

Insulin Resistance & Metabolic Syndrome

Patient Information Sheet

Causes & Mechanism of the Condition

High insulin resistance is characterized by the failure of insulin to stimulate normal glucose uptake into target tissues. Insulin binds with receptors on cells much like a key fits into a lock thereby allowing glucose to enter and be converted to energy or stored for future use in the form of glycogen in liver or muscle cells. When insulin resistance exists, the body compensates by secreting more insulin from the pancreas. Often Insulin resistance is coupled with high triglycerides, a low HDL, high blood pressure, and a larger waist line. When three of these symptoms exist together it is called metabolic syndrome and increases the risk of cardiovascular disease, type II diabetes, and strokes. Genetic predisposition, excess body weight, polycystic ovarian syndrome, a diet high in simple sugars, and decreased fiber may all contribute to insulin resistance and metabolic syndrome.



Anti-diabetic drugs may be prescribed to manage high insulin resistance, however they may cause side effects such as diarrhea, nausea, vomiting, water retention, and congestive heart failure. Medications to control high blood pressure and cholesterol may also be prescribed. Exercise and weight loss coupled with a diet high in fresh fruits, vegetables and whole grains and intermittent fasting have proven themselves to be the basis for preventing insulin resistance. The combination of these lifestyle factors is often a successful alternative to medications for reducing insulin resistance, and they are always an important addition to medications in treating insulin resistance.



Suggested Dietary & Lifestyle Modifications

- Eat small, frequent meals consisting of a predominantly vegetarian diet based on vegetables, fresh whole low glycemic index fruits, whole grains and legumes. (Low glycemic index fruits include: apples, peaches, pears, cherries, plums, berries and oranges.) Include onions and garlic in the diet. Gradually increase fiber intake.
- Strictly limit **refined** carbohydrates (sugar, white flour, white rice) and alcohol.
- Organically grown fish or poultry eaten in moderation is preferable to red meat (salmon is especially rich in Omega 3 fatty acids which are useful in the management of insulin resistance).
- Eat a diet low in saturated fat (avoid butter, cream, cheese, fatty meats). Do include foods with a moderate amount of fat from vegetable and cold water fish sources.
- Drink plenty of purified water. Limit dairy consumption (substitute rice or almond milk for cow's milk).
- Eliminate food additives such as artificial colors, artificial flavors, preservatives, hydrogenated fats, nitrates/nitrites, sulfites, and artificial sweeteners (Nutrasweet/aspartame, Sweet N' Low/saccharine, Splenda/sucralose). Stevia is OK.
- Walk for 30 minutes at least 3 times per week. When possible, add the following to your walks to increase the health benefits:
 - Speed bursts (alternate moderately paced walking with short, faster-paced intervals).
 - Plyometrics (bounding, jumping, and skipping moves).
 - Choose a walking area with slopes and hills.



Supplements That May Be Beneficial

- Ultra Preventive Capsules or Ultra Vites (high potency multi vitamin & mineral supplement with Glucose Tolerance Factor Chromium)
- Metabo-Lift (Blackberry, Nettle Mother Tinctures with Essential Oils of Bergamot, Cinnamon, Ginger, Grapefruit, Lemon, Peppermint)
- Metabo-Trim (African Mango, Cissus, Coleus Forskohlii Extracts)
- Ultra DM Complex II (Cinnamon, Alpha Lipoic Acid, Chromium, Berberine, Fenugreek, Milk thistle, MSM)
- Ultra Omega-Linic (omega 3, DHA, EPA & GLA supplement with salmon & black currant oils)
- Fiber supplement (guar gum or psyllium) with a full glass of water before meals
- Custom tincture & essential oil blends as recommended by a trained Endobiogenic Consultant



Complementary Treatments That May Be Beneficial



- *Appetite Balance*, Geranium, Peppermint, Grapefruit essential oil combination
- Graded, supervised exercise program
- Massage Therapy
- Chiropractic Care
- Yoga
- Mind/body medicine
- Acupuncture or Acupressure

Individuals under a physician's care should seek the advice of their physician before taking nutritional supplements or beginning a new exercise program. The nutritional suggestions in this material are not offered to treat, mitigate or cure disease, and should not be used as a substitute for medical care. This information is designed to be used in conjunction with the services of a trained, licensed healthcare practitioner.

References:

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Written by: Annette Davis, C.N., & Jean Bokelmann, M.D. & DeLisa Eddington, N.P.
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6000 S 5th Ave
Pocatello ID 83204

Phone 208-478-8400, FAX 208-232-6018
Phone 877-470-8400 TOLL FREE

info@eimcenter.com
www.eimcenter.com