

HunterHeart Cardiovascular Screening

age: 64, high sd-LDL, poor diet

age: 51 metabolic syndrome

age: 42, high non-HDL, smoker

age: 72, low HDL, CV disease

age: 46, high LDL, diabetic

One size doesn't fit all.

We know not every patient is the same - personalization is key in practicing good medicine. That's why we've tailored four cardiovascular panels to help streamline workflow and provide the best patient care available. Whether your patient is 45 with no apparent risk or 75 with a history of heart disease - we have something that will fit everyone.

Our HunterHeart panels provide the most complete, individualized insight into genetic and metabolic bases of cardiovascular health therapy options to prevent or manage cardiovascular disease based on each patient's individual profile. Proprietary new tests facilitate the management of drug effectiveness with a higher specificity and speed than traditional tests.





Versatile Cardiac Screening Options

The variations in your patient's health and risk factors are extensive. Your options for cardiac screening should be flexible and able to adapt to each of your patient's individual needs.

► HunterHeart

Provides a complete foundation for assessing patients risk for cardiovascular disease, plus assessment for secondary dyslipidemias and metabolic syndrome.

► HunterHeart Metabolic

Provides a comprehensive assessment for cardiovascular risk and metabolic syndrome.

► HunterHeart Follow-up

Supplies the primary lipid and advanced marker information for patients with previous dyslipidemia assessment or for follow-up monitoring of high risk patients.

► HunterHeart Plus

Delivers the most advanced information for high-risk or complex clinical situations.

Not All Reports Are Made Equal

When it comes to your patient's health, you shouldn't have to spend hours deciphering their test results. We've created our test report to make it easy for you to review.

Each HunterHeart test result is independently color-coded: green for "Goal", yellow for "Moderate Risk" and red for "High Risk". This gives you the ability to quickly discern where your patient's problem areas are and aid in your clinical decisions.

The HunterHeart report also doubles as a chart to explain results and direct dialog with your patients. When reviewing patient therapy and compliance it's easy for patients to remember that their goal is to "get the red out" of their report.

	GOAL	MODERATE RISK	HIGH RISK	PREVIOUS VISIT Result	Date	GOAL	Units
NCEP ATP III* Lipid Tests							
Total Cholesterol	185			<200*			mg/dL
LDL Chol		109		<100*			mg/dL
Non-HDL Chol		146		<130*			mg/dL
HDL Chol			39	>40			mg/dL
VLDL			37	<30			mg/dL
Chol / HDL Ratio		4.3		<4.0			
Triglycerides		186		<150			mg/dL
Advanced Risk Markers							
Lp-PLA2			370.2	<200			ng/dL
hs-CRP			6.2	<1.0			mg/L
Homocysteine	7.3			<10.0			umol/L
Lipoprotein (a)			93.9	<30			mg/dL
Apo B		93.7		<60			mg/dL
sd-LDL		20.3		<20			mg/dL
HDL2b		18		<15%			
Vitamin D				33 - 100			mg/dL
Apo E	e3/e3			3/3			Genotype
Factor V Leiden	Negative						
Baseline Metabolic Studies							
TSH		4.12		0.34-4.00			mIU/ml
Insulin		28		1.9-23			uIU/mL
Fasting glucose	88			60 - 99			mg/dL
Alk. Phos	26			0 - 126			U/L
AST (SGOT)	18			0 - 40			U/L
Total Bilirubin	0.4			0.2 - 1.3			mg/dL
BUN	16			7 - 25			mg/dL
Creatinine	0.9			0.5 - 1.2			mg/dL
Fibrinogen	309			210-433			mg/dL
Results show evidence of thyroid disease which may affect certain lipid levels.							
Metabolic Syndrome / Insulin Resistance							
Triglycerides > 150		186		mg/dL	Fasting insulin >23 indicates insulin resistance. Three or more abnormal markers indicate the presence of metabolic syndrome.		
HDL Chol < 40	44			mg/dL			
Fasting Glucose > 100	88			mg/dL			
Waist Circumference > 40		>41		inches			
Blood Pressure > 130/90	Not Provided			mmHg			
Triglyceride/HDL Ratio 4.8: ratios >3.0 indicate a >90% probability that metabolic syndrome or insulin resistance are present.							
ATP III Risk Category: Moderate Risk							
Adjusted Treatment Goals: LDL Cholesterol 130, Non-HDL Cholesterol 160							
*National Cholesterol Education Project, Adult Treatment Panel III, NIH							

Choose the cardiac screening option that best fits your patients individual needs.

Adult Treatment Panel III Lipid Tests

The National Institutes of Health has created an expert panel for detection, evaluation, and treatment of high blood cholesterol in adults referred to as the Adult Treatment Panel III (ATP III). The report:

- determines lipoprotein levels
- identifies the presence of clinical atherosclerotic disease
- determines the presence of major risk factors
- references the Framingham tables for risk equivalence
- determines the risk category
- prompts therapeutic lifestyle changes

The ATP III guidelines are a recognized gold-standard and are incorporated in our report and target goals.

Baseline Metabolic Studies

The following tests establish a medical baseline, allowing the treating physician to exclude a variety of disorders which may masquerade as primary lipid diseases. Failure to exclude these could lead to delayed treatment or even missed diagnosis with inappropriate therapy.

- **TSH** - excludes thyroid conditions which can cause marked changes in lipid levels
- **Insulin** - verifies abnormalities that are associated with metabolic syndrome
- **Fasting Glucose** - excludes diabetes mellitus and metabolic syndrome
- **ALT, AST, Total Bilirubin** - liver tests to exclude hepatic causes of lipid abnormalities, and to establish a baseline to monitor statin hepatotoxicity
- **BUN, Creatinine** - renal tests to exclude nephrotic syndrome, which can elevate lipids
- **Fibrinogen** - a risk factor for myocardial infarction, when elevated

High-Risk Reflex Tests

We partnered with Boston Heart Lab to provide the most complete, individualized Coronary Heart Disease (CHD) risk assessment, treatment options for coronary disease, and quick evaluation of therapies to achieve the best possible cardiovascular health of the individual.

High Density Lipoprotein (HDL) Map - This patented technology assesses how well HDL particles are functioning to help remove cholesterol from the body. We measure the small HDL particles that pick up cholesterol from the artery wall and also the large HDL particles that deliver cholesterol to the liver. Knowing the sub fractions of a patient provides very precise information about heart disease risk and facilitates more targeted treatment. Measuring these particles also assists in determining how well therapy with medications is working in patients.

Lathosterol, Desmosterol, Campesterol, Beta-Sitosterol, Cholesterol - These tests measure cholesterol production and absorption to assist in selecting optimum LDL modifying therapy. They reveal whether monotherapy with a statin or combination therapy with a statin and cholesterol absorption inhibitor (CAI) will be most effective.

Patients who are high synthesizers respond very effectively to statins. If the patient is not at their LDL goal the most effective therapy is to increase the dose of the current statin, or switch to a more effective statin; in order of high to low - Rosuvastatin, Atorvastatin, Simvastatin, Pravastatin, and Lovastatin.

High cholesterol absorbers do not respond as well to statins and, if they are not at their LDL goal, are better candidates for the addition of a CAI (Ezetimibe or Zetia) rather than increasing the statin dose. These tests also enable the diagnosis of rare disorders of cholesterol metabolism, such as phytosterolemia and cerebrotendous xanthomatosis, both of which are eminently treatable.



A partnership to ensure we provide the most advanced CHD assessment available.

Personalized screening is the first step to personalized therapy.



Advanced Risk Markers

Lp-PLA₂

The PLAC® Test uncovers the hidden cardiovascular risk for heart attack and stroke. The PLAC test measures Lp-PLA₂ (lipoprotein-associated phospholipase a₂), a vascular-specific enzyme involved in the formation of rupture-prone plaque. A “High Risk” result is a warning that the inflammatory phase of atherosclerosis is active.

hs-CRP

A measure of acute inflammation (an acute phase reactant). Elevated levels are associated with increased risk of cardiovascular disease.

Lipoprotein (a)

The most common inherited lipid disorder in patients with premature coronary heart disease. Levels are genetically determined and not affected by changes in lifestyle. Risk is independent of other lipid tests. Statins and niacin may lower serum levels.

sd-LDL

We are introducing a new, direct measurement of small density LDL cholesterol that is more precise, reproducible and better standardized than other methods for measuring the most atherogenic LDL subfraction. Studies have shown that people with a predominance of sd-LDL (so called Pattern B patients) have a 3-fold increased risk of myocardial infarction.

HDL2b

HDL2B subclass is the most efficient particle for reverse cholesterol transport (RCT). Increasing HDL2b will aide in reversing or slowing down the progression of heart disease. This test is also used as a marker of the effectiveness of patients exercise programs.

Apo B

Elevated levels are associated with increased risk even when LDL cholesterol is not in the high-risk range. Levels are affected by genetic and environmental factors.

Homocysteine

High levels are associated with significant risk of heart disease and stroke. Elevations may be genetic, or a result of folic acid, vitamin B6 or vitamin B12 deficiencies. Mechanism of action is 2 fold: direct arterial damage, and enhanced ability of blood to clot. Folate therapy can reduce risk.

Apo E Genotype

About 20% of the population carries the apoE4 genotype and these people have higher cholesterol absorption, higher LDL cholesterol levels, and higher heart disease risk. Knowing the apo E genotype will assist in optimizing therapy.

Factor V Leiden

A mutation that causes increased susceptibility to form clots in the veins and arteries of the body. The mutation is observed in 10-15% of the population and is associated with increased risk for heart disease.

Vitamin D

40% of the U.S. population are vitamin D deficient. Men with low levels of vitamin D are at more than twice the risk of having a heart attack, and the severity of the heart attack increases as well. Studies show that increasing vitamin D levels may reduce hypertension up to 50% in males and 30% in females.

	HunterHeart Panel Order Code 3880	HunterHeart Metabolic Panel Order Code 3840	HunterHeart Follow-up Panel Order Code 3860	HunterHeart Plus Panel Order Code 3870
NCEP ATP III Lipid Tests				
Total Cholesterol	✓	✓	✓	✓
HDL Chol	✓	✓	✓	✓
LDL Chol	✓	✓	✓	✓
VLDL	✓	✓	✓	✓
Non-HDL Chol	✓	✓	✓	✓
Chol / HDL Ratio	✓	✓	✓	✓
Triglycerides	✓	✓	✓	✓
Advanced Risk Markers				
Lp-PLA2	✓	✓	✓	✓
hs-CRP	✓	✓	✓	✓
Homocysteine	✓	✓	✓	✓
Lipoprotein (a)	✓	✓	✓	✓
Apo B	✓	✓	✓	✓
sd-LDL	✓	✓	✓	✓
HDL2b	✓	✓	✓	✓
Vitamin D	✓	✓	✓	✓
Apo E	✓			✓
Factor V Leiden	✓			✓
Baseline Metabolic Studies				
TSH	✓	✓		✓
Insulin	✓	✓		✓
Fasting glucose	✓	✓		✓
Alk. Phos	✓	✓		✓
AST	✓	✓		✓
Total Bilirubin	✓	✓		✓
BUN	✓	✓		✓
Creatinine	✓	✓		✓
Fibrinogen	✓	✓		✓
High Risk Reflex Tests				
HDL subfractions				✓
α-1 HDL apoA-I				✓
α-2 HDL apoA-I				✓
α-3 HDL apoA-I				✓
α-4 HDL apoA-I				✓
pre-β 1 HDL apoA-I				✓
Cholesterol Synthesis Markers				
Lathosterol				✓
Desmosterol				✓
Cholesterol Absorption Markers				
Campesterol				✓
beta-sitosterol				✓

Four panel options that provide the most advanced and comprehensive test mix available

Supplemental Studies

Comparison of the effects of high doses of rosuvastatin versus atorvastatin on the subpopulations of high-density lipoproteins. *Asztalos BF, Le Maulf F, Dallal GE, Stein E, Jones PH, Horvath KV, McTaggart F, Schaefer EJ. Am J Cardiol. 2007 Mar 1;99(5):681-5. Epub 2007 Jan 4*

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Where are we with high-density lipoprotein raising and inhibition of cholesteryl ester transfer for heart disease risk reduction? *Schaefer EJ, Asztalos BF. Curr Opin Cardiol. 2007 Jul;22(4):373-8.*

Should we target HDL-cholesterol to reduce coronary heart disease risk? *Schaefer EJ, Asztalos BF. Nat Clin Pract Endocrinol Metab. 2006 Jul;2(7):358-9. Review.*

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High-density lipoprotein subpopulation profile and coronary heart disease prevalence in male participants of the Framingham Offspring Study. *Asztalos BF, Cupples LA, Demissie S, Horvath KV, Cox CE, Batista MC, Schaefer EJ. Arterioscler Thromb Vasc Biol. 2004 Nov;24(11):2181-7. Epub 2004 Sep 23.*

Change in alpha1 HDL concentration predicts progression in coronary artery stenosis. *Asztalos BF, Batista M, Horvath KV, Cox CE, Dallal GE, Morse JS, Brown GB, Schaefer EJ. Arterioscler Thromb Vasc Biol. 2003 May 1;23(5):847-52. Epub 2003 Mar 13.*

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