CARDIOVASCULAR DISEASE (CVD) RISK MANAGEMENT

Lipid Cascade

labcorp

Smart Testing for CVD and Current Perspectives on LDL Management

The causal link between high levels of low-density lipoprotein (LDL) particles in the development of cardiovascular disease (CVD) is well established: The longer there is exposure to elevated LDL, the greater the risk for CVD events.

Effective management of LDL requires reliable measurement, and our accurate assays can help

As you know, elevated LDL drives entry of atherogenic particles into the arterial wall, accelerating development of CVD. Therefore, use of LDL-lowering therapies is a core strategy in CVD risk reduction.[3] Once therapy is initiated, LDL values may be monitored to assess individual patient response to therapy and guide decisions regarding the need for further treatment adjustments.[3]

Two ways we measure LDL

Traditional low-density lipoprotein cholesterol (LDL-C)—calculated or direct—is an estimate of LDL quantity based on the amount of cholesterol contained in the LDL particle.[2] However, the amount of cholesterol per particle varies between individuals—particularly in patients with Type 2 diabetes, statin-treated patients and those with the cardiometabolic risk (CMR) factors below.[4,5]

- **Age**: men ≥45 years, women ≥55 years[6]
- **Elevated BP** (≥130/≥85 mmHg; on antihypertensive medication)[7]
- **Abdominal obesity/waist circumference**: men ≥40 inches (Asian ≥35 inches), women ≥35 inches (Asian ≥31 inches)[7]
- **Elevated triglycerides** (≥150 mg/dL), low HDL (men <40 mg/dL, women <50 mg/dL), increased numbers of small dense LDL particles[4,7]; on drug treatment for elevated triglycerides or high-density lipoprotein cholesterol (HDL-C)
- **Elevated fasting blood glucose** (≥100 mg/dL)[7], on drug treatment for elevated glucose
- **Insulin resistance (IR)**[4]

Because the per-particle amount of cholesterol varies in these at-risk patients, LDL-C may be an unreliable measure of LDL quantity for patient management.[2,5,8]

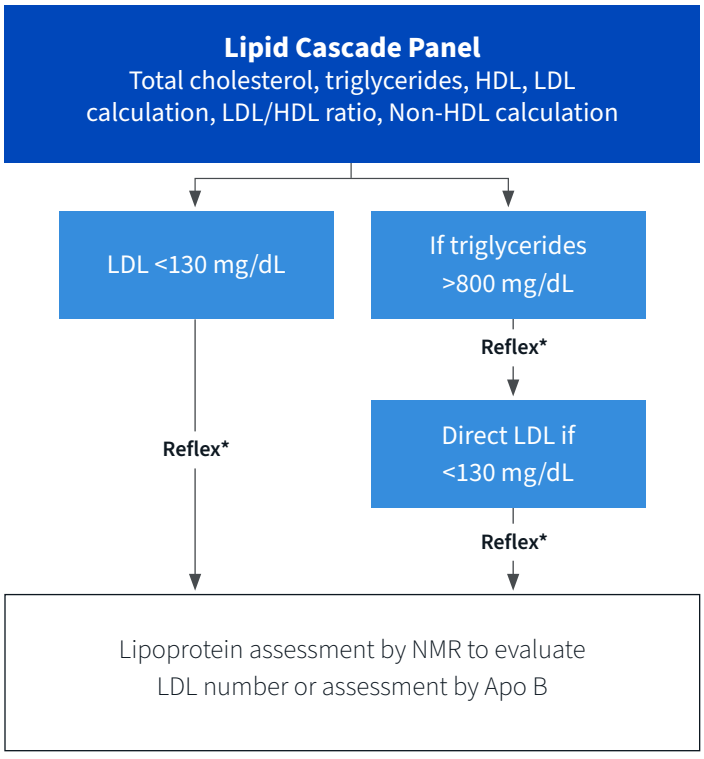
Alternatively, the number of LDL particles (LDL-P) can be measured by nuclear magnetic resonance (NMR) or apolipoprotein B (Apo B) immunoassay. Neither measurement quantifies LDL-P in a manner that depends on the amount of cholesterol contained inside the LDL particle.

LDL particle number in clinical management

Studies have demonstrated when LDL measures are in agreement (concordant), LDL cholesterol values and particle number are equally associated with CVD risk.[5,9] However, when LDL cholesterol values and particle measures disagree (discordant), CVD risk tracks with particle measure: LDL-P or Apo B.[5,9,10] As a result, many experts advise that LDL-P or Apo B be used to adjudicate response to therapy and optimize treatment decisions in patients with Type 2 diabetes, statin-treated patients and those with CMR factors.[4,5,8,11,12,13]

Two Lipid Cascade Test Options

Test Name	Test No.
Lipid Cascade with Reflex to Lipoprotein Particle Assessment by NMR	**123836**
Lipid Cascade with Reflex to Apolipoprotein B	**363676**



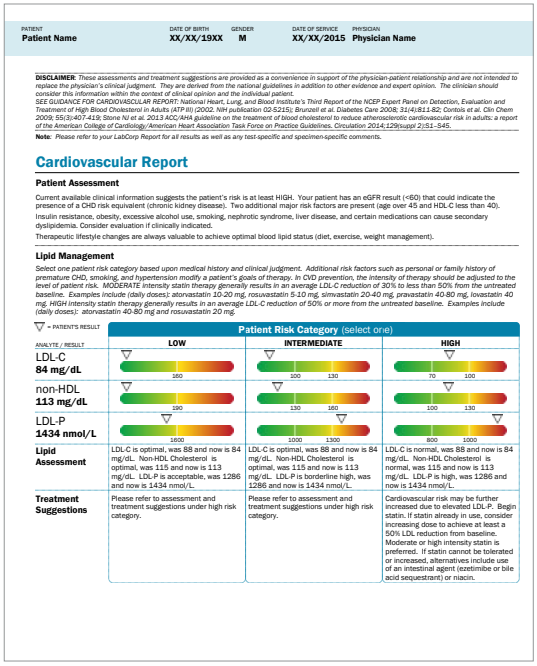
*Additional charge

Requiring a single blood draw, Labcorp's Lipid Cascade options offer convenient, step-wise testing by reflexing from a traditional lipid panel to lipoprotein particle testing by NMR or Apo B (depending upon the ordered test option) when the LDL value is <130 mg/dL.

Visit the online Test Menu at **Labcorp.com** for full test information, including CPT codes and specimen collection requirements.

Both Lipid Cascade options are available as part of Labcorp's CVD Report

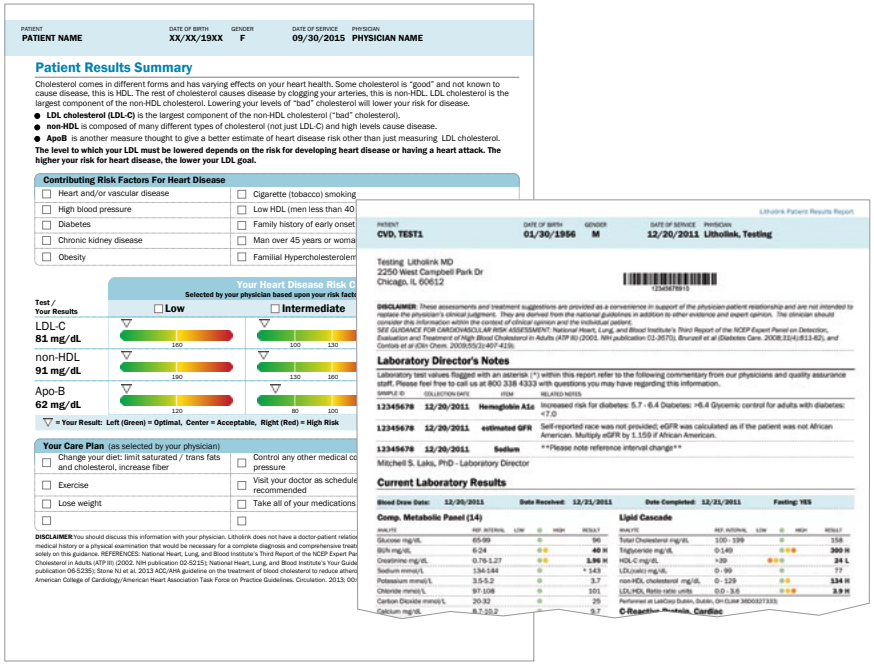
Order number **910385** in addition to a lipid panel, either Lipid Cascade option, or NMR LipoProfile to receive the CVD Report on an individual patient basis. Alternatively, generate the CVD Report for all your patients when ordering a lipid panel, either Lipid Cascade option or NMR LipoProfile, by completing the CVD Report Physician Request and Acknowledgement form. See your Labcorp representative for more information and to obtain the form. There is no additional charge for the report.


Cardiovascular Report

Patient Assessment

Lipid Management

Patient Risk Category (select one)


Patient Results Summary

Contributing Risk Factors For Heart Disease

Laboratory Director's Notes

Current Laboratory Results

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12. Davidson MH, Ballantyne CM, Jacobson TA, et al. Clinical utility of inflammatory markers and advanced lipoprotein testing: Advice from an expert panel of lipid specialists. *J Clin Lipidol*. 2011;5:338-367.
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