

## Lab Values For Insulin Resistance or Dysregulation Screening

<b>Triglycerides</b>	Under 100 is the goal - optimal Levels greater than 60% of total cholesterol should be addressed especially if HDL are 40 or below. Further testing and monitoring is in order.	
<b><u>Fasting Insulin</u></b>	10 IU /ml or below	optimal,
	Over 10 IU/ml	high
<b>HBGA1C or Glycated Hemoglobin</b>	5.4 or less percent	optimal
	>5.7	prediabetes- insulin resistance developing
	6.5 or higher	new guidelines for diabetes
<b>Glucose, fasting</b>	70-85 mg/dl	optimal
	85-100 mg /dl	high
	100-126	diabetes, prediabetes
	126 plus	indicative of diabetes
<b>Insulin Resistance Calculation</b>	(fasting insulin x fasting glucose) Divide that number by 405. If that calculation is greater than 1.8 you have insulin resistance.	
<b>Leptin</b> (use RIA testing)	4-6 ng/dl	optimal
	Up to 9 ng /dl	acceptable
	10 plus ng/dl	high

Any of the above values that are above OPTIMAL or ACCEPTABLE should be addressed. Patients using glucometers should continue taking their regular glucose levels when taking nutrients to enhance blood sugar regulation

Several authors have indicated that toxins and environmental factors have impaired glucose control. Consider a detox program like the 3 step detox as a prelude to any therapy. Use step one and two as outlined and use the nutrients below as maintenance. Contact your local Biotics representative for the dietary suggestions and exact protocols. Getting a head start with an aggressive dietary and allergy reducing program will reduce inflammation, and help patients feel better faster. I generally see insulin; cholesterol, triglycerides and blood sugar levels decrease as well.

STEP ONE: 7-10 DAYS, continue until the bottles are finished

**Beta-TCP** - 5 tid with meals

**Bromelain Plus CLA** - 4 with each meal

## Tuesday Minute

### STEP TWO: 20 DAYS

**Bio-Detox Packs** - one with each meal

Detox drink to be taken as a meal replacement (generally breakfast) and as a mid afternoon snack. The detox drink contains the following:

**NutriClear** 2 scoops

**Whey Protein Isolate** (**Pea Protein Concentrate** if sensitive to Whey) 1-2 scoops

### STEP THREE: 60 days, retest and modify as needed.

**Glucobalance** - Use 2-3 capsules 3 times per day, a formula developed by Drs. Jonathon Wright and Allan Gaby as a source of foundational nutrients. Use the 3 capsules for heavier patients or lab numbers in the high range discussed above. Reduce to 2 three times per in 30 days. **Optimal EFAs Caps** - Use 2 capsules three times per day, a mixture of omega-3s and organic GLA with some flax seed oil to reduce inflammation via NF-kappa B pathways.

**Berberine HCL** - 1-2 capsules three capsules per day.

**Bio-D-Mulsion Forte** - 2 drops yields 4,000 I.U., some studies show vitamin D works as good as or better than some medication to reduce blood sugar.

**Lipoic Acid** - 100-300 mg three times per day, to prevent neuropathy and provide antioxidants to protect tissue

Niacinamide - 500 mg three times per day, to help burn sugars more efficiently.

**Mg-Zyme (magnesium)** - Start with 3 tablets at bedtime and increase to bowel tolerance. The goal is a loose but formed stool. Magnesium will draw water to the bowel and have a laxative effect if too much is used. Calculate the anion gap by adding sodium and potassium and subtracting the total of Co2 and chloride. If that number is 14 or higher a thiamine deficiency is probable. Use **Bio-3B-G** at 2 tablets per waking hour for 10 days then 3 tid.

**REDUCE CARBOHYDRATES TO NO MORE THAN 60-80 GRAMS PER DAY** until blood sugar is stabilized and then monitor and balance carbohydrate levels and blood sugar. It may be necessary to go lower than 60 in some cases. Use 60 grams if weight loss is an issue.

**CONSIDER TESTING FOR FOOD SENSITIVITIES.** Numerous authors have shown blood sugar dysregulation occurs more frequently when food sensitivities are not addressed. For unresponsive cases this can often seem miraculous. Consider using KBMO to test for IgG and C compliment 617-990-5741. Testing is very reasonable and can be done using blood spot technology and therefore does not require venipuncture.

**INCREASE SOME FORM OF EXERCISE AS PART OF A DAILY EXPERIENCE:** The best way to reduce sugar is to burn it through movement. See Tuesday Minute on exercise #197 and #299 called "High Intensity Interval Training". Exercise is not an option once the battle begins.