

MODULE 2.3

Metabolic Syndrome

Metabolic syndrome refers to a cluster of abnormal conditions that increases the risk for cardiovascular disease (CVD) and type 2 diabetes.¹ Each risk factor is independently associated with the development of CVD or type 2 diabetes and their clinical consequences, but the clustering of these risk factors imparts a cumulative risk that is significantly greater than the sum of the risk for each individual abnormality.² The risk of cardiovascular mortality also increases with each additional abnormal condition that is present.²

The diagnosis of metabolic syndrome requires the presence of at least 3 of these 5 abnormal conditions (as determined by laboratory values or on medication to treat):³

- Dyslipidemia, low high-density lipoprotein (HDL) cholesterol: <50 mg/dL, <1.29 mmol/L for women; <40 mg/dL, <1.03 mmol/L for men
- Dyslipidemia, elevated triglycerides: ≥150 mg/dL, ≥1.7 mmol/L
- Hypertension: blood pressure ≥140/90 mm Hg
- Hyperglycemia, impaired fasting glucose: ≥100 mg/dL, ≥5.6 mmol/L
- Abdominal obesity: waistline >35 inches, >89 cm for women; >40 inches, >102 cm for men

The prevalence of metabolic syndrome is rising, in large part due to the continuing increase in adult obesity.¹ According to the International Obesity Task Force, 1.7 billion of the global population have a weight-related disease.² A fifth of all US adults and a quarter of all adults worldwide, or as many as 1.8 billion, have metabolic syndrome.^{1,4} It is predicted that metabolic syndrome will soon eclipse tobacco smoking as the leading risk factor for CVD.³

The diagnosis of metabolic syndrome carries a significant risk of CVD morbidity and mortality. Relative to those without metabolic syndrome, individuals with metabolic syndrome are 3 times as likely to have a heart attack or stroke, and 2 times as likely to die from either.⁴

Individuals with metabolic syndrome are also 5 times as likely to develop type 2 diabetes than those without metabolic syndrome.⁴ Approximately 85% of those who have type 2 diabetes have metabolic syndrome.³

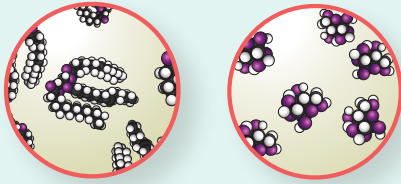
Metabolic Syndrome



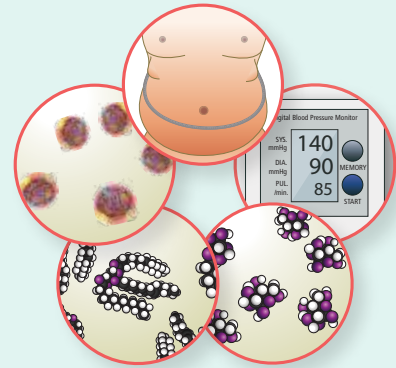
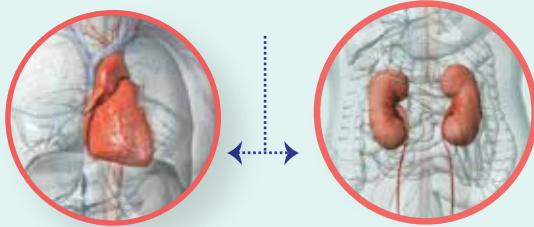
Metabolic Syndrome means having ≥ 3 of these:

	Abdominal Obesity	Dyslipidemia - Low HDL Cholesterol	Dyslipidemia - High Triglycerides	Hyperglycemia	Hypertension
Female	Waistline >35 in; >89 cm	HDL Cholesterol <50 mg/dL; <1.29 mmol/L	Triglycerides ≥150 mg/dL; ≥1.7 mmol/L	Fasting Plasma Glucose ≥100 mg/dL; ≥5.6 mmol/L	Blood Pressure >140/90 mm Hg
Male	Waistline >40 in; >102 cm	HDL Cholesterol <40 mg/dL; <1.03 mmol/L			

The Risks of Metabolic Syndrome



Each abnormal condition increases your risk of Type 2 Diabetes and Cardiovascular Disease.



The presence of **more than one** abnormal condition confers a risk greater than that of the sum of each alone.

References

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2. International Diabetes Foundation. *The IDF Consensus Worldwide Definition of the Metabolic Syndrome*. Brussels, Belgium: IDF; 2006. www.idf.org/webdata/docs/IDF_Meta_def_final.pdf. Accessed October 14, 2015.
3. National Heart, Lung and Blood Institute. What is metabolic syndrome? www.nh-bi.nih.gov/health/health-topics/topics/ms. Last updated November 3, 2011. Accessed October 13, 2015.
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