Karen Martel Nutrition

Weight Loss Resistance

Insulin Resistance

Dietary: Keto or low carb Paleo

Lifestyle: lower stress

Areas to address: gut dysfunction, hormones, food sensitivies.

Exercise: Research is clear that a combination of cardiovascular and resistance/strength training is invaluable in helping to correct blood sugar and insulin dysregulation.

Supplements

Most herbs and supplements have not been thoroughly tested for interactions with other herbs, supplements, drugs, or foods. The interactions listed below are based on reports in scientific publications, laboratory experiments, or traditional use. You should always read product labels. If you have a medical condition, or are taking other drugs, herbs, or supplements, you should speak with a qualified healthcare provider before starting a new therapy.

Below is a list of commonly used nutritional compounds used to help manage blood sugar dysregulation.

Consult with your doctor before starting any nutritional supplements.

Supplements TO CONSIDER FOR BLOOD SUGAR MANAGEMENT

Lipoic Acid (Alpha Lipoic Acid) 600-1800mg in divided doses daily (taking with Biotin has been shown to improve the blood sugar and insulin lowering effect than either taken alone).

Lipoic acid is a sulfur-containing compound that seems to improve insulin resistance by increasing activation of glucose transporters (GLUT-4 vesicles), which help sensitize tissues to insulin. Studies performed on Alpha Lipoic Acid have been shown to improve insulin sensitivity. ALA also has potent antioxidant activities. Lipoic acid enhances the effectiveness of other antioxidants, facilitates the production of energy in cells, and provides support for detoxification processes of the liver. Lipoic acid is both water and lipid soluble, aiding to its multiple benefits, but has a short half-life and therefore either sustained released capsules or frequent dosing is necessary.

Chromium 200-1000mcg daily, in divided doses.

Chromium is an essential trace mineral that plays an important role in carbohydrate metabolism and glucose tolerance. Chromium deficiencies are common in the United States and Canada which are further depleted by a diet high in sugar and refined carbohydrates. Also known as “glucose tolerance factor”, studies demonstrate strong evidence that chromium may optimize the impact of insulin on receptor sites and therefore improve glucose uptake and insulin sensitivity. Chromium may also positively impact postprandial glucose and insulin levels, glycated hemoglobin, total cholesterol and LDL cholesterol. There is evidence that chromium taken with biotin may synergistically improve glucose tolerance.

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Carnitine 2,000mg daily, in divided doses.

Preliminary data suggest that supplementation with L- carnitine can improve insulin sensitivity in individuals with type 2 diabetes, as evidenced in part by its ability to decrease intramyocellular lipid levels.

Banaba Leaf (Lagerstroemia speciosa) 50-100mg, three times a day Banaba leaves contain a number of active components, including corsolic acid, that have demonstrated the ability to activate glucose transport and uptake across cell membranes. Studies have demonstrated the ability for corsolic acid to aid in the regulation of blood sugar levels, serum insulin, and total cholesterol. The active constituents in banaba leaf have even shown to have a "memory effect" for blood glucose control that lasted for several days after just one dose.

Cinnamon 250mg of standardized extract, three times a day; or 1-6 grams of dry powder daily Cinnamon contains a water-soluble compound called MCHP (methylhydroxychalcone polymer) that has been shown to lower blood glucose levels via activation and improved efficiency of insulin receptors. Studies have suggested that ¼ to 1 teaspoon of cinnamon daily might be helpful in type 2 diabetes. A more active substance, called Cinnulin PF, is the only extract validated in studies by the USDA to improve insulin response up to twenty-fold and can be found in some blood sugar management nutritional formulas. Of note, cinnamon contains coumarin and ingestion of large amounts should be first discussed with your doctor. Liver toxicity in animal models has also been reported.

Berberine 250-500mg, three time a day Numerous studies demonstrate the ability of berberine to improve blood sugar and insulin management. Some of the proposed mechanisms for this benefit includes 1) mimicking insulin action, 2) activation of AMPK, 3) reducing insulin resistance by upregulating insulin receptor expression, 4) inducing glycolysis, 4) promoting glucagonlike peptide-1 release, 5) inhibiting DPP-4 and 6) inhibiting hepatic gluconeogenesis.