

Beyond Statins : Lipid Management that works

Dr. Raj Padwal

Key Messages:

- Different lipid guidelines balance pragmatic versus personalized approaches. Each has pros/cons.
- Lowering LDL-C (Apo B100) effectively suppresses plaque formation—and the lower the levels, the better. Very low LDL-C is safe and can even halt or reverse plaque buildup.
- Use a personalized approach to risk assessment
 - Imaging (e.g. CAC scoring) for intermediate risk
 - Lp(a) testing to determine if a more aggressive approach needed
- There are a number of interventions to lower LDL-C
 - Dietary modification and exercise: Important but provide limited reductions. They are more effective for trig-C lowering. Overall effect of dietary intervention is approximately 10% improvement in LDL-C and 10-20% in trig-C.
 - Using a potent statin
 - Using other effective LDL-C lowering treatments like ezetimibe and PCSK-9. Initiation depends on patient preference, cost, coverage.
- Multiple agents can be used (statins, ezetimibe, PCSK-9 inhibitors) and more are coming very soon to reduce LDL-C.

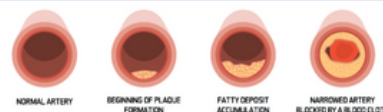
Apo B100 Treatment Thresholds

Table 4 Treatment thresholds for intensification of care.*
Recommended treatment thresholds for LDL-C and non-HDL-C^{61,62,66} and NLA suggested apoB treatment thresholds.

ASCVD risk category	Treatment threshold (mg/dL)		
	LDL-C	Non-HDL-C	ApoB
Very high risk ^a	55	85	60
High risk ^b	70	100	70
Borderline to intermediate risk ^c	100	130	90

It is eminently feasible to arrest (even regress) plaque formation by lowering LDL-C (Apo B100 level) sufficiently.

CORONARY CALCIUM SCORE CHART



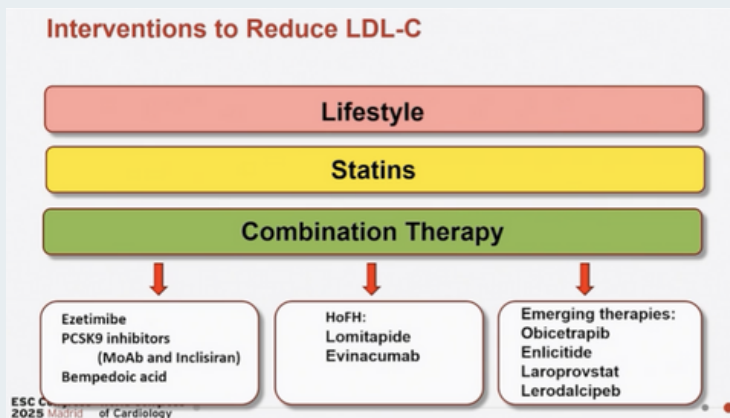
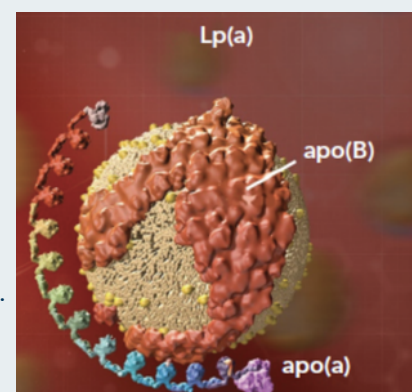
The amount of calcium present in the coronary arteries is scored according to the Agatston scale, as follows:

0	No identifiable calcium deposits
1-10	Low Risk. Less than 10% chance of heart disease
11-99	MILD calcium deposits
100-399	MODERATE calcium deposits
400-999	SEVERE calcium deposits
1000+	25% chance of heart attack within a year

The **Canadian Cardiovascular Society (CCS)** recommends Coronary Artery Calcium (CAC) screening for asymptomatic adults aged 40 to 75 who are at intermediate cardiovascular risk (10-20% 10-year risk based on Framingham Risk Score) and for whom treatment decisions are unclear.

Lipoprotein (a) screening

Canadian lipid guidelines recommend a one-time measurement of Lipoprotein(a) [Lp(a)] for all adults as part of initial lipid screening to better stratify cardiovascular risk.

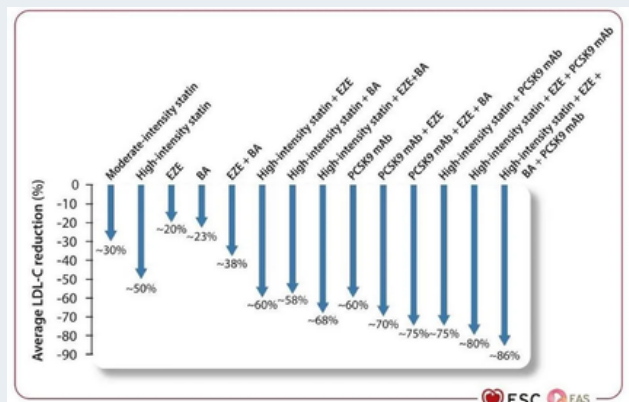


Slide credit: Professor Lale Tokgozoglul

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ESC 2025 dyslipidemia guidelines on combination LDL lowering



Recommendation is to start with a combination therapy earlier rather than waiting for "statins to fail" before adding on additional therapies.

Resources:

- [PEER simplified lipid guideline 2023 update](#)
- [2021 Canadian Cardiovascular Society Guidelines for the Management of Dyslipidemia for the Prevention of Cardiovascular Disease in Adults](#)
- [Let's Talk - Let's Talk Cholesterol](#)
- **Hypertension Dyslipidemia Clinic Kaye Edmonton Clinic:** Accepts referrals for Resistant HTN, HTN in patient at high-risk, Secondary HTN, 24-hour ABPM; Familial Hypercholesterolemia (LDL ≥ 5.0 mmol/L), Statin intolerance, Secondary prevention, High Lp(a), High triglycerides. **Phone** 780-492-7711; **Fax** 780-492-7277; **Connect Care direct.**

Lipid Lowering with statins

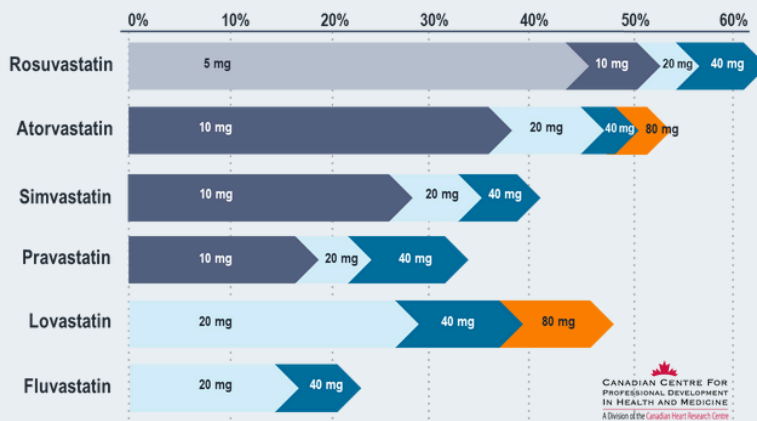


Chart modified from Canadian Heart Research Centre

- Select a statin based on the goal of treatment, use optimal dose with minimal adverse effects
- For intermediate and high-risk groups, the target is often an LDL of no more than 2.0mmol/L.
- For low-risk individuals, the goal is typically a 50% reduction in LDL cholesterol.

Future Agents (selected)

Class	Lead Agent	Lead Trial
Cholesterol synthesis inhibitor	Bempedoic Acid	CLEAR (finished; positive) Available (not in Canada)
Lp (a) inhibitors	Pelacarsen	HORIZON (2026)
CETP inhibitors	Obecetrapib	PREVAIL (2026)
AngPTL3 inhibitor	Evinacumab	ELIPSE for HoFH (published)
Gene editing (CRISPR)	VERVE 102 against PCSK9	VERVE 101 and 102

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A single infusion of a gene-editing medicine may control inherited high LDL cholesterol

American Heart Association Scientific Sessions 2023, Late-Breaking Science Abstract in LBS.06



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