Lipid Update 2026 … Guidelines, Trials, and Thereutic Options

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Beth L. Abramson MD Disclosure

Relationships with financial sponsors:

- **Grants/Research Support:** Amgen, Bayer, HLS Therapeutics, Lilly, Novartis, Novo Nordisk
- **Honoraria:** Amgen, Bayer, CHRC, HLS Therapeutics, Novartis, Novo Nordisk,
- **Consulting Fees:** Amgen, Bayer, HLS Therapeutics, Novartis, Novo Nordisk,
- **Patents:** N/A
- **Other:** Author: Heart Health for Canadians

SMH Cardiology Day 2006
Debate
" LDL: Lower is better; why stop at 2 mmol/L?"

Antagonist:

Beth L. Abramson MD MSc FRCP FACC

Director: Cardiac Prevention Centre

& Women ’s Cardiovascular Health,

Division of Cardiology, St. Michael ’s Hospital

Assistant Professor of Medicine, U. of Toronto

Learning Objectives

- To review recent International Lipid Guidelines and put them into Canadian Context
- To share clinical trial data that is practise changing
- To provide a practical framework for treatment of high risk primary prevention and secondary prevention patients

CCS guidelines for secondary CV prevention: LDL-C targets lowered over 20 years

Date	LDL target for patients with ASCVD
2003	<2.5 mmol/L
2006	<2.0 mmol/L
2009	
2013	<2.0 mmol/L (<1.8 mmol/L in highest risk)
2016	
2021	**Additional Rx if LDL >1.8 mmol/L despite high-dose statin**

ASCVD, atherosclerotic cardiovascular disease; CV, cardiovascular; LDL-C, low-density lipoprotein cholesterol, Rx, prescription.
Cannon C et al. N Engl J Med. 2004;350(15):1495-504

2021 CCS Recommendations for Lp(a) as a Biomarker for Improving Risk Stratification and Dyslipidemia Management

Measuring Lp(a) level **ONCE** in a person's lifetime as a part of the initial lipid screening is recommended

(Strong Recommendation; High Quality Evidence)

For all patients in the setting of **primary prevention** with an **Lp(a) ≥50 mg/dL (or ≥100 nmol/L)**, earlier and more intensive health behaviour modification counselling and management of other ASCVD risk factors is recommended

(Strong recommendation; Expert consensus)

https://www.lpaclinicalguidance.com/

ASCVD, atherosclerotic cardiovascular disease; Lp(a), lipoprotein a.

Pearson GJ et al. *Can J Cardiol*. 2021 Mar 26;S0828-282X(21)00165-3. doi: 10.1016/j.cjca.2021.03.016.

PEER simplified lipid guideline 2023 update

Prevention and management of cardiovascular disease in primary care

Michael R. Kolber MD MSc CCFP Scott Klarenbach MD MSc FRCPC Michel Cauchon MD CCFP FCFP Mike Cotterill MD CCFP

Guidelines are based on Evidence…..THIS ONE IS NOT!

Don’t measure lpa

Don’t follow lipid levels for adherence and intensification

Don’t treat high TGs

Don’t treat all CAD patients with Statins…

Don’t take the time to care for your patient with an Evidence Based Approach!!!

JACC VOL. ■, NO. ■

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CLINICAL PRACTICE GUIDELINE

2026 ACC/AHA/AACVPR/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Dyslipidemia

A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

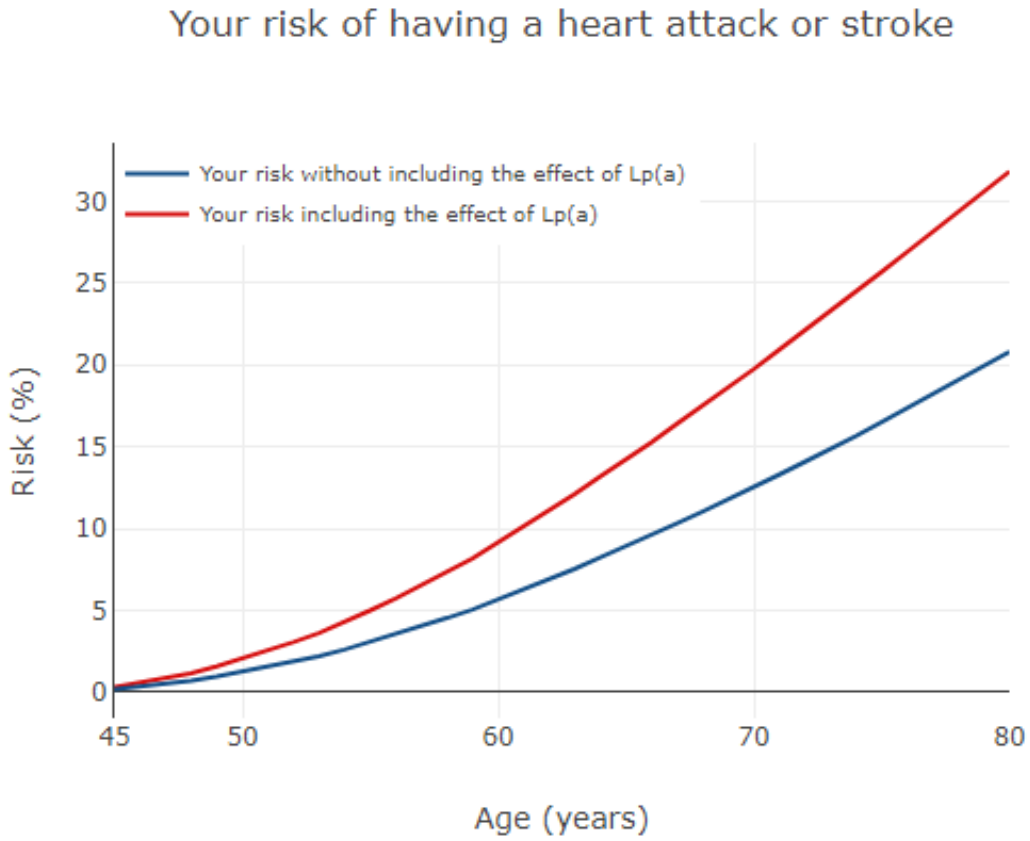
American Lipid Guidelines, 2026 in press.. Measure lpa!

TABLE 1 What Is New

New or Revised	Section Title	2018 Recommendation	2026 Recommendation
Revised	3.2. Measurement of TC, LDL-C, HDL-C, TG, and Non–HDL-C	COR 2a: For adults with an LDL-C level <70 mg/dL (<1.8 mmol/L), measurement of direct LDL-C or modified LDL-C estimate is reasonable to improve accuracy over the Friedewald formula.	COR 1: In adults and children who have undergone a standard lipid profile, use of either the Martin/Hopkins equation or the Sampson/NIH equation is preferred over calculation by the Friedewald equation to estimate LDL-C.
New	3.3. Measurement of ApoB	N/A	COR 2a: In adults on LLT, particularly those with ASCVD, CKM syndrome, type 2 diabetes, and/or elevated TG, measurement of apoB is reasonable to guide decisions regarding further therapeutic intensification after LDL-C and/or non-HDL-C goals are achieved.
New	3.4. Measurement of Lp(a)	N/A	COR 1: In all adults, measurement of Lp(a) concentration is recommended at least once for ASCVD risk assessment.
New	4.1.5. Dietary Supplements	N/A	COR 3: In individuals with dyslipidemia, the use of dietary supplements is not recommended to lower LDL-C or TG based on limited and inconsistent data and/or limited benefits in lipid-lowering and reduction in ASCVD risk.

Lpa increases risk over a lifetime. Risk is linear.

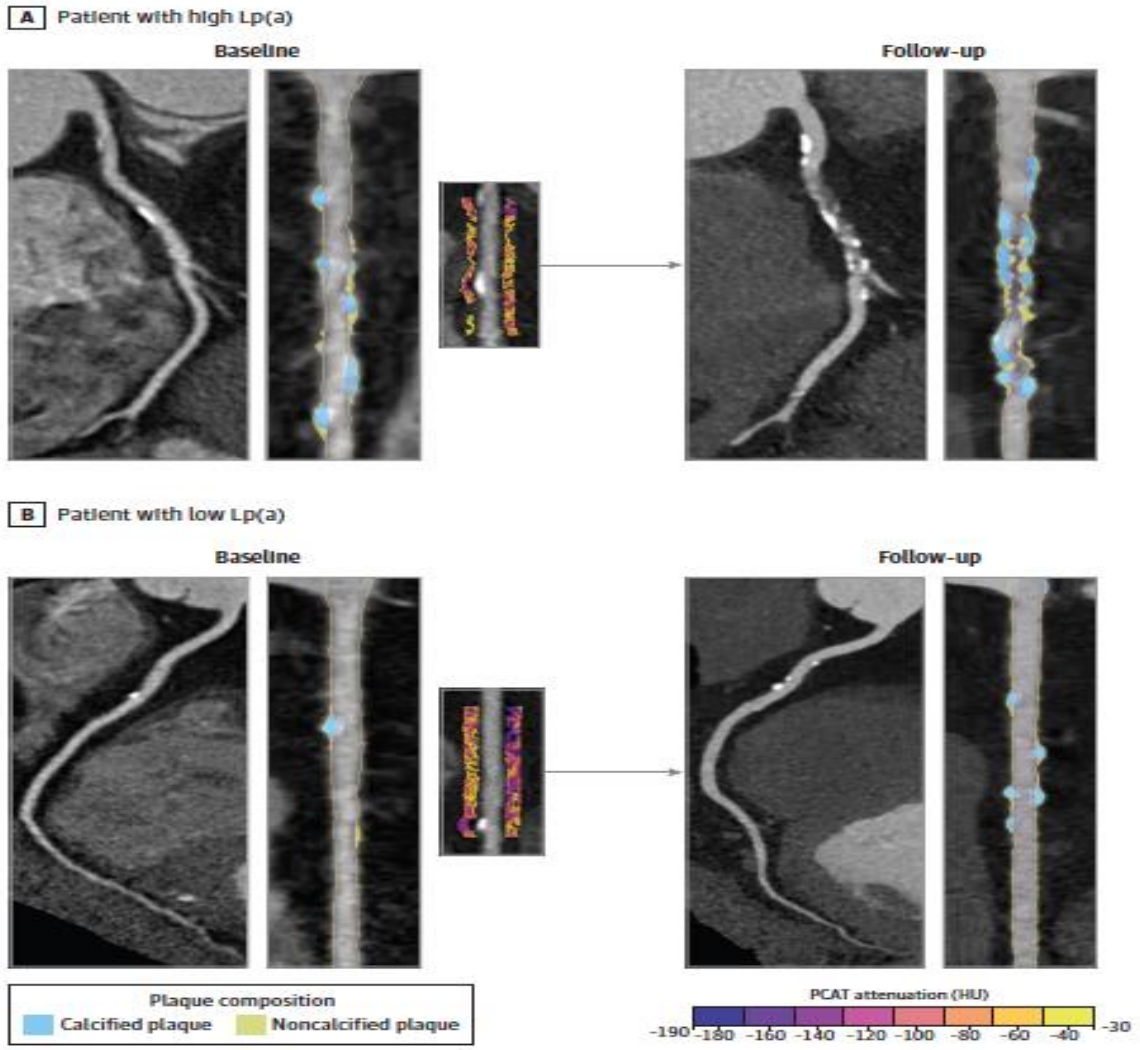
https://www.lpaclinicalguidance.com/



Your risk of having a heart attack or stroke up to age 80 is: **20.8%**

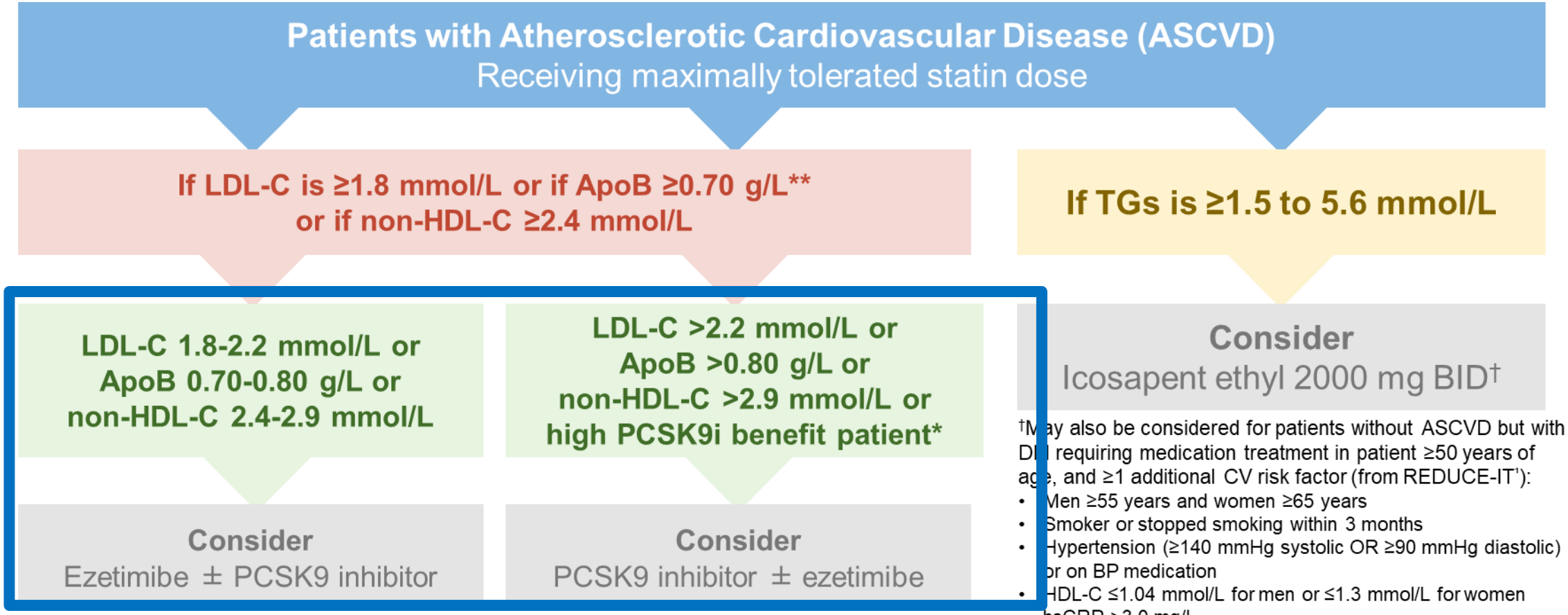
With an Lp(a) level of 180 nmol/L, your estimated risk of having a heart attack or stroke up to age 80 changes from 20.8% to: **31.8%**

Lp(a) and coronary plaque



Nurmohammed NS et al JAMA-Cardiology 2024

Figure 3: Treatment Intensification Approach for Patients with Atherosclerotic Cardiovascular Disease (ASCVD)



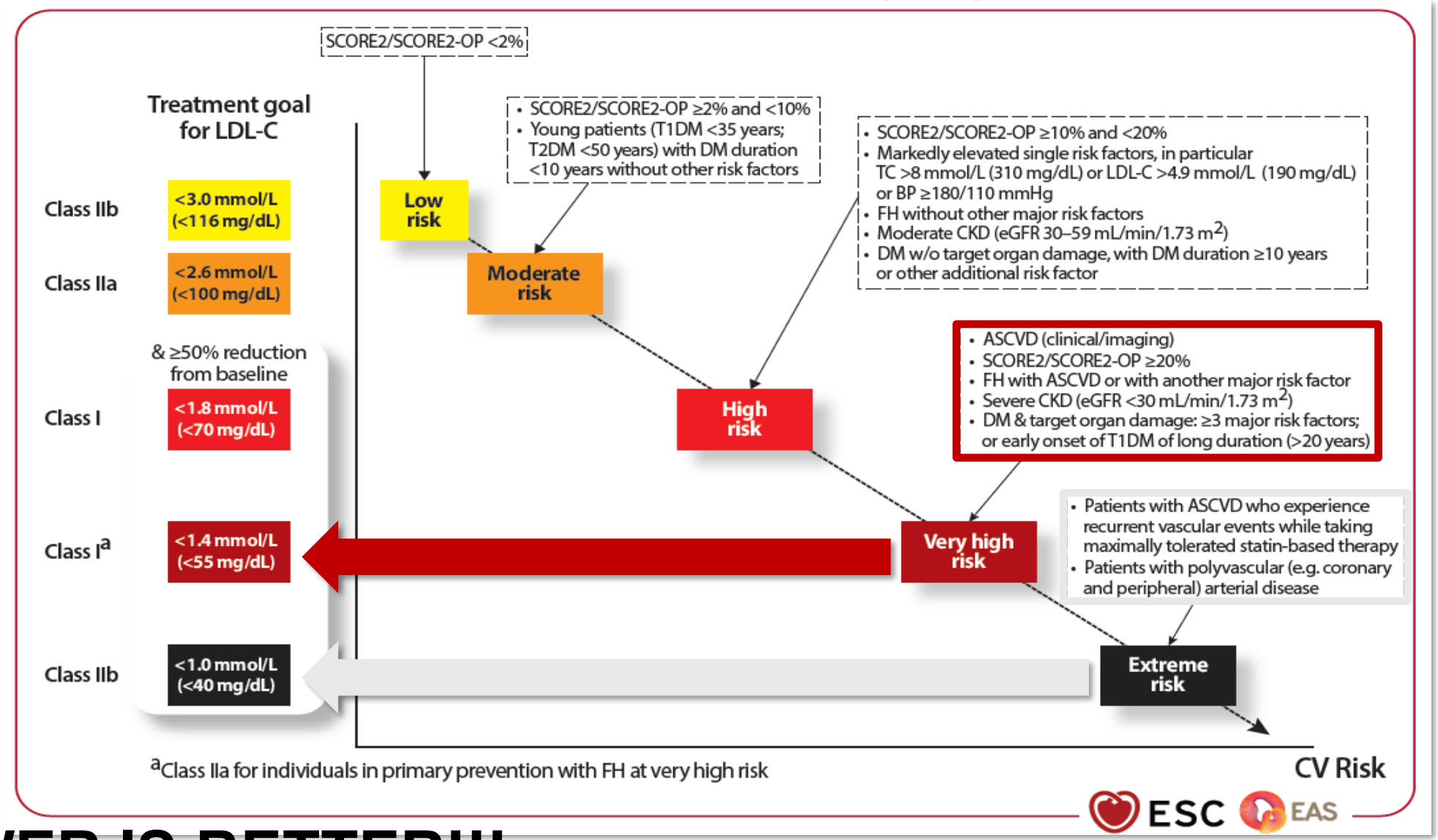
†May also be considered for patients without ASCVD but with DM requiring medication treatment in patient ≥50 years of age, and ≥1 additional CV risk factor (from REDUCE-IT[1]):

- Men ≥55 years and women ≥65 years
- Smoker or stopped smoking within 3 months
- Hypertension (≥140 mmHg systolic OR ≥90 mmHg diastolic) or on BP medication
- HDL-C ≤1.04 mmol/L for men or ≤1.3 mmol/L for women
- hsCRP >3.0 mg/L
- Renal dysfunction: eGFR >30 and <60 mL/min
- Retinopathy
- Micro- or macroalbuminuria
- ABI <0.9 without symptoms of intermittent claudication

*Patients shown to derive largest benefit from intensification of statin therapy with PCSK9 inhibitor therapy are identified in Table 3. **At low levels of LDL-C or non-HDL-C, measurement of ApoB is more accurate than other markers.

1. Boekholdt SM, Hovingh GK, Mora S, Arsenault BJ, Amarenco P, Pedersen TR, LaRosa JC, Waters DD, DeMicco DA, Simes RJ, Keech AC, Colquhoun D, Hitman GA, Betteridge DJ, Clearfield MB, Downs JR, Colhoun HM, Gotto AM Jr, Ridker PM, Grundy SM, Kastelein JJ. Very low levels of atherogenic lipoproteins and the risk for cardiovascular events: a meta-analysis of statin trials. J Am Coll Cardiol 2014; 64:485-494. ABI, ankle-brachial index; ApoB, apolipoprotein B; BID, twice daily; BP, blood pressure; CV, cardiovascular; DM, diabetes mellitus; eGFR, estimated glomerular filtration rate; HDL-C, high-density lipoprotein cholesterol; hsCRP, high-sensitivity C-reactive protein; LDL-C, low-density lipoprotein cholesterol; TGs, triglycerides.

Updated European Guidelines: Goal <1.1if recurrent events or polyvascular disease

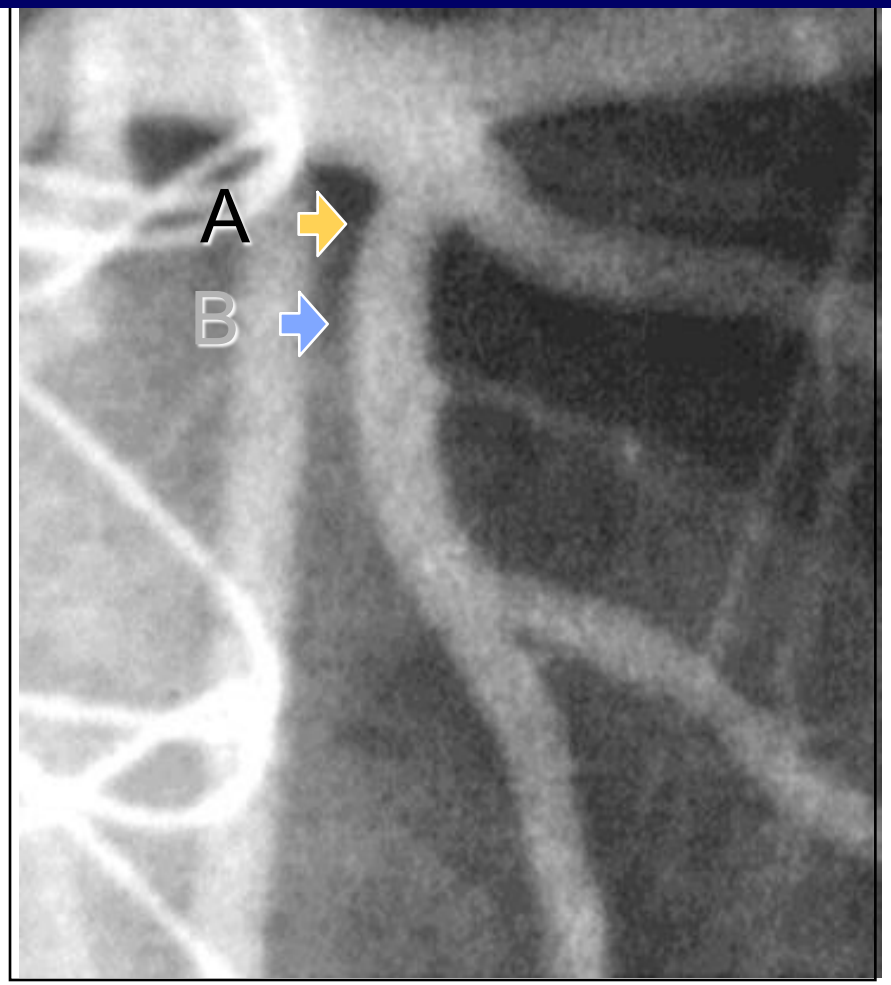


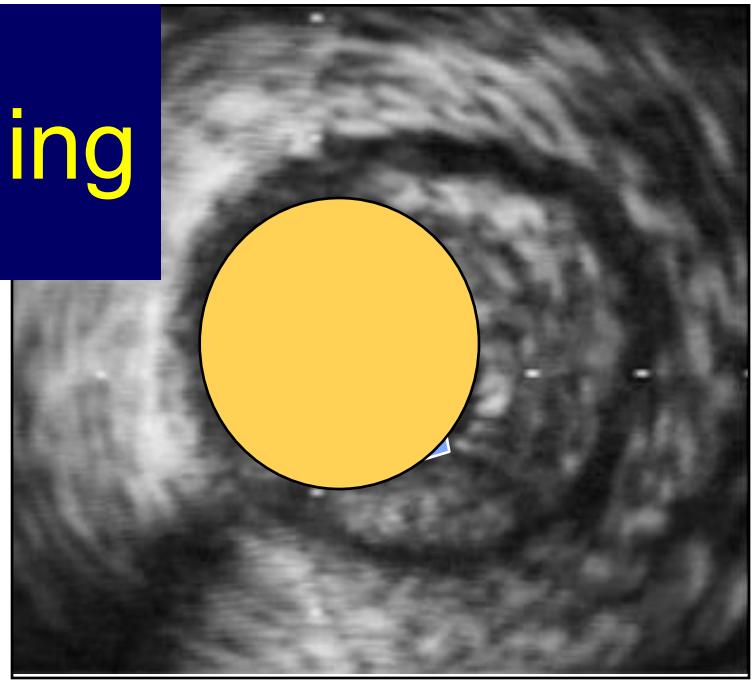
LOWER IS BETTER!!!

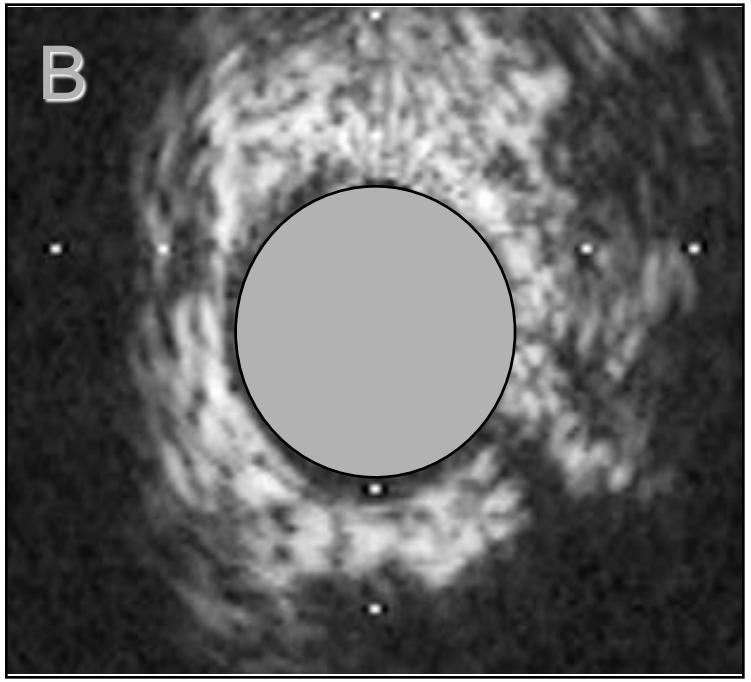
Mach et al *Eur Heart J* 2025:46:4359-78


WHAT'S NEW?

2026: Treating Plaque on Imaging





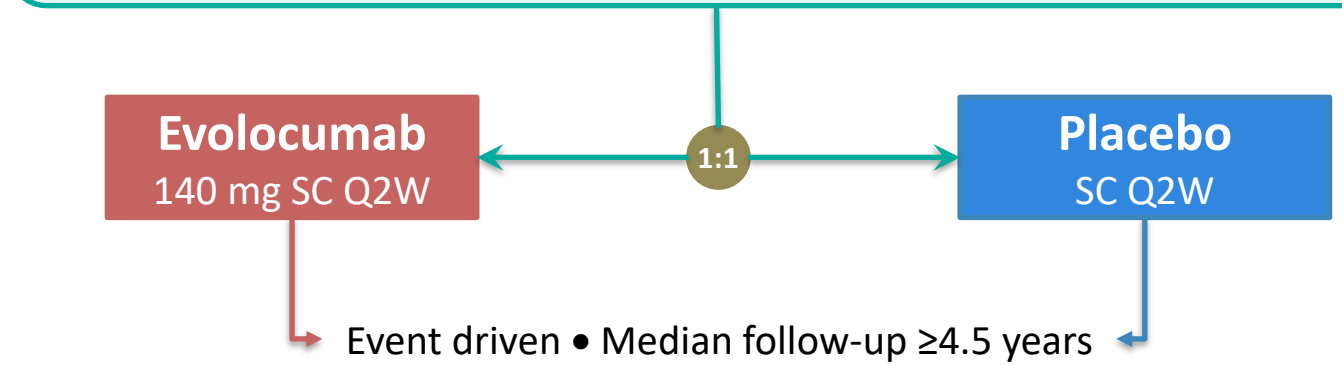


VESALIUS-CV

The NEW ENGLAND JOURNAL of MEDICINE
ESTABLISHED IN 1812 JANUARY 8, 2026 VOL. 394 NO. 2

Evolocumab in Patients without a Previous Myocardial Infarction or Stroke

- N=12,301 adults
- Atherosclerosis or high-risk DM without prior MI or stroke
- LDL-C ≥2.3 mmol/L, or non-HDL-C ≥3.1 mmol/L, or ApoB ≥1.56 µmol/L
- Optimized statin therapy ± ezetimibe



Primary Composite Endpoint

[3]P: CHD death, MI, or ischemic stroke (≥751 events)

[4]P:CHD death, MI, ischemic stroke, or ischemia-driven arterial revascularization (≥1,254 events)

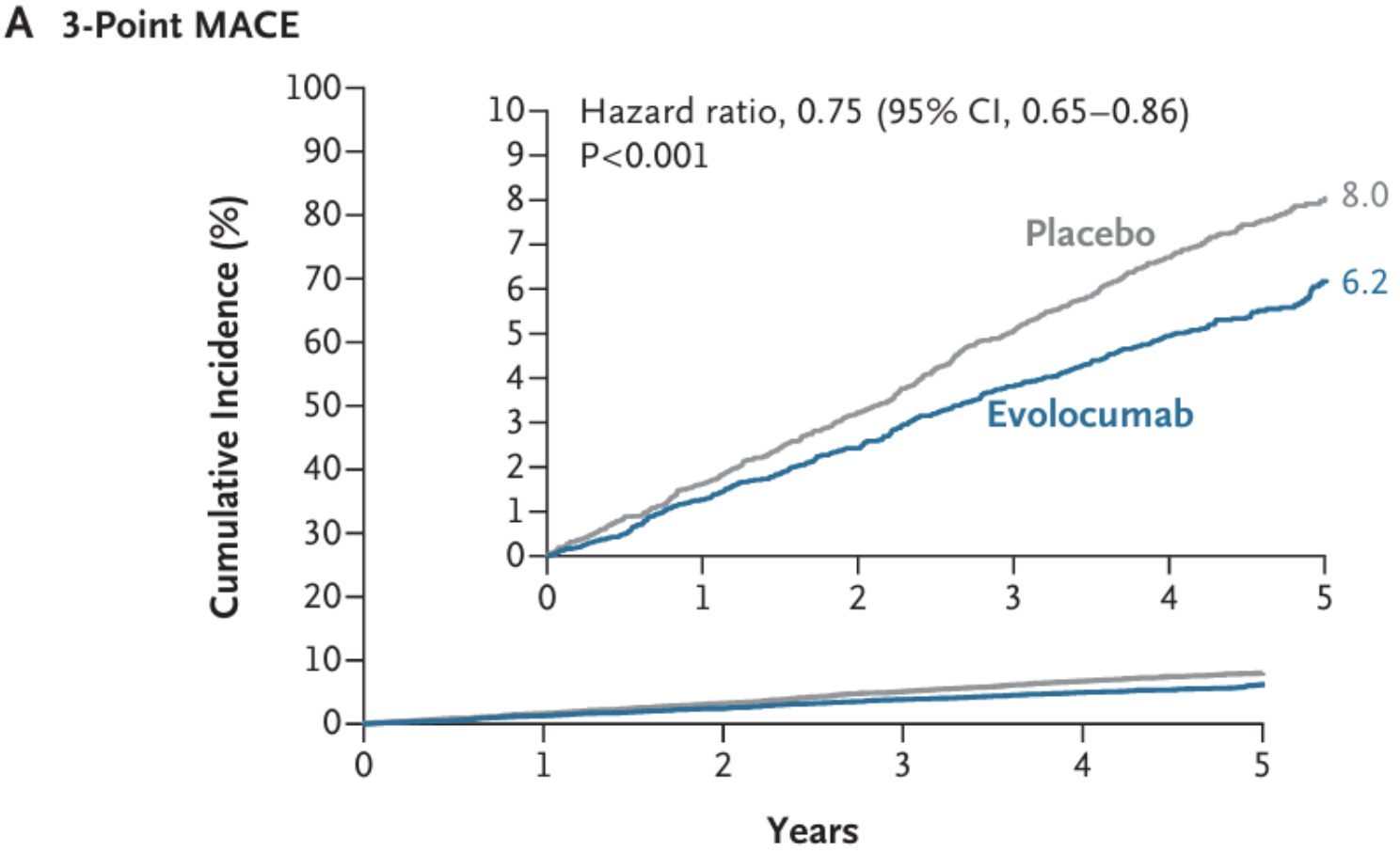
Bohula EA, et al. *N Engl J Med*. 2026;

VESALIUS-CV: Baseline Characteristics, mean LDL 3.15

	All N = 12,301 (100%)	CAD N = 5,563 (45%)	CVD N = 1,207 (9.8%)	PAD N = 2,134 (17%)	High-risk Diabetes N = 6, 026 (49%)
Demographics					
Mean Age, years	65	66	66	65	66
Female	42%	32%	51%	38%	50%
Caucasian	93%	91%	98%	97%	92%
Region					
Europe	69%	70%	85%	72%	64%
Latin America / South America	15%	9.3%	7.2%	21%	20%
North America	11%	11%	6.1%	5.7%	14%
Qualifying disease categories for inclusion					
CAD without prior MI	45%	100%	19%	15%	21%
CVD without prior stroke	10%	4.1%	100%	7.9%	4.3%
PAD	17%	5.7%	14%	100%	11%
High-risk diabetes	49%	23%	21%	31%	100%

CAD, coronary artery disease; CVD, cerebrovascular disease; MI, myocardial infarction; PAD, peripheral artery disease.
Adapted from Bohula EA et al. Am Heart J. 2024:269:179-190.

VESALIUS-CV ; 55% LDL reduction; median LDL-C 1.16



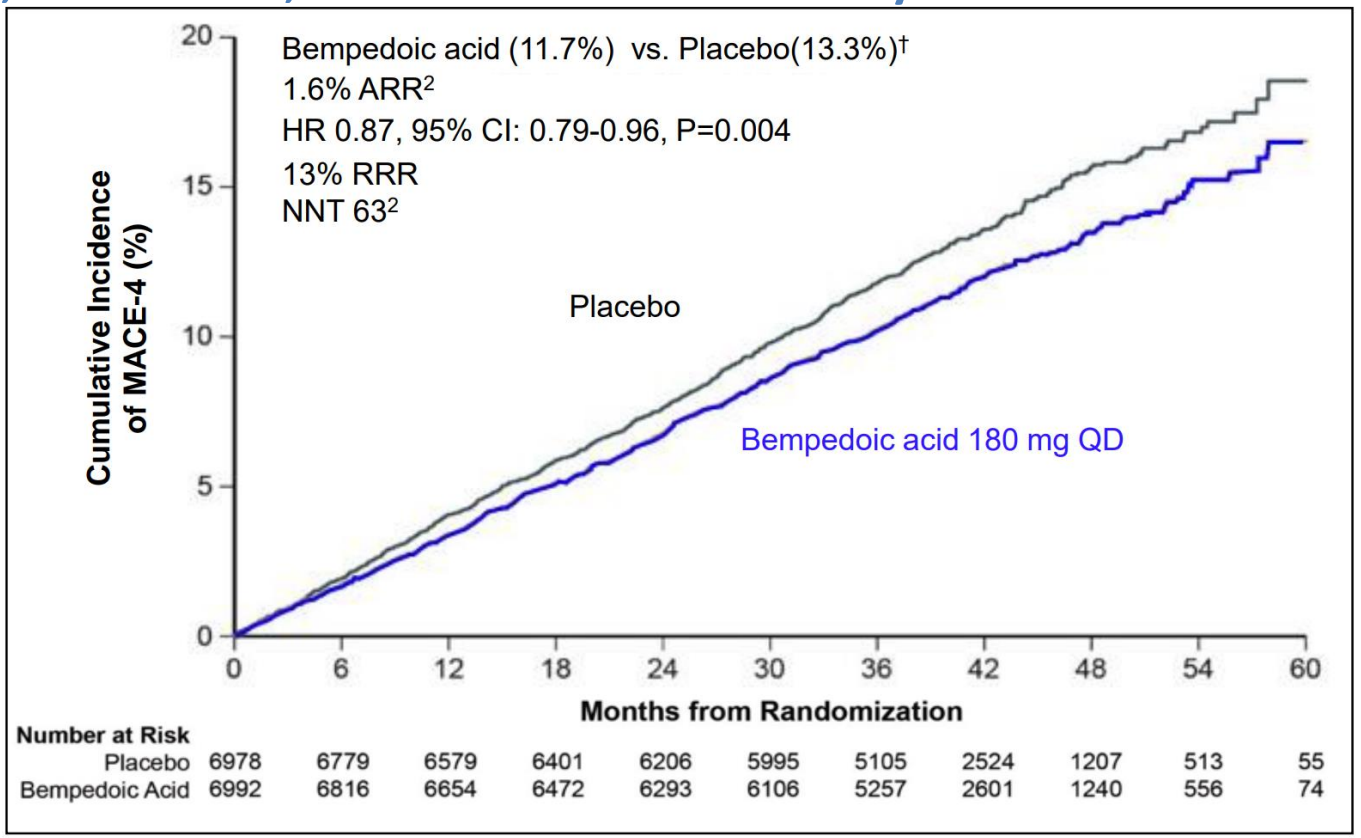
No. at Risk						
Placebo	6128	5921	5726	5483	4176	1496
Evolocumab	6129	5948	5796	5623	4301	1560

Bohula EA, et al. *N Engl J Med*. 2026;

Available in Canada now -Bempedoic Acid
MOA similar to Statins but not in Skeletal Muscle

CLEAR Outcomes: Primary Composite Endpoint

Composite of CV death, nonfatal MI, nonfatal stroke or coronary revascularization



†Number of events: Bempedoic acid 819 vs placebo 927

*The primary efficacy endpoint (MACE-4) is the time to first occurrence of an adjudicated event for a composite that includes death from cardiovascular cases, nonfatal MI, nonfatal stroke, or coronary revascularization. ARR = absolute risk reduction; RRR = relative risk reduction; NNT = number needed to treat; QD = once daily; CI = confidence interval; MACE = major adverse cardiovascular events

CLEAR = Cholesterol Lowering via Bempedoic Acid, an ACL-Inhibiting Regimen; ACL = adenosine triphosphate citrate lyase

Nissen SE., et al. *N Eng J Med.* 2023; 388:1353-1364. Data on file, Esperion Therapeutics

Reducing The Risk of Major CV Events With IPE (Vascepa)

REDUCE-IT Trial

MACE-5P
RRR=25%
ARR=4.8%
NNT=21

HR=0.75 [0.68–0.83]
P=0.00000001

CV Death
RRR=20%

HR=0.80 [0.66–0.98]
P=0.03

Population: 8,179 patients with established CVD or with diabetes and ≥1 CV risk factors who have elevated TG levels despite receiving statin therapy

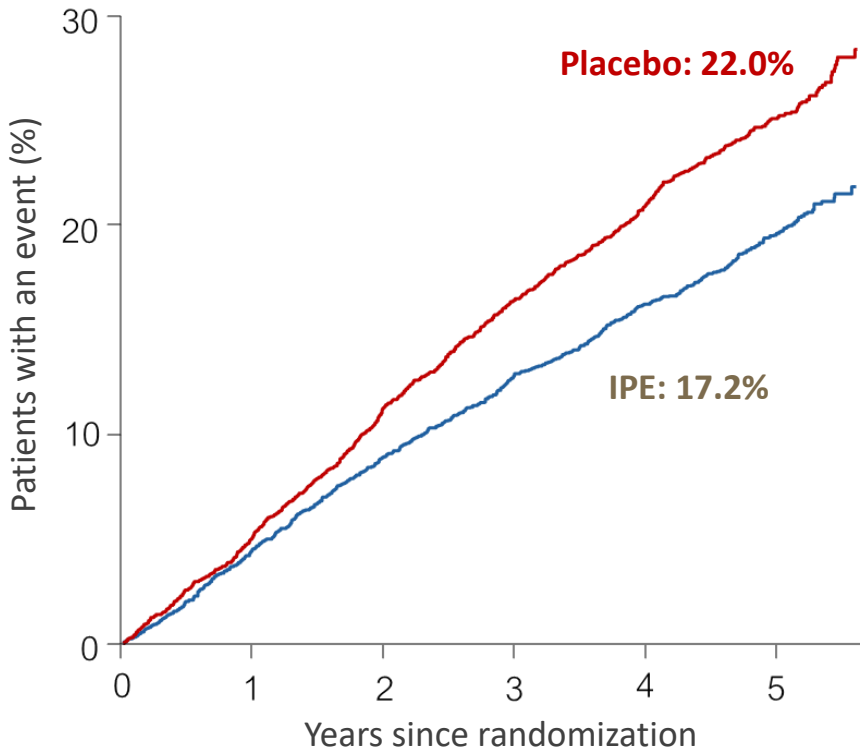
Intervention: IPE 2 g BID

Primary Endpoint: MACE-5P

Lipid Threshold for Initiation: TG=1.5–5.6 mmol/L

Median follow up: 4.9 years

Primary Endpoint



Exeptional Access Form VERY easy to fill out!

PCSK9 –I coverage within a year post MI! *LU 737!*

LDL-C ≥ 1.8 mmol/L or greater, OR non-HDL-C ≥ 2.6 mmol/L, OR ApoB ≥ 0.7 g/L, despite taking maximally tolerated dose of statins*; AND

**one moderate-to-high intensity statin (atorvastatin 20 mg or equivalent) for at least 4 weeks before treatment OR documented intolerance to at least 2 statins OR contraindication to statin therapy.*

Has had an adequate trial (4 weeks) of ezetimibe if only modest reductions in cholesterol targets are required** (LDL-C 1.8 mmol/L to ≤ 2.2 mmol/L, OR non-HDL-C 2.6 ≤ 2.9 mmol/L, OR ApoB 0.7 to ≤ 0.8 g/L) despite taking a maximally tolerated statin

**trial of ezetimibe is not required if LDL-C ≥ 2.2 mmol/L, non–HDL-C ≥ 2.9 mmol/L, or ApoB ≥ 0.8 g/L, despite taking a maximally tolerated statin dose

Repatha is listed on the Ontario formulary as Limited Use (LU) Code 737 for eligible ACS patients, effective March 31, 2026

Simplified Criteria*:

If an adult patient has been **hospitalized** for an **ACS event in the past 52 weeks;**

and is **unable to meet cholesterol targets**

Defined targets: if **LDL-C 1.8 to ≤ 2.2** mmol/L OR **non-HDL-C 2.6 to ≤ 2.9** mmol/L OR **ApoB 0.7 to ≤ 0.8** g/L	Defined targets: if **LDL-C >2.2** mmol/L OR **non-HDL-C > 2.9** mmol/L OR **ApoB > 0.8** g/L
despite taking maximally tolerated **statin**§ therapy **and** having received an adequate trial of **ezetimibe**¥,‡;	despite taking maximally tolerated **statin**§ therapy;

they may now be eligible for **Repatha under LU code 737,**

if **prescribed by a HCP with expertise managing post-ACS patients**, and if **no other PCSK9i** is being used.

*See specific criteria for full details[1]

§ Maximally tolerated dose of statins includes one moderate-to-high intensity statin (i.e., at least atorvastatin 20 mg daily or equivalent) for at least 4 weeks before treatment OR documented intolerance to at least 2 statins OR contraindication to statin therapy.

¥An adequate trial is defined as at least 4 weeks of ezetimibe.

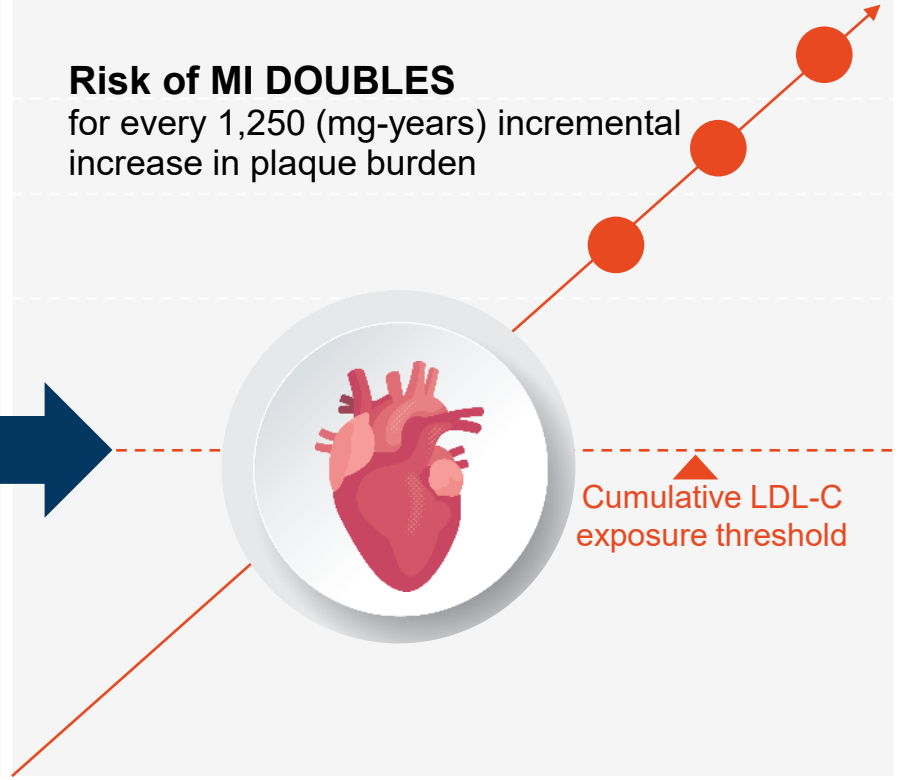
‡A trial of ezetimibe is not required for patients with an LDL-C >2.2 mmol/L, a non-HDL-C >2.9 mmol/L, or an Apo-B >0.8 g/L, despite taking a maximally tolerated statin dose

1. https://www.ontario.ca/files/2026-03/moh-ontario-drug-benefit-odb-formulary-edition-43-summary-en-2026-03-24.pdf

Both magnitude and duration of LDL-C exposure impact risk

Plaque burden can be calculated from LDL-C levels and duration of exposure

Risk of MI DOUBLES
for every 1,250 (mg-years) incremental increase in plaque burden



Reducing plaque burden—at any age—positively impacts lifetime risk

Ference BA, et al. *J Am Coll Cardiol.* 2018;72:1141-1156.

We have choices!

Statins- the cornerstone ~ 50% LDL lowering

Ezetimibe ~ 15- 20% LDL lowering

NILEMDO™ (bempedoic acid) ~ 20% LDL lowering

PCSK9-I & Modulators 50-60% LDL lowering

You don’t see what you are preventing!

https://cardiometabolicprevent.ca