Look Beyond Traditional Cholesterol and Give Your Patients More than a 50/50 Chance

To learn more about how LDL particle number (LDL-P) by NMR may help you manage your patients visit MayoMedicalLabs.com/LDLP
Traditional Cholesterol May Not Always Represent Cardiovascular Disease Risk

Measurement of low-density lipoprotein cholesterol (LDL-C) may not reflect a patient’s true LDL-related risk, due to the variable cholesterol content of LDL particles.

Cholesterol content varies
Discordance increases to almost 1 in 2 individuals in the presence of diabetes mellitus, hypertriglyceridemia, low HDL cholesterol (HDL-C), or low LDL-C.

LDL-C may be low, but residual risk may be present
Two patients with the same LDL-C could have a different LDL particle number (LDL-P). Higher LDL-P indicates higher risk and an opportunity for further LDL management.

Charles, 54
LDL-C: 94
LDL-P 923 nmol/L
Edward, 54
LDL-C: 94
LDL-P 1806 nmol/L

LDL-C ranges (mg/dL)
60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210
Low Borderline High

LDL-P ranges (nmol/L)
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100
Low Borderline High

Charles
LDL-C: 94
Charles
LDL-P: 923
Edward
LDL-C: 94
Edward
LDL-P: 1806

*LDL-P range determinations are from a representative sampling of the general population (n=5362) enrolled in the Multi-Ethnic Study of Atherosclerosis (MESA).
Clinical Outcomes Track With LDL Particle Number (LDL-P)\(^5-8\)

Measurement of LDL cholesterol (LDL-C) may not accurately reflect the true burden of atherogenic LDL particles.

— 2008 ADA/ACC Consensus Statement\(^6\)

LDL-P was deemed reasonable for initial assessment and on-treatment management of CVD risk for many patient populations including those considered to be at intermediate risk.

— 2011 National Lipid Association Expert Panel\(^7\)

Results from MESA\(^5\)

The Multi-Ethnic Study of Atherosclerosis (MESA) joins Framingham Offspring\(^7\) and other outcome studies in validating the clinical utility of LDL-P by NMR for guiding therapeutic decision making and refining LDL management.

In a multi-ethnic study of atherosclerosis among a community-based cohort of 5598 individuals free of clinical cardiovascular disease (CVD) at study onset, cumulative incidence of CVD events tracked with elevated levels of LDL-P, regardless of levels of LDL-C.
Which Patients Are Appropriate?

LDL-P by NMR is appropriate for patients being managed with a lipid lowering therapy, intensive lifestyle management or who have at least one of the following criteria:

- Known cardiovascular disease
- Coronary heart disease risk equivalents, such as type 2 diabetes mellitus or chronic kidney disease (CKD)
- Multiple cardiometabolic risk factors that define metabolic syndrome:
  - High blood pressure or on antihypertensive(s)
  - High blood sugar
  - High triglycerides
  - Low high-density lipoprotein cholesterol (HDL-C)
  - Abdominal obesity

Therapies to Achieve LDL-P Targets

LDL-P may aid in determining treatment strategies and clinical decision making for personalized LDL management.

Goal and therapy options

- Lower LDL-P
  - Statin
- Lower LDL-P further
  - Titrate statin dosage or use a more potent statin (or)
  - Statin + ezetimibe/bile acid sequestrants (or)
  - Statin + ezetimibe + niacin
- Any of the above + lower triglycerides
  - Treatment option above + niacin, omega-3 fatty acid, fenofibrate
- Any of the above + increase HDL-C
  - Treatment option above + niacin, fenofibrate, omega-3 fatty acid

Personalized LDL Management

LDL-C and LDL-P goals of therapy

References:

Contact your local community hospital to order LDL-P by NMR.