

Dysglycemia

A Nutritional Detective Story

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Why are so many people overweight, unhealthy and showing signs of premature aging?
Why are young people thin, energetic and vibrant, only to become thick and tired, grumpy and fuzzy as middle aged adults?

The answer is as plain as the junk food upon your plate... Dysglycemia.

Dysglycemia, disturbed blood sugar regulation, has become epidemic in our culture. Fortunately, it is reversible with a whole food diet, specific nutrients and an active lifestyle. Please take the quizzes that follow and figure out the clues to your blues for yourself!

Diet, Lifestyle and Dysglycemia Risk-Factor Quiz

Answer the following questions and tally the yes answers to identify your risk factors.

1. Do you eat sweets – such as candy, cookies, ice cream, pastries and doughnuts, three or more times a week? ___ yes ___ no
2. Do you eat fat-free foods – such as fat-free muffins, fat-free fruit yogurt, fat-free cookies, or fat-free breakfast bars – more than three times per week? ___ yes ___ no
3. Do you eat potato chips, pretzels, breakfast bars, granola or ready-to eat breakfast cereals more than three times per week? ___ yes ___ no
4. Do you eat meals that emphasize pasta, rice, corn or potatoes more than a couple of times a week? ___ yes ___ no
5. Do you eat burgers, hot dogs, fatty luncheon meats (e.g. bologna, ham, salami, pastrami), bacon, sausage, French fries and fried chicken more than twice a week? ___ yes ___ no
6. Do you eat convenience foods (pizza, fast-food Mexican food, sandwiches, or snack foods) more than twice a week? ___ yes ___ no
7. Do you drink any regular (non-diet) soft drinks? ___ yes ___ no
8. Do you drink more than a small (6 oz) glass of fruit juice per day? ___ yes ___ no
9. Do you drink more than four glasses of wine per week? ___ yes ___ no
10. Do you drink more than three beers per week? ___ yes ___ no
11. Do you drink more than a pint of hard alcohol per week? ___ yes ___ no
12. Do you avoid regular structured exercise? ___ yes ___ no
13. Are you physically inactive – do you avoid walking, taking stairs, playing sports, doing housework, gardening, playing with your children? ___ yes ___ no
14. Have you had bad eating habits or been a “couch potato” for many years? ___ yes ___ no
15. Do you have a close relative who had or has heart disease, high blood pressure, adult-onset diabetes or obesity? ___ yes ___ no

If you answered yes to more than three questions, you are at risk for dysglycemia. The more yes', the greater your risk.

If you answered yes to five or more of these questions, the information on the next page will be of great value for you to improve your health.

Insulin Resistance:

The Crux of the Matter

Sugar is like gasoline in our body. Large amounts of glucose (sugar) are harmful to the brain, gut and kidneys due to the oxidative reactions they incur. It is highly combustible which is why it generates an intense, but short-lived energy. The pancreas secretes insulin to lower glucose levels. The insulin is supposed to draw the glucose to the cells where it will be either burned for energy or stored as fat

(triglyceride in adipose cells).

In time, the body's ability to deal with excess glucose diminishes. As a person keeps consuming large quantities of

refined carbohydrates and sugars, the skeletal muscle cells, those muscles that wrap around the bones, that are the greatest users of glucose and insulin, start to become overwhelmed by a hyper-insulin production and responds to the insulin more sluggishly. Meanwhile, the pancreas keeps receiving signals that glucose levels are high, so it increases the signals for more insulin production. The more insulin that is released, the less effective it becomes and the more resistant to insulin the body's cells become.

Confounding the situation is the adaptation of the body to turn excess sugar into fat, known as lipogenesis. With dysglycemia, high glucose, high insulin and insulin resistance, cause weight gain as the body stores glucose. Without regular physical activity to burn the glucose and lower insulin levels, the ratio of fat cells to muscle cells widens. The exercise intensity needed to manage blood sugar and insulin levels depends on a person's age, health status and conditioning level.

High Fat and Low Fat Diets

It is not the amount of fat, but the quality of the fat that determines its value or detriment in the diet. For those people who have lowered the fats in their diet, the result has often been increasing the amount of refined carbohydrates, which has contributed to the rise in dysglycemia and weight gain. An excess of cooked or processed fats and oil, such as animal fats, dairy fats and margarine, interfere with the burning of glucose and increase insulin resistance. The essential fatty acids found

in fish, seeds and nuts and the monounsaturated fatty acids found in olives, avocado and their oils tend to slow glucose and steady insulin production and improve insulin sensitivity. Dietary fats also contribute

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According to recent surveys, 55% of all U.S. residents are now overweight with insulin resistance. An estimated 25% of thin, apparently non-diabetic U. S. residents also suffer from undiagnosed insulin resistance. In other words, the majority of people more than 65% suffer from insulin resistance. Similar patterns have occurred as other nations in Europe and Asia forgo traditional diets in favor of refined foods that boost glucose and insulin levels.
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to the feeling of satiety after a meal that buffers against the tendency for refined carbohydrate snacking.

Refined and Unrefined Carbohydrates

A good rule to live by is to "keep your life simple, and your carbohydrates complex". The reverse seems to be the case for most folks, whose life is overly complex and their foods, overly refined. Refined carbohydrates include bakery products, pastas and sugar-containing foods. Unrefined carbohydrates are found in fresh vegetables, fruits, whole cereal grains (not flour products), legumes and nuts. Unrefined carbohydrates have a generous amount of fiber, both soluble (in water) and insoluble, which slow the rate at which the sugars are released into the blood and increase the transit time for the elimination of the indigestible food and bacterial waste.

As people are less involved in growing, cooking and preserving food, they become more dependent upon eating prepared foods such as sugar-drenched cereals, sweet rolls and frozen microwavable meals. The price paid is in the cost of ill health from malnutrition, toxicity and dysglycemia. The typical response is to turn to drugs, either recreational, over-the-counter or prescription to attempt to lose weight, increase energy, improve mood and manage symptoms of an overworked and undernourished system.

Nutrient-Drug Interactions

Drugs are life saving in acute situations and for chronic illnesses, they can also be important. Hormone replacement therapy has helped many people with metabolic problems related to dysglycemia. Thyroid hormone and glucose/insulin medications have enabled many to function efficiently. However, the unhealthy diet and lifestyle issues that underlie the genetic expression of one's hormones are often neglected. The literature is clear that the purely pharmaceutical management of blood sugar is limited in the following ways:

1. Drugs cannot correct nutritional deficiencies or imbalances
2. Drugs that lower cholesterol or hypertension have no effect on underlying insulin resistance.
3. Many drugs actually interfere with how the body uses nutrients, exacerbating deficiencies and imbalances.
4. Many drugs increase the risk of diseases. Some specific examples follow.

◆ Cholesterol Lowering Drugs

Statins are the premier cholesterol-lowering drugs. They inhibit the body's production of cholesterol, but they also block the body's production of other important compounds, such as Coenzyme Q₁₀, a co-factor in cellular metabolism. A lack of it is a primary factor in heart failure. CoQ₁₀ can also protect the body from cancer. By depending on

the statin drugs to lower cholesterol an unwanted side effect is to weaken the cardiac muscle and increase cancer risk. (Lazarou et al., 1998)

◆ Blood Pressure Lowering Drugs

Calcium channel blockers are the most widely prescribed drugs for treating hypertension but they have been linked to higher rates of cancer. According to a study published in the Lancet (Phillips, 1998) using calcium-channel blockers for five years will add eight new cancers and 16 new cancers over 10 years for 100 people (a 16 percent increase). These drugs do not correct dysglycemia, which is an underlying cause of hypertension. They buy time, but do not reverse disease.

◆ Weight Loss Drugs

Diet pills are still marketed aggressively to an overfed, underactive population. **Redux** (fenfluramine) was designed to reduce appetite by altering levels of neurotransmitters in the brain. While people lost weight, they also caused permanent damage to their heart valves. The FDA banned this substance only after a great deal of harm was done. Amphetamines and appetite suppressants do nothing to address insulin resistance and add to the malnutrition that underlies metabolic disturbances.

◆ Diabetes/Insulin Resistance Drugs

With the explosion of dysglycemia and adult onset diabetes, the pharmaceutical companies have been active in developing and marketing hypoglycemic and insulin sensitizing drugs. Unfortunately, they are not without caveats.

Rezulin (trolitazone) was approved by the FDA for diabetes care. While it did dramatically reduce glucose levels and decrease insulin resistance, it also increased the risk of severe liver disease. Its use was halted in Europe, but is still prescribed in the US. **Glucophage** (metformin hydrochloride) is another popular diabetes drug used to reduce insulin resistance. The purpose in managing hyperinsulinism is to protect against oxidative

damage to the cardiovascular and neurological systems. The warning on the Glucophage insert is alarming:

“The administration of oral anti-diabetic drugs has been reported to be associated with increased cardiovascular mortality, compared to treatment with diet alone or diet plus insulin.”

Unequivocal evidence shows that metformin substantially reduces blood levels of folic acid and vitamin B₁₂ and increases levels of homocysteine, a protein by-product that causes damage to the arteries and raises the risk of strokes, heart disease and cancer. (Phillips, 1998)

Managing Dysglycemia with Diet

Dysglycemia is clearly a syndrome that is caused by a lifetime of poor dietary habits and choices, highlighted by the over-consumption of refined carbohydrates and poor quality fats. For this reason, a change for the better in food consumption will bear fruit in the recovery process. Several dietary approaches can be selected based upon the person’s ethnicity, tastes, support and commitment level. They include:

- ◆ Eating for Health Approach
- ◆ Mediterranean Diet
- ◆ Paleolithic Diet
- ◆ Diabetic Exchange System

◆ Eating for Health

Eating for Health is a five-group regenerative food group system I devised in 1989 and have worked with successfully since.

The basic five groups are:

- ◆ fresh fruit
- ◆ non-glutenous grains
- ◆ vegetables
- ◆ legumes
- ◆ seeds/nuts

These foods are augmented by a category called “booster foods” which include

- ◆ marine algae
- ◆ nutritional yeast
- ◆ ocean fish
- ◆ sea vegetables
- ◆ culinary herbs and spices.

Occasional (not eaten daily, but rotated in the menu) foods include organic, hormone, antibiotic and chemical-free:

- ◆ meats
- ◆ poultry
- ◆ eggs
- ◆ dairy products
- ◆ olives and avocados.

It is suggested that foods be (as much as is possible), organic, local, seasonal, minimally processed (if at all), self-selected, made with love and eaten in peace

How Eating for Health Manages Dysglycemia

In the Eating for Health approach, a person is encouraged to select either a cleansing, balancing or building diet plan. To manage dysglycemia, I would suggest a building diet. In this case, the ratio of macronutrients would be as follows:

25-30% of calories from proteins
20-30% of calories from good quality fats
40-50% of calories from complex carbohydrates

A nutrition consultant can assist a person in making out a meal plan that suits their new, healthy lifestyle, tastes and eating venues. People **do** eat out and **will** order food in. Learning to **not** go for quick fixes like caffeine, sugar or potato chips and beer, but rather to eat substantially more



fruits and vegetables, unsalted nuts and whole beans with fiber-rich brown rice, instead of yummy, but gummy (and sugary) white rice would be the way to go. Some simple food substitutions will go along way toward balancing blood sugar. Basic glycemic math looks like this:

Add

Purified Water
 Herbal teas
 Fruit and nuts
 Unsweetened Yogurt
 Rye crackers
 Hot cereal (oatmeal)
 Chicken and fish
 Nutritional yeast
 Olive oil
 Salsa
 Mustard
 Sauerkraut
 Leafy Greens
 Flax seeds
 Almond butter

Subtract

Sodas, fruit drinks
 Coffee, black tea
 Cookies, candy
 Ice cream
 White bread
 Boxed cereals
 Pepporoni Pizza
 Added salt, sugar
 Other salad oils
 Ketchup
 Mayonnaise
 Relish
 Iceberg lettuce
 Chips
 Peanut butter

What do you get?

Improved energy
 Improved mood
 Improved lean muscle mass
 Weight loss
 Desire to exercise
 Renewed love of life

Other Dietary Approaches

The Eating for Health principles can be incorporated into a wide variety of dietary approaches that can control and reverse dysglycemia. It is important that a person is eating the kind of food that is digestible, satisfying and nourishing. The Mediterranean Diet, Asian Diet, Macrobiotic Diet, Mid-Eastern, Paleolithic, Zone Diet or Diabetic Exchange program can work beautifully within the framework of the Eating for Health approach.