

Life Expectancy Model, which estimates CV age (476). These differ from the Pooled Cohort Equations risk score used in the AHA/ACC guidelines. They proposed LDL-C as the primary target for therapy and non-HDL or apoB as alternative targets, which is different from the AHA/ACC 2018 and from the NLA 2015 guidelines. For all secondary prevention and high-risk primary prevention, the Canadian Cardiovascular Society recommends a target of LDL-C <2.0 mmol/L (about <80 mg/dL), or a >50% reduction in LDL-C, an apoB <80 mg/dL, or a non-HDL-C <2.6 mmol/L (about <100 mg/dL). They also recommend even more aggressive therapy for individuals with recent acute coronary syndromes and established CAD with an LDL-C target of <1.8 mmol/L (about <70 mg/dL) or >50% reduction. Such therapy might require the combination of nonstatin agents like ezetimibe with a maximally tolerated statin. Overall, the Canadian recommendations have some differences from the 2018 AHA/ACC guidelines, such as the use of target levels of LDL-C, apoB, and non-HDL-C, although the 2018 guidelines are much closer to the Canadian guidelines than were the 2013 AHA/ACC guidelines. They differ from those of the NLA by choosing LDL-C rather than non-HDL-C goals and by suggesting a >50% LDL-C reduction as an alternative to an LDL-C of 70 mg/dL in the highest-risk group. However, as noted, the NLA has now aligned itself with the 2018 AHA/ACC guidelines.

2017 American Association of Clinical Endocrinologists and American College of Endocrinology Guidelines for Management of Dyslipidemia and Prevention of Cardiovascular Disease

This is an update of the American Association of Clinical Endocrinologists (AACE) 2012 guidelines and defines 5 risk categories accompanied by LDL-C, non-HDL-C, and apoB goals (475). Extreme risk is defined as progressive ASCVD, including unstable angina after achieving an LDL-C goal of <70 mg/dL (1.8 mmol/L), established ASCVD in individuals with diabetes mellitus, CKD, heterozygous FH, or premature ASCVD occurring at ages <55 years for males and <65 years for females. For the extreme risk group, the treatment goals are the most aggressive of any previous guideline: LDL-C <55 mg/dL (1.4 mmol/L), non-HDL-C <80 mg/dL (2.1 mmol/L), or apoB <70 mg/dL (0.7 g/L). For adults with very high risk (defined as acute coronary syndrome, coronary or carotid artery disease, or peripheral vascular disease, or 10-year risk >20%, diabetes or chronic renal disease stages 3 or 4 with >1 additional risk factor, or heterozygous FH), treatment goals are LDL-C <70 mg/dL (1.8 mmol/L), non-HDL-C <100 mg/dL (2.6 mmol/L), and

apoB <80 mg/dL (0.8 g/L). Lower treatment goals, with LDL-C <100 mg/dL (2.6 mmol/L), non-HDL-C <130 mg/dL (3.2 mmol/L), and apoB <90 mg/dL (0.9 g/L) are recommended for individuals with high risk or moderate risk. For individuals with low CVD risk (defined as zero risk factors), the LDL-C goal is <130 mg/dL (3.4 mmol/L). Although LDL-C is the primary goal parameter, the AACE recommends using non-HDL-C first when TG levels are between 200 and 500 mg/dL (2.3 and 5.6 mmol/L).

2019 European Society of Cardiology and European Atherosclerosis Society Guidelines for the Management of Dyslipidemia

This is an update of the 2016 guidelines from these 2 major European societies. They identify 4 patient groups as having very high or high total CV risk: (1) documented CVD, (2) T1D or T2D, (3) very high levels of risk factors generating a 10-year cumulative risk score of >10% for a first fatal CV event using a calculated SCORE assessment tool, and (4) CKD (462). Individuals with lower levels of risk are categorized using their SCORE: 5% to 10% for high risk, 1% to 5% for moderate risk, and <1% for low risk. The use of SCORE for predicting fatal events is unique to the ESC/EAS and is based on their belief that such an approach eliminates bias and misdiagnosis. Low-density lipoprotein cholesterol has been designated as the treatment goal lipid biomarker, with non-HDL-C used as a secondary goal after the LDL-C goal has been reached. Apolipoprotein B is recommended as a potential secondary target, similar to non-HDL-C, if an assay for apoB is readily available. The ESC/EAS recommends treatment goals based on CV risk: very high CV risk, whether secondary or primary prevention, LDL-C goal of <1.4 mmol/L (55 mg/dL), and LDL-C reduction of >50% from baseline; high CV risk, LDL-C goal of <1.8 mmol/L (70 mg/dL) and a reduction of at least 50% if the baseline LDL-C is between 1.8 and 3.5 mmol/L (70 and 135 mg/dL); for moderate risk, LDL-C of <2.6 mmol/L (100 mg/dL); for low risk, an LDL-C <3.0 mmol/L (116 mg/dL). For individuals with ASCVD who have a second vascular event within 2 years while taking maximal tolerated doses of a statin, ESC/EAS guidelines suggest consideration of an LDL-C goal of <1.0 mmol/L (40 mg/dL). Secondary goals are non-HDL-C 0.8 mmol/L (30 mg/dL) higher than for LDL-C, and apoB <65 mg/dL, <80 mg/dL, and <100 mg/dL for very high-risk, high-risk, and moderate-risk groups, respectively.

Overall, the ESC/EAS guidelines differ from others by having more levels of LDL-C goals depending on risk, and also a suggestion for reducing LDL-C to <40 mg/dL (1.0 mmol/L) for people with ASCVD and recent vascular