

# Abstract

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## Low-density lipoprotein size and cardiovascular risk assessment.

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**BACKGROUND:** A predominance of small, dense low-density lipoproteins (LDL) has been accepted as an emerging cardiovascular risk factor by the National Cholesterol Education Program Adult Treatment Panel III.

**DISCUSSION:** LDL size seems to be an important predictor of cardiovascular events and progression of coronary heart disease and evidences suggests that both quality (particularly small, dense LDL) and quantity may increase cardiovascular risk. However, other authors have suggested that LDL size measurement does not add information beyond that obtained by measuring LDL concentration, triglyceride levels and HDL concentrations. Therefore, it remains debatable whether to measure LDL particle size in cardiovascular risk assessment and, if so, in which categories of patient.

**CONCLUSIONS:** Therapeutic modulation of LDL particle size or number appears beneficial in reducing the risk of cardiovascular events, but no clear causal relationship has been shown, because of confounding factors, including lipid and non-lipid variables. Studies are needed to investigate the clinical significance of LDL size measurements in patients with coronary and non-coronary forms of atherosclerosis; in particular, to test whether LDL size is associated with even higher vascular risk, and whether LDL size modification may contribute to secondary prevention in such patients.

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