

## Advancements and Management in Lipid Therapy

Heidi M. Webb, MMS, PA-C, AAPA, AESPA  
Senior Physician Assistant  
Bahl and Bahl Medical Associates  
Pittsburgh, PA  
webbh2@upmc.edu

### Disclosures:

- I have no relevant relationships with ineligible companies to disclose within the past 24 months.

### Objectives:

- Review current ACC/AHA and ADA guidelines for lipid management
- Review current and new options for lipid therapy
- Discuss how to apply updated guidelines and treatment in clinical practice
  
- ACC/AHA Multi-society Cholesterol Guidelines
- Options for statin therapy w/ chart
- Options for non-statin therapy w/ MOA
- ACC/AHA Primary Prevention
- Risk enhancers
- CAC Measurement
- ADA Standards of Care Lipid Management – Primary Prevention
- ACC/AHA Secondary Prevention
- ADA Standards of Care Lipid Management – Secondary Prevention
- Residual risk
- Schematic for MOA of statin and nonstatin therapy – hepatocyte
- IMPROVE-IT trial
- FOURIER/ODYSSEY
- bempedoic acid –CLEAR Harmony, CLEAR Wisdom, CLEAR Tranquility
- inclisiran – ORION 9/10/11
- evinacumab
- Treatment of Other Lipoprotein Fractions and Targets
  - 2021 ACC Expert Concensus
  - 2022 ADA Standards of Care
- REDUCE-IT
- STRENGTH
- VA-HIT/ACCORD/FIELD

### Conclusion

- Understand the ACC/AHA and ADA guidelines for primary and secondary prevention and identify patients who are appropriate for treatment. Avoid clinical inertia.
- Adequately understand the options for statin and nonstatin therapy in lipid management.

- Understand how to adequately use statin and nonstatin therapy in clinical practice to achieve LDL-C goals.

## References

1. “Physical Activity Guidelines for Americans, 2nd Edition.” U.S Department of Health and Human Services, 2018,. [health.gov/sites/default/files/2019-09/Physical\\_Activity\\_Guidelines\\_2nd\\_edition.pdf](https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf)
2. Reiter-Brennan, C., Osei, A. D., Uddin, S., Orimoloye, O. A., Obisesan, O. H., Mirbolouk, M., . . . Dzaye, O. (2020). ACC/AHA lipid guidelines: Personalized care to prevent cardiovascular disease. *Cleveland Clinic Journal of Medicine*, 87(4), 231-239. doi:10.3949/ccjm.87a.19078
3. Ray, K. K., Phil, M., Bays, H. E., Catapano, A. L., Lalwani, N. D., Bloedon, L. T., . . . Ballantyne, C. M. (2019). Safety and Efficacy of Bempedoic Acid to Reduce LDL Cholesterol. *The New England Journal of Medicine*, 380(11), 1022-1032. doi:10.1056/NEJMoa1803917
4. Arnett, Donna K., et al. “Correction to: 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.” *Circulation*, vol. 140, no. 11, 2019, pp. e596–646. Crossref, doi:10.1161/cir.0000000000000725.
5. American Diabetes Association Professional Practice Committee; 10. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes—2022. *Diabetes Care* 1 January 2022; 45 (Supplement\_1): S144–S174. <https://doi.org/10.2337/dc22-S010>
6. Grundy, Scott M, et al. “2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/NLA/PCNA Guideline on the Management of Blood Cholesterol: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines.” *Circulation*, vol. 139, no. 25, 2019, pp. 1046-81. Crossref, doi:10.1161/cir.0000000000000624.
7. Nicholls, Stephen J., et al. “Effect of Evolocumab on Progression of Coronary Disease in Statin-Treated Patients.” *JAMA*, vol. 316, no. 22, 2016, pp. 2373–84. Crossref, doi:10.1001/jama.2016.16951.
8. Boekholdt, SM, et al. *JACC*. 2014; 64(5): 485-494
9. Preiss, D, et al. *J Am Coll Cardiol.*: 2020; 75 (16): 1944-55
10. Cannon, Christopher P., et al. “Ezetimibe Added to Statin Therapy after Acute Coronary Syndromes.” *New England Journal of Medicine*, vol. 372, no. 25, 2015, pp. 2387–97. Crossref, doi:10.1056/nejmoa1410489.
11. Sabatine, Marc S., et al. “Evolocumab and Clinical Outcomes in Patients with Cardiovascular Disease.” *New England Journal of Medicine*, vol. 376, no. 18, 2017, pp. 1713–22. Crossref, doi:10.1056/nejmoa1615664.
12. Schwartz, G. G., et al. “Alirocumab and Cardiovascular Outcomes after Acute Coronary Syndrome.” *The New England Journal of Medicine*, vol. 379, no. 22, 2018, pp. 2097–107, doi:10.1056/NEJMoa1801174.
13. Ray, Kausik K., et al. “Safety and Efficacy of Bempedoic Acid to Reduce LDL Cholesterol.” *New England Journal of Medicine*, vol. 380, no. 11, 2019, pp. 1022–32. Crossref, doi:10.1056/nejmoa1803917.

14. Goldberg, Anne C., et al. "Effect of Bempedoic Acid vs Placebo Added to Maximally Tolerated Statins on Low-Density Lipoprotein Cholesterol in Patients at High Risk for Cardiovascular Disease." *JAMA*, vol. 322, no. 18, 2019, pp. 1780–88. Crossref, doi:10.1001/jama.2019.16585.
15. Ballantyne, Christie M., et al. "Bempedoic Acid plus Ezetimibe Fixed-Dose Combination in Patients with Hypercholesterolemia and High CVD Risk Treated with Maximally Tolerated Statin Therapy." *European Journal of Preventive Cardiology*, vol. 27, no. 6, 2019, pp. 593–603. Crossref, doi:10.1177/2047487319864671.
16. "Evaluation of Major Cardiovascular Events in Patients With, or at High Risk for, Cardiovascular Disease Who Are Statin Intolerant Treated With Bempedoic Acid (ETC-1002) or Placebo - Full Text View - ClinicalTrials.Gov." *ClinicalTrials.Gov*, clinicaltrials.gov/ct2/show/NCT02993406. Accessed 18 Feb. 2021.
17. Ray KK, Wright RS, Kallend D, et al. Two Phase 3 Trials of Inclisiran in Patients with Elevated LDL Cholesterol. *The New England Journal of Medicine*. 2020;382(16):1507-1519. doi:10.1056/NEJMoa1912387
18. Raal, Frederick J., et al. "Evinacumab for Homozygous Familial Hypercholesterolemia." *New England Journal of Medicine*, vol. 383, no. 8, 2020, pp. 711–20. Crossref, doi:10.1056/nejmoa2004215.
19. ACC Consensus on ASCVD Risk Reduction in Hypertriglyceridemia: Key Points. American College of Cardiology. <https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2021/07/27/21/04/2021-acc-eudp-hypertriglyceridemia>
20. Bhatt, Deepak, et al. "Cardiovascular Risk Reduction with Icosapent Ethyl for Hypertriglyceridemia." *The New England Journal of Medicine*, vol. 380, 2019, pp. 11–22, doi:10.1056/NEJMoa1812792.
21. Nicholls, S.J., Lincoff, A.M., Garcia, M., et al. Effect of high-dose omega-3 fatty acids vs corn oil on major adverse cardiovascular events in patients at high cardiovascular risk: the STRENGTH randomized clinical trial. *JAMA*. Published online November 15, 2020. doi: 10.1001/jama.2020.22258