



New guidelines in USA:

2013 ACC/AHA Guidelines on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk

How do they compare with the EAS/ESC guidelines for the management of dyslipidaemia?

Comment by EAS Guidelines Committee

The AHA and ACC recently released three documents dealing with guidelines for the prevention of cardiovascular disease (CVD):¹⁻³ one document on lifestyle management, one document on overweight and obesity and one document on “The treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults”. It is welcomed that updated guidance on the treatment of cholesterol is now available for the USA.

In line with the guidelines published by EAS and ESC in 2011 for the management of dyslipidaemias⁴ the AHA/ACC guidelines emphasize the importance of LDL cholesterol (LDL-C) reduction in cardiovascular prevention, in both the primary and secondary prevention of CVD. Both the European and the AHA/ACC guidelines emphasize the importance of risk stratification. In the new US document four groups are identified that could benefit from statin treatment:

1. Individuals with clinical atherosclerotic cardiovascular disease (ASCVD)
2. Individuals with primary elevations of LDL-C above 4.9 mmol/L (190 mg/dL)
3. Individuals with diabetes aged 40-75 with LDL cholesterol 1.8– 4.9 mmol/L (70–189 mg/dL) without clinical ASCVD
4. Individuals without clinical ASCVD or diabetes with LDL-C 1.8–4.9 mmol/L and estimated 10-year ASCVD risk $\geq 7.5\%$

In the EAS/ESC guidelines, risk stratification results in four groups of total CV risk; very high, high, moderate and low risk. Prevention is adapted according to the total CV risk estimation. The EAS/ESC guidelines recommend considering drug treatment of LDL-C in the setting of primary prevention when total CV risk is high or very high and/or in those with a moderate risk if LDL-C ≥ 2.5 mmol/L (100 mg/dL) despite lifestyle changes. In the new ACC/AHA guidelines, statin treatment is recommended for primary prevention in subjects with a risk of ASCVD event of 7.5%, irrespective of LDL-C level, which would correspond to a 2.5% risk for CVD death in 10 years according to the SCORE model. **The impact of the ACC/AHA strategy should be put into the perspective of the very large number of subjects in the population who would be**

eligible for lifelong statin treatment from the age of 40 years onwards. The potential side effects should be considered, if such a large fraction of the population is put on statin treatment.

In the ACC/AHA guidelines a new risk estimation model for estimating the total CVD risk (Pool cohorts equations) has been developed. From the available documents it cannot be evaluated how this would work in relation to the European SCORE model. With such models it is essential that the population from which the model is derived should be as similar as possible to the population that is seen by the clinicians. **For the European population we therefore prefer to continue using the SCORE charts or national charts calibrated on SCORE.**

The approach to the treatment of the risk groups is, in the ACC/AHA guidelines, only identified as two options: high intensity or moderate intensity statin treatment: the final choice of strategy is often left to the doctor's clinical judgment. No treatment goals in mmol/L of LDL-C are suggested, although the option of having treatment goals is accepted. It can certainly be argued that treatment goals are arbitrary; they are often based on extrapolations from available data and an evaluation of a larger pool of knowledge and science in the field. Treatment goals are widely used in different clinical settings, such as for the treatment of arterial hypertension or type-2 diabetes. Targets are a most important tool in daily practice, aiding patient-to-doctor communications and optimizing compliance. **Furthermore, risk reduction in general should be individualized for each patient, and this can be more specific if targets are defined. The simplistic approach of limiting the current knowledge on cardiovascular prevention only to criteria used in randomised controlled trials may limit the exploitation of the potential that is available for CVD prevention when a wider scientific basis is taken into account.**

In monitoring statin therapy the ACC/AHA guidelines suggest that an expected 50% reduction of LDL-C on intense statin treatment should be used as an adherence control; in high risk patients this may also be a reason to increase dose or consider additional therapy. This is left to the doctor's clinical judgement. **Also in the EAS/ESC guidelines a 50% reduction from baseline level target is suggested as an optional target in those at very high total risk if the LDL-C target of < 1.8 mmol/L (70 mg/dL) cannot be reached.**

When comparing these guidelines it should be considered that the EAS/ESC guidelines have a broader approach on dyslipidaemia in general, while the ACC/AHA guidelines are focused on statin treatment in cardiovascular prevention. Therefore, in the EAS/ESC guidelines, special groups, such as individuals with familial hypercholesterolemia, combined hyperlipidaemia and diabetes, and stroke patients, are discussed more in detail. The EAS/ESC guidelines also include a more in-depth discussion and options on drug treatments other than statins.

The EAS/ESC guidelines have worked well in Europe. They have been widely accepted and adopted and, based on the discussion above, we recommend the EAS/ESC guidelines as more fitting for Europe. The two sets of guidelines differ in their approach to cholesterol lowering: this should not, however, obscure their shared emphasis on the importance of LDL-C lowering in cardiovascular prevention, and a very similar view on which high risk groups should be the targets for drug treatment. Examples of similarities and differences in drug therapy between the two guidelines are given in the table below.

Table: Similarities and differences in drug therapy between the 2011 ESC-EAS Management of Dyslipidaemias Guidelines and the 2013 ACC/AHA Guidelines on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk

	EAS/ESC	AHA/ACC
Secondary prevention	Target LDL-C < 1.8 mmol/L, or at least 50% reduction. If target cannot be reached with statin, drug combination may be considered.	High-intensity statin. If 50% reduction is not reached drug combination may be considered.
Statin intolerance in secondary prevention	Reduce statin dose, consider combination therapy.	Moderate or low dose statin, consider combination therapy.
Primary prevention LDL > 4.9 mmol/L	Target LDL-C < 2.5 mmol/L. If target cannot be reached maximal reduction of LDL-C, using appropriate drug combinations in tolerated doses.	High-intensity statin therapy, aimed at achieving at least 50% reduction of LDL-C. If 50% reduction cannot be achieved, consider additional therapy.
Primary prevention in diabetes	<i>Diabetes with other risk factors or organ damage:</i> Target LDL-C ≤ 1.8 mmol/L, or at least 50% reduction. <i>Uncomplicated diabetes:</i> Target LDL < 2.5 mmol/L.	<i>Diabetes with high risk:</i> High-intensity statin therapy. <i>Diabetes with low risk:</i> Moderate-intensity statin therapy.
Primary prevention High risk	<i>SCORE ≥ 5% risk of fatal CVD:</i> Target <2.5 mmol/L.	<i>Total risk for CVD event >7.5%:</i> Moderate- to high-intensity statin therapy. <i>Risk 5-7.5% risk of CVD event:</i> moderate-intensity statin therapy.

References

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