Get Your Blood and Urine Tested

The following are the basic and advanced tests I'd like you to get for the beta program.

Basic Diabesity Testing

NOTE: The abnormal levels noted are based on people who are *not* taking cholesterol or diabetes medications. If you are on medication, the numbers may look better but you may still have severe untreated diabesity.

- **Insulin response test**—fasting, 1-hour, and 2-hour glucose and insulin levels after a 75-gram glucose load. This is like a glucose tolerance test but measures both glucose and insulin. Your blood sugar can be normal but your insulin can be sky high. Fasting insulin should be < 5 μIU/dl and 1- and 2-hour levels less than 30 μIU/dl. Fasting blood sugar should be < 90 mg/dl and 1- and 2-hour less than 120 mg/dl. **Demand this test**. It is the most important indicator of the presence and severity of diabesity and it is rarely done in medical practices today. That is why it is not diagnosed in 90% of people who have it. An alternative is to measure just fasting and 30 minutes post-glucose load glucose and insulin levels. If you have already been diagnosed with diabetes you don't need to do the 2-hour glucose load test.

- **Hemaglobin A1c** (abnormal > 5.5 % of total hemaglobin) measures the average of the last 6 weeks of blood sugar.

- **NMR lipid profile**—particle size and number of LDL, HDL, and triglycerides. Small dense particles are dangerous and an indicator of diabesity, even if your overall cholesterol is normal with or without medication. You should have less than 1000 total LDL particles

and less than 500 small LDL particles (the dense dangerous type). (This test is performed by Liposcience, but can be ordered through Labcorp or Quest Diagnostics, the two biggest laboratory testing companies.)

- **Lipid panel---** total cholesterol (ideal < 180 mg/dl), LDL (ideal < 70 mg/dl), HDL cholesterol (ideal > 60 mg/dl), and triglycerides (ideal < 100 mg/dl).

- **Triglyceride/HDL ratio** --- abnormal is greater than 4.

- **Total cholesterol/HDL ratio ---** abnormal is greater than 3 .

Advanced Tests

- High-sensitivity C-reactive protein (abnormal >1.0 mg/liter) - to assess inflammation

- Fibrinogen (abnormal >350 mg/deciliter) – to assess clotting risk and thick blood

- Lipoprotein (a) (abnormal >30 nmol/L) – to assess treatable genetic cholesterol marker

- Uric acid (abnormal >7.0 mg/dL) – to assess gout risk caused by diabesity

- Liver function tests (elevated AST, ALT, GGT are abnormal) – to assess fatty liver

- Kidney function tests (BUN abnormal >20 mg/dL, creatinine abnormal >1.2 mg/dL) – to assess kidney function

- Microalbumin (abnormal >20 mg/dl) – to assess protein in urine, an early marker for damage to kidneys

- 25 OH vitamin D (abnormal <50-75 ng/dL) – for vitamin D status

- Homocysteine (abnormal >8.0 micromoles/liter): a sensitive marker for folate deficiency

- Ferritin (abnormal >200 ng/mL) – to assess inflammation and iron status

- Thyroid hormones (abnormal TSH, free T3, free T4, TPO antibodies) – to assess thyroid function

- Sex hormones (male – total and free testosterone; and female- FSH, LH, DHEA-S, estradiol, progesterone, free testosterone and sex hormone binding globulin) – to assess sex hormones