

# New study strengthens evidence of the connection between statin use and cataracts

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Few classes of drugs have had such a transformative effect on the prevention of cardiovascular disease (CVD) as have statins, prescribed to reduce total cholesterol and low-density lipoprotein cholesterol. However, some clinicians have ongoing concerns regarding the potential for lens opacities (cataracts) as a result of statin use. In an article in the *Canadian Journal of Cardiology*, researchers report increased risk for cataracts in patients treated with statins. An accompanying editorial discusses the history of statins and positions this new study in the context of conflicting results from previous analyses of purported adverse effects due to statin use.

In previous studies the association between [statin](#) use and cataracts has been inconsistent and controversial. The current study used data from the British Columbia (BC) Ministry of Health databases from 2000-2007 and the IMS LifeLink U.S. database from 2001-2011 to form two patient cohorts. The BC cohort was composed of female and male patients; 162,501 cases were matched with 650,004 controls. The IMS LifeLink cohort was comprised of males only, aged 40-85; 45,065 cases were matched with 450,650 controls. Patients using statins for more than a year prior to initial ophthalmology examination were identified. Diagnosis and surgical management of cataracts were followed.

In the BC cohort, there was about a 27% increased risk of developing cataracts requiring surgical intervention (Adjusted Risk Ratio, RR =1.27). In the IMS cohort, the increased risk was only 7%, but still statistically significant.

The adjusted RRs for long-term regular use of specific statins in the BC cohort ranged from 1.14 to 1.42. In the IMS cohort, the adjusted RRs for individual statins varied within a narrow range from 1.03 to 1.14. The investigators did not determine whether certain statins were worse than others, but most confidence intervals overlapped suggesting a class effect.

Lead investigator G.B. John Mancini, MD, of the Department of Medicine, Faculty of Medicine, University of British Columbia, Vancouver, Canada, states that, "Further assessment of the clinical impact of this relationship is recommended, especially given increased statin use for primary prevention of CVD and the importance of acceptable vision in old age where CVD is common. Future studies addressing the possible underlying mechanisms to explain this association are also warranted. However, because the RR is low and because cataract surgery is both effective and well tolerated, this association should be disclosed but not be considered a deterrent to use of statins when warranted for CV risk reduction."

In an accompanying editorial, Steven Gryn, MD, FRCPC, and Robert A. Hegele, MD, FRCPC, of the Department of Medicine, Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada, echo the need for balance.

They write, "Any medication that has beneficial effects has potential adverse effects; weighing the benefits against the risks is an integral part of the informed consent process, and is central to any decision to initiate treatment. Among patients who are at high CVD risk, like most of those seen by cardiologists...the prevention of CVD, stroke, and their associated morbidity and mortality vastly outweighs the risk of cataracts. Even among lower risk patients, for whom the benefit-risk ratio is less dramatic, most patients would still probably prefer having to undergo earlier non-life-threatening cataract surgery over suffering a major

vascular event."

In any observational study, there can be unknown confounders that could introduce bias. Both the study itself and the commentary note this weakness, but both agree that this study, while not putting the issue to rest, does add significantly to the accumulated knowledge about the statin-cataract connection. However, as Dr. Hegele notes, "A randomized double-blinded placebo-controlled clinical trial is the best way to mitigate confounding, and such studies so far have shown no association of statins with [cataracts](#)."

**More information:** "Statin Use and Risk for Cataract: A Nested Case-Control Study of Two Populations in Canada and the United States," by Stephanie J. Wise MD, Nawaaz A. Nathoo MD, Mahyar Etminan PharmD, MSc, Frederick S. Mikelberg MD, FRCSC, and G. B. John Mancini MD, FRCPC, FACP, FACC:  
[dx.doi.org/10.1016/j.cjca.2014.08.020](https://doi.org/10.1016/j.cjca.2014.08.020).

Editorial: "Doctor My Eyes: A Statin-Cataract Connection?" by Steven Gryn, MD, FRCPC, and Robert A. Hegele, MD, FRCPC:  
[dx.doi.org/10.1016/j.cjca.2014.08.019](https://doi.org/10.1016/j.cjca.2014.08.019).

Both appear in the *Canadian Journal of Cardiology*, Volume 30, Issue 12 (December 2014)

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