

Cardiovascular and Pre-Diabetes Test

CARDIOMETABOLIC TESTING

Cardiovascular disease is the leading cause of death. Standard cholesterol tests can miss that YOU are at risk. Poor blood sugar regulation and unhealthy triglyceride and lipoprotein levels often present long before the diagnosis of type 2 Diabetes. SpectraCell's CardioMetabolic and Pre-Diabetes panels offer definitive diagnostic and clinically relevant evaluation to help define risk of atherosclerotic cardiovascular disease (ASCVD) and progression toward type 2 diabetes. These check points along with **an overall pre-diabetes risk score**, help patients understand that not just one factor, but rather a constellation of risk factors, contribute to the genesis and progression toward poor blood sugar control and/or ASCVD. Results of testing allow doctors to know when guidance, educational referral, or treatment is necessary. Key components of the CardioMetabolic Risk Panel are listed below.

METABOLIC RISK	CARDIOVASCULAR RISK		VASCULAR INFLAMMATION MARKERS
<ul style="list-style-type: none">• Insulin• Glucose• Hemoglobin A1c• C-Peptide• Adiponectin• Metabolic Syndrome• SpectraCell's unique CardioMetabolic Risk Score estimates a patient's risk of developing diabetes and associated conditions	Lipid Panel <ul style="list-style-type: none">• Total Cholesterol• LDL & HDL Cholesterol• Triglycerides• Non-HD Cholesterol (calc)	Lipoprotein Particle Numbers <ul style="list-style-type: none">• VLDL Particles• Total LDL Particles• Non-HDL Particles (RLP; Small, dense LDL III & IV)• Total HDL Particles• Large, buoyant HDL 2b	<ul style="list-style-type: none">• ApoB 100• Lp(a)• C-Reactive Protein-hs• Homocysteine

Who should take the CardioMetabolic Test or Pre-Diabetes Risk Panel?

All patients, and especially those who:

- Have a family history of heart disease or diabetes
- Have been diagnosed with heart disease or diabetes
- Are already taking cholesterol-lowering medications
- Have been diagnosed with Metabolic Syndrome (high blood pressure)
- Are overweight
- Have high LDL - the bad cholesterol
- Have low HDL - the good cholesterol
- Have high triglycerides

I've already had my cholesterol checked, why should I have the CardioMetabolic test done?

Standard cholesterol testing only gives you part of the picture leaving many people with "normal" cholesterol numbers unaware that they are still at risk for a heart attack. The National Cholesterol Education Program introduced new risk factors that are responsible for many individuals at risk for cardiovascular disease.

According to the NCEP guidelines, 50% of people who have a heart attack have normal cholesterol levels.

Cholesterol is carried throughout the body in little balls called lipoproteins. It is the lipoproteins, not the cholesterol in them, that leads to clogging of the arteries.

PRE-DIABETES RISK

The Pre-Diabetes Biomarkers identify metabolic abnormalities that may progress into diabetes. Pre-diabetes is a condition where the body cannot efficiently metabolize foods, especially carbohydrates, resulting in impaired glycemic (blood sugar) control which may progress to diabetes when not properly treated or addressed through lifestyle changes.

Blood Test Levels for Diagnosis of Diabetes and Pre-diabetes



A1C (percent)	Fasting Plasma Glucose (mg/dL)	Oral Glucose Tolerance Test (mg/dL)
6.5 or above	12 or above	200 or above
5.7 to 6.4	100 to 125	140 to 199
About 5	99 or below	139 or below

Definitions: mg = milligram, dL = deciliter
For all these tests, within the pre-diabetes range, the higher the test result, the greater the risk of diabetes.

“Studies have shown that most people diagnosed with pre-diabetes develop type 2 diabetes within 10 years, unless they change their lifestyle.”

SpectraCell's Pre-Diabetes Risk Score is a way to estimate a patient's risk of developing diabetes and associated complications such as heart disease or stroke. The following tests have the largest impact on the pre-diabetes risk score: hemoglobin A1c, fasting blood sugar and metabolic syndrome traits. Other factors that significantly affect a pre-diabetic risk but that are not included in this report include weight, blood pressure (hypertension), smoking, inflammation and family history.

- Glucose - snapshot of blood sugar at time of blood draw
- Insulin - correlates to the efficiency with which a person can metabolize carbohydrates; high fasting levels indicate insulin resistance and possible pre-diabetes.
- Hemoglobin A1C - long term (2-3 months) marker of glycemic control; also considered a marker of accelerated aging
- C-peptide - a measure of endogenous insulin production; useful in distinguishing between type 1 and type 2 diabetes
- Adiponectin - a hormone that enzymatically controls metabolism; high levels beneficial and indicate efficient cellular energy production
- Metabolic syndrome traits - A diagnosis of metabolic syndrome is confirmed if any three of the following six traits exist in a patient: (1) high triglycerides (2) high glucose (3) low HDL (4) high blood pressure (5) high waist circumference or (6) increased small dense LDL