

DIABETES: CIVILIZATION'S DISEASE OF THE 21ST CENTURY

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The Blood-Glucose-Level in a healthy person varies between 70 mg/dl fasting and 120 mg/dl postprandial.

Following a meal, carbohydrates are broken down into glucose; the main source of energy for body cells. On average, the body produces about 180 grams of glucose daily and, amazingly, the brain alone uses 78 percent (140 grams) of it. The remainder is used by the rest of the body and the excess is stored as glycogen in muscle cells and the liver. All excess glucose is converted, in the liver, to triglycerides and/or stored in fat tissue. The all-too-familiar effect of excess sugar stored in fat is a “spare tire” around the waist. During fasting a reversed process takes place.

A similar reaction takes place when the body is under stress.

Glucose stored in the liver as glycogen works as a buffer for the blood glucose level. Because glucose is the life-important energy source for the central nervous system, the interaction of the **glucose** level and **insulin** and **glucagons** is regulated in a very narrow range. But your cells cannot use glucose without appropriate insulin receptor sites and without insulin. Many Type II patients are actually “insulin resistant” rather than “insulin deficient.”

Insulin receptor sites become downgraded by toxins, particularly free radicals and excessive, long-term high blood sugar levels. Over time, the inability of muscle cells to metabolize glucose is impaired, and the resultant excess glucose builds up in the blood as well as radicals, setting the stage for the advancement of diabetes. Certainly obesity, a high risk lifestyle, central adiposity, and heredity, add to the body's resistance to insulin and the downgrading of receptor sites.

Diabetes has reached a level of epidemic proportions world-wide and will seriously threaten social systems in the future.

Since the 1980s diabetes has increased 800 percent. Insurance companies estimate billions of additional costs in the future because diabetes is one of the most costly conditions to treat.

A number of medical journals, including The New England Journal of Medicine, have recently reported that **one of the major health threats is none other than concentrated corn syrup** in today's processed foods. Corn syrup is used as a sweetener in the majority of foods today, including meats and sausages. Consistently higher levels of blood sugar (starting at 130) will eventually impair the receptor sites of muscle cells. These receptor sites bond to insulin, which is responsible for transporting glucose into the cells.

The excess sugar is converted in the liver to glycol-type molecules, which are very dangerous free radicals. A long-term, high level of sugar in the bloodstream is responsible for diabetic vascular damage, peripheral nerve damage, cardiovascular diseases and also contributes to cancer. Parallel to this is obesity, due to overeating and lack of exercise, found in 65 percent of all Americans.

What can we do?

A colleague practicing in the Veterans' Administration Hospital recently told me he could only recall about 10 diabetic cases from nearly 1,000, who, in spite of educational effort, improved their condition by changing their lifestyle. He also stated that it seemed to take a catastrophe or other severe trauma to enlighten people and initiate any change.

TYPE 2 DIABETES

1. Still healthy ... with inherited risk

- **The inherited risk** is better observed through family history than by gene tests. If one of the parents is diabetic, the possibility increases up to 3.5 times.
- **Lifestyle influences** are barometers that determine the high or low set-point for individual risk factors. An extremely important health

influence is diet, with particular emphasis on the mother's lifestyle during pregnancy, and later, overindulgence.

If the lack of physical activity combined with obesity surpasses a critical level, the inherited risk for developing diabetes will increase. Onset of the disease will most likely occur.

Genes determine diabetic predisposition.

Embryonic programming in the mother's womb determines the metabolism of the newborn. Unbalanced diets and starvation increases the diabetic tendencies, as well as cardiovascular diseases, in the child.

2. Risky lifestyle

- **The fat stomach** becomes a risk if fat cells develop between the intestinal loops, and if those in the liver produce neurotransmitters that disturb sugar and fat metabolism.

- **Lack of physical activity, stress, and sleep deprivation** will desensitize body cells from insulin. In order to lower blood sugar and provide cells with sufficient glucose, insulin production must rise. Body cells become desensitized from insulin and beta cells increase insulin production.

3. Pre-diabetes

- **High insulin levels** can barely control blood sugar levels on an empty stomach, but following a meal the blood sugar rises to an uncontrollably high level. Besides obvious symptoms, the glucose tolerance test is able to determine a pre-diabetic state.

- **Millions of people** are unaware of being pre-diabetic because occasionally no symptoms are experienced. In many cases, however, the cardiovascular system has already begun a degenerative process with a risk factor three times higher than normal.

Continuous overproduction of insulin burdens the pancreas, resulting in failing beta cells.

4. Diabetes

- **Exhausted reserves** occur when beta cells produce insulin to the brink of exhaustion and die.
- **Silent killer.** In most cases, five years pass before a routine check discovers the diabetic condition and therapy is initiated. In the past, the attitude of traditional medicine was “A little sugar? No big deal at your age.”

Diagnosing high blood sugar values via urine tests, unfortunately, renders positive confirmation only at the very late stages of the disease.

DEADLY QUARTET

A. Blood vessels under pressure

Three-fourths of diabetic patients have untreated hypertension. The risk for heart attack and stroke is doubled.

B. Fat Metabolism

The good cholesterol (HDL) is diminished while the bad cholesterol (LDL) and triglycerides are increased. This condition is present in one of every two diabetic cases.

C. Obesity

Many diabetics are overweight. Forty-four percent of males and 56 percent of females suffer obesity.

D. Impaired Sugar Metabolism

If A, B and C are present, most likely impaired sugar metabolism is present; increasing the risk for developing diabetes by ten-fold.

Physical damage related to diabetes:

Eyes – Severe damage to the retina, leading towards blindness.

Feet – Decreased circulation and nerve damage create ulcerations based upon the decreased immune activity due to high sugar concentrations. End result: amputation.

Brain – Strokes are four times as high in diabetic cases. Hypertension increases ten-fold, and dementia goes up three-fold.

Nerves – Development of impotence in males. High sugar levels will damage the nervous system controlling inner organs and diminish their sensitivity. Being a diabetic, every second male will complain about impotence, accompanied by symptoms such as digestive disturbances, heart symptoms, pain and discomfort in lower extremities.

Kidneys – The majority of dialysis patients are diabetic. 30 to 40 percent of diabetic patients will develop a kidney disease 15 to 20 years after their diagnosis. One-fourth of all dialysis patients die annually.

Heart – Three-fourths of diabetics die due to heart attacks; diabetics have a four to six times higher cardiac risk than average.

High blood pressure, along with elevated risk for stroke, heart attacks, and aneurysms are among the dangerous side effects of diabetes.

TYPE 1 DIABETES

Type 1 Diabetes mainly occurs in children and young adults. Five percent of diabetics are Type 1, which is also on the rise. Here the cause is neither obesity nor insulin resistance. Instead, it results from the destruction of the beta cells in the pancreas by the immune system. As beta cells are destroyed by white blood cells, the affected person becomes irreversibly insulin dependent within a very short time.

Scientists suspect one of the contributing factors for the development of Type 1 Diabetes could be the feeding of grain-enriched foods to infants too early in their development. It is also estimated that the increased hygiene of our society could contribute to the increase of autoimmune diseases. A normal immune system is constantly occupied with allergens and microbes in the gut, and develops a

wider tolerance while protecting the body. Simply speaking, “they don’t have time to argue with their host.”

Those affected with Type 1 Diabetes can still live a happy and productive life. For example: actress Halle Berry and five time world champion kick-boxer Anja Renfordt are successful in controlling their condition.

The statements above have not been evaluated by the FDA. The nutritional suggestions and research provided are not intended to diagnose, treat, cure or prevent disease and should not be used as a substitute for sound medical advice.