

1. What is cardiometabolic risk?

According to a Consensus Conference report published by the American Diabetes Association and the American College of Cardiology Foundation,¹ cardiometabolic risk refers to a high lifetime risk for cardiovascular disease (CVD). The specific factors that can cause this increased risk include:

- obesity (particularly central)
- hyperglycemia
- hypertension
- insulin resistance
- dyslipoproteinemia

When patients have one or more risk factors and are physically inactive or smoke, the cardiometabolic risk is increased even more. In addition, when these risk factors occur in clusters, they can greatly increase the risk of CVD.

Medical conditions that often share the above characteristics, such as type 2 diabetes, can also increase cardiometabolic risk. As such, the term can be applied to persons already diagnosed with chronic disease.

2. How does “cardiometabolic risk” differ from “metabolic syndrome”?

Cardiometabolic risk is similar to metabolic syndrome but is more inclusive, as it also includes smoking and glucose in the diabetic range, not just prediabetic range. Therefore, the cardiometabolic risk population is a larger population than metabolic syndrome. Unlike the definition of cardiometabolic risk, the definition of metabolic syndrome from the National Institutes of Health does *not* include people with diagnosed chronic disease. Metabolic syndrome is defined as having at least three of a group of risk factors linked to overweight or obesity.² The specific risks identified are:

- waistline that is ≥ 40 inches for men and ≥ 35 inches for women
- triglyceride measurement of ≥ 150 mg/dl
- HDL < 40 mg/dl for men and < 50 mg/dl for women
- blood pressure $\geq 130/85$
- fasting blood sugar ≥ 100 mg/dl

These metabolic abnormalities are known to increase risk for diabetes and CVD. Management of metabolic syndrome focuses on lifestyle changes: weight loss, exercise, healthy eating, and smoking cessation. It is estimated that 26 percent of Americans have metabolic syndrome.¹

3. How is cardiometabolic risk treated?

The primary focus of cardiometabolic risk treatment is management of each high risk factor, including dyslipoproteinemia, hypertension, and diabetes, through lifestyle changes and drug therapy as needed.¹

Statin therapy is generally recommended with goal levels according to the following table:¹

	GOALS: LDL cholesterol (mg/dl)	Non-HDL cholesterol (mg/dl)	ApoB (mg/dl)
Highest-risk patients, including those with (1) known CVD or (2) diabetes plus one or more additional major CVD risk factor	<70	<100	<80
High-risk patients, including those with (1) no diabetes or known clinical CVD but two or more additional major CVD risk factors or (2) diabetes but no other major CVD risk factors	<100	<130	<90

Other major risk factors (beyond dyslipoproteinemia) include smoking, hypertension, and family history of premature coronary artery disease.¹

4. What is ApoB?

Lipoproteins are particles that transport cholesterol and triglycerides. There is one molecule of ApolipoproteinB (ApoB) in each circulating beta-lipoprotein LDL particle. ApoB-containing particles are atherogenic and are elevated in insulin-resistant states. ApoB may be a better predictor of CVD risk than LDL cholesterol, particularly the on-treatment LDL cholesterol level.¹

To assist you in caring for your patients with cardiometabolic risk, the ConnectionsSM Health Management Program has Health Coaches available 24/7 free of charge to talk to your patients who have any health issues. Health Coaches are specially trained nurses and other health professionals who can be reached at 1-800-275-2583.

¹ Brunzell JD, Davidson M, Furberg CD, et al. Lipoprotein management in patients with cardiometabolic risk: Consensus conference report from the American Diabetes Association and the American College of Cardiology Foundation. *J Am Coll Cardiol.* 2008;51(15):1512-1524.

² Third report of the Expert Panel on Detection, Evaluation, and Treatment of the High Blood Cholesterol in Adults (Adult Treatment Panel III). http://www.nhlbi.nih.gov/guidelines/cholesterol/atp_iii.htm