

## Cardiometabolic Risk

The epidemic of obesity represents a huge challenge for public health and clinicians. Closely related to the growing prevalence of type 2 diabetes, obesity is a major cause of CVD (cardiovascular disease). Additionally, current evidence suggests a prevalent subgroup of overweight/obese patients, with undiagnosed diabetes or CVD, can nevertheless have a cluster of atherogenic, thrombotic, and inflammatory abnormalities for which insulin resistance and an excess intra-abdominal (visceral) adiposity are key central components (Figure 1) <sup>1</sup>. This cluster of metabolic abnormalities is referred to as the metabolic syndrome <sup>1,2</sup>. Controversy remains around the underlying pathological processes leading to the development of the metabolic syndrome (insulin resistance and/or hyperinsulinemia vs. abdominal obesity), but there is increased recognition that abdominal obesity is the most prevalent form of the metabolic syndrome <sup>2</sup>. Though this syndrome increases the risk of type 2 diabetes and CVD, it is not entirely clear which of its features are responsible for doing so.

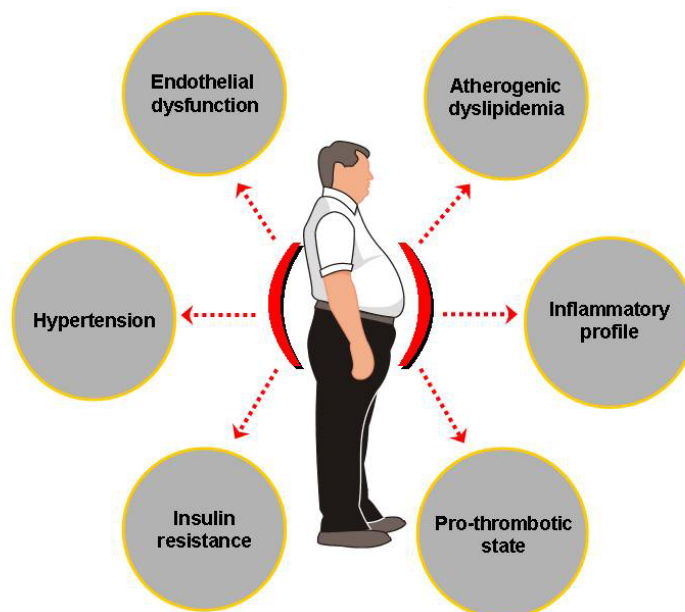


Figure 1: The most prevalent form of metabolic syndrome

A clinical diagnosis of the metabolic syndrome is predictive of an increased risk of type 2 diabetes and CVD<sup>3,4</sup> but is not per se sufficient to assess the global risk of CVD<sup>5</sup>. In order to properly evaluate and manage global CVD risk in clinical practice, it is important to take into account the risk associated with well established, traditional risk factors as well as the potential additional contribution of abdominal obesity/insulin resistance and related complications (metabolic syndrome). This global risk is referred to as global cardiometabolic risk (Figure2)<sup>5</sup>.

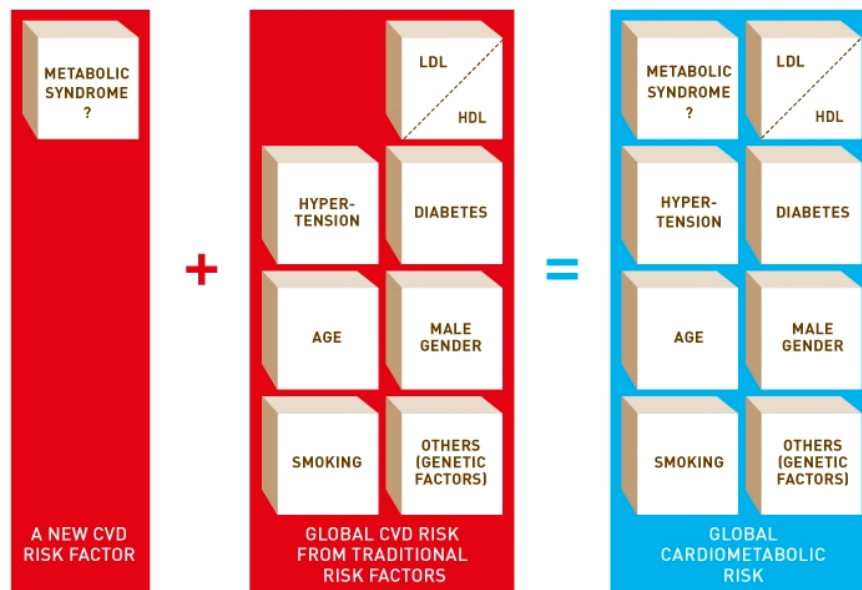


Figure 2: Global cardiometabolic risk

Therefore, global cardiometabolic risk can be defined as the global risk of CVD resulting from the presence of the features of the metabolic syndrome (most often resulting from abdominal obesity) and the risk associated with traditional nonmodifiable (age, male sex, genetic factors) and modifiable (LDL-cholesterol, HDL-cholesterol, hypertension, diabetes, smoking) risk factors<sup>5</sup>.

## References

- <sup>1</sup> Després JP. Is visceral obesity the cause of the metabolic syndrome? *Ann Med.* 2006;**38**:52-63
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- <sup>3</sup> Galassi A, Reynolds K, He J. Metabolic syndrome and risk of cardiovascular disease: a meta-analysis. *Am J Med.* 2006;**119**:812-819
- <sup>4</sup> Gami AS, Witt BJ, Howard DE, Erwin PJ, Gami LA, Somers VK, et al. Metabolic syndrome and risk of incident cardiovascular events and death: a systematic review and meta-analysis of longitudinal studies. *J Am Coll Cardiol.* 2007;**49**:403-414
- <sup>5</sup> Després JP, Lemieux I. Abdominal obesity and metabolic syndrome. *Nature.* 2006;**444**:881-887