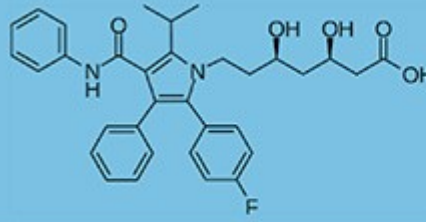


# STATIN

## NEWSLETTER



A CURATED WEEKLY OVERVIEW OF ALL STATIN PUBLICATIONS

Update week 17 & 18 - 2023

**Dr. Peter Lansberg is a Dutch lipidologist, educator and innovator. He has been instrumental in setting up The Dutch National Lipid Clinic Network, the Dutch Lipid Clinic Criteria for Familial Hypercholesterolemia (FH), and the Dutch National FH screening program**

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The Statin Newsletter will keep you up-to-date with all recent statin publications. Based on a curated approach to select relevant articles.

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## Key Publications

1. **Starting statins - simple strategies**
2. **Inflammation and cholesterol, dual targets**
3. **The effects of statins on post-op AF**
4. **Mortality benefits of statins in diabetics**
5. **SWEDEHEART registry - Type 2 MI**

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## Strategies to improve starting statins

This study investigates the impact of the SureNet program on statin initiation and lab completions among adults with LDL-C  $\geq 190$  mg/dL. The study found that the SureNet program improved prescription orders, fills, lab completions, and lower LDL-C levels. However, there were some weak points in the study:

1. Statin use beyond six months prior was not accounted for, which could influence PCP or patient willingness to comply with approving/filling a new statin prescription.
2. Adherence to medication was not evaluated, and the study could not examine whether adults who took their LDL-C values in the SureNet study period were not captured and reductions in LDL-C were not calculated.
3. Physician preferences or rates of low- or moderate-intensity statin prescriptions as alternatives in patients eligible for initiation of high-intensity statins were not assessed.
4. Discontinuation rates, which may influence an individual's follow-up LDL-C levels, were not examined.
5. The possibility of biases in these findings related to unmeasured or residual confounding cannot be ruled out.

Despite these limitations, the SureNet program showed promise in improving prescription orders, fills, lab completions, and lower LDL-C levels. Further optimization of the program and future research could help enhance LDL-C lowering and reduce ASCVD risk in high-risk populations.

**Safety Net Program to Improve Statin Initiation Among Adults with High LDL-C.** [American journal of preventive medicine 2023](https://pubmed.ncbi.nlm.nih.gov/37100184/); Mefford MT, Zhou M, Zhou H *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=37100184>

## **Inflammation and cholesterol a double whammy**

This study investigated the association between the dual residual risk of cholesterol and inflammation and all-cause mortality in patients with cardiovascular disease (CVD) who took statins. Results showed that patients with CVD and simultaneous risks of residual cholesterol and residual inflammation had an increased risk of mortality, which was dependent on statin adherence, LDL-C reduction, SMART 2 risk score, and control of blood pressure and blood glucose. Despite its real-world setting and the longest follow-up time among similar studies, the research has some limitations: it was a single-center study with 86.78% men, potentially limiting generalizability; it didn't collect statin dosage information; it relied on a single measurement of LDL-C and hs-CRP without reflecting average levels during long-term follow-up; and it lacked information on causes of mortality, failing to distinguish between CVD and non-CVD causes. In conclusion, patients with CVD should improve statin compliance and control multiple risk factors to reduce the risk of mortality. **Effect of dual residual risk of cholesterol and inflammation on all-cause mortality in patients with cardiovascular disease.** [Cardiovascular diabetology 2023](https://pubmed.ncbi.nlm.nih.gov/37095492/); 22:96Yang L, Yue Q, Fang F *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=37095492>

## **Can statins prevent post-op AF?**

This study investigates the impact of statin use on postoperative atrial fibrillation (POAF) after cardiac surgery. It presents a secondary analysis of the SEARCH-AF CardioLink-1 randomized controlled trial. The study found that the use of statins was associated with a 2-fold lower rate of POAF within 30 days after cardiac surgery discharge. Furthermore, a potential inverse dose-response relationship between statin intensity and POAF incidence was observed.

However, the study has several limitations. First, it was a post hoc subanalysis, and patients were not randomized to statin therapy, which might have introduced selection bias. Second, the duration of treatment with statin therapy was not controlled by the study protocol. Third, baseline CHA2DS2-VASc score values and surgery type significantly differed according to statin prescription, but multivariable adjustment for these variables did not affect effect estimates. Fourth, the number of outcomes was limited, and the study was not able to include more than two covariables in multivariable models. Finally, this study was not powered to detect clinical outcomes such as stroke and mortality rates, which were low in SEARCH-AF.

**The Impact of Statins on Postdischarge Atrial Fibrillation After Cardiac Surgery: Secondary Analysis from a Randomized Trial.** [CJC Open 2023](https://pubmed.ncbi.nlm.nih.gov/37124963/); 5:285-291Hibino M, Verma S, Pandey AK *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=37124963>

## **Impact of statins on mortality in DM 2 patients**

The effects of statin use on all-cause mortality in patients with type 2 diabetes is explored in this large national registry. The study examines the relationship between statin dose, class, and use intensity on mortality outcomes. It utilizes a real-world database and employs statistical methods to analyze the data. The study finds that persistent statin use, particularly at higher cumulative doses per year, is associated with reduced all-cause mortality in patients with type 2 diabetes. It identifies the optimal daily statin dose and ranks the priority of protective effects for different classes of statins. However, there are some weak points in the study. The article highlights that previous studies on the association between statin use and mortality have used vague and heterogeneous definitions of statin use, which may limit the comparability of the results. The study also acknowledges that some randomized controlled trials (RCTs) have reported controversial conclusions, and the

sample sizes in some of these studies were small. Additionally, the study acknowledges that the effects of nutraceuticals, which have potential benefits in improving dyslipidemia, were not examined in relation to all-cause mortality in type 2 diabetes patients. The influence of nutraceutical use on the results of the study remains unclear. Furthermore, while the study has a large sample size and utilizes real-world evidence, it also acknowledges limitations in the database, as not all drugs are covered by the Taiwan National Health Insurance. The analysis focuses primarily on statin use and adjusts for other factors but does not include a comprehensive analysis of all pharmacological compounds. In conclusion, the study provides valuable insights into the effects of statin use on all-cause mortality in patients with type 2 diabetes. However, the study acknowledges the limitations of previous research and the need for further investigation, particularly regarding the use of nutraceuticals and the inclusion of a broader range of pharmacological compounds in the analysis.

**Effects of Statin Dose, Class, and Use Intensity on All-Cause Mortality in Patients with Type 2 Diabetes Mellitus.** *Pharmaceuticals (Basel, Switzerland)* 2023; 16:Yu JM, Chen WM, Chen M *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=37111264>

## The SWEDEHEART registry; the consequences of type 2 MI

This analysis of the SWEDEHEART registry evaluates the management and outcome trends in patients with type 2 myocardial infarction (MI) using data from the SWEDEHEART registry in Sweden. The study aims to determine whether there have been improvements over time in the diagnosis, treatment, and mortality outcomes for type 2 MI patients compared to those with type 1 MI.

The findings of the study reveal that patients with type 2 MI are less likely to undergo diagnostic examinations and receive cardioprotective medications compared to type 1 MI patients. The use of echocardiography and coronary assessment increased only modestly in type 2 MI patients, and the provision of medications did not improve over time. Furthermore, there was no significant change in the all-cause mortality rate for type 2 MI patients.

The article acknowledges several limitations, including potential errors in the diagnosis and subtyping of MI, unmeasured confounders, and the possibility of selection bias. The study also highlights the lack of evidence-based care pathways for type 2 MI patients and the need for better management approaches. In conclusion, the study highlights the underdiagnosis, undertreatment, and poor outcomes associated with type 2 MI. The findings emphasize the importance of developing optimal care pathways and improving the management of type 2 MI patients to enhance their prognosis.

**Management and outcome trends in type 2 myocardial infarction: an investigation from the SWEDEHEART registry.** *Scientific reports* 2023; 13:7194 Eggers KM, Baron T, Chapman AR *et al.* <http://www.ncbi.nlm.nih.gov/pubmed/?term=37137939>

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## Relevant Publications

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## Basic Science

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