

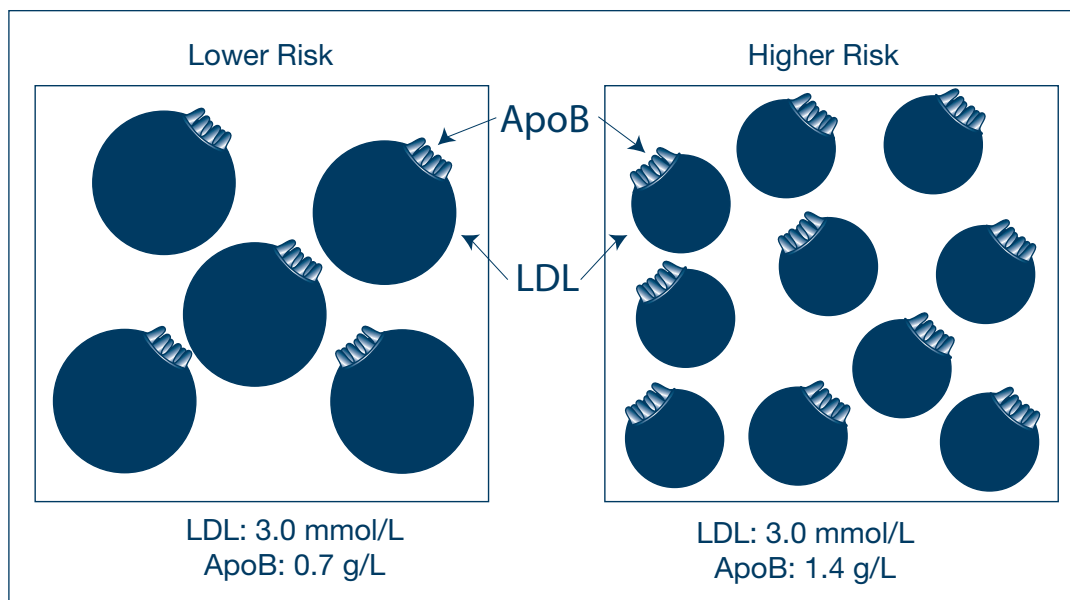
Appendix D – Apolipoprotein B

Each LDL lipoprotein particle contains just one molecule of apolipoprotein (apo) B. This makes it soluble in blood and also targets it to the appropriate LDL receptors. Thus the concentration of apoB reflects the NUMBER of the atherogenic LDL particles. This has been shown to be a superior predictor of outcomes in patients treated for dyslipidemia.¹

Therefore measurement of plasma apoB is superior as a follow up to the full lipid profile specifically in patients in whom the major abnormality is hypercholesterolemia and who are treated with statins. It is less expensive than the lipid profile and can be done on a non-fasting specimen.

It is not a good follow-up test in patients with pronounced hypertriglyceridemia (TG's > 5.0 mmol/L), although in these patients the baseline apoB helps to distinguish between the more atherogenic familial combined dyslipidemia (high apoB) and the less atherogenic familial hypertriglyceridemia (normal or low apoB). Very low apoB in face of high TG's and cholesterol is suggestive of dysbetalipoproteinemia (type III disease).

Figure 1. Relationship between LDL and ApoB



Reference

1. Barter PJ, Ballantyne CM, Carmena R, et al. Apo B versus cholesterol in estimating cardiovascular risk and in guiding therapy: report of the thirty-person/ten-country panel. *J Int Med* 2006;259:247-258.