

Laboratory Testing Update

Date: September 2021

RE: New, more accurate low-density lipoprotein (LDL) cholesterol calculation

On September 8th, Preferred Lab Partners (PLP) will implement a new calculation for LDL cholesterol.

LDL previously was estimated using the Friedewald equation. However, this equation is less accurate for individuals with hypertriglyceridemia (≥ 400 mg/dL) or low LDL-C (< 70 mg/dL).

The new equation has been validated by NIH and partners on over 250,000 samples from multiple populations, showing better accuracy when compared to gold standard beta-quantification methodology. It demonstrated essentially equivalent performance in both fasting and non-fasting states. Improved performance of the new calculation has been verified locally.

Downstream benefits are likely to include improved classification into proper diagnostic/prognostic categories for ASCVD risk management, particularly for patients with elevated triglycerides (400 – 800 mg/dL).

The new equation will be implemented at no additional cost. When the lipid reflex panel is ordered and triglycerides exceed 800 mg/dL, direct LDL measurement will substitute for the estimated measurement.

If you have questions, please contact Dr. Jeremy Hart, Medical Director of Clinical Labs, at 859-301-7843.

Reference

Sampson, M., et al. JAMA Cardiol. 2020;5(5):540-548.

doi:10.1001/jamacardio.2020.0013