

The good, the bad, the LDL

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Disclosures

- None!

Objectives

Review	Review the new risk calculator "PREVENT" and its use.
Discuss	Discuss Lpa and APOb use in screening for hyperlipidemia
Review	Review targets for cholesterol management and the new ACC guidelines as applicable to the primary care provider.
Special	Special populations

Prevent Calculator

Variables

- Sex
- Age
- SBP
- Total cholesterol (mg/dL)
- HDL (mg/dL)
- eGFR
- BMI
- Smoking, current
- Diabetes history
- Current statin medication use
- Current antihypertensive medication use
- In addition
 - Urine albumin creatinine ratio
 - HgA1c
 - Zip code

Risk stratification

CPR Framework for Risk Evaluation

Calculate and Classify

Estimate 10-y risk with
PREVENT-ASCVD

1

Low risk
0%–<3%

Borderline risk
3%–<5%

Intermediate risk
5%–<10%

High risk
≥10%

Personalize

Discuss risk estimate
and therapy options
with patient

1

Discuss risk estimate
and therapy options
with patient

1

AND

Evaluate risk enhancers

2a

Discuss risk estimate
and therapy options
with patient

1

Discuss risk estimate
and therapy options
with patient

1

Reclassify and Reassess

If clinical or patient
uncertainty, consider
CAC score and revise
results

1

If clinical or patient
uncertainty, consider
CAC score and revise
results

1

Decide and Treat

Lifestyle modification

1

Treat with lifestyle
modification and
potential lipid-lowering
therapy

2a

Lifestyle modification
and lipid-lowering
therapy

1

LEGEND

- COR 1
 - COR 2a
 - COR 2b
 - COR 3-No Benefit
 - COR 3-Harm
- (Class of Recommendation)

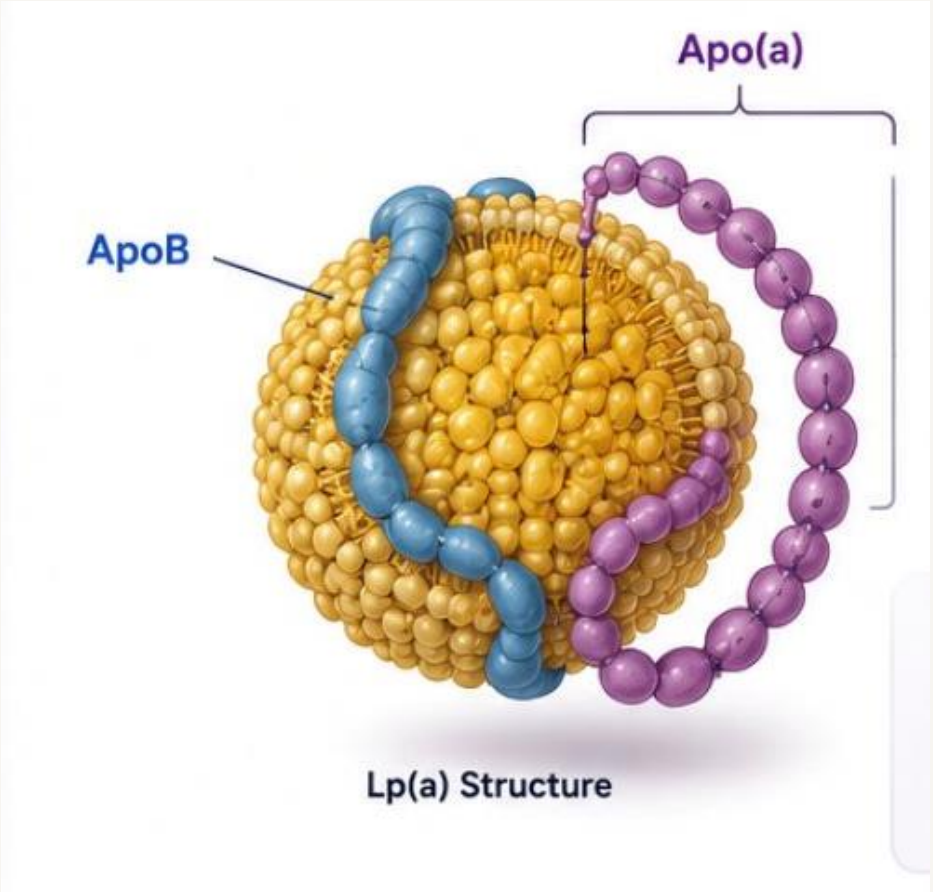
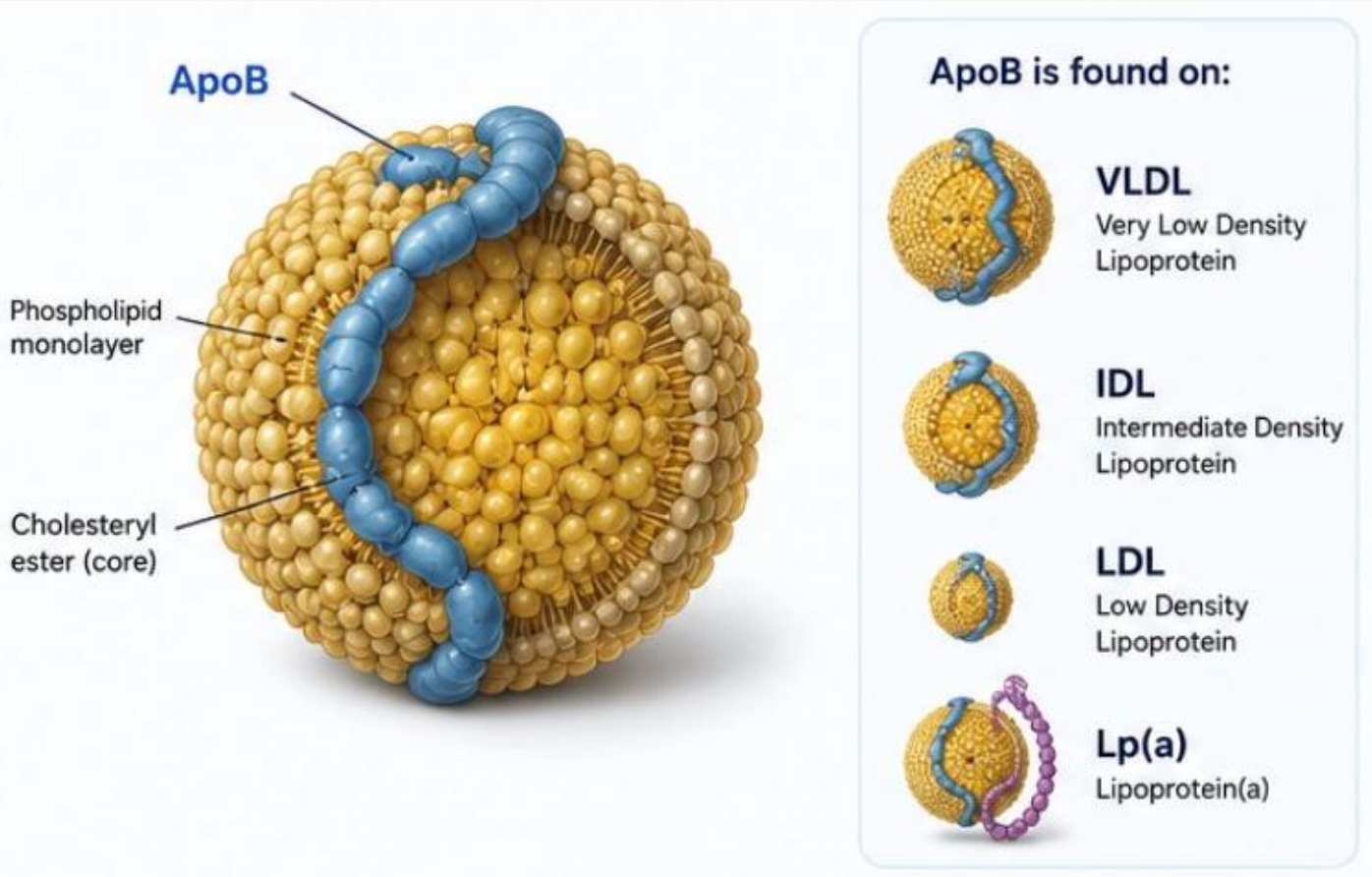


2026 Dyslipidemia

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Screening for Hyperlipidemia

Lipids (direct LDL), Apoprotein B, and Lipoprotein A



Recommendations for Measurement of Lp(a)
Referenced studies that support recommendations are summarized in the Evidence Table.

COR	LOE	Recommendations
1	B-NR	1. In all adults, measurement of Lp(a) concentration is recommended at least once for ASCVD risk assessment. ¹⁻⁴
1	B-NR	2. In individuals with FH, premature ASCVD, or high Lp(a), cascade testing of first-degree family members for high Lp(a) concentration is recommended to identify those at increased ASCVD risk. ⁵⁻⁸
1	B-NR	3. For individuals undergoing measurement of Lp(a), use of laboratories employing assays that are insensitive to apolipoprotein(a) [apo(a)] isoforms and traceable to official reference standard materials is recommended to more accurately measure Lp(a) and characterize ASCVD risk. ⁸⁻¹²

LIPOPROTEIN

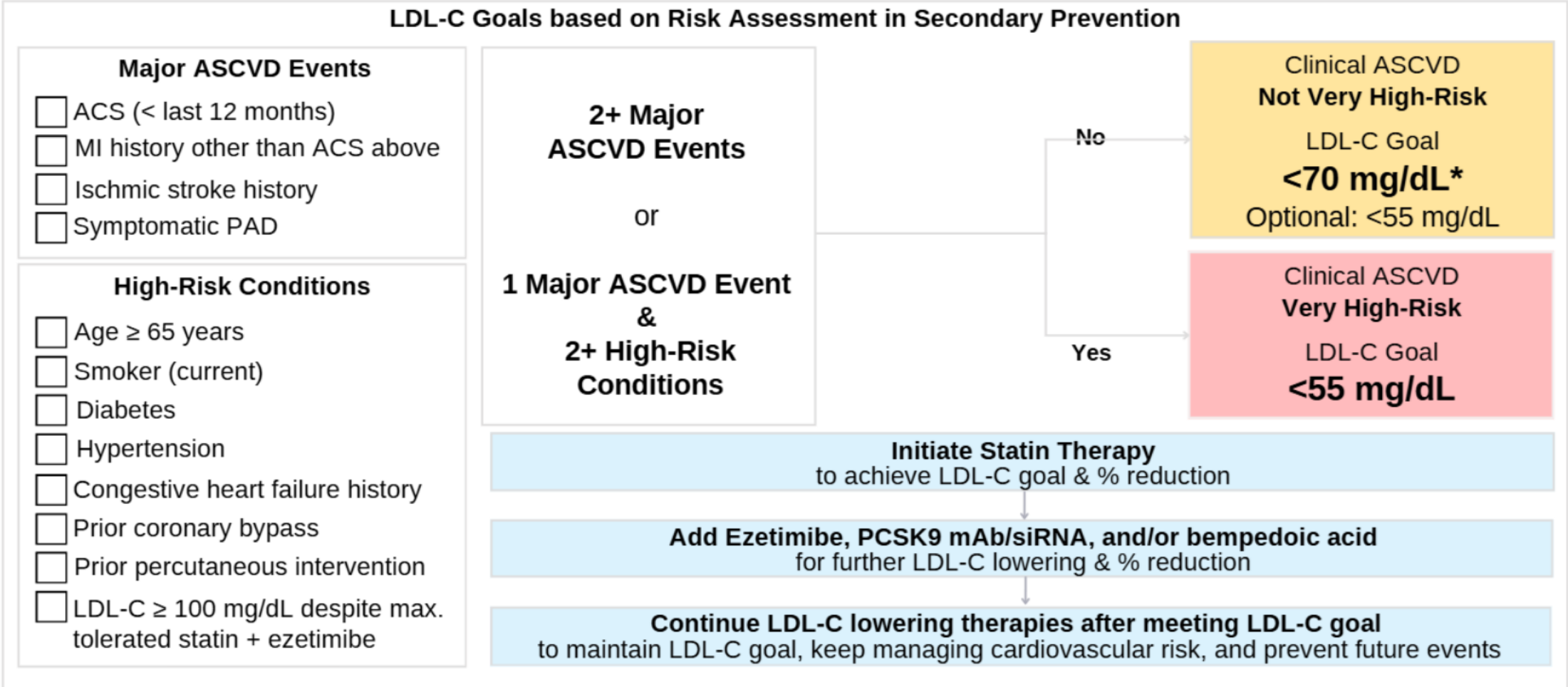
A once in a lifetime test

Apoprotein B

Recommendations for Measurement of ApoB		
Referenced studies that support recommendations are summarized in the Evidence Table.		
COR	LOE	Recommendations
2a	B-NR	1. 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 once LDL-C and/or non-HDL-C goals are achieved. ¹⁻⁸
2b	B-NR	2. In adults not on LLT, measurement of apoB may be reasonable to enhance ASCVD risk assessment, guide decisions about initiation of LLT, and

Screen those with risk factors

LDL Updates–We now have Goals!



Special Populations

- Severe Hypercholesterolemia
- Homozygous Familial hypercholesterolemia
- Diabetes
- Pregnancy and lactation
- CKD
- HIV
- Cancer

A RECEPTOR-MEDIATED PATHWAY FOR CHOLESTEROL HOMEOSTASIS

Nobel lecture, 9 December, 1985

by

MICHAEL S. BROWN AND JOSEPH L. GOLDSTEIN

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THE PAST

- Optimal cholesterol level = 25 mg/dL
- Therapy must be started between ages 20-40 for optimal arterial health

Evolocumab in Patients without a Previous Myocardial Infarction or Stroke

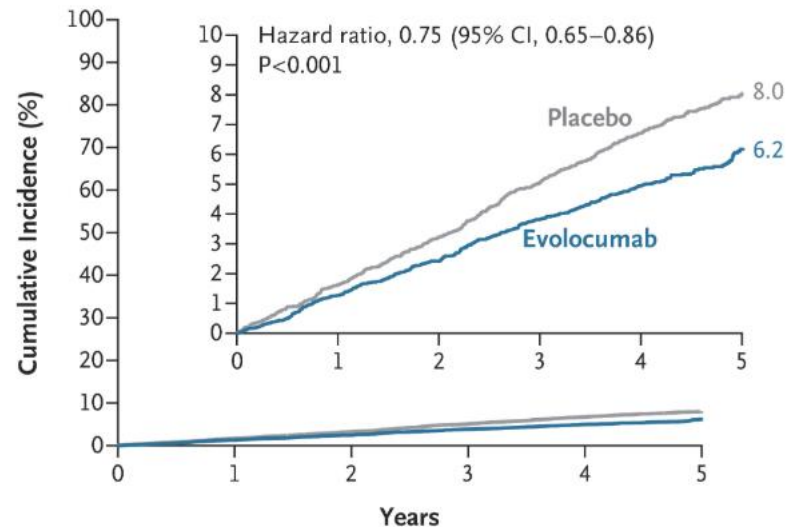
Authors: Erin A. Bohula, M.D., D.Phil., Nicholas A. Marston, M.D., M.P.H., Ajay K. Bhatia, M.D., Ph.D., Gaetano M. De Ferrari, M.D., Lawrence A. Leiter, M.D., Jose C. Nicolau, M.D., Jeong-Gun Park, Ph.D., **+16**, for the VESALIUS-CV Investigators* [Author Info & Affiliations](#)

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THE FUTURE

- Primary prevention is the goal
- Options are coming

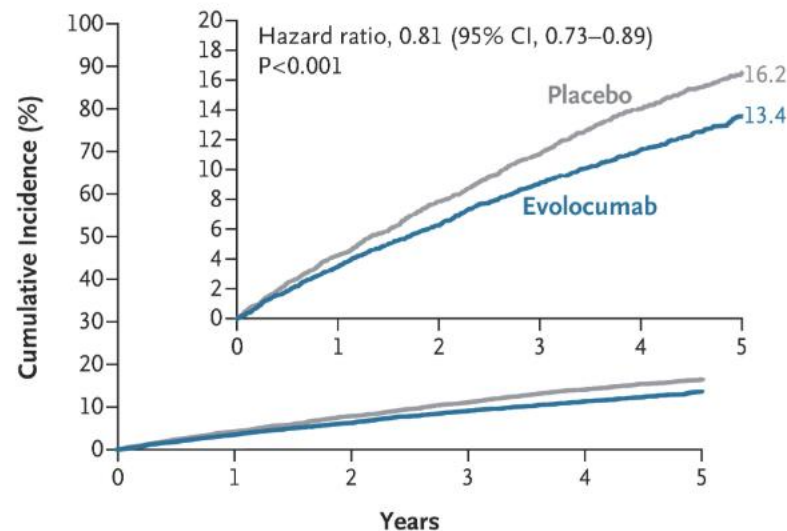
A 3-Point MACE



No. at Risk

Placebo	6128	5921	5726	5483	4176	1496
Evolocumab	6129	5948	5796	5623	4301	1560

B 4-Point MACE



No. at Risk

Placebo	6128	5770	5460	5151	3865	1368
Evolocumab	6129	5816	5575	5324	4016	1448

A 3-Point MACE

Subgroup	Evolocumab no. of events/no. of patients	Placebo no. of events/no. of patients	Hazard Ratio (95% CI)
Overall	336/6129	443/6128	0.75 (0.65–0.86)
Age			
<65 yr	139/2657	165/2732	0.86 (0.69–1.08)
≥65 yr	197/3472	278/3396	0.68 (0.57–0.82)
Sex			
Male	226/3510	296/3533	0.75 (0.63–0.90)
Female	110/2619	147/2595	0.74 (0.58–0.95)
Geographic region			
North America	49/678	81/679	0.60 (0.42–0.85)
Europe	221/4238	282/4234	0.77 (0.65–0.92)
Other	66/1213	80/1215	0.80 (0.58–1.11)
Race			
White	306/5708	407/5693	0.74 (0.64–0.85)
Non-White	30/420	36/429	0.87 (0.53–1.41)
Qualifying disease category			
Any qualifying atherosclerosis	237/4092	307/4116	0.76 (0.65–0.91)
High-risk diabetes without qualifying atherosclerosis	99/2009	136/1992	0.71 (0.55–0.92)
LDL cholesterol at baseline			
≤104 mg/dl	80/1546	103/1547	0.77 (0.58–1.03)
>104–122 mg/dl	90/1550	111/1523	0.78 (0.59–1.04)
>122–149 mg/dl	72/1512	118/1537	0.60 (0.45–0.81)
>149 mg/dl	94/1520	111/1521	0.85 (0.65–1.12)
Statin intensity			
High	203/4160	288/4165	0.70 (0.58–0.83)
Moderate or low	71/1179	81/1139	0.81 (0.59–1.12)
None	62/790	74/824	0.88 (0.63–1.23)
Ezetimibe			
Yes	63/1188	86/1249	0.74 (0.53–1.02)
No	273/4941	357/4879	0.75 (0.64–0.87)

0.5 0.75 1.0 1.25
Evolocumab Better Placebo Better

B 4-Point MACE

Subgroup	Evolocumab no. of events/no. of patients	Placebo no. of events/no. of patients	Hazard Ratio (95% CI)
Overall	747/6129	907/6128	0.81 (0.73–0.89)
Age			
<65 yr	297/2657	361/2732	0.83 (0.71–0.97)
≥65 yr	450/3472	546/3396	0.79 (0.70–0.89)
Sex			
Male	510/3510	606/3533	0.83 (0.73–0.93)
Female	237/2619	301/2595	0.77 (0.65–0.92)
Geographic region			
North America	104/678	154/679	0.66 (0.52–0.85)
Europe	513/4238	603/4234	0.84 (0.74–0.94)
Other	130/1213	150/1215	0.84 (0.66–1.06)
Race			
White	684/5708	832/5693	0.80 (0.72–0.89)
Non-White	63/420	74/429	0.87 (0.62–1.22)
Qualifying disease category			
Any qualifying atherosclerosis	584/4092	687/4116	0.84 (0.75–0.94)
High-risk diabetes without qualifying atherosclerosis	163/2009	216/1992	0.74 (0.60–0.90)
LDL cholesterol at baseline			
≤104 mg/dl	188/1546	222/1547	0.83 (0.69–1.01)
>104–122 mg/dl	214/1550	237/1523	0.88 (0.73–1.05)
>122–149 mg/dl	163/1512	229/1537	0.70 (0.57–0.86)
>149 mg/dl	182/1520	219/1521	0.83 (0.68–1.01)
Statin intensity			
High	458/4160	564/4165	0.80 (0.71–0.90)
Moderate or low	159/1179	187/1139	0.79 (0.64–0.98)
None	130/790	156/824	0.87 (0.69–1.10)
Ezetimibe			
Yes	162/1188	205/1249	0.80 (0.65–0.99)
No	585/4941	702/4879	0.81 (0.73–0.90)

0.5 0.75 1.0 1.25
Evolocumab Better Placebo Better

WHAT'S NEXT?

- Vesalius may change practice
- More aggressive goals are coming
- LDL lower for longer is better
- Primary vs Secondary prevention, more is coming



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