



ABC President's Statement on the 2018 ACC/AHA Guideline on Management of Blood Cholesterol

The Association of Black Cardiologists is a cosigner of the recently published 2018 ACC/AHA Guideline on Management of Blood Cholesterol, a document that was carefully crafted by the writing committee and experts in the field; and intended to inform clinical decision-making among practitioners. The significance of this document is better understood after a brief historical review of the state of guideline implementation among clinicians and the emerging perspective on guideline implementation. Clinical practice guidelines have evolved from an expert-opinion based document in years past, to a predominantly evidence-based publication designed to facilitate dissemination of the results of scientific research and progress to clinical practice. Standardization of practice and maximization of healthy outcomes in a cost-effective manner are the anticipated goals of guideline implementation and adherence. A new proposition in addition to the class of recommendation and level of evidence, recently appended to the guideline recommendations, is the inclusion of a monetary value for the treatment intervention. The impact of this component will need to be assessed as negative unintended consequences must be avoided. It is estimated that 30-40% of patients receive treatment not based on scientific evidence, and 20-25% of patients receive treatment not indicated or potentially harmful. These data are striking given the fact that guideline-directed therapies have been shown to decrease morbidity, mortality and are often cost-effective. Furthermore, dissemination of guideline recommendations has been estimated to take 10 years to broadly impact clinical practice. One can imagine the potential benefit to the general population and minority communities, that could be derived if these data were minimized. Barriers to guideline implementation are multifactorial and beyond the scope of this communication. However, a significant provider-based component centered around knowledge of the recommendations, contextualization and information dissemination are germane.

The 2018 ACC/AHA guidelines address a multitude of clinical scenarios and provide guidance regarding the treatment of patients with familial or severe hypercholesterolemia, diabetes, high, intermediate and low-risk for atherosclerotic cardiovascular disease (ASCVD). The guidelines resurrect the use of specific LDL-C values as treatment goals when compared with the 2013 recommendations. These guidelines also address the appropriate use of the 10-year ASCVD risk calculator, application of coronary artery calcium risk score, and the value of shared decision-making. The guidelines also provide a rational, evidence-based approach to utilization of PCSK-9 inhibitors and non-statin therapies (ezetimibe) in a manner that is stratified based on LDL-C responses and cost-effectiveness. The addition of the concept of comorbidities which serve as risk-enhancers is particularly relevant for African-Americans and other minorities as they include patients with metabolic syndrome, an LDL-C \geq 160 mg/dL, Apolipoprotein B \geq 130 mg/dL,

Lipoprotein (a) \geq 50 mg/dL, Triglyceride level \geq 175 mg/dL, chronic kidney disease, inflammatory disorders; such as rheumatoid arthritis, psoriasis, high sensitivity C-reactive protein $>$ 2 mg/L, Lupus, HIV, premature menopause ($<$ 40 years of age), history of preeclampsia, cigarette smoking, ankle-brachial index $<$ 0.9 and Southeast Asian ancestry. Recent data supporting the use of a coronary artery calcium risk score, which many consider a marker of microvasculature plaque rupture, may facilitate the shared-decision making process. In select individuals, a zero score would obviate the need for statin therapy; an intermediate score favors statin therapy; whereas a score above 100 Agatston unit would be an indication for lipid lowering therapy with a statin.

The following statements are intended to provide examples of the 2018 guideline recommendations for various treatment scenarios. Readers of this correspondence are urged to review the guideline in its entirety and refer to them as often as needed when managing their patients. A heart healthy life-style modification is at the core of all prevention intervention.

Secondary prevention: Patients with known cardiovascular disease may undergo treatment with the maximum tolerated statin agent, irrespective of initial LDL-C value. If LDL-C is not decreased by 50% or is not $<$ 70 mg/dL, ezetimibe may be added. If LDL-C is decreased with the addition of ezetimibe but LDL-C is still $>$ 70 mg/dL, a PCSK-9 inhibitor may be added.

Familial Hypercholesterolemia: In patients with an LDL-C \geq 190 mg/dL, a 10-year risk calculation is **not** necessary. Maximum tolerated statin therapy is recommended. If LDL-C is not decreased by 50% (high-intensity therapy) or LDL-C is $>$ 100 mg/dL then add ezetimibe. If the same goal is not met, a PCSK-9 inhibitor may be added.

Primary prevention: In patients without atherosclerotic cardiovascular disease or diabetes, treatment intervention will necessitate utilization of the ASCVD risk calculator. If LDL-C is $>$ 70 mg/dL and 10-year risk score is \geq 7.5% then treatment with a statin may be commenced and treatment goal for LDL-C followed.

Diabetics: An ASCVD risk calculation is **not** necessary. All patients with diabetes between the ages of 40-75 years and LDL-C $>$ 70 mg/dL should receive moderate-intensity statin therapy. If multiple risk factors are present, then high-intensity statin therapy is indicated (lower LDL-C by 50%). Further titration of treatment is made based on LDL-C response to initial treatment.

High Risk Patients: In patients found to have a 10-year ASCVD risk score of \geq 20%, statin therapy is a class 1 indication.

Children: Children of family members with familial hypercholesterolemia may be tested as early as 2 years of age but treatment should be withheld until the age of 10 if LDL-C values are above the 75th percentile for normal adults.

Successful prevention and treatment of cardiovascular disease require implementation of guideline-directed medical therapy where feasible and is paramount to reducing morbidity and mortality in all patients and eliminating disparities in minority populations. The recent decline in the decrement in cardiovascular mortality noted since 2015 is ominous and is indicative of the urgency needed in confronting the various risk factors associated with cardiovascular disease manifestation.