

What is Diabetes?

1. A disorder recognized in Ancient Egypt. The urine was sweet and attracted flies. Because of the sugar in the urine it has long been believed that a carbohydrate intolerance was present.
2. Diabetes diagnosis was a death decree until 1922 when insulin was discovered
3. Diabetes: Type I ---- no insulin produced Type II --- high insulin level in blood but not working well
4. Pre-diabetes: Blood glucose levels higher than optimum but not to the level of diabetes. A level which still promotes complications faster than non-diabetes.
5. Common complications of Diabetes:
 - a. Coronary heart disease
 - b. Strokes (brain infarct)
 - c. Elevated blood pressure and renal disease
 - d. Vision changes and macular degeneration
 - e. Peripheral vascular disease --- anywhere in the body
6. Carbohydrates:
 - a. complex (starch) Thousands of glucose molecules as a unit
 - b. polysaccharide -- hundreds of glucose molecules as a unit
 - c. disaccharide -- two molecules of a simple sugar (table sugar glucose + fructose)
 - d. monosaccharide -- simple sugar molecule (glucose, fructose, etc.)
7. Digestion is the process wherein carbohydrates, fats, and proteins are broken down into their most basic units. Glucose for starches, fatty acids for fats, amino acids for protein.
8. Diabetes is a condition where glucose is overly high in the blood and low in the cell. Excess glucose in the blood will be passed through the urine after a certain level is reached. This level will vary with different people. In diabetes where a high level is carried on day after day then there are many abnormal changes in the body leading to serious disorders.
9. Levels of blood glucose as measured by different type tests.
 - a. A1C --- measures the glucose that has attached itself to the red blood cell and is a permanent attachment. This test will give a view of the average blood level over a 2-3 month period.
 - b. Blood glucose --- reveals the level of the glucose in the blood at that moment only.
 - c. Normal level of A1C Up to 5.7; prediabetes 5.7-6.4; diabetes 6.5 and higher
 - d. Blood sugar after overnight fast: Pre-diabetes 100-110; diabetes 110 and higher
10. Cell membranes are made of fats (phospholipids)
11. Protein receptors in the cell membrane allow insulin in the blood to connect with them and then send a signal to the inside of the cell that there is glucose in the blood which

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Rx: Same diet Rx as for diabetes

Fatty liver disease:

1. Obesity
2. Low exercise pattern
3. Diet of high protein, high fat, typical American diet

Life style factors commonly found associated with:

1. Abdomen obesity: waist size at mid-abdomen Men: above 37"; women 32"
2. High blood pressure: above 130/85
3. Low HDL cholesterol below 40 for men, below 50 for women
4. Triglycerides above 150 ml.
5. Fasting blood sugar above 100 mg.

Metabolic Syndrome: 3 of 5 following conditions

13. Rx:
- the blood has excess.
12. When there is a collection of fatty acids below the cell membrane the chemical ability of glucose through the membrane into the cell and on to the mitochondria to be burned. needs to be moved into the cell. At this point some type of chemical action will draw the cell to draw glucose into the cell is altered and then the cell is low on glucose and
- a. Exercise will help facilitate the movement of glucose into the cell. How??
 - b. Weight loss extremely important for over wt. people.
 - c. Plant food diet best and with restriction of fats, even good fats.
 - d. Plant food diet, non-refined with no added oils will give 20% calories as fat. This is a therapeutic diet for diabetes and very effective.
 - e. Plant food diet, non-refined with no nuts, avocados, olives, soybeans will give a 10% calories diet and will clear cholesterol deposits in the arteries.