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## DIABETES MELLITUS

### FROM A CONVENTIONAL MEDICAL PERSPECTIVE

1. Conventionally, Non-Insulin-Dependent Diabetes Mellitus or Diabetes Type 2 is recognized as having three primary causes:
  - Heredity – the main cause
  - Obesity
  - Sedentary lifestyle
  
2. The following quote from Alan L. Rubin, M.D., a diabetes specialist, is representative of the conventional view:

*“People often think that the following factors cause Type 2 diabetes, but they actually have nothing to do with the onset of the disease:*

  - *Sugar: Eating excessive amounts of sugar does not cause diabetes, but it may bring out the disease to the extent that it makes you fat. Eating too much protein or fat will do the same thing.*
  - *Emotions: Changes in your emotions do not play a large role in the development of type 2 diabetes, but may be very important in dealing with diabetes mellitus and subsequent control.*
  - *Stress: Too much stress isn’t a factor that causes diabetes.”*
  
3. Nutritional recommendation include:
  - “If you eat a balanced diet that comes from the various food groups, you generally get enough vitamins for your daily needs.”
  - “No scientific evidence shows that chromium is especially helpful to the person with diabetes...”
  - “Various minerals...(such as) zinc are found in many foods...(and) are rarely lacking in the human diet.”
  - “Keeping in mind that 30 percent of total daily calories should come from fat, it is recommended that less than a third of that amount come from saturated fats.” \*
  
4. Conventional diabetic diets are usually based on the food pyramid – low fat, high carbohydrate, and include margarine and high polyunsaturates that are mostly Omega 6s.
  
5. From this conventional point of view, diabetes Type 2 is considered incurable.
  
6. It is recognized that the resulting disease consequences of diabetes – cardiovascular disease, kidney, eye and nerve disease – can be controlled and minimized by maintaining rigorous control of blood sugar levels.

*\* Rubin, A., MD Diabetes for Dummies. Hungry Minds, Inc., 1999. “About the Author: Alan L. Rubin, M.D., is one of the nation’s foremost experts on diabetes. He is a professional member of the American Diabetes Association and the Endocrine Society and has been in private practice specializing in diabetes and thyroid disease for over 25 years. Dr. Rubin was Assistant Clinical Professor of Medicine at UC Medical Center in San Francisco for 20 years. He has spoken about diabetes to professional medical audiences and non-medical audiences around the world. He has been a consultant to many pharmaceutical companies and companies which make diabetes products.”*



## **DIABETES MELLITUS**

### FROM AN **ALTERNATIVE** MEDICAL PERSPECTIVE

1. Non-Insulin-Dependent Diabetes Mellitus, or Diabetes Type 2, has the following causes:
  - Progressive Insulin Resistance, caused by poor diet, nutritional deficiencies and various forms of stress.
  - Imbalanced body chemistry that disrupts the functioning of the Energy Pathway, as well as challenges the pancreas, adrenals and thyroid glands; caused by poor diet, nutritional deficiencies and various forms of stress.
  - Imbalanced body chemistry that results in weight gain, obesity, fatigue and the expression of potential diabetic hereditary tendencies caused by poor diet, nutritional deficiencies and various forms of stress.
2. Diabetes can be observed in its formative stages, and prevented from ever manifesting by changing diet, providing appropriate nutritional and herbal protocols, and encouraging lifestyle changes that effectively handle various forms of stress.
3. Diabetes Type 2 can be reversed and corrected in most people by making the above changes.
4. Trans fats in products such as margarine must be strictly avoided, and fat metabolism restored to normal function. Fixing fat metabolism is vital to restoring normal pancreas, adrenal and thyroid function and blood sugar control.
5. Cell membrane and cell receptor function must be restored, which is necessary to correct Insulin Resistance. This is done by avoiding trans fats, balancing Eicosanoids, by reducing overall polyunsaturated fat intake and balancing Omega 6 to Omega 3 intake.
6. It is also essential to consume the right amount of natural saturated fats. These compose most lipid body structures and are stable at body temperature and therefore do not deplete antioxidant reserves. (That is, you don't have to refrigerate yourself to keep from going rancid).



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## DIABETES MELLITUS

### Overview

*There are two general types of diabetes mellitus:*

- Type I:** Diabetes, or Insulin Dependent Diabetes Mellitus (IDDM); there is a lack of insulin secretion.
- Type II** Diabetes, or Non-Insulin Dependent Diabetes Mellitus (NIDDM); there is an excess insulin secretion, and a decreased sensitivity of the cells to insulin. This is also called Insulin Resistance.

### **Cause And Onset**

- Type I:** There is destruction of pancreatic beta cells, usually from an autoimmune process. Onset is usually abrupt (days or weeks) and at younger ages. (Also called Juvenile Diabetes Mellitus). Type I is less common, about 10% of diabetes.
- Type II:** There is progressive Insulin Resistance until blood sugar levels can no longer be properly maintained. Onset is very gradual (years) and is more common later in life. (Also called Adult Onset Diabetes, although increasingly younger adults and teenagers are developing Type 2). This is the most common type of diabetes 80%-90%.

### Signs & Symptoms

**Type I:** A fairly rapid onset of the following

1. Low insulin levels
2. High glucose levels
3. Increased breakdown of fats for energy; weight loss
4. Increased breakdown of proteins; muscle wasting
5. Polyuria and frequent nighttime urination
6. Intracellular and extracellular dehydration
7. Increased thirst

**Type II:** A gradual onset of the following:

1. High insulin levels
2. High glucose levels (initially alternates with low blood sugar levels)
3. Weight gain, especially in abdomen and torso (This is the classic weight gain pattern of Insulin Resistance).
4. Polyuria and frequent nighttime urination
5. Progressive dehydration
6. Increased thirst

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## COMPLICATIONS

### Problems with high blood sugar

In both Type I and Type 2 diabetes, chronic high blood glucose levels cause tissue injury.

1. “When blood sugar is poorly controlled over long periods in diabetes mellitus, blood vessels in multiple tissues throughout the body begin to function abnormally and undergo structural changes that result in inadequate blood supply to the tissues.” \*
2. This increases the risk for
  - Heart attack
  - Stroke
  - Artherosclerosis
  - Hypertension
  - Abnormal lipid metabolism
  - End-stage kidney disease
  - Retinopathy and blindness
  - Ischemia and gangrene of the limbs
  - Premature and accelerated aging and tissue degeneration from glycosylation products formed in the blood (the excessive glucose sticks to and cross links with blood proteins and fats, making them dysfunctional).

### Problems With High Insulin Levels

**Here is a list of some of the effects that high insulin levels are known to cause:**

1. Stimulate smooth muscle growth of arterial walls, causing them to thicken
2. Stimulate the growth of fibrous connective tissue involved in plaqueing
3. Promote the oxidation of LDLs involved in plaqueing
4. Increase the production of fibrinogen, and so increase clotting
5. Drive the kidneys to waste magnesium and potassium, and retain sodium and water
6. Cause blood vessels to contract
7. Stimulate increased blood pressure
8. Increase triglycerides levels
9. Promote excess fat storage, and block removal of fat stores

### **CONTROLLING BLOOD SUGAR LEVELS IN DIABETES**

From this information it is clear that controlling blood sugar levels and restoring blood sugar control functions is vital for diabetics. All of the complications of diabetes can be prevented by controlling blood sugar levels.

\*Guyton, A., MD. Textbook of Medical Physiology, Tenth Edition, p. 894, W.B. Saunders Company, 2000

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