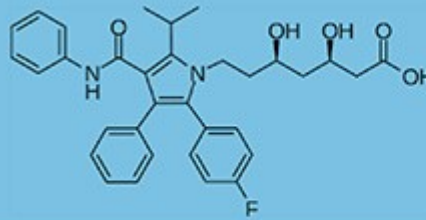


# STATIN

## NEWSLETTER



A CURATED WEEKLY OVERVIEW OF ALL STATIN PUBLICATIONS

Update week 33 & 34 - 2022

**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. Lp(a) a mysterious risk factor
2. Hemorrhagic stroke patients and statins - a meta-analysis
3. Mortality in diabetic AMI patients reduced by statin ues
4. How to improve statin initiation and adherence - a review
5. ACC consensus paper on non-statin drugs

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### Elevated Lp(a) not associated with increased risk in post PCI patients

The relationship between serum lipoprotein (a) levels and the clinical results of subsequent PCI patients was explored in patients who underwent PCI at the Heart Center University of Freiburg in Germany (January 2005 to November 2013). Six thousand six hundred seventy-nine patients were evaluated at baseline and prospectively tracked for three years. The mean age was 67.5 ( $\pm 11.1$ ) years. Lp(a) measurements were done at the time of admission. 30% or more of the PCI patients had Lp(a) values  $>50$  mg/dL. Seven hundred and thirty-six patients died during the follow-up, with 189 (11.3%) in the first quartile, 186 (10.7%) in the second quartile, 183 (11.5%) in the third quartile, and 178 (10.1%) in the last quartile ( $P=0.843$ ). The MACE rate were consistent; 409 (24.4%), 385 (22.1%), 395 (24.7%), and 419 (25.3%), respectively ( $P = 0.125$ ). Higher Lp(a) levels were not linked to poorer clinical outcomes during a three-year follow-up period in this sizable non-selected sample of patients with PCI, followed by moderate-intensity statin treatment.

Corpataux N, Hochholzer W, Valina CM *et al*. Serum Lipoprotein(a) and 3-Year Outcomes in Patients Undergoing Percutaneous Coronary Intervention. Curr Probl Cardiol 2022; 47:101362. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36028053>

## Statins and intracerebral haemorrhage – a meta-analysis

Can statins improve the prognosis of individuals that suffered from an intracerebral haemorrhage? For this meta-analysis 17 studies (N=16988), published until December 2021, that included intracerebral haemorrhage patients using statins were used. Statin users (N=3001) were compared to controls (N=13,487). The quality of the included studies was high (The Newcastle-Ottawa Scale was 6 – 8) The primary endpoint was the MRS score for mortality. A statistically significant decreased mortality risk was noted ( $P<0.01$ ) in statin users compared to controls. The functional outcome scores, 90 days post haemorrhagic stroke, were better in the statin-users as well ( $P<0.01$ ). The number of Intracerebral hematomas were not different between the two groups, indicating no increased bleeds in statin users. Based on these findings' statin uses would not pose an increased bleeding risk reduce mortality and improve the 90-day functional outcome scores.

Liu X, Luo W, Huang H, Fan J. **Statins on Spontaneous Intracerebral Hemorrhage: A Meta-Analysis.** Evidence-based complementary and alternative medicine : eCAM 2022; 2022:2342159. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35983004>

## Mortality impact of statins during hospital stay of post AMI – diabetic patients

This retrospective analysis aimed to capture the impact of statin use in hospitalized Chinese diabetic AMI patients. Patient data were collected in the EHR of the Beth Israel Deaconess Medical Center (BIDMC) emergency department or ICU in Guangzhou, China (2008–2019). The study evaluated 1 315 patients, 1211 statin users, and 104 non-statin users. In-hospital and ICU mortality in statin users compared to non-statin users were the primary endpoints of this retrospective observational study. An impressive significant difference was observed in the two patient groups. The overall in-hospital mortality of patients with AMI and diabetes was 17.2%, and the total ICU mortality was 12.6%. Statin users had much lower mortality than non-statin users, 13.9% vs. 55.8%. In patients not diagnosed with dyslipidemia, statin use was associated with a reduced risk of ICU death; HR: 0.12, (0.04–0.40) as well as in-hospital death; HR: 0.36, (0.16–0.84). The authors suggested that statin use is associated with a considerably reduced risk of in-hospital and ICU mortality in post-AMI diabetic patients. Noteworthy is the small sample size of non-statin users compared to statin users and the significant differences in baseline characteristics. These confounding factors have not been adequately addressed in the discussion and warrant additional prospective follow-up studies to confirm these findings Lu

X, Zhang L, Li S *et al.* **Association between statin use and the prognosis of patients with acute myocardial infarction complicated with diabetes.** Frontiers in cardiovascular medicine 2022; 9:976656. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36003903>

## Strategies for statin initiation and adherence in high CVD risk patients

Progress in ACS management has resulted in an impressive improvement in survival in patients admitted for acute cardiac care. Better strategies are urgently warranted for primary and secondary prevention of future events, emphasizing the use and adherence to effective, safe, and affordable drugs for lipids and blood pressure. Both the advantages of statin medication and the eligibility for statin therapy, as indicated by guidelines, are not well known. Statin type and dosage should be chosen after thoroughly evaluating all the patient's complications, cardiovascular risks, target LDL cholesterol levels, and potential adverse effects. Doctors tend to underprescribe and underdose statins because of misconceptions regarding safety and tolerability. This review highlights strategies for statin initiation and adherence in different categories of patients, stratified by risk and/or co-morbidities and LDL-c targets. Personalized treatment strategies, including discussing different therapeutic options with the patients, will help to provide patients with the needed LDL-c lowering treatment as well as catalyze improved doctor-patient relationships and trust. Rossini E, Biscetti F, Rando MM *et al.* **Statins in High Cardiovascular Risk Patients: Do Comorbidities and Characteristics Matter?** Int J Mol Sci 2022; 23.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=36012589>

## The role of non-statin therapies in ASCVD risk management – ACC 2022 consensus

Since the publication of the 2018 AHA/ACC/Multisociety guidelines, several trials evaluating the harms and benefits of non-statin therapy have been presented at major conferences and published in high-impact journals. The FDA has approved novel agents such as PCSK9ab based on their LDL-c-lowering properties and benefits observed in large randomized clinical trials. These studies and real-world observational registries confirmed a clear benefit of these new therapeutic strategies in subgroups of very high-risk patients. Several large outcome trials are in progress for inclisiran (si-RNA targeting PCSK9) and bempedoic acid, agents that could provide improved outcomes for very high ASCVD patients that are insufficiently managed by currently available standard lipid-lowering drugs such as statins and ezetimibe. This consensus statement aims to fill in the gaps between the 2018 guidelines and evidence supporting the use of novel agents. The current algorithms endorse the four evidence-based patient management groups and assume that the patient is taking or has attempted to take a statin, given that this is the most effective initial therapy. This review attempts to provide practical guidance for clinicians and patients regarding the use of non-statin therapies to further reduce ASCVD risk in situations not covered by the 2018 guideline.

Lloyd-Jones DM, Morris PB, Ballantyne CM *et al.* **2022 ACC Expert Consensus Decision Pathway on the Role of Nonstatin Therapies for LDL-Cholesterol Lowering in the Management of Atherosclerotic Cardiovascular Disease Risk: A Report of the American College of Cardiology Solution Set Oversight Committee.** *J Am Coll Cardiol* 2022; 80:1366-1418. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36031461>

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## Relevant Publications

1. Boswell L, Serés-Noriega T, Mesa A *et al.* Carotid ultrasonography as a strategy to optimize cardiovascular risk management in type 1 diabetes: a cohort study. *Acta diabetologica* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36006487>
2. Becchetti C, Dirchwolf M, Schropp J *et al.* Use of statins after liver transplantation is associated with improved survival: results of a nationwide study. *Alimentary pharmacology & therapeutics* 2022; 56:1194-1204. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35979872>
3. Aragon KG, Ray G, Conklin J *et al.* Underprescribing of statin therapy in people with HIV at risk for atherosclerotic cardiovascular disease. *American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35976174>
4. Jackson SL, Nair PR, Chang A *et al.* Antihypertensive and Statin Medication Adherence Among Medicare Beneficiaries. *American journal of preventive medicine* 2022; 63:313-323. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35987557>
5. Güven AT. Rapidly Occurring Statin-Associated Muscle Symptoms With Rosuvastatin. *American journal of therapeutics* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35998107>
6. Wang K, Ding Y, Wang R *et al.* Remnant Cholesterol and the Risk of Coronary Artery Disease in Patients With Type 2 Diabetes. *Angiology* 2022:33197221121008. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35968625>
7. Zhou W, Succar B, Murphy DP *et al.* Carotid Intervention Improves Cognitive Function in Patients With Severe Atherosclerotic Carotid Disease. *Annals of surgery* 2022; 276:539-544. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35972513>
8. Houliand MB, Iversen E, Andersen A *et al.* Further perspectives on statin use in patients with chronic kidney disease. *Basic & clinical pharmacology & toxicology* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36028936>
9. Hande LN, Kjellmo C, Pettersen K *et al.* Effect of N-3 Polyunsaturated Fatty Acids on Lipid Composition in Familial Hypercholesterolemia: A Randomized Crossover Trial.

- Biomedicines 2022; 10. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36009356>
10. Kim DS, Kim HJ, Ahn HS. Association Between Statins and the Risk of Kidney Cancer Incidence and Mortality Using the Korean National Health Insurance Claims Database. Cancer control : journal of the Moffitt Cancer Center 2022; 29:10732748221111293. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35980770>
  11. Khazaaleh S, Sarmini MT, Alomari M *et al.* Statin Use Reduces the Risk of Hepatocellular Carcinoma: An Updated Meta-Analysis and Systematic Review. Cureus 2022; 14:e27032. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35989795>
  12. Orringer CE, Grant JK, Tokgozoglu L. A Review of Statin Intolerance: a Focus on Statin-Attributed Muscle Symptoms. Curr Atheroscler Rep 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36001213>
  13. O'Toole T, Kelsey MD, Shah NP *et al.* Eradicating Atherosclerosis: Should We Start Statins at Younger Ages and at Lower LDL-Cs. Current cardiology reports 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36006590>
  14. Lim EY, Cho AH. Dynamic changes of carotid atherosclerosis and their relations with stroke recurrence in patients with stroke or transient ischemic attack. Current neurovascular research 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35996235>
  15. Han Y, Ma Y, Tong J *et al.* Systems assessment of statins hazard: Integrating in silico prediction, developmental toxicity profile and transcriptomics in zebrafish. Ecotoxicology and environmental safety 2022; 243:113981. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36029576>
  16. Giral P. Targeted proteomics improves cardiovascular risk prediction in secondary prevention: the impact of statin treatment? Eur Heart J 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35986686>
  17. Lavi I, Gronich N. Serum cholesterol increase in statin users associated with antibiotic use: Case-crossover study. Eur J Pharmacol 2022; 932:175209. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35987256>
  18. Esan O, Viljoen A, Wierzbicki AS. Colesevelam - a bile acid sequestrant for treating hypercholesterolemia and improving hyperglycemia. Expert Opin Pharmacother 2022; 23:1363-1370. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35968655>
  19. Ou Z, Yu Z, Liang B *et al.* Evolocumab enables rapid LDL-C reduction and inflammatory modulation during in-hospital stage of acute coronary syndrome: A pilot study on Chinese patients. Frontiers in cardiovascular medicine 2022; 9:939791. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36017088>
  20. Wu HH, Chang SH, Lee TH *et al.* Concurrent use of statins decreases major bleeding and intracerebral hemorrhage in non-valvular atrial fibrillation patients taking direct oral anticoagulants-A nationwide cohort study. Frontiers in cardiovascular medicine 2022; 9:969259. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36003918>
  21. Zhang J, Wang X, Tian W *et al.* The effect of various types and doses of statins on C-reactive protein levels in patients with dyslipidemia or coronary heart disease: A systematic review and network meta-analysis. Frontiers in cardiovascular medicine 2022; 9:936817. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35966518>
  22. Gibson CA, Mount RR, Lee J, Backes JM. Identifying patient perceptions and attitudes regarding statin-associated diabetes mellitus: a mixed-methods study. Future cardiology 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36004761>
  23. Seo SH, Lee DH, Lee YS *et al.* Co-administration of ursodeoxycholic acid with rosuvastatin/ezetimibe in a non-alcoholic fatty liver disease model. Gastroenterol Rep (Oxf) 2022; 10:goac037. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35982712>
  24. Brandts J, Verket M, Müller-Wieland D. [Lipid lowering: new agents and new concepts]. Herz 2022; 47:419-425. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36018378>
  25. Trimarco V, Izzo R, Morisco C *et al.* High HDL (High-Density Lipoprotein) Cholesterol Increases Cardiovascular Risk in Hypertensive Patients. Hypertension 2022; 79:2355-2363. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35968698>
  26. Arabi SM, Chambari M, Malek-Ahmadi M *et al.* The effect of statin therapy in combination with ezetimibe on circulating C-reactive protein levels: a systematic review and meta-analysis of randomized controlled trials. Inflammopharmacology 2022; 30:1597-1615. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35988111>

27. Intert E, Krause M, Hennersdorf F *et al.* [Rhabdomyolysis due to drug-drug interaction of atorvastatin and cobicistat]. Inn Med (Heidelb) 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36001111>
28. Nelson AJ, Sniderman AD, Ditmarsch M *et al.* Cholesteryl Ester Transfer Protein Inhibition Reduces Major Adverse Cardiovascular Events by Lowering Apolipoprotein B Levels. Int J Mol Sci 2022; 23. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36012684>
29. Keating T, AlAdalieh M, Chughtai Z, Javadpour SH. Adherence to secondary prevention recommendations after coronary artery bypass graft surgery. Irish journal of medical science 2022:1-6. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36002669>
30. Cho KH, Kim MC, Choo EH *et al.* Impact of Low Baseline Low-Density Lipoprotein Cholesterol on Long-Term Postdischarge Cardiovascular Outcomes in Patients With Acute Myocardial Infarction. J Am Heart Assoc 2022; 11:e025958. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36000434>
31. Penson PE, Bruckert E, Marais D *et al.* Step-by-step diagnosis and management of the nocebo/drucbebo effect in statin-associated muscle symptoms patients: a position paper from the International Lipid Expert Panel (ILEP). Journal of cachexia, sarcopenia and muscle 2022; 13:1596-1622. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35969116>
32. Farnier M, Chagué F, Maza M *et al.* High lipoprotein(a) levels predict severity of coronary artery disease in patients hospitalized for acute myocardial infarction. Data from the French RICO survey. J Clin Lipidol 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35995726>
33. Anderson JL, Le VT, Bair TL *et al.* Is Alcohol Consumption Associated with a Lower Risk of Cardiovascular Events in Patients Treated with Statins? An Observational Real-World Experience. Journal of clinical medicine 2022; 11. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36013036>
34. Belur AD, Shah AJ, Virani SS *et al.* Role of Lipid-Lowering Therapy in Peripheral Artery Disease. Journal of clinical medicine 2022; 11. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36013107>
35. Muscoli S, Ifrim M, Russo M *et al.* Current Options and Future Perspectives in the Treatment of Dyslipidemia. Journal of clinical medicine 2022; 11. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36012957>
36. Khalafi S, Evans J, Lumbreras T *et al.* Effects of statins on outcomes in Hispanic patients with COVID-19. Journal of investigative medicine : the official publication of the American Federation for Clinical Research 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35973730>
37. Partogi M, Gaviria-Valencia S, Alzate Aguirre M *et al.* Sociotechnical Intervention for Improved Delivery of Preventive Cardiovascular Care to Rural Communities: Participatory Design Approach. Journal of medical Internet research 2022; 24:e27333. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35994324>
38. Emre-Aydingoz S, Lux KM, Efe OE *et al.* Effect of rosuvastatin on spatial learning, memory, and anxiety-like behaviour in ovariectomized rats. J Obstet Gynaecol 2022:1-9. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35993621>
39. Anjorin AC, Marcaccio CL, Rastogi V *et al.* Statin therapy is associated with improved perioperative outcomes and long-term mortality following carotid revascularization in the Vascular Quality Initiative. Journal of vascular surgery 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36029973>
40. Chou R, Cantor A, Dana T *et al.* Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. Jama 2022; 328:754-771. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35997724>
41. Jin J. Statins for the Prevention of Cardiovascular Disease. Jama 2022; 328:786. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35997728>
42. Mangione CM, Barry MJ, Nicholson WK *et al.* Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: US Preventive Services Task Force Recommendation Statement. Jama 2022; 328:746-753. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35997723>

43. Navar AM, Peterson ED. Statin Recommendations for Primary Prevention: More of the Same or Time for a Change? Jama 2022; 328:716-718. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35997751>
44. Stone NJ, Greenland P, Grundy SM. Statin Usage in Primary Prevention-Comparing the USPSTF Recommendations With the AHA/ACC/Multisociety Guidelines. JAMA cardiology 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35998005>
45. Virani SS. Statins and Primary Atherosclerotic Cardiovascular Disease Prevention-What We Know, Where We Need to Go, and Why Are We Not There Already? JAMA network open 2022; 5:e2228538. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35997983>
46. Lim K, Wong CHM, Lee ALY *et al.* Influence of cholesterol level on long-term survival and cardiac events after surgical coronary revascularization. JTCVS Open 2022; 10:195-203. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36004261>
47. Boytsov SA, Shakhnovich RM, Tereschenko SN *et al.* The prevalence of hyperlipidemia and features of lipid-lowering therapy in patients with myocardial infarction according to the Russian register of acute myocardial infarction REGION-MI. Kardiologija 2022; 62:12-22. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35989625>
48. Melnikov IS, Kozlov SG, Pogorelova OA *et al.* Monomeric form of C-reactive protein in the assessment of the residual inflammatory cardiovascular risk in patients with subclinical carotid atherosclerosis. Kardiologija 2022; 62:24-30. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35989626>
49. Maroto-Martín C, Molina Terrón PM, García Pajares F. Atorvastatin-induced acute cholestatic hepatitis. Med Clin (Barc) 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36030096>
50. Kadappu P, Jonnagaddala J, Liaw ST *et al.* Statin Prescription Patterns and Associations with Subclinical Inflammation. Medicina (Kaunas, Lithuania) 2022; 58. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36013563>
51. Fernandes Silva L, Ravi R, Vangipurapu J, Laakso M. Metabolite Signature of Simvastatin Treatment Involves Multiple Metabolic Pathways. Metabolites 2022; 12. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36005625>
52. Castellano JM, Pocock SJ, Bhatt DL *et al.* Polypill Strategy in Secondary Cardiovascular Prevention. N Engl J Med 2022; 387:967-977. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36018037>
53. Wang TJ. The Polypill at 20 - What Have We Learned? N Engl J Med 2022; 387:1034-1036. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36018010>
54. Jarr KU, Ye J, Kojima Y *et al.* The pleiotropic benefits of statins include the ability to reduce CD47 and amplify the effect of pro-efferocytic therapies in atherosclerosis. Nat Cardiovasc Res 2022; 1:253-262. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35990913>
55. Kortüm B, Radhakrishnan H, Zincke F *et al.* Combinatorial treatment with statins and niclosamide prevents CRC dissemination by unhinging the MACC1- $\beta$ -catenin-S100A4 axis of metastasis. Oncogene 2022; 41:4446-4458. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36008464>
56. Kim JH, Sunwoo J, Song JH *et al.* Pharmacokinetic Interaction between Atorvastatin and Omega-3 Fatty Acid in Healthy Volunteers. Pharmaceuticals (Basel, Switzerland) 2022; 15. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36015110>
57. Underberg J, Toth PP, Rodriguez F. LDL-C target attainment in secondary prevention of ASCVD in the United States: barriers, consequences of nonachievement, and strategies to reach goals. Postgraduate medicine 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36004573>
58. Zheng H, Li H, Wang Y *et al.* Rosuvastatin Slows Progression of Carotid Intima-Media Thickness: The METEOR-China Randomized Controlled Study. Stroke 2022; 53:3004-3013. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36017704>
59. Olomu A, Kelly-Blake K, Hart-Davidson W *et al.* Improving diabetic patients' adherence to treatment and prevention of cardiovascular disease (Office Guidelines Applied to Practice-IMPACT Study)-a cluster randomized controlled effectiveness trial. Trials 2022; 23:659. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35971135>

60. Kızılırmak P, Öngen Z, Güleç S *et al.* Lipid Modification to Reduce Cardiovascular Risk in Secondary Prevention Patients with Special Emphasis on PCSK9 Inhibitor Requirement: An Analysis Based on Delphi Panel Approach. Turk Kardiyoloji Dernegi arsivi : Turk Kardiyoloji Derneginin yayin organidir 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35976247>
61. Yılmaz Öztekin GM, Genç A. Prognostic Significance of Statins in Ischemic and Non-ischemic Heart Failure Patients with Reduced Ejection Fraction in Real Life. Turk Kardiyoloji Dernegi arsivi : Turk Kardiyoloji Derneginin yayin organidir 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35983651>
62. Yang L, Xiao YY, Shao L *et al.* Proprotein convertase subtilisin/kexin type 9 inhibitor non responses in an adult with a history of coronary revascularization: A case report. World journal of clinical cases 2022; 10:6728-6735. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35979295>
63. Tan CK, Ho D, Wang LM, Kumar R. Drug-induced autoimmune hepatitis: A minireview. World J Gastroenterol 2022; 28:2654-2666. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35979160>
64. Zhu J, Ma Y. Atorvastatin treatment in a patient with post-traumatic hydrocephalus: a case report. Brain injury 2022; 36:1204-1206. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35986569>
65. Chelikam N, Vyas V, Dondapati L *et al.* Epidemiology, Burden, and Association of Substance Abuse Amongst Patients With Cardiovascular Disorders: National Cross-Sectional Survey Study. Cureus 2022; 14:e27016. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35989848>
66. Heinig R, Fricke R, Wertz S *et al.* Results From Drug-Drug Interaction Studies In Vitro and In Vivo Investigating the Inhibitory Effect of Finerenone on the Drug Transporters BCRP, OATP1B1, and OATP1B3. European journal of drug metabolism and pharmacokinetics 2022:1-13. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36029368>
67. Willemink MJ, Mastrodicasa D, Madani MH *et al.* Inter-observer variability of expert-derived morphologic risk predictors in aortic dissection. European radiology 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36029344>
68. Li Y, Zhou H, Zou L. Influence of Statins on the Survival Outcomes of Patients with Diffuse Large B Cell Lymphoma: A Systematic Review and Meta-Analysis. Int J Clin Pract 2022; 2022:5618290. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35989867>
69. Dillon GA, Stanhewicz AE, Serviente C *et al.* Seven days of statin treatment improves nitric-oxide mediated endothelial-dependent cutaneous microvascular function in women with endometriosis. Microvascular research 2022; 144:104421. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35970408>
70. Elsayed MMA, Aboelez MO, Mohamed MS *et al.* Tailoring of Rosuvastatin Calcium and Atenolol Bilayer Tablets for the Management of Hyperlipidemia Associated with Hypertension: A Preclinical Study. Pharmaceutics 2022; 14. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36015255>
71. Bharath G, Vishnuprabu DP, Preethi L *et al.* SLCO1B1 and ABCB1 variants synergistically influence the atorvastatin treatment response in South Indian coronary artery disease patients. Pharmacogenomics 2022; 23:683-694. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35968761>
72. Osadnik T, Gołowski M, Lewandowski P *et al.* A network meta-analysis on the comparative effect of nutraceuticals on lipid profile in adults. Pharmacol Res 2022; 183:106402. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35988871>

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## Basic Science

1. Sun T, Huang J, Zhang W *et al.* Simvastatin-hydroxyapatite coatings prevent biofilm formation and improve bone formation in implant-associated infections. Bioact Mater

- 2023; 21:44-56. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36017072>
2. Lee TC, Chen HT, Tai IC *et al.* Anabolic Effects of a Novel Simvastatin Derivative on Treating Rat Bone Defects. *Biomedicines* 2022; 10. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36009462>
  3. Villano I, La Marra M, Allocca S *et al.* The Role of Nutraceutical Supplements, Monacolin K and Astaxanthin, and Diet in Blood Cholesterol Homeostasis in Patients with Myopathy. *Biomolecules* 2022; 12. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36009012>
  4. de Sousa VC, Sousa FRN, Vasconcelos RF *et al.* Atorvastatin reduces zoledronic acid-induced osteonecrosis of the jaws of rats. *Bone* 2022; 164:116523. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35985466>
  5. Zhou Y, Larnaudie A, Ghannam Y *et al.* Interactions of radiation therapy with common and innovative systemic treatments: Antidiabetic treatments, antihypertensives, lipid-lowering medications, immunosuppressive medications and other radiosensitizing methods. *Cancer Radiother* 2022; 26:979-986. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36028416>
  6. Ren X, Wang Y, Han L *et al.* Effect of Rosuvastatin on Myocardial Apoptosis in Hypertensive Rats Through SIRT1/NF- $\kappa$ B Signaling Pathway. *Cell Mol Biol (Noisy-le-grand)* 2022; 68:194-201. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35988282>
  7. Wang Y, Spolitu S, Zadroga JA *et al.* Hepatocyte Rap1a contributes to obesity- and statin-associated hyperglycemia. *Cell Rep* 2022; 40:111259. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36001955>
  8. Katole NT, Kale JS, Salankar HV. Evaluation of the Antinociceptive Action of Simvastatin in Mice. *Cureus* 2022; 14:e26910. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35983393>
  9. Fardafshari F, Taymouri S, Minaiyan M, Tavakoli N. Preparing simvastatin nanoparticles by a combination of pH-sensitive and timed-release approaches for the potential treatment of ulcerative colitis. *Journal of biomaterials applications* 2022:8853282221122907. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35999010>
  10. Mirzaie J, Nasiry D, Ayna Ö *et al.* Neuroprotective effects of lovastatin against traumatic spinal cord injury in rats. *J Chem Neuroanat* 2022; 125:102148. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36031087>
  11. Banerjee S, Tiwari A, Kar A *et al.* Combining LC-MS/MS profiles with network pharmacology to predict molecular mechanisms of the hyperlipidemic activity of *Lagenaria siceraria* stand. *Journal of ethnopharmacology* 2022; 300:115633. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36031104>
  12. Farzan A, Moshiri A, Andalib S *et al.* Effect of Simvastatin and Low-Level Laser Therapy on Sutural Bone Formation After Expansion in Rats: Biomechanical, Computed Tomography and Immunohistochemical Assessment. *J Lasers Med Sci* 2022; 13:e21. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35996495>
  13. Christiansen DL, Killeen AC, Ramer-Tait A *et al.* Local simvastatin and inflammation during periodontal mini-flap wound healing: Exploratory results. *Journal of periodontology* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36017934>
  14. Li W, Wang S, Wang W *et al.* Ultra-high performance supercritical fluid chromatography tandem mass spectrometry method for simultaneous determination of atorvastatin, 2-hydroxy atorvastatin, and tangeretin in rat plasma and its application to the pharmacokinetic study. *Journal of separation science* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36030366>
  15. Rehman M, Khan MZ, Tayyab M *et al.* Self-Nanoemulsification of Healthy Oils to Enhance the Solubility of Lipophilic Drugs. *Journal of visualized experiments : JoVE* 2022. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35969097>
  16. Zulcaif, Zafar N, Mahmood A *et al.* Simvastatin Loaded Dissolvable Microneedle Patches with Improved Pharmacokinetic Performance. *Micromachines (Basel)* 2022; 13. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36014226>
  17. Miyajima C, Hayakawa Y, Inoue Y *et al.* HMG-CoA Reductase Inhibitor Statins Activate the Transcriptional Activity of p53 by Regulating the Expression of TAZ. *Pharmaceuticals (Basel, Switzerland)* 2022; 15. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36015162>



18. Choe EJ, Lee CH, Bae JH *et al.* Atorvastatin Enhances the Efficacy of Immune Checkpoint Therapy and Suppresses the Cellular and Extracellular Vesicle PD-L1. Pharmaceutics 2022; 14. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36015287>
19. Wang H, Chen Y, Li P *et al.* Biphasic effects of statins on neuron cell functions under oxygen-glucose deprivation and normal culturing conditions via different mechanisms. Pharmacol Res Perspect 2022; 10:e01001. <http://www.ncbi.nlm.nih.gov/pubmed/?term=36029136>
20. Bernardino I, Dionísio A, Castelo-Branco M. Cortical inhibition in neurofibromatosis type 1 is modulated by lovastatin, as demonstrated by a randomized, triple-blind, placebo-controlled clinical trial. Scientific reports 2022; 12:13814. <http://www.ncbi.nlm.nih.gov/pubmed/?term=35970940>

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