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## Reversing Metabolic Syndrome

Metabolic syndrome is a cluster of conditions that occur together, increasing your risk of heart disease, stroke and diabetes. As obesity reaches epidemic levels in the US this dangerous condition, also known as Syndrome X, is affecting a growing number of people. According to the American Heart Association, up to 25% of the US adult population is thought to suffer from metabolic syndrome. The good news is, if you have metabolic syndrome or any of the components of metabolic syndrome, you have the opportunity to make therapeutic lifestyle changes and reverse your risk of developing these serious diseases.

### Signs and Symptoms

Having metabolic syndrome means you have several disorders related to your metabolism at the same time. Specifically, metabolic syndrome is diagnosed when a person has at least three of the following risk factors:

Abdominal fat - men >40 inch waist; women >35 inches.

High triglycerides - >150 mg/dL

Low HDL cholesterol - men <40 mg/dL; women <50 mg/dL

Elevated blood pressure - equal to or greater than 130/85 mm Hg

High fasting glucose levels - equal to or greater than 100 mg/dL

The more of these risk factors you have, the greater the risk to your health. In general, a person with metabolic syndrome is twice as likely to develop heart disease and five times as likely to develop diabetes as someone without metabolic syndrome.

### Insulin Resistance and Metabolic Syndrome

The dominant underlying causes for metabolic syndrome appear to be abdominal obesity and insulin resistance. Insulin is a hormone made by your pancreas that helps control the amount of sugar in your bloodstream. Your digestive tract breaks down the food you consume into glucose. This rise in blood glucose after a meal stimulates the pancreas to secrete insulin which enables glucose to enter cells to be converted into energy. In people with insulin resistance, glucose doesn't enter the cells effectively and therefore glucose remains in the blood stream. To compensate, the pancreas may secrete more and more insulin. The excess levels of both blood sugar and insulin contribute to developing high triglyceride levels, low HDL ("good") cholesterol, high blood pressure, and/or other signs of metabolic syndrome, such as increased waist circumference.

### Reversing Your Risks

Data from the National Institutes of Health (NIH) indicate that over \$100 billion in healthcare costs annually go to diseases associated with

metabolic syndrome. An article written by the chief medical officers of the American Cancer, Diabetes, and Heart Associations published in the journal *Circulation* in 2004 stated that the current strategies in approaching these chronic conditions are not effective and more emphasis is needed to be placed on disease prevention and lifestyle changes. In addition, a statement issued by the American Heart Association and National Heart, Lung, and Blood Institute emphasized that lifestyle interventions should be the initial therapies recommended for treatment of metabolic syndrome. If they are not sufficient then drug therapies for the individual risk factors may be recommended.

A study by Duke Medical Center found that people with metabolic syndrome, who made lifestyle modifications by exercising and losing weight, had a 47% reduction in insulin overproduction. Weight management is an important aspect of reversing metabolic syndrome. However, fad diets, strenuous exercise regimens, and/or the use of stimulants have been shown clinically and scientifically to eventually fail. The problem with most popular weight loss programs is that they focus on weight loss alone. Little or no emphasis is placed on healthy body composition (fat-to-lean muscle ratio), even though healthy body composition is widely recognized as being more crucial to long-term success than just dropping pounds.

Unhealthy body composition refers to carrying too much fat in comparison to lean (i.e., muscle) tissue. Diet programs

that focus only on weight loss can help you look thinner, but they can also lead to muscle loss and retention of excess fat. So even if you do lose weight, an unhealthy body composition will still leave you at risk for a wide range of serious health concerns.

Your bathroom scale alone isn't a good indicator of body composition. Even if your weight is within normal range, you might still be considered over-fat. A more accurate and scientific way to estimate body composition is Bioelectrical Impedance Analysis (BIA). BIA is a noninvasive technique that analyzes your tissue and fluid compartments by passing an ultra-low level electrical current through the body. It is more sophisticated than your bathroom scale, but just as painless.

It is crucial to understand that controlling metabolic syndrome cannot be accomplished by simply taking a pill every day. Many national health organizations are recognizing the benefits of therapeutic lifestyle changes and are recommending it as a primary treatment protocol for managing many chronic conditions. Clinically, I find coaching patients to achieve balanced eating habits, stress management, regular physical activity, and optimal sleep patterns; in addition to utilizing condition-specific nutritional supplementation, are the keys to obtaining proper body composition and reducing the metabolic risk factors.

Making lifestyle changes is a multi-layered event that should not be expected to happen overnight. A sedentary lifestyle, poor food choices, and an

ever-increasing amount of stress in our lives have all contributed to this explosion of chronic health conditions. If you or anyone you know of has metabolic syndrome or some of the risk factors involved, it is important to begin today to address these conditions. Your well-being matters.

"It's no coincidence that four of the six letters in health are HEAL"

~Ed Northstrum

### **Who are Naturopathic Doctors?**

I think it's important for me to assist in people's understanding of what Naturopathic Doctors actually do. Yes, we utilize natural therapies to heal, etc, as do many alternative practitioners. But, what makes naturopathic doctors different is their training.

No, we haven't taken a few weekend courses to get our titles, or done a survey online and paid an association fee to get our "certification". We actually went to a 4-year accredited naturopathic medical school where we dissected cadavers to understand the anatomy of the human body, performed gynecological and prostate exams on live patients, in addition to drawing blood for our lab diagnosis class and practicing our suturing techniques in our minor surgery class. We have been trained as naturopathic medical doctors.

What is different between us and MD's? Basically our education is focused on the same basic sciences as an M.D., but ND's also study natural approaches. We are the only doctors that have 2 full years of clinic shifts done in an integrative medical setting before graduating. ND's have worked on at least 500 patients utilizing natural therapies in supervised clinic settings. Our teachers are MD's, ND's PhD's, DC's, and DO's.

After graduation we are required to pass our North American professional board exams so that we may be licensed by a state or jurisdiction as a primary care general practice physician. We are required to obtain continuing education hours per year to maintain our licenses.

A lot of people wonder why I don't muscle test to confirm a supplement over another or why I don't use these impressive instruments that tell what body organ is weak. Even though these techniques may be useful, in my training we use laboratory tests to diagnose patients or a thorough health history to understand what physical part of the body is affected.

Just like MD's who prescribe drugs depending on the patient's health history, ND's prescribe herbs, homeopathy or nutrients. We don't need muscle testing etc to understand what areas of the body is weakened. We just understand how the body works.

NY State currently doesn't have regulations of natural health care providers which is a dangerous situation. I have

seen time and time again patients coming into my office on a garbage bag full of supplements who are on pharmaceutical medications. They are fearful to tell their MD's what supplements they are taking. This is a very dangerous situation! Herbs, nutrients, and drugs interact. It's important to educate your primary care doctors on everything you are taking or go to someone like a naturopathic doctor who is trained in pharmacology and natural therapies and will know the interactions that may occur.

More and more people are seeking out alternative providers looking for other ways to feel better. This too is dangerous in NY State since any one can call themselves a certified whatever and give natural therapy advice. Be sure to know the qualifications of the individual you're receiving natural therapy advice from. And remember, there is no need to take a garbage bag full of supplements or medications to feel better.



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## **Women's Health:** **Understanding Estrogen**

Estrogens are the dominant hormones for most of a woman's reproductive life. Starting at puberty, the ovaries produce estrogen until menopause. Estrone (E1) and estradiol (E2) are considered "strong" estrogens; where as estriol (E3) is a "weak" or "protective" estrogen. High levels of E1 and E2 are associated with increased breast, uterine, and ovarian cancer risk; whereas, E3 is associated with a decreased risk.

### **Estrogen Metabolites**

Estrogen is broken down by enzymes in the liver and eventually excreted through the intestines by our stool.

During the breakdown process, several metabolites are formed. C2 (good) estrogens are harmless. However, C16 (bad) and C4 (ugly) estrogen metabolites are harmful and carcinogenic. The C4 pathway is activated by pesticides, environmental estrogens, car exhaust, paint fumes, alcohol, caffeine, pharmaceuticals, sugar, and high fat diet.

While this all sounds like bad news, the good news is that once the C4 estrogens are made, they can be inactivated in the liver. The brassica plant family (cabbage, broccoli, brussel sprouts and kale) contain a chemical called indole-3-carbinol that decreases the production of C4 and C16 metabolites. This phytochemical is sensitive to heat, so these foods should be eaten raw or lightly steamed to get their beneficial effect.

### **Testing for Metabolites**

A simple urine test, done through a private US lab can tell us the ratio of C2:C16 metabolites, since they are excreted through our urine. Women with a personal or family history of breast or uterine cancer may wish to look into this. This is a useful test to use when monitoring estrogen dominant conditions as well. Please inquire for details.



### **In the News:**

#### **More Benefits from Green Tea**

The list of benefits from green tea keeps growing! Its anti-oxidant, anti-inflammatory and anti-bacterial properties already have been shown to have positive effects on the heart, some cancers, diabetes, weight loss, immunity, mental alertness and cavities. Further studies in 2007 uncovered potential benefits from green tea for Parkinson's patients and also found that drinking five or more cups a day may halve the risk of developing advanced prostate cancer. This ancient Chinese proverb inspires many to supplement with green tea: "*Better to be deprived of food for three days, than tea for one.*" Green tea is just one of a plethora of nutrients, supplements and antioxidants being discovered and proven as effective means to both prevent and cure disease. The research continues to mount.

### **Lifestyle Changes May Affect Disease Related Cellular Pathways**

Many types of cancer, cardiovascular, and infectious diseases have been linked to telomeres, which are protective DNA-protein complexes that keep cells genetically stable. Researchers at the University of California-San Francisco investigated the effects of lifestyle changes on telomerase levels in 24 men with low-risk prostate cancer. The participants underwent a comprehensive lifestyle modification that included: Improved nutrition, moderate aerobic exercise, stress management, and increased social support. After 3 months, the study participants' telomerase activity had increased 29.8 percent. Decreases in psychological distress and low-density lipoprotein (LDL) cholesterol were associated with the increase in telomerase activity.

### **Recipe**

#### **Chickpea and Broccoli Salad with Flax-Tahini Dressing** (Serves 4 to 6)

##### **Ingredients**

##### *Flax-Tahini Dressing*

2 tablespoons flax oil  
3 tablespoons tahini  
1 1/2 tablespoons lime juice  
2 cloves garlic  
2 tablespoons tamari  
2 tablespoons water, more if needed

##### *Chickpea and Broccoli Salad*

3 cups cooked chickpeas, drained and rinsed  
2 cups broccoli florets, lightly steamed  
3/4 cup chopped onion  
1 cup thinly sliced radishes  
Sea salt, to taste  
Ground pepper, to taste

##### **Directions**

Dressing: combine all ingredients in a food processor and blend to an even consistency. Add water if needed. Then, toss chickpeas, broccoli, onion and radishes with tahini dressing in a large bowl. Season with salt and pepper and chill before serving.

