2019 ESC Guidelines on:
The Management of Dyslipidaemias developed in collaboration with the EASD.

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Introduction

The new European Society of Cardiology (ESC)/European Atherosclerosis Society (EAS) dyslipidaemia guidelines were released on 31 August during the ESC Congress 2019 with key changes to the previous guidelines from 2016. The new guidelines not only focused on new pharmacological approaches to treat dyslipidaemia but have also encouraged adoption of healthy life-styles to improve lipid profile and a much more aggressive approach is adopted for most risk categories with new lower targets for low-density lipoprotein (LDL).

What's new in the 2019 guidelines

1. **More aggressive approach with new LDL Targets:**

Patient Category	**10-year risk for cardiovascular (CV) death**	**New LDL targets** **(Class I recommendation)**
Very-High-Risk Patients	>10%	LDL-C reduction of at least 50% from baseline **AND** a goal of less than 1.4 mmol/L (< 55 mg/dL)
Very-High-Risk Patients who experience a second CV event in <2 years (on maximum tolerated statin therapy)	>10%	LDL-C goal of less than 1.0 mmol/L (<40 mg/dL)
High-Risk Patients	5%-10%	LDL-C reduction of 50% or greater from baseline AND an LDL-C goal of less than 1.8 mmol/L (<70 mg/dL)
Moderate Risk Patients	1%-5%	LDL-C goal of less than 2.6mmol/L (<100 mg/dL)

Low Risk Patients	<1%	LDL-C goal of less than 3.0 mmol/L (<116mg/dL)

2. Lipid analysis for cardiovascular disease (CVD) risk assessment (class Ic):

- Total cholesterol (TC) is to be used for the estimation of total CV risk by means of the SCORE system. HDL-C (high density lipoprotein cholesterol) analysis is recommended to further refine risk estimation using the online SCORE system.
- LDL-C analysis is recommended as the primary lipid analysis method for screening, diagnosis, and management.
- Triglycerides (TG) analysis is recommended as a part of the routine lipid analysis approach.
- Non-HDL-C evaluation is recommended for risk assessment, particularly in people with high TG levels, diabetes mellitus (DM), obesity, or very low LDL-C levels.

3. Pharmacological lowering with statins and combination therapy

- It is recommenced to prescribe highest tolerated dose statin to reach the goals set as per level of risk (class Ia).
- If the goals are not achieved with the maximum tolerated dose of a statin, combination treatment is recommended, first with ezetimibe (class Ib) and then adding PCSK9 inhibitor (class Ia) to achieve the targets.
- In patients with ACS, if the LDL-C goal is not achieved after 4-6 weeks with the maximally tolerated statin dose, then combination therapy is considered (class Ib).
- The evidence for statin therapy is more limited in patients over 75, though is still consistent with a benefit.

4. Use of Calcium Scores, Lipoprotein(a) [Lp(a)], Apolipoprotein (Apo) B for risk stratification

- Coronary artery calcium (CAC) score assessment with CT and arterial (carotid and/or femoral) plaque burden on ultrasonography should be considered as a risk modifier and for reaching decisions about treatment in asymptomatic people who are at low-moderate risk of atherosclerotic cardiovascular disease (ASCVD) (class IIb).
- A one-off measurement of Lp(a) may help to identify people with very high inherited Lp(a) levels, with a family history of premature CVD, who may have a substantial lifetime risk of ASCVD (class Ic).

- ApoB analysis is recommended for risk assessment, particularly in people with high TG levels, DM, obesity, or metabolic syndrome, or very low LDL-C levels. It can be used as an alternative to LDL-C, if available, as the primary measurement for screening, diagnosis, and management, and may be preferred over non-HDL-C in people with high TG levels, DM, obesity, or very low LDL-C levels (class Ic).

Other important recommendations:

- Statin treatment is recommended for older people with ASCVD in the same way as for younger patients (class Ia)
- Statin treatment is recommended for primary prevention, according to the level of risk, in older people aged ≤75 years (class Ia).
- It is recommended that the statin is started at a low dose if there is significant renal impairment and/or the potential for drug interactions, and then titrated upwards to achieve LDL-C treatment goals (class Ic).
- A statin may be considered for primary prevention in older people aged >75, if at high risk or above (class IIb).
- In patients with T2DM at very-high risk/high-risk, an LDL-C reduction of ≥50% from baseline plus an LDL-C goal of <1.4mmol/L /<1.8mmol/L is recommended (class Ia).
- Statin therapy is not recommended in pre-menopausal patients with DM who are considering pregnancy or not using adequate contraception (class IIIc).

Conclusions & Summary

The new guidelines have adopted an aggressive approach to lower LDL-C and recommends both a ≥50% LDL-C reduction from baseline **AND** an absolute LDL-C treatment goal of <1.4 mmol/L and <1.8mmol/L for very high-risk and high-risk patients respectively. A high-intensity statin should be prescribed up to the highest tolerated dose to achieve specified goals. A combination therapy is strongly recommended by adding ezetimibe and PCSK-9 inhibitor in high and very high-risk patients already on maximum tolerated dose of statins and not achieving treatment goals.