boston heart
diagnostics®

Curated CardioMetabolic Profiles

Boston Heart is proud to offer 3 levels of curated cardiometabolic profiles. Since most adults have some degree of cardiometabolic risk, these profile have been designed to evaluate and monitor the extent of this risk in your patients.

Clinical Utility

Cardiovascular disease, type 2 diabetes, metabolic syndrome, and obesity are widespread and very common among patients. These lifestyle diseases are largely preventable, treatable, and reversible. The right combination of blood tests can unmask and monitor risk for serious health problems including premature death and dramatically reduced quality of life.

Advanced Lipid Testing

Routine lipid testing is insufficient to identify and monitor patients' cardiometabolic risk adequately. Small Dense LDL-C, apoB, Lp(a), cholesterol production and absorption, fatty acids and HDL metabolism are all important for uncovering and treating hidden risk.
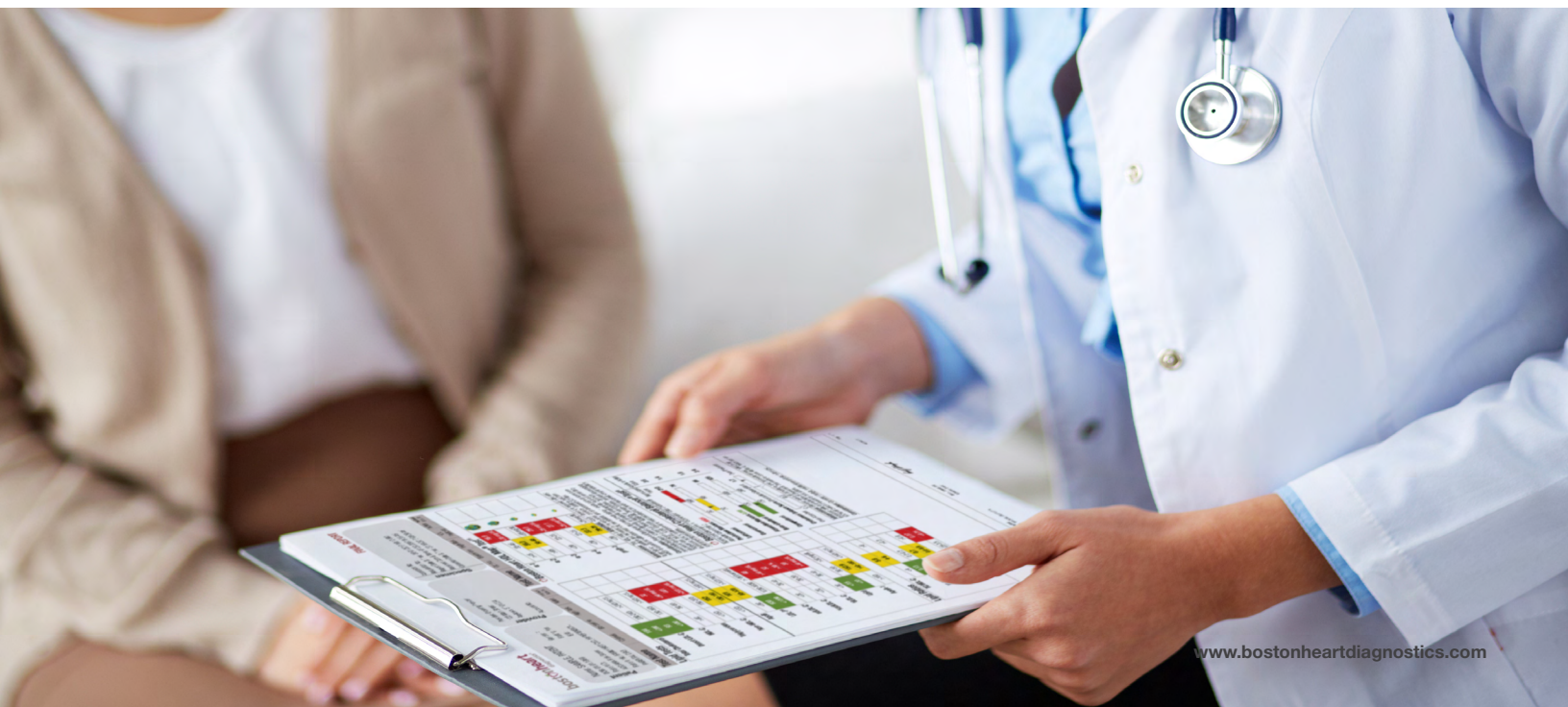
Metabolics

Monitoring glucose and HbA1c is critical for the prevention, early identification, treatment, and reversal of type 2 diabetes and cardiovascular risk.

Inflammation

Atherosclerosis is an inflammatory disease. After ruling out other causes of inflammation, C-reactive protein (CRP) is a strong independent predictor of CVD. Lowering CRP with statins in patients with normal LDL-C reduces CVD events. $LpPLA_2$ measures inflammation specific to oxidized cholesterol plaque in the artery wall and reflects overall atherosclerotic burden. Oxidized phospholipid on apoB particles (OxPL-apoB) is highly pro-inflammatory and levels can be used to reclassify patients into higher or lower risk categories allowing for better personalized care. Inflammation can be reduced by losing weight if appropriate, normalizing lipids, glucose and blood pressure, eliminating tobacco and processed foods, making healthier dietary choices and increasing exercise and restful sleep.

Chemistries

Electrolytes, kidney function, liver function and other measures of normal metabolic activity are valuable tools for health assessment and patient management. Homocysteine, uric acid, vitamin D, and CoQ10 are each associated with CVD risk and can be improved with healthy lifestyle choices. When deficiencies are detected, it is important to understand the underlying cause to determine whether supplementation is appropriate to normalize levels.

PROFILE COMPARISON

BIOMARKER NAME	CARDIOMETABOLIC ESSENTIAL	CARDIOMETABOLIC EXPANDED	CARDIOMETABOLIC COMPREHENSIVE	BIOMARKER DESCRIPTION
ORDER CODE	87201	87202	87203	
Lipids				
Total cholesterol	✓	✓	✓	Measures the amount of cholesterol in all cholesterol-containing lipoproteins.
Direct LDL-C	✓	✓	✓	Amount of cholesterol in the atherogenic low-density lipoproteins.
Small dense LDL-C (sdLDL-C)		✓	✓	Amount of cholesterol in the densest and most atherogenic LDL-particles. Stronger predictor of CVD than apoB or LDL-P. Includes % sdLDL-C.
Non-HDL-C	✓	✓	✓	Calculation that represents the cholesterol carried by all atherogenic particles.
HDL-C	✓	✓	✓	Amount of cholesterol in high-density lipoproteins (HDL). Higher levels of HDL are associated with reduced CVD risk, but not all HDL is good.
Triglycerides	✓	✓	✓	Elevated levels increase CVD risk by altering lipoprotein metabolism.
Lipid Ratios	✓	✓	✓	TC/HDL-C is a stronger risk factor than either LDL-C or HDL-C. Low HDL-C/TG is associated with insulin resistance.
Lp(a)		✓	✓	Elevated levels, present in 20% of the population, are an independent risk factor for CVD.
ApoB		✓	✓	A major protein in atherogenic particles. Stronger predictor of CVD than LDL-C.
ApoA-I			✓	A major protein in HDL particles. Low levels are associated with higher CVD risk.
HDL Map			✓	Reflects the quality of HDL metabolism by measuring the HDL sub-particles. Loss of large alpha-1 HDL is a strong predictor of CVD risk.
Cholesterol Balance		✓	✓	Measures cholesterol production and absorption markers. Guides use of treatments to lower cholesterol production and/or absorption.
Fatty Acid Balance		✓	✓	Measures saturated, trans, monounsaturated, omega-6, and omega-3 fatty acids. Includes EPA and DHA.
Metabolics				
Glucose	✓	✓	✓	Fasting glucose is a strong predictor of diabetes and CVD risk.
HbA1c	✓	✓	✓	Assesses the average blood glucose over the last two to three months.
Inflammation				
hs-CRP	✓	✓	✓	Acute phase inflammatory protein. Associated with atherosclerosis after excluding other causes.
LpPLA$_2$			✓	LpPLA$_2$ is an enzyme produced by monocytes/macrophages in the setting of arterial plaque and reflects overall plaque burden.
OxPL-apoB			✓	Oxidized lipoproteins accelerate atherosclerosis.
Other Chemistries				
Comprehensive Metabolic Profile	✓	✓	✓	Includes Na, K, CO2, Cl, BUN, Creat, Glu, Ca, ALT, AST, AlkPhos, Tbil, Alb, TP and eGFR.
Homocysteine			✓	High levels are associated with vitamin B deficiency and increased risks for CVD and dementia.
Uric Acid			✓	Reflects purine metabolism. High levels are associated with CVD, insulin resistance and gout.
Vitamin D			✓	Vitamin D insufficiency is associated with increased mortality, CVD, type 2 diabetes, and osteoporosis.
CoQ10		✓	✓	Facilitates energy production within cells and is a potent antioxidant. Statins reduce CoQ10 levels, increasing risk of muscle pain. The severity of heart failure correlates with severity of CoQ10 deficiency.

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Boston Heart Diagnostics, a subsidiary of Eurofins Scientific (EUFI.PA), offers a comprehensive and integrated approach to enhance care management. We accomplish this by using the following three phases, each an integral part of our success:

Characterize: Diagnostics that drive reports with color coded test results, interpretations and clinical treatment considerations that help characterize risk, develop insight and communicate more reflectively with patients.

Individualize: Diagnostic reports communicate test results into actionable, individualized and easy-to-understand steps which improves patient engagement, health literacy and adherence to treatment plans.

Engage: Personalized Nutrition and Life Plan will use the patients' lab results and food preferences to provide personalized and easy-to-follow lifestyle direction so patients can improve their test results and reduce their chronic disease risk.