



# The Metabolic Syndrome: Syndrome X

By: Gary E. Foresman, MD

## What is it?

A collection of metabolic abnormalities associated with insulin resistance that predisposes affected individuals to accelerated atherosclerosis and consequently increased risk of cardiovascular events. It appears that central, abdominal, or visceral obesity is a major etiologic factor for the insulin resistance and other factors of the metabolic syndrome. Our current understanding is that of adipose tissue (fat) as an endocrine organ. Increased central obesity leads to a cascade of pro-inflammatory, pro-coagulant and insulin resistant factors. The “Deadly Quartet” of central weight gain, elevated blood pressure, elevated blood sugar and dyslipidemia (abnormal lipid profile) defines the primary risk factors involved in the single most prevalent and epidemic leading cause of death in America.

## How is it defined?

See worksheet below (Metabolic Syndrome Worksheet)

## What is its prevalence and why should I care?

Approximately 32% of the US population over 20 years old has the metabolic syndrome, suggesting 64,000,000 American adults are affected. In people over 60 years of age, about 45% are affected. When one focuses on diabetes risks, nearly one of every three people born in the year 2000 will develop diabetes. In Latinos and African Americans, nearly 50% will become diabetic. In economic costs, this translates to \$132 billion in direct and indirect costs in 2002 for diabetes alone, as so many more people have metabolic syndrome, the actual costs are probably over double this due to the increased risk of cardiovascular disease associated with this syndrome.

Not only are we learning to consider adipose tissue as an endocrine organ, but we are also learning that the lining of our arteries known as the endothelium is not just a passive “pipe”, but also a complex endocrine organ. Through the combined effects of insulin resistance, hyperinsulinemia, oxidative stress, increased inflammation and procoagulant effects upon the endothelium we see how metabolic syndrome dramatically increases cardiovascular risk.

## How do I get Metabolic Syndrome/Syndrome X?

It is all about lifestyle. Please refer to my Foundations of Health article on our website [www.anaturalbalance.com](http://www.anaturalbalance.com) and to Dr. Maybee’s discussion tonight on “First Line

Therapy”. American lifestyle through stress responses, lack of exercise, and diet rich in excess and processed carbohydrates leads to this condition. In a recent article “The Choice of a Metabolic Syndrome Generation: Soft Drink Consumption With Increased Metabolic Risk” yet another example of the dangers of soft drinks are exposed. Sodas of all kinds are deadly. Drinking one or more per day of either diet soft drinks or regular soft drinks increases the risk of metabolic syndrome 50-60% which was shown over this 14 year study.

### **How do I treat metabolic syndrome?**

Of course, the basis of therapy starts with the regular practice of stress-reduction, regular exercise, and a diet rich in whole foods. The list of supplements that one could take should you be diagnosed with metabolic syndrome is extensive. Start with our Basic Nutritional Protocol as seen on the website [www.anaturabalance.com](http://www.anaturabalance.com) as a good multi-vitamin and quality fish oils can do much to lower the elevated homocysteine and inflammation (hsCRP) seen so commonly in Syndrome X. I have done a series of articles recently on our Supplement of the Week newsletter (also online) including such vital nutrients to consider such as: Alpha Lipoic Acid, Pycnogenol, Acetyl-L-Carnitine, Benfotiamine, CoQ10 and Red Yeast Rice extract, which can all have profound and beneficial impacts upon this syndrome.

As there is a five-fold increased risk of coronary heart disease in people with metabolic syndrome and as coronary heart disease is already the number 1 killer in America, it is clear why an aggressive approach including multiple supplements in addition to lifestyle changes is necessary to make an impact on this epidemic killer.

It is also important to note that the most important reason to treat metabolic syndrome is for how we feel right here and right now, not just to prevent cardiovascular disease. Due to the complex interaction between insulin resistance, inflammation and hypercoagulability, this syndrome is associated with depression, anxiety, anger, fatigue, muscle aches, and an increased rate of progression of almost all degenerative diseases. Should one not be able to adequately control any of the components of the metabolic syndrome through lifestyle and supplementation, I strongly recommend early medical therapy under the guidance of a knowledgeable Medical Doctor. Controlling the blood sugar early with medicines that improve insulin resistance such as metformin, Actos, and others as well as aggressive treatment of blood pressure, especially with the use of ACE inhibitors (my favorite is Altace), and cholesterol lowering with red yeast rice extract or statins if need be. Yes, medicines can have side-effects, but the benefits vastly outweigh the risk in most cases.

Your Journey to Health & Healing,  
Gary E. Foresman, MD

References:  
Upon Request

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MIDDLE PATH MEDICINE  
METABOLIC SYNDROME WORKSHEET

Patient _____	Date _____	
RISK FACTOR	NORMAL	METABOLIC SYNDROME
Waist Circumference		
	<40 inches	≥40 inches
Men (Patient Result)		
	<35 inches	≥35 inches
Women (Patient Result)		
Tryglycerides	<150 mg/dl	≥150 mg/dl
Patient Result		
HDL Cholesterol		
	≥40 mg/dl	<40 mg/dl
Men (Patient Result)		
	≥50 mg/dl	<50 mg/dl
Women (Patient Result)		
Blood Pressure	<130/85	≥130/85
Patient Result		
Fasting Glucose	<100mg/dl	≥100mg/dl
Patient Result		

1. Waist circumference is measured at the umbilicus with the patient sucking in.
2. Regarding triglycerides and HDL cholesterol: if the patient is on cholesterol medicine, every attempt to use pre-medication values should be made.
3. Anyone who is on blood pressure medicine will automatically be marked as having this risk factor, even if today's blood pressure is < 130/85.
4. Anyone on diabetes medicines will be marked as having this risk factor, even if today's blood sugar is <100. I strongly encourage A1C testing for values >100.
5. Anyone having 3 of the 5 risk factors has Metabolic Syndrome, and can go to [www.middlepathmedicine.com](http://www.middlepathmedicine.com) for articles relating to this syndrome.