused by a lifestyle that destabilizes blood sugar and mood chemistry. There are medications that help you manage blood sugar, but there is no medication that cures poor blood sugar regulation and allows you to continue eating however you please. A diet of whole food, stress reduction, and exercise are the way.

First Low Blood Sugar, Then Diabetes

Low blood sugar is *not* the opposite of diabetes (chronically high blood sugar). It is the low range on a rollercoaster that many people ride *before they become* type 2 diabetic. In the body's desperate attempts to use insulin to clear toxic levels of sugar out of the blood and store it more safely as fat, the mechanisms break down and for a while, your body overshoots into the low range. You could have bad eating habits and sedentary ways for years before developing type 2 diabetes. During that time your body sends messengers in the form of symptoms like fatigue, food cravings and mood swings. But if you don't understand the language, the symptoms may be misinterpreted as psychological problems, depression, anxiety, mental confusion or even dementia.

Type 3 Diabetes: Alzheimer's Disease

Depending on which research you read, the incidence of Alzheimer's Disease is 3 or 4 times in type 2 diabetics what it is in the rest of the population (See Hyman in Readings). The scientists are working on sorting out the *nature* of the relationship between blood sugar and Alzheimer's Disease, but the incidence makes one thing clear: there is a lot more Alzheimer's Disease in the diabetic population. Might there be a relationship between the immediate brain affects of poor diet and long term brain effects of poor blood sugar regulation? We don't know. At Suppers, we are not scientists or experts of any kind. We are people who are convinced that by restoring family tables and teaching people how to prepare food from scratch, we can address the *lifestyle* aspects simultaneously of problems rooted in blood sugar regulation and mood chemistry.

What are the Symptoms Trying to Telling Us?

Briefly, the symptoms are telling us our brains are hungry. Brains want to be made mostly of high quality fat, not just any old crappy fat, but fresh fats as they occur in nature. They need to be fed a certain amount of fresh protein, too, enough to provide the building blocks for good mood chemistry. The brain's fuel source is glucose. We get it from eating plant foods. When the glucose supply gets too low for normal brain function, unpleasant symptoms begin, often starting with things like fatigue, mental fatigue or vague feelings that something is not quite right. Experiences differ, but there is a more or less typical progression of events. If you have fatigue or mental fatigue due to poor blood sugar regulation and you don't respond by giving your brain what it's asking for (steady fuel), you'll get more symptoms. The brain's message becomes more urgent, like craving,

agitation, and anxiety. These can be the signs that your body is going into an urgent mode to make you get more fuel to the brain. As adrenal stress hormones pump to release stored sugar, you might experience sweats, panic attack, rage, an irrepressible urge to pick up food or drink, or whatever your particular body does when your brain is loudly but inarticulately screaming for nourishment!

Who is Affected?

The people whom we call "health relatives" at Suppers have different health issues, but their solutions are similar because their problems are rooted in the processed food supply. They include people with depression, anxiety, learning issues, obesity, diabetes, and problems with alcohol and they share similar biochemical and environmental stresses. It is our understanding that their challenges are partly genetic, a combination of how genes, environment, diet, and behaviors interact.

* *People who are physically inactive* are at greater risk. While "exercise" per se may not be required for good health, a life filled with movement is.

* *The poor* are harder hit. Lack of access to good ingredients, recreational opportunities and education make it harder to live well.

* *Specific populations:* The incidence of blood sugar problems is greater in some populations than in others. For example, while it is estimated that one in three American children will end up diabetic, the estimate is one in two for Hispanics, while black Americans are in between. The Native American population is also hard hit with both alcoholism and diabetes. The skyrocketing rates are largely attributable to how poor diet, stress, sedentary lifestyle, social factors, and environmental issues combine with choice and genetic vulnerability.

* *Anyone who is malnourished from processed foods* and other sources of stress is more at risk. They tend to develop appetite foolishness, and they desire to ingest things that temporarily make them feel better but create a bigger problem over time (like drugs do). Malnourishment is self-reinforcing. Once the cycle sets in, cravings can lead to the ingestion of more refined foods, drinks, and substances that deliver a quick fix of feel-good chemicals and glucose to the brain.

* *People with mental health issues*: Psychiatrists who practice medical nutrition have found blood sugar issues in 30 – 70 percent of psychiatric patients of all diagnostic categories. It's a double whammy for these folks; they are both more likely to crave and eat the exact foods they need to avoid, and they have fewer resources for establishing the kinds of habits that might reduce their suffering. For schizophrenics, the benefits of controlling blood sugar include higher mental function and fewer relapses.

* Recent newcomers to the standard American diet are at greater risk. There is research that shows that when people from traditional cultures start eating refined foods and drink, their rate of type 2 diabetes soars (See Dapice in Readings).

What Raises Blood Sugar

For the most part, the sugars and starches we eat raise blood sugar. The trick to raising blood sugar without hurting yourself is to not do it too fast. Anything refined or drug-like -- like candy, chips, soda, sugar and pizza -- raises it so fast that it's a set up for a crash. Alcoholic beverages do too. The ethanol molecule is minute, only 2 ½ times the weight of

water. A starch molecule, by comparison, is 250,000 the weight of an alcohol molecule. Both raise blood sugar and alter mood chemistry. But starch can take three or four hours of complicated digestive break down in stomach acids and pancreatic enzymes before its constituents reach the bloodstream. (See Milam and Ketcham in Readings.) Teeny alcohol zips through membranes. Some is even directly absorbed in the mouth and esophagus. It's an instant band-aid for low blood sugar and foul mood. Eating low starch/high fiber carbohydrates like whole fruit, whole vegetables, and whole grains raises blood sugar appropriately, especially in a balanced diet with protein and high quality fats.

Growth hormones and stress hormones like adrenaline force stored sugar into the blood stream and raise blood sugar.

Coffee and cigarettes or anything that stimulates the release of adrenaline ultimately raises blood sugar.

Stress raises blood sugar, also because it stimulates the release of adrenaline.

Low blood sugar itself causes the raising of blood sugar in two ways. It can send the body into an emergency state that creates cravings for things that will bring the blood sugar levels back into the range for normal brain function. Or it can bring about a stress hormone response that raises blood sugar. It feels extremely unpleasant when this happens.

And in a person with poor regulation, whatever makes it rise fast is likely to make it crash.

What is Protective?

* Eating whole foods.

* Exercise, building muscle.

* Lowering stress responses, limiting fight or flight responses.

* Increasing relaxation responses, yoga, meditation, prayer, etc.

* Sleeping and spending enough time in darkness. (See Wiley in Readings.)

* Drinking enough water.

How Low Blood Sugar Relates to Stress

Nature gave us the ability to pump out chemicals that help us survive in many kinds of stress situations. The adrenal glands make hormones like adrenaline that stimulate us for times of fight or flight. They make cortisol that causes the body to release stored sugar in case the brain levels of sugar go down too low. Stress hormones are *stress* hormones. Regardless of the reason for pumping them -- a saber toothed tiger, a 32 ounce cola, or a bout of low blood sugar -- the body experiences stress. Damage takes place whether the stressor is a "real" threat, an imagined threat, or a dietary threat. There are other variables, but stabilizing blood sugar and reducing stress hormones like adrenaline and cortisol can stabilize the vulnerable person in many ways, physically, mentally, and emotionally. We simply can't get control over some sources of stress. But we can reduce *overall* stress by eating stabilizing foods, the kind we teach people to prepare at Suppers.

Correcting the Problem

The answer is simple, but it may not be easy.

Because the dietary aspect of poor blood sugar regulation starts with some kind of processed or "de-natured" plant foods, the solution must include returning to unprocessed foods and "re-naturing" the person. Eating whole foods and reducing refined, sweet and starchy ones is the basic formula. Upping the protective factors and reducing the risk factors may require a lot of retraining, cultivating taste buds, and getting support from your family and friends. The Suppers way is to accomplish this in the context of meetings and in the authentic settings of life.

Other Variables

Stabilizing blood sugar is no miracle cure. For those who experience the discomforts listed at the beginning of this document, taking the actions that stabilize blood sugar will resolve the problems *only when the problems are caused by low blood sugar*. Depending on the natural reality of your health challenges, dealing with low blood sugar may be the total but more likely the partial answer. But it is a powerful tool. Eating a diet of whole foods has reduced symptoms and suffering in people with depression, anxiety, learning issues, obesity, diabetes and problems with alcohol. Other diet-related variables in these illnesses are impaired digestion (common in our culture); food sensitivity; environmental allergies as to molds, ethanol, and chemicals; and the need for dietary and supplemental sources of the building blocks of optimal neurotransmitter function. Fortunately, blood sugar stabilization and happy neurotransmitter production require similar diet and lifestyle change because they are closely related. (See Ross in Readings.)

The Take-home Messages

If you don't remember anything else from this article, remember these few points:

1. How you feel is *data.* Obviously, there's a lot more to good nutrition than just blood sugar regulation. However, blood sugar is one of the most dramatic symptom causers, easy to recognize if you understand your body's language. At Suppers, we work with the assumption that if you live in a way that stabilizes your blood sugar and mood chemistry, then your other diet-related health problems will probably resolve too.

2. Know your numbers: One out of three Americans is headed for type 2 diabetes. How much sense does it make that we can get our blood pressure checked at the mall or the dentist's office but there's a shroud of fear and mystery around checking blood sugar! If your doctor isn't routinely checking, ask to be tested. Plus, a test kit with 10 strips for 10 tests is only $10 at the pharmacy.

3. None of this is rocket science, though scientists can make it sound very complicated when describing the underlying details. If the only message you take away is "Eat real food," it will be enough.

4. You can do this. If you can make a pot of coffee, you can make a pot of soup. The solutions are simple, if not easy. You just need education and support while you find the right diet for your personal needs and develop a palate for real, whole food. That's what we provide at Suppers: enough support to carry you through until junk food loses its appeal and the healthy food becomes delicious. We call it a "logical miracle".

5. Preparing and eating real food is more convenient and less expensive than having depression, anxiety, learning issues, obesity, diabetes, or problems with alcohol, the problems we call “health relatives” at Suppers.

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