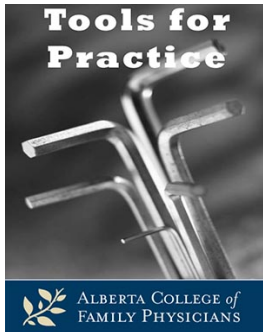


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Evidence Updated: New evidence
Bottom Line: Slight change
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Niacin added to statins for cardiovascular disease (CVD)? 1 + 1 = 1

Clinical Question: In patients with CVD and low HDL levels, does adding niacin to statin therapy decrease future cardiovascular events?

Bottom-line: In patients with CVD on conventional therapy, adding niacin does not reduce cardiovascular events. Among lipid treatments, only statin monotherapy has strong evidence for CVD prevention (regardless of lipid levels).

Evidence:

- HPS2-THRIVE:¹ Randomized Controlled Trial (RCT) of 25,673 patients (mean age 65, 83% male) with previous CVD taking simvastatin 40 mg +/- ezetimibe 10 mg.
 - Randomized to niacin extended-release 2,000 mg plus laropiprant 40 mg or placebo for ~4 years.
 - No difference in primary outcome (combined CVD): 13.2% versus 13.7%.
 - Niacin increased risk of:
 - Serious adverse events: 55.6% versus 52.7%, Number Needed to Harm (NNH)=35.
 - Discontinuation due to adverse events: 25.4% versus 16.5%, NNH=12.
 - Niacin improved lipids versus placebo.
 - LDL -0.25 mmol/L, HDL +0.16 mmol/L, Triglycerides -0.37 mmol/L.
- Meta-analysis² of 11 RCTs (including HPS2-THRIVE) of 35,301 patients:
 - No difference between niacin versus placebo on death, non-fatal myocardial infarction or stroke.
- The Coronary Drug Project RCT:³ Only trial to demonstrate cardiovascular benefit of niacin over placebo.
 - Enrolled men 30-64 years-old with prior myocardial infarction.
 - Limitations: Over 40 years old, before statins and other proven secondary prevention therapies (aspirin, ACE inhibitors, beta-blockers, etc).

Context:

- Surrogate outcomes like lipids can be misleading.⁴

- The drug torcetrapib reduced LDL 25% and increased HDL 72%, but increased CVD and mortality.⁵
- Statins improve CVD outcomes irrespective of initial lipid levels⁶ or the degree of LDL reduction.⁷
- Good evidence demonstrates that statins reduce CVD, particularly in secondary CVD prevention.⁸
- Canadian cardiovascular society guidelines⁹ recommend treating to lipid targets (LDL, non-HDL, and ApoB), including adding ezetimibe, bile acid resins, or PCSK9 inhibitors to statins if needed.
 - Niacin recommended only if LDL goal not achieved despite all of the above.
- American guidelines¹⁰ recommend against niacin due to risk of serious harm with no clinical benefit.
- Canadian Primary Care Lipid Guidelines do not recommend niacin.¹¹

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