Start Tailored approach on cholesterol management for ASCVD patients

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- Tailored approach for LDL-C management in high-risk patients
- Tailored approach for CV prevention with Atorvastatin

Lipid guidelines and management status in high-risk patients

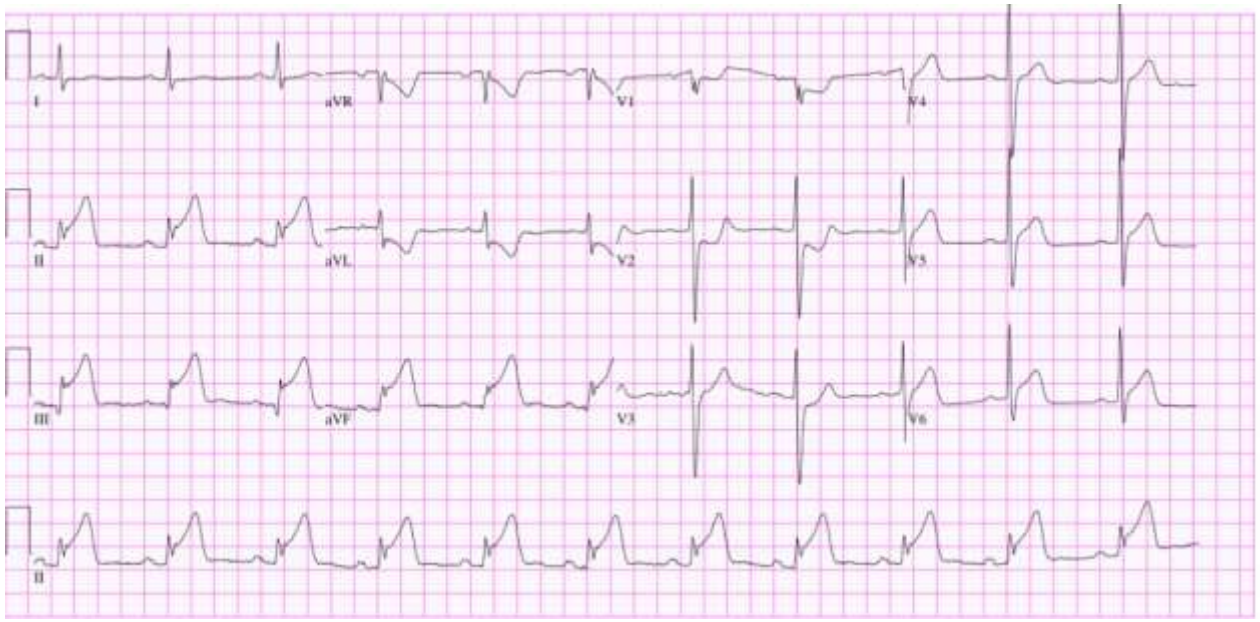
Statins are recommended as 1st treatment option

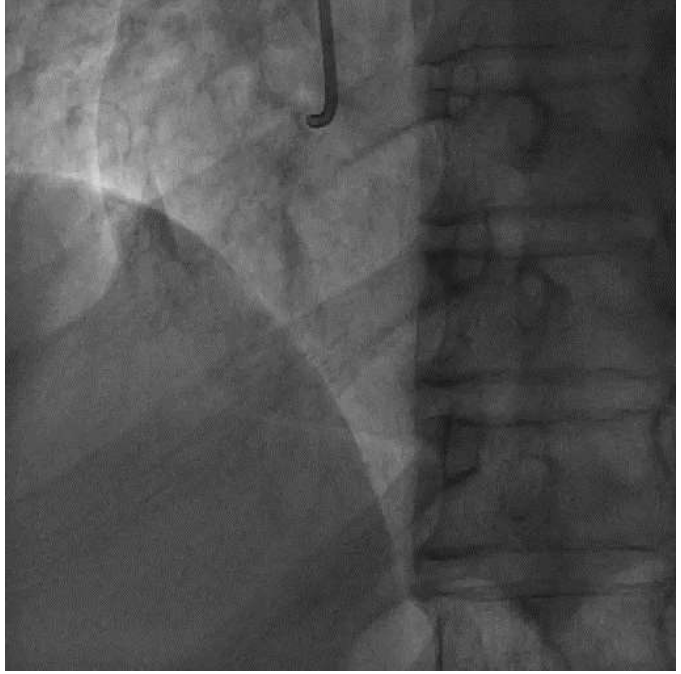
Class of Recommendations for statin therapy in each guideline

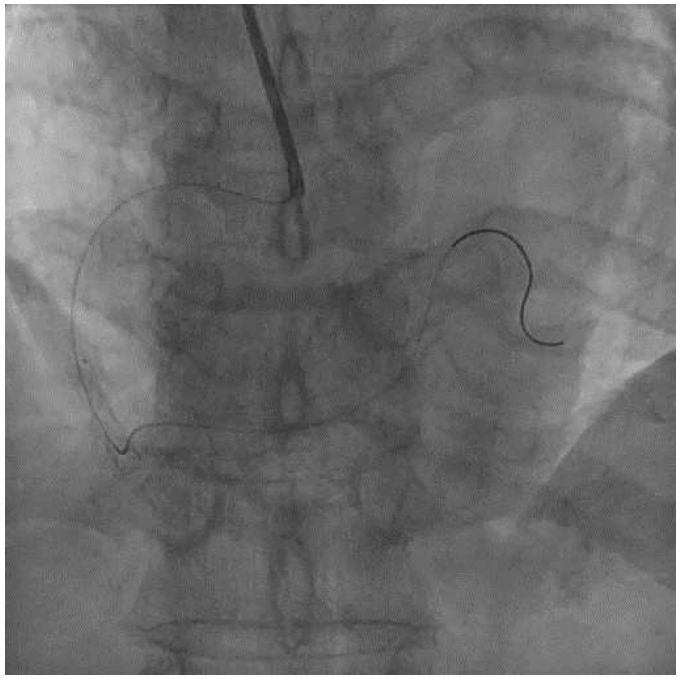
	2018 ACC[1]	2019 ESC[2]	2022 KSoLA[3]
Statins up to maximal tolerable dose are recommended to reach the goal.	I	I	I

Ref. 1. Grundy SM, et al. Circulation. 2019;140:e596–e646 2. Mach F, et al. Eur Heart J. 2020 1;41(1):111-188.3. Korean Society of Lipid and Atherosclerosis. Korean Guidelines for the Management of Dyslipidemia (the 5th edition), 2022

65/M STEMI





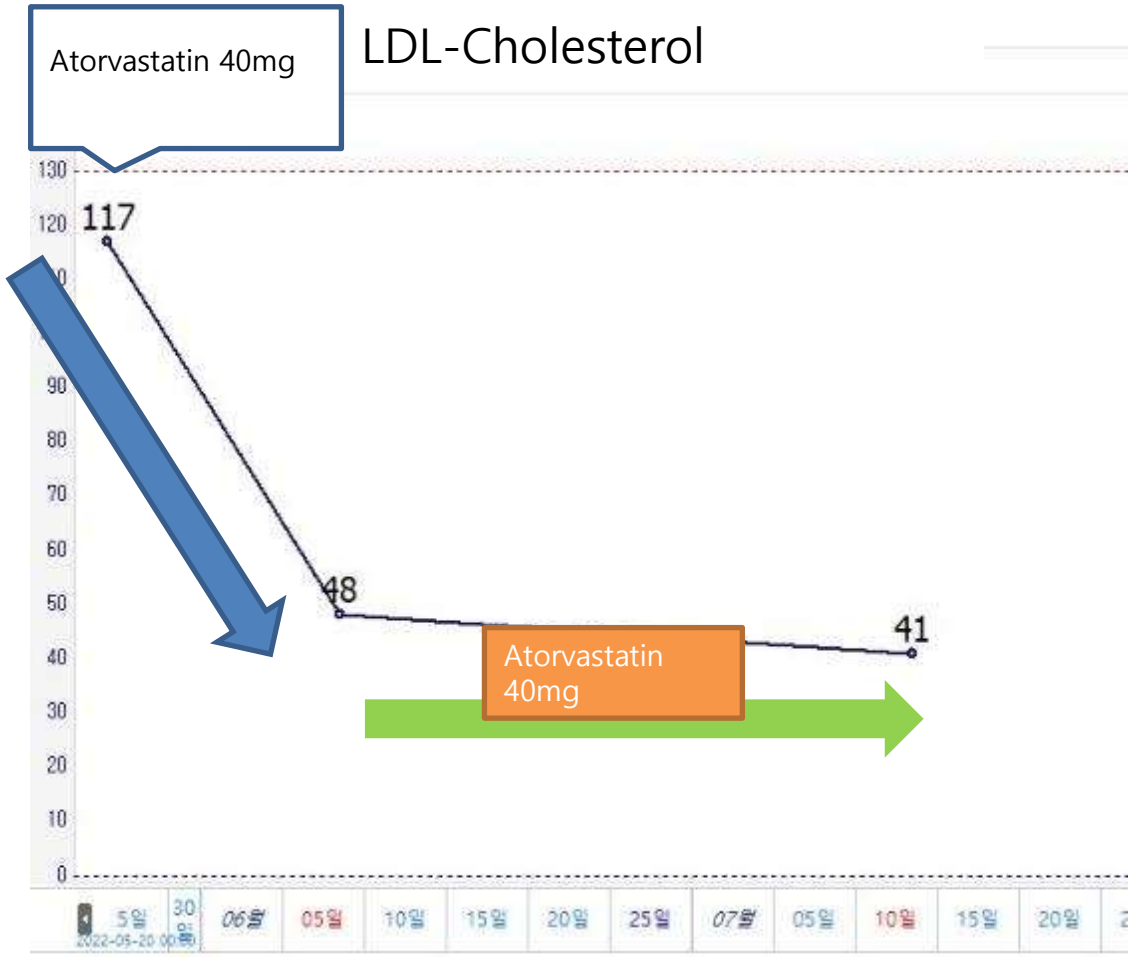


2022.05.26	결과	단위
Cholesterol total	195	Mg/dl
Triglyceride	88	Mg/dl
HDL-Cholesterol	61.7	Mg/dl
LDL-Cholesterol	117	Mg/dl
Calculated LDL-C	115.7	Mg/dl

Atorvastatin 40mg

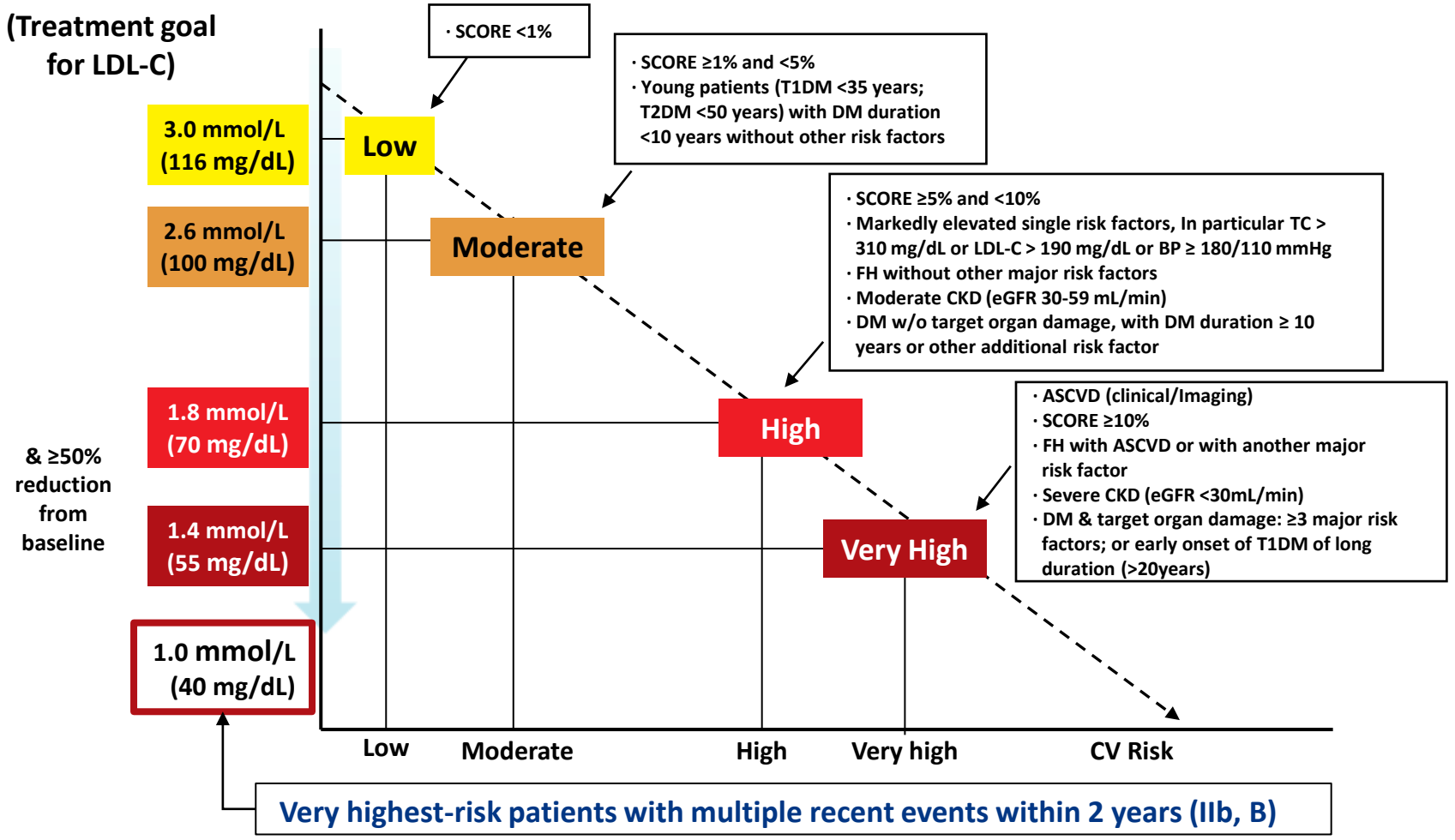
2022.07.14	결과	단위
Cholesterol total	119	Mg/dl
Triglyceride	137	Mg/dl
HDL-Cholesterol	57.7	Mg/dl
LDL-Cholesterol	41	Mg/dl
Calculated LDL-C	33.9	Mg/dl

2022/05/26


Atorvastatin 40mg
LDL-Cholesterol
130
120
90
80
70
60
50
40
30
20
10
0
117
48
41
Atorvastatin
40mg
5일
30
06월
05일
10일
15일
20일
25일
07월
05일
10일
15일
20일

2019 ESC/EAS Lipid management guideline

The lower treatment goal for LDL-C by cv risk



ASCVD, atherosclerotic cardiovascular disease; FH = familial hypercholesterolaemia; SCORE, Systematic Coronary Risk Estimation; T1DM, type 1 DM; T2DM, type 2 DM

Ref. Mach F, et al. Eur Heart J. 2020 1;41(1):111-188.

2022 Korean guidelines for the management of dyslipidemia

Recommendations for treatment goals

Risk category	LDL-C (mg/dL)	non-HDL-C (mg/dL)
Coronary artery disease[1)*]	< 55	< 85
Atherosclerotic stroke and transient ischemic attack* Carotid artery disease* Peripheral artery disease* Abdominal aortic aneurysm* Diabetes mellitus (duration ≥ 10 years or with 1-2 major risk factors[†])[2)*]	< 70	< 100
Diabetes mellitus (duration < 10 years and no major risk factors[†])	< 100	< 130
Moderate risk (major risk factors[†] ≥ 2)	< 130	< 160
Low risk (major risk factors[†] ≤ 1)	< 160	< 190

*It is also recommended to reduce LDL-C by ≥ 50% from the baseline level.
†Age (men ≥ 45 years, women ≥ 55 years), family history of premature ASCVD, hypertension, smoking, and low HDL cholesterol level.

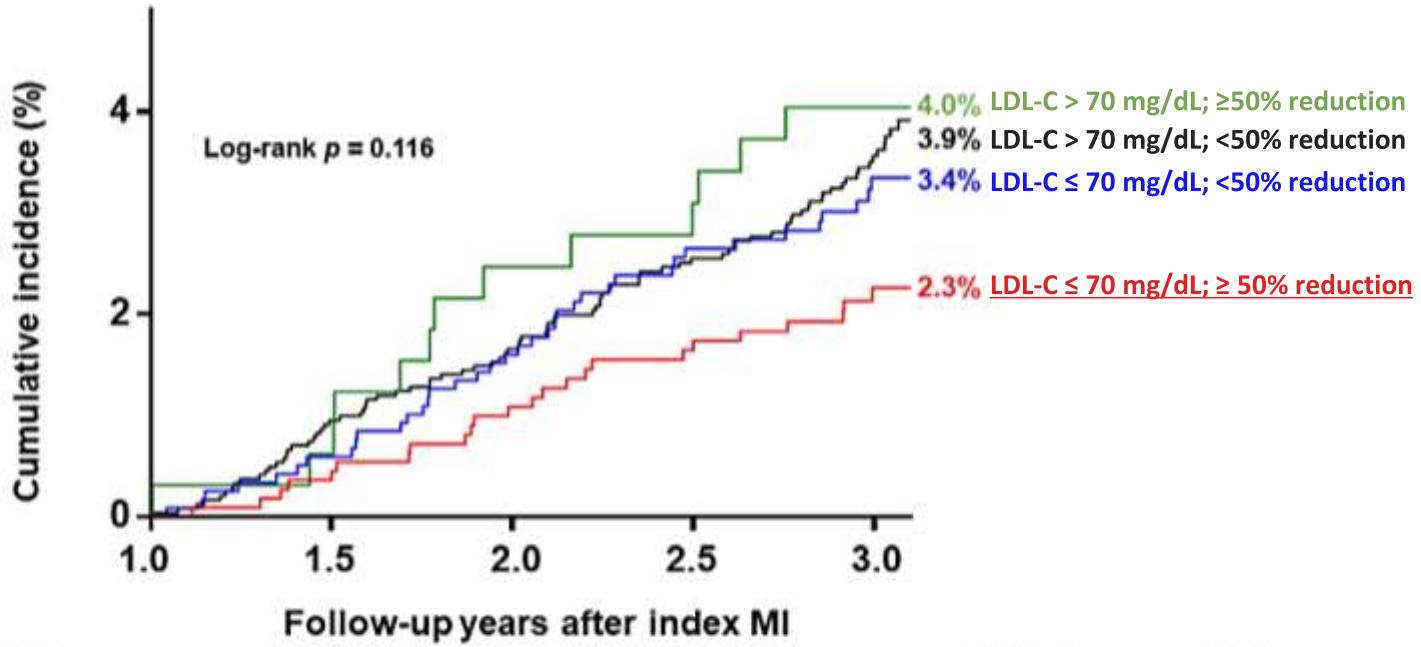
1) In patient with acute myocardial infarction, statin is recommended irrespective of LDL-C level.
2) In diabetes mellitus with target organ damage (albuminuria, nephropathy, retinopathy and neuropathy) or major risk factors[†] ≥ 3: target LDL-C < 55 mg/dL (optional)

LDL-C: low-density lipoprotein cholesterol, HDL-C: high-density lipoprotein cholesterol

Ref. Korean Society of Lipid and Atherosclerosis. Korean Guidelines for the Management of Dyslipidemia (the 5th edition), 2022

LDL-C goal for secondary prevention in Korean acute MI patients
LDL-C ≤ 70 mg/dL & ≥ 50% reduction from baseline

Cumulative incidence of MACCE according to the achievement of either target LDL-C goal.



Number at risk						HR [95% CI]	*p*-value
LDL-C ≤ 70 mg/dL; ≥ 50% reduction	1114	1106	1080	1045	762	Reference	
LDL-C ≤ 70 mg/dL; < 50% reduction	1189	1180	1153	1102	805	1.49 [0.90–2.49]	0.123
LDL-C > 70 mg/dL; ≥ 50% reduction	324	322	316	307	220	1.86 [0.95–3.65]	0.071
LDL-C > 70 mg/dL; < 50% reduction	2422	2396	2346	2265	1616	1.70 [1.08–2.66]	0.022

MACCE, major adverse cardiac and cerebrovascular event

Ref. Kim JH, et al. J. Clin. Med. 2022, 11, 2650

LDL-C goal attainment rates in Korean high-risk* patients

Retrospective cohort study (NHIS-HEALS database, 2002-2015)

Random selection of 10 % of all health screening participants(2002-2003, aged 40-79 years)
(n=514,866)

Patients with at least one LDL-C measurement ≥ 10 mg/dL (2007-2013)
(n=451,387)

Known high risk:
Patients had diagnosed with high-risk disease before the first LDL-C measurement
(n=224,837)

Newly defined high risk:
Patients had newly diagnosed with high-risk disease between LDL-C measurement
(n=127,559)

*Definition of high-risk disease & LDL-C goal attainment

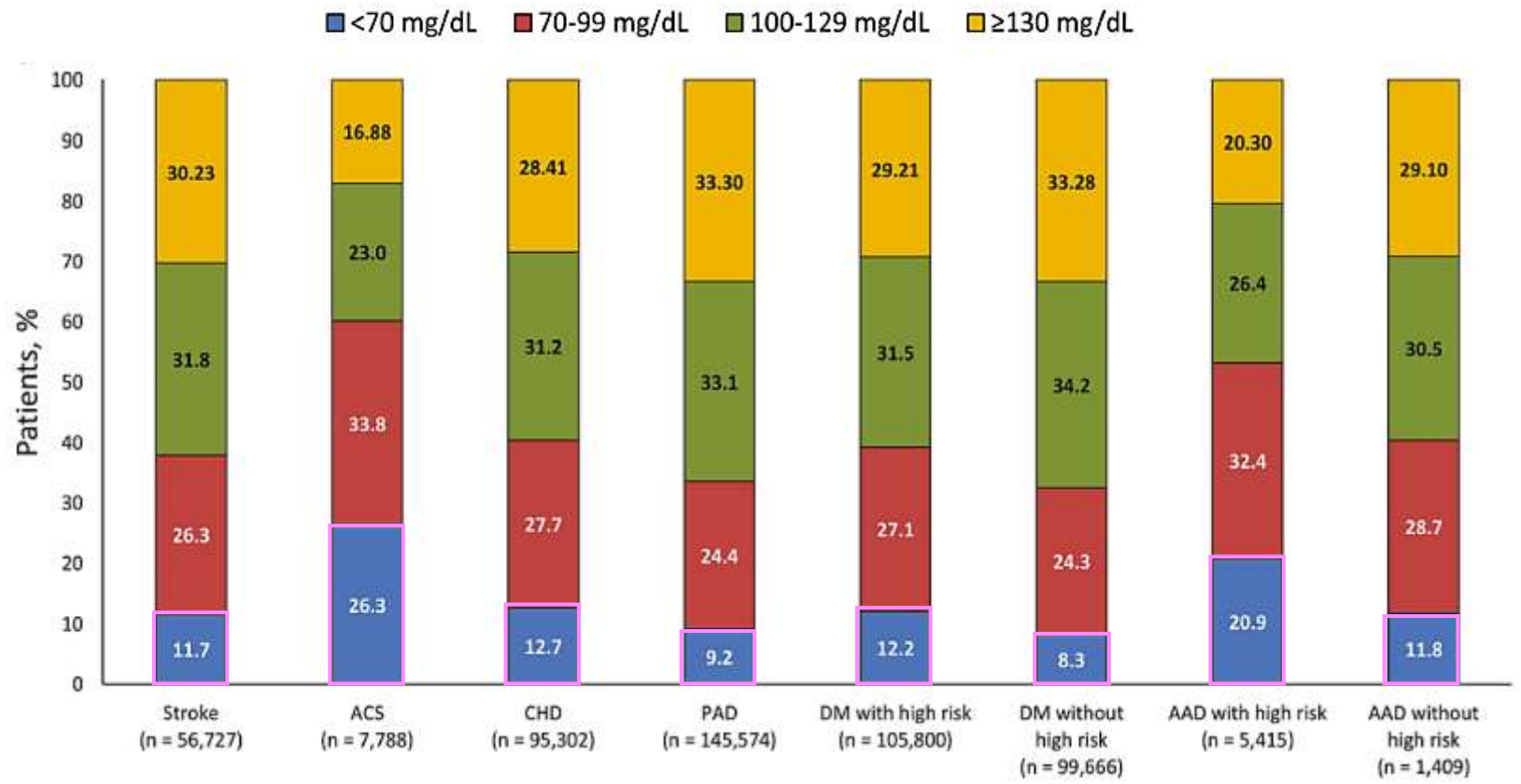
	Disease	LDL-C goal attainment	
		2018 Korean national guidelines	2013 ACC/AHA guideline
Very high risk	Stroke & TIA, ACS, CHD, PAD	<70 mg/dL	> 50% reduction in baseline LDL-C for high-intensity statin
High risk	DM, AAD	<100 mg/dL	

NHIS-HEALS, National Health Insurance Service-National Health Screening; ACS, acute coronary syndrome, CHD, coronary heart disease; PAD, peripheral artery disease; DM, diabetes mellitus; AAD, atherosclerotic artery disease

Ref. Yang YS, et al. Lipids in Health and Disease, 2020, 19:5

Less than 50% of Korean high-risk patients achieved LDL-C goal

LDL-C goal attainment rates All patients (known + newly defined high-risk patients)

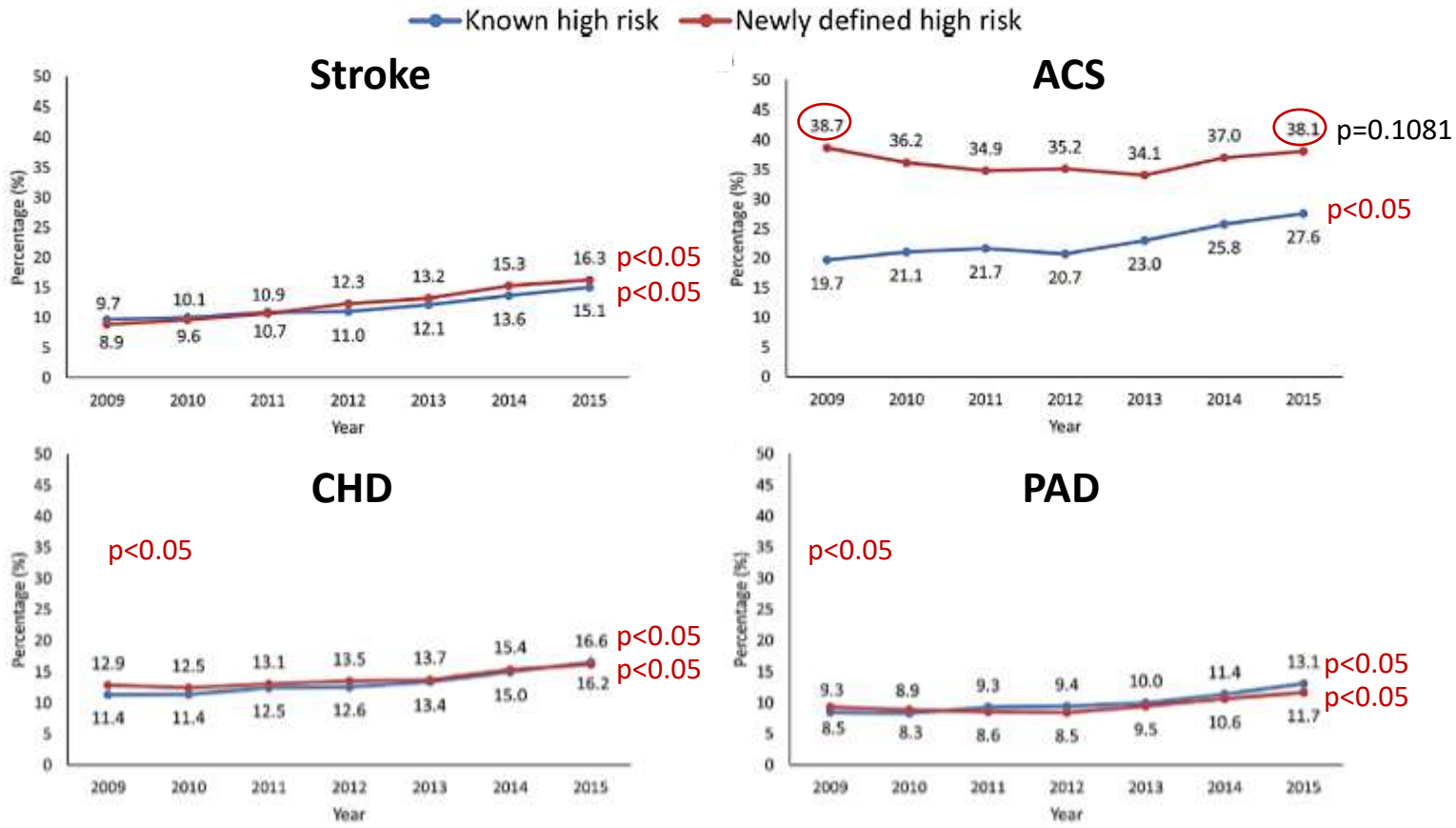


LDL-C target (mg/dL)	**< 70**	**< 70**	**< 70**	**< 70**	**< 70**	**< 100**	**< 70**	**< 100**

Ref. Yang YS, et al. Lipids in Health and Disease, 2020, 19:5

LDL-C goal attainment increased in patients with ACS but the goal-achiever proportion remained about 38%

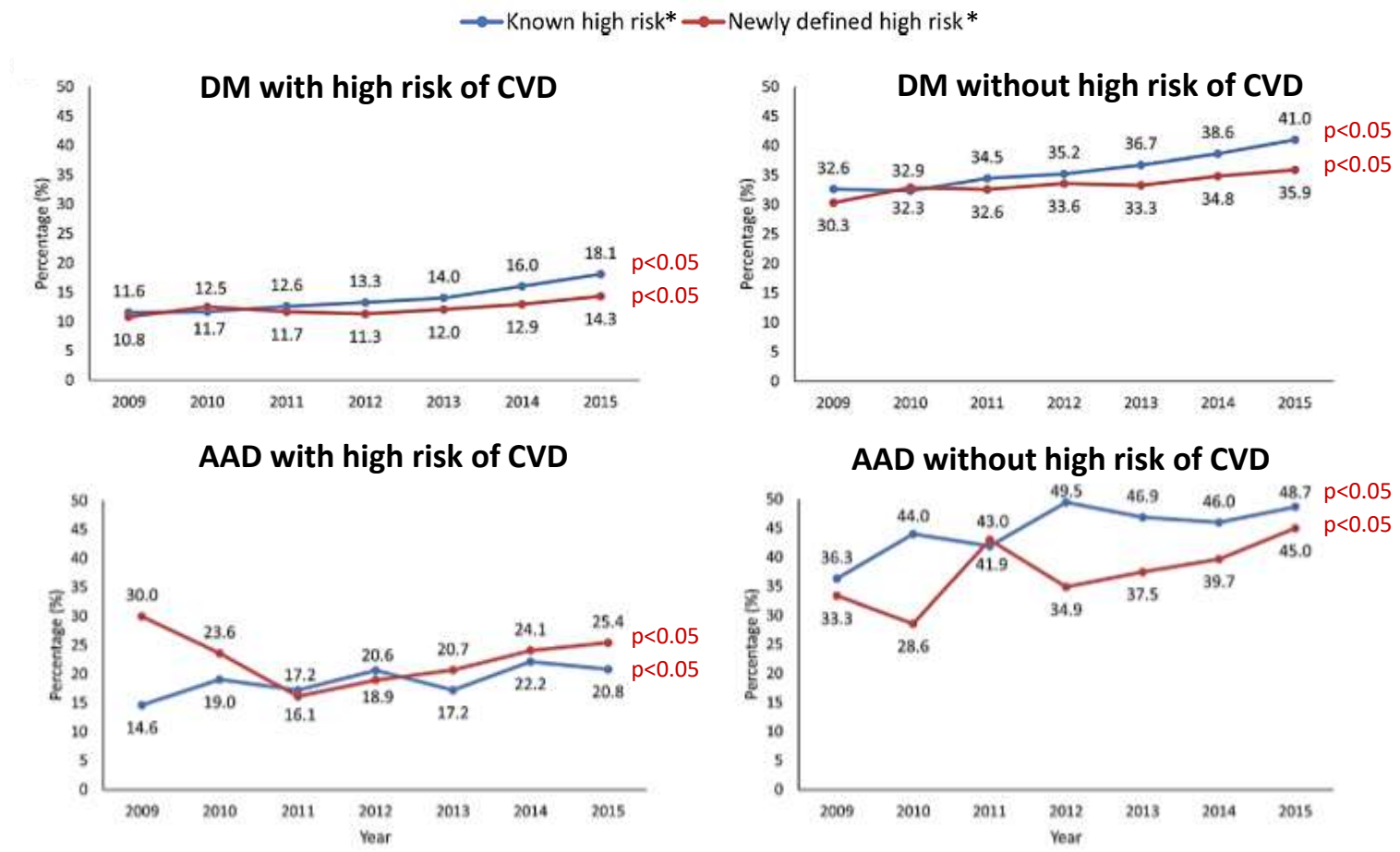
Time trends of goal attainment in known and newly defined high-risk patients



Ref. Yang YS, et al. Lipids in Health and Disease, 2020, 19:5

DM and AAD patients without high risk had higher LDL-C attainment rates than those with high risk

Time trends of goal attainment in known and newly defined high-risk patients



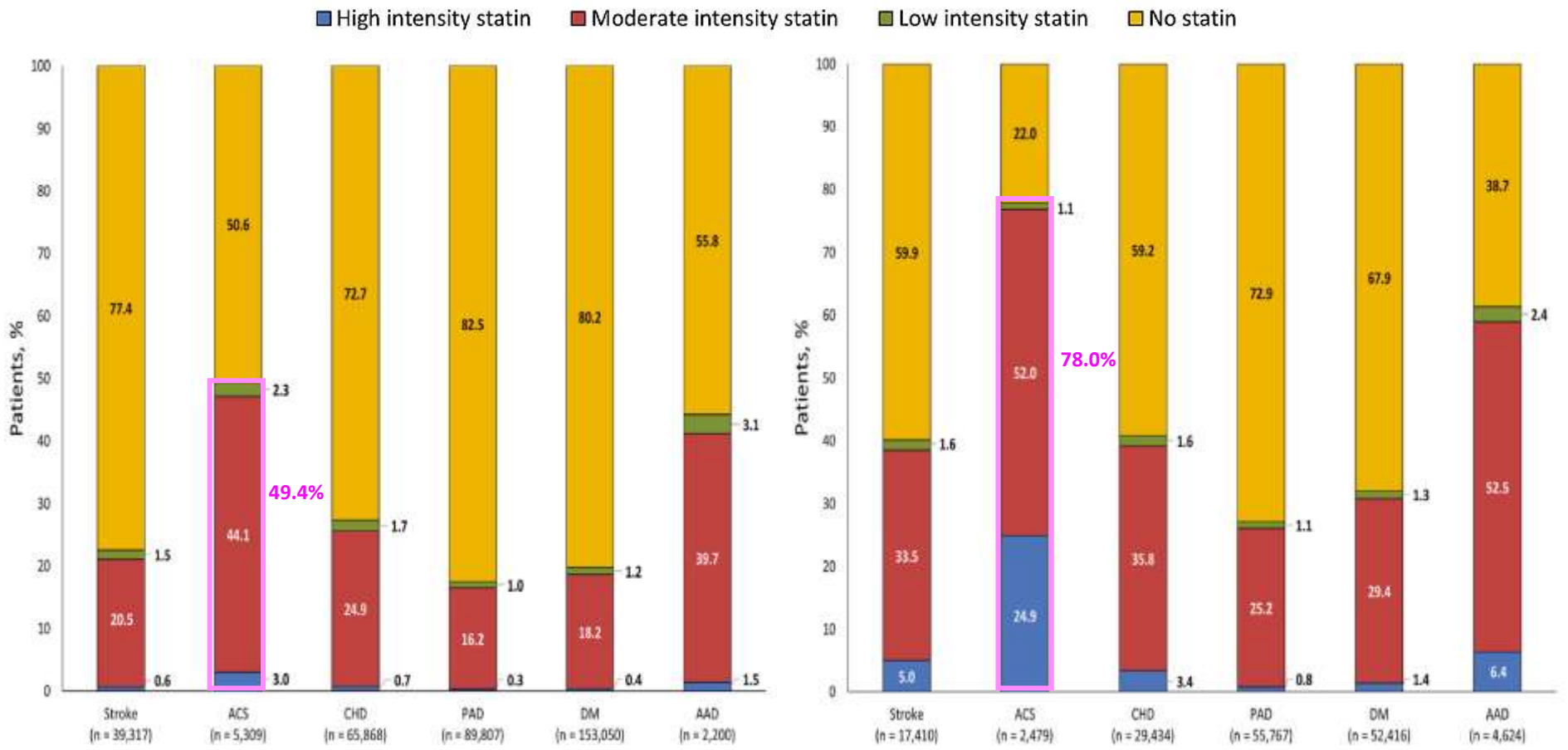
*Subjects with a high-risk of CVD prior to LDL-C measurement and subjects who were newly-diagnosed for high-risk of CVD following LDL-C measurement were defined as known high-risk patients (n = 224,837) and newly defined high-risk patients (n = 127,559), respectively.

Ref. Yang YS, et al. Lipids in Health and Disease, 2020, 19:5

Relatively low proportions of subjects were under statin use

(known high-risk: 21.5%, newly defined high-risk: 34.4%)

Statin use in cardiovascular high-risk groups



Known high risk

Newly defined high risk

Ref. Yang YS, et al. Lipids in Health and Disease, 2020, 19:5

Tailored approach for LDL-C management in high-risk patients

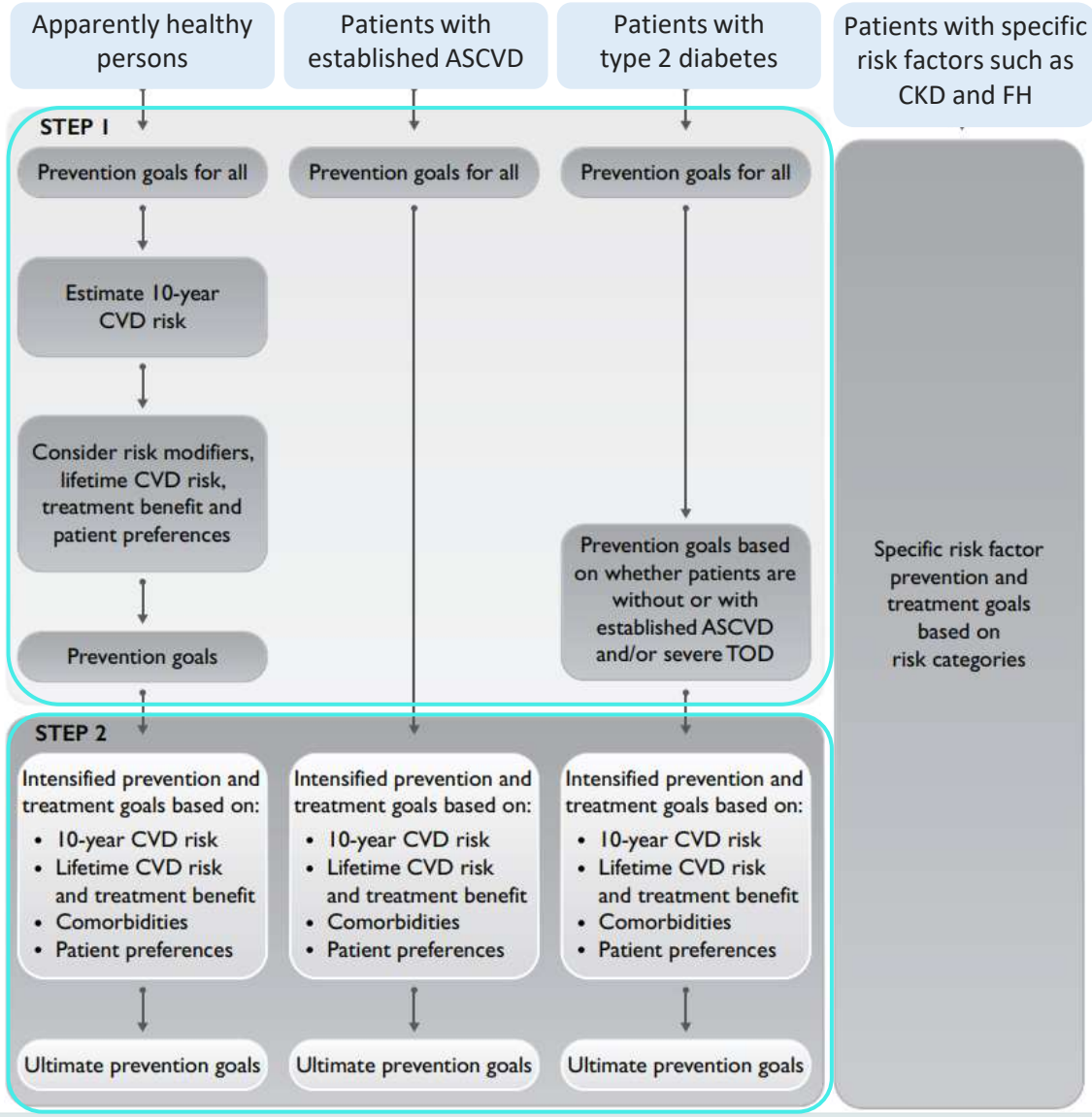
2021 ESC Guidelines on CVD prevention

- **More personalized CVD prevention guideline, instead of a one-size-fits-all**
- **More attention to CVD prevention in older persons.**
- **Introduce a new stepwise treatment-intensification approach.**
- **Embrace the recently published Systemic Coronary Risk Estimation 2 (SCORE2) and Systemic Coronary Risk Estimation 2-Older Persons (SCORE2-OP) algorithms.**
- **Introduce age-specific risk thresholds for risk factor treatments in apparently healthy people and provide estimation of lifetime CVD risk and treatment benefit.**
- **The ultimate lipid goals are the same as in the 2019 ESC/EAS dyslipidemia guideline**

Ref. Visseren FLJ, et al. European Heart Journal, 2021, 00, 1-111

2021 ESC Guidelines on CVD prevention

New stepwise treatment-intensification approach



A stepwise treatment intensification approach is recommended for apparently healthy people at high or very high CVD risk, as well as patients with established ASCVD and/or DM, with consideration of **CVD risk, treatment benefit of risk factors, risk modifiers, comorbidities,** and **patient preferences.**

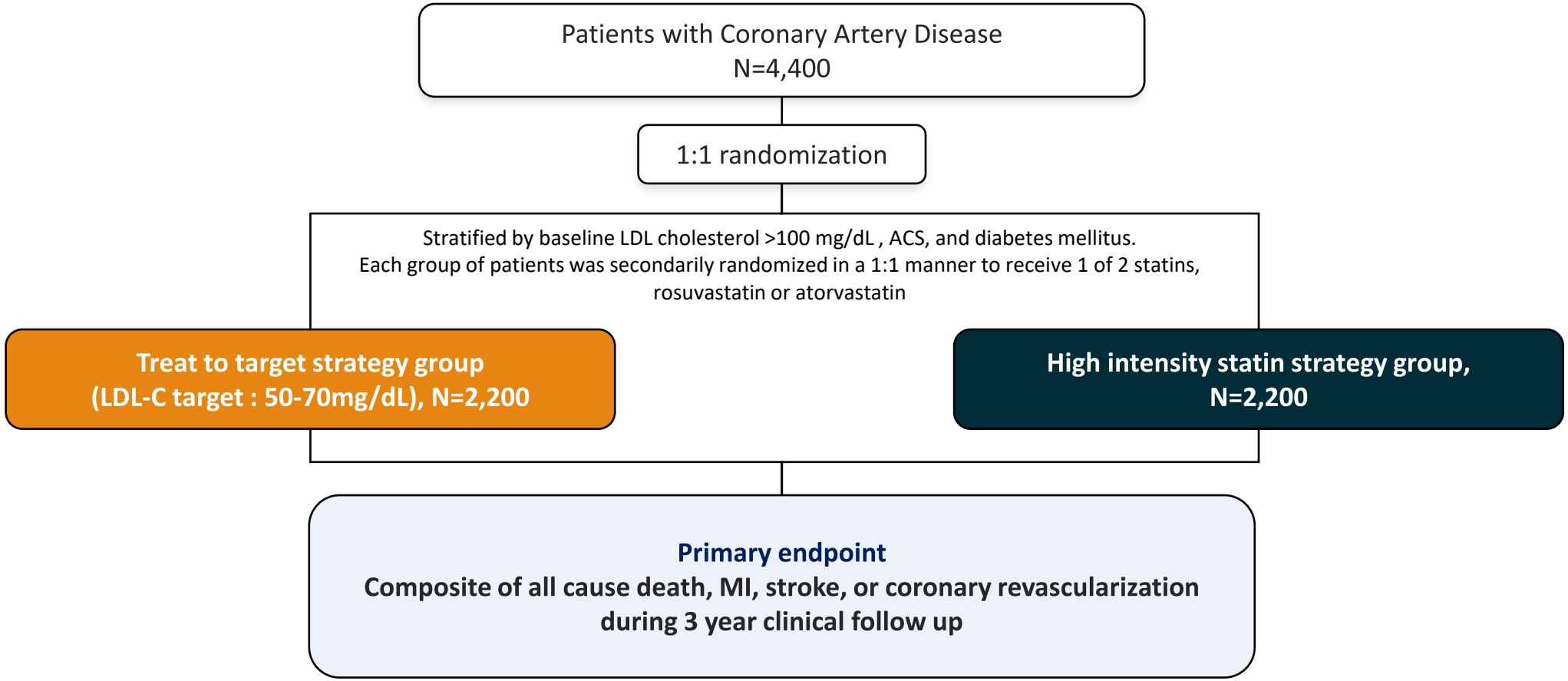
(Class I, Level C)

Ref. Visseren FLJ, et al. European Heart Journal, 2021, 00, 1-111

Patients with coronary artery disease
Treat-to-Target strategy vs. High-Intensity statin therapy

LODESTAR trial

(Low-Density Lipoprotein Cholesterol- Targeting Statin Therapy Versus Intensity-Based Statin Therapy in Patients With Coronary Artery Disease)

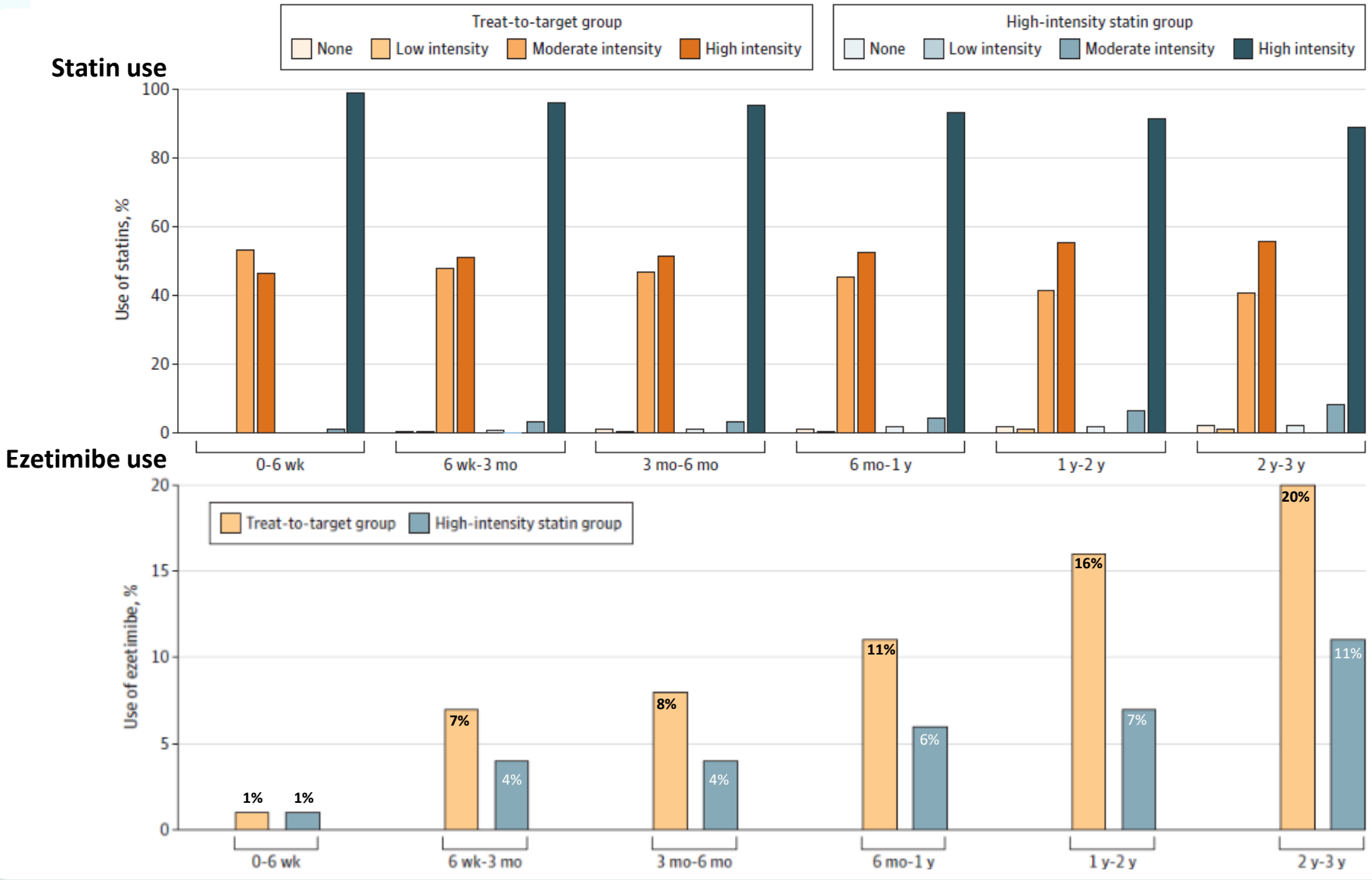


ACS, acute coronary syndrome; MI, myocardial infarction

Ref. Hong SJ, et al. JAMA. 2023 Mar 6;e232487.

LODESTAR trial

Lipid-lowering therapy during the study period



Overall period	Treat to Target group	High intensity group
Moderate intensity statin	43%	6%
High intensity statin	54%	92%

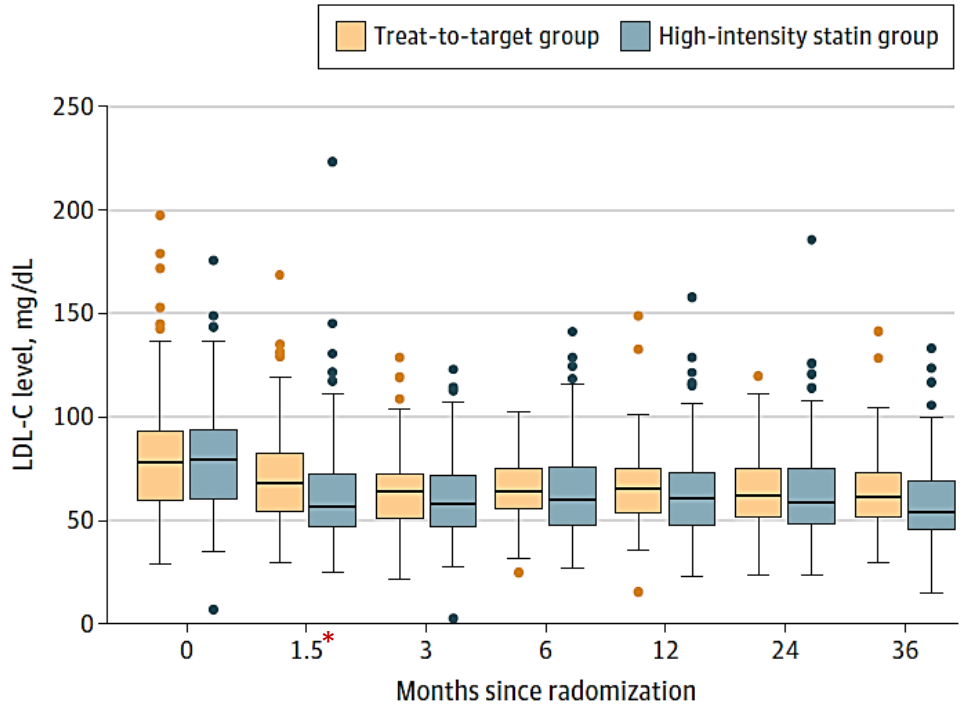
Ezetimibe was used more in the treat-to-target group from 6months, mostly as a combination therapy with high-intensity statin therapy

Ref. Hong SJ, et al. JAMA. 2023 Mar 6;e232487.

LODESTAR trial

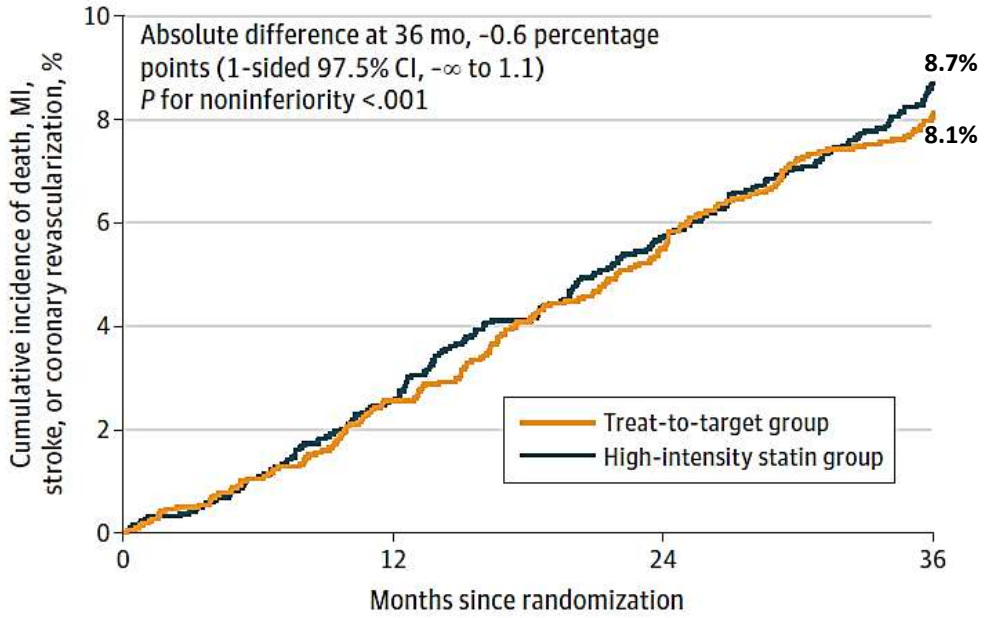
LDL-C levels and Cumulative incidence of primary end point

Distribution of LDL-C levels



The mean LDL-C level for 3 years
Treat-to-target group: - 69.1 mg/dL
High-intensity statin group: 68.4 mg/dL
(*P*=0.21).

Cumulative incidence of the primary end point



Absolute difference, –0.6 percentage points
[upper boundary of the 1-sided 97.5%CI, 1.1 percentage points]
P < 0.001 for noninferiority

*P<0.001 at 1. 5 months (6 weeks)

Ref. Hong SJ, et al. JAMA. 2023 Mar 6;e232487.

LODESTAR trial

Patients with LDL-C below 70 mg/dL

	Treat-to-target	High-intensity statin	Absolute Difference (95% confidence interval)	P Value
At randomization	712/2200 (32.4)	655/2200 (29.8)	2.6 (-0.1 to 5.3)	.06
At 6 weeks	890/1598 (55.7)	987/1601 (61.6)	-6.0 (-9.4 to -2.5)	<.001
At 3 months	261/441 (59.2)	267/397 (67.3)	-8.1 (-15.6 to -5.3)	.02
At 6 months	620/1074 (57.7)	653/1092 (59.8)	-2.1 (-5.8 to 1.7)	.33
At 1 year	1038/1862 (55.7)	1092/1854 (58.9)	-3.2 (-6.3 to 0.0)	.05
At 2 years	1005/1654 (60.8)	1015/1679 (60.4)	0.3 (-3.0 to 3.6)	.86
At 3 years	908/1560 (58.2)	927/1554 (59.7)	-1.4 (-4.9 to 2.0)	.41

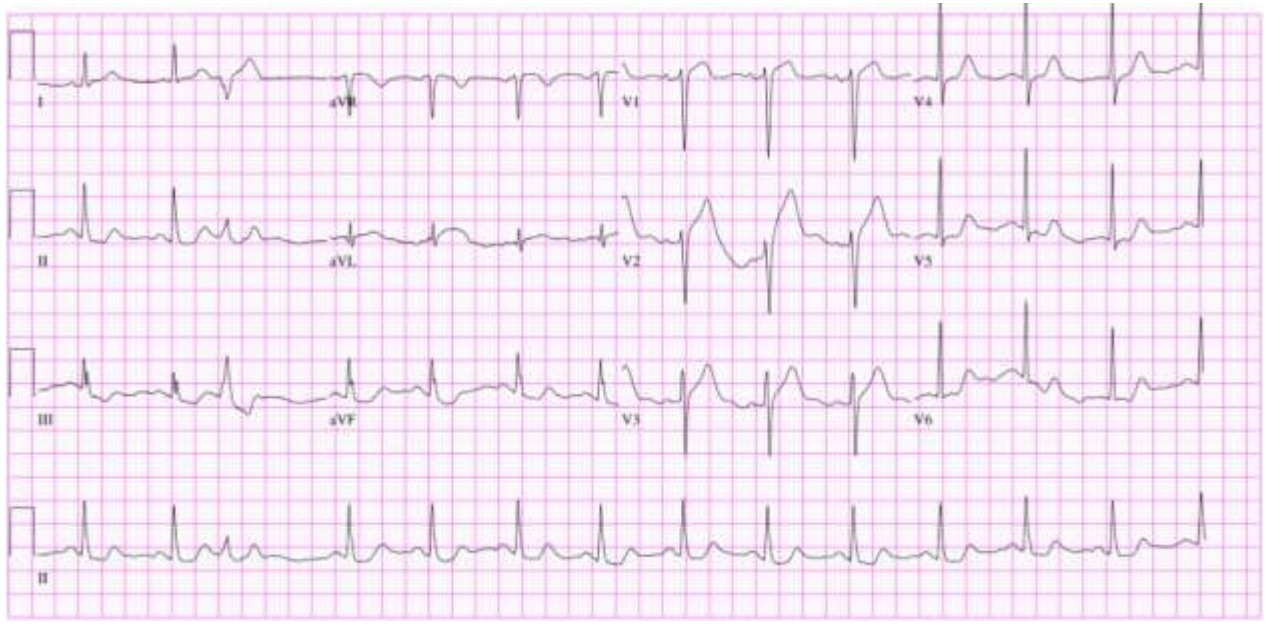
Ref. Hong SJ, et al. JAMA. 2023 Mar 6;e232487.

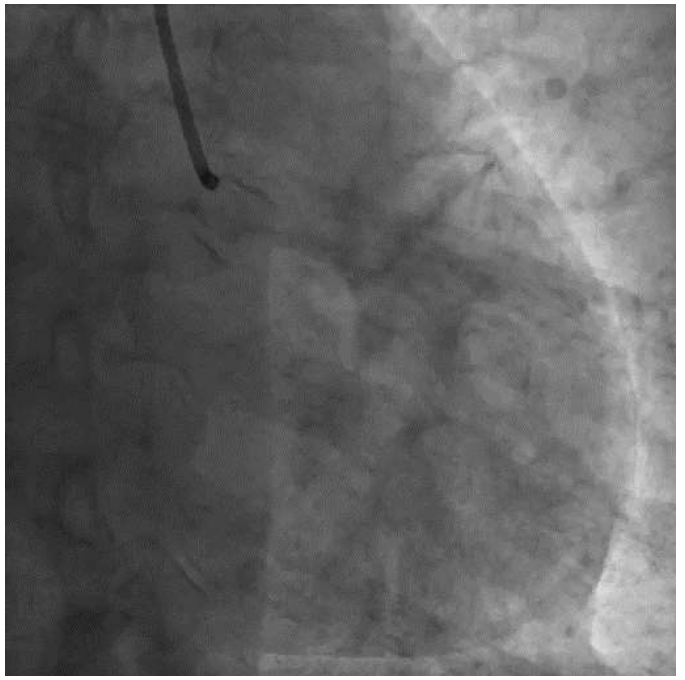
If the LDL-C goal is not reached with statins, recommendation of statin/ezetimibe combination

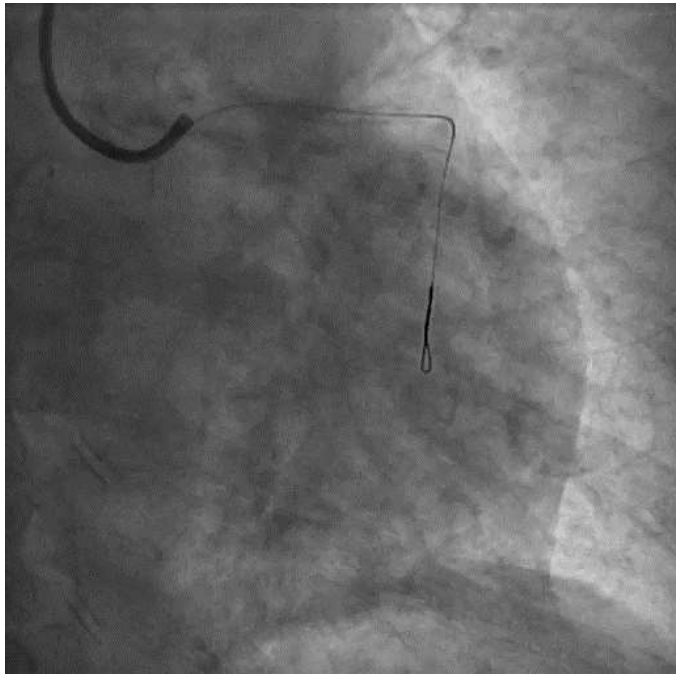
	2018 ACC[1]	2019 ESC[2]	2022 KSoLA[3]
Statins up to maximal tolerable dose are recommended to reach the goal.	**I**	**I**	**I**
If the goal is not reached, a statin combined with ezetimibe should be considered or is recommended.	**I, IIa, IIb**	**I**	**I**

Ref. 1. Grundy SM, et al. Circulation. 2019;140:e596–e646 2. Mach F, et al. Eur Heart J. 2020 1;41(1):111-188.3. Korean Society of Lipid and Atherosclerosis. Korean Guidelines for the Management of Dyslipidemia (the 5th edition), 2022

77/F STEMI with atorvastatin 20mg





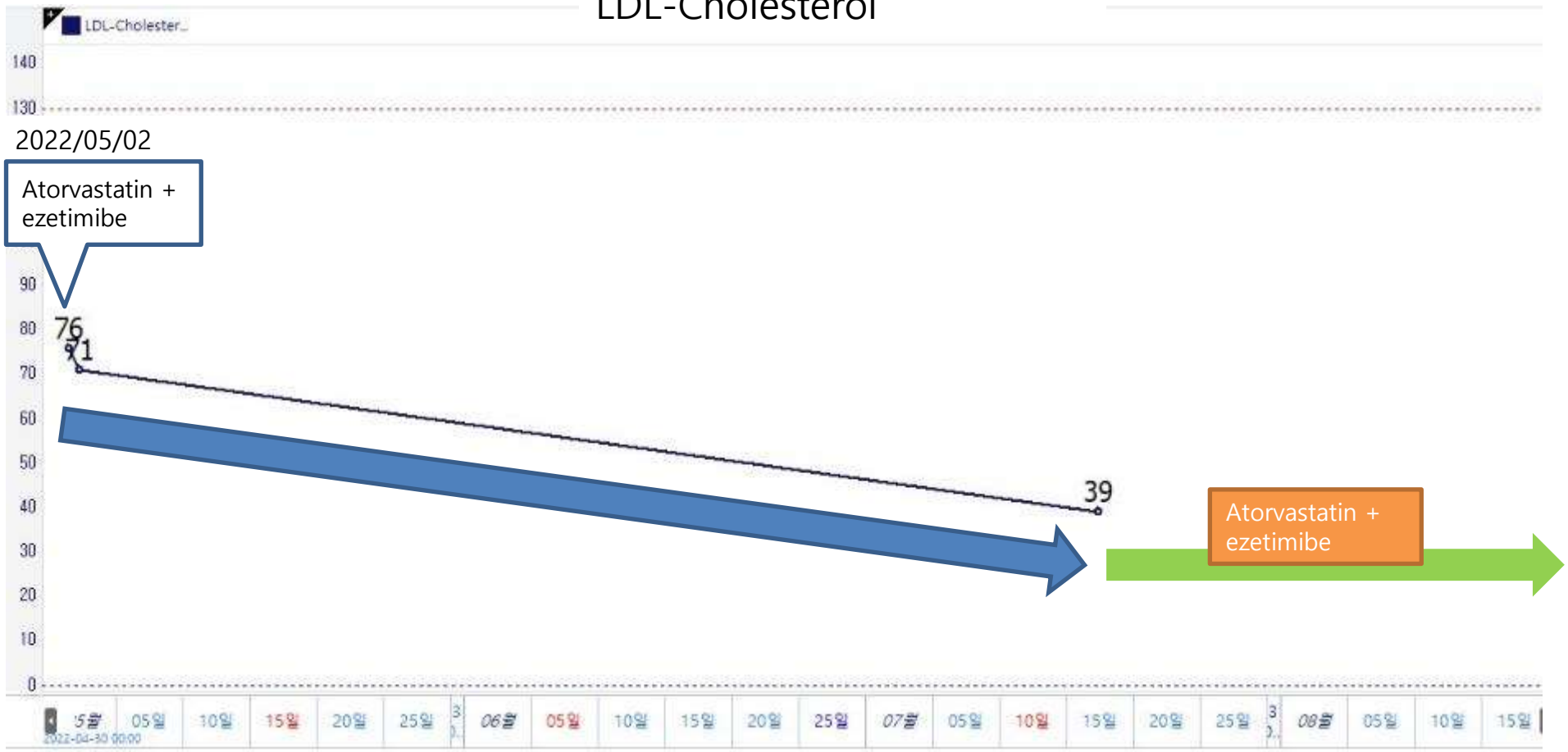


2022.05.02	결과	단위
Cholesterol total	152	Mg/dl
Triglyceride	111	Mg/dl
HDL-Cholesterol	53.8	Mg/dl
LDL-Cholesterol	76	Mg/dl
Calculated LDL-C	76	Mg/dl

Atorvastatin 40mg + Ezetimibe 10mg

2022.07.18	결과	단위
Cholesterol total	90	Mg/dl
Triglyceride	57	Mg/dl
HDL-Cholesterol	38.7	Mg/dl
LDL-Cholesterol	39	Mg/dl
Calculated LDL-C	39.9	Mg/dl

LDL-Cholesterol



2022 ACC Expert Consensus Decision Pathway

Role of Nonstatin Therapies for LDL-Cholesterol Lowering in the Management of ASCVD Risk

3 Questions regarding the use of nonstatin therapies

1. **In what patient populations should newer nonstatin therapies be considered?**

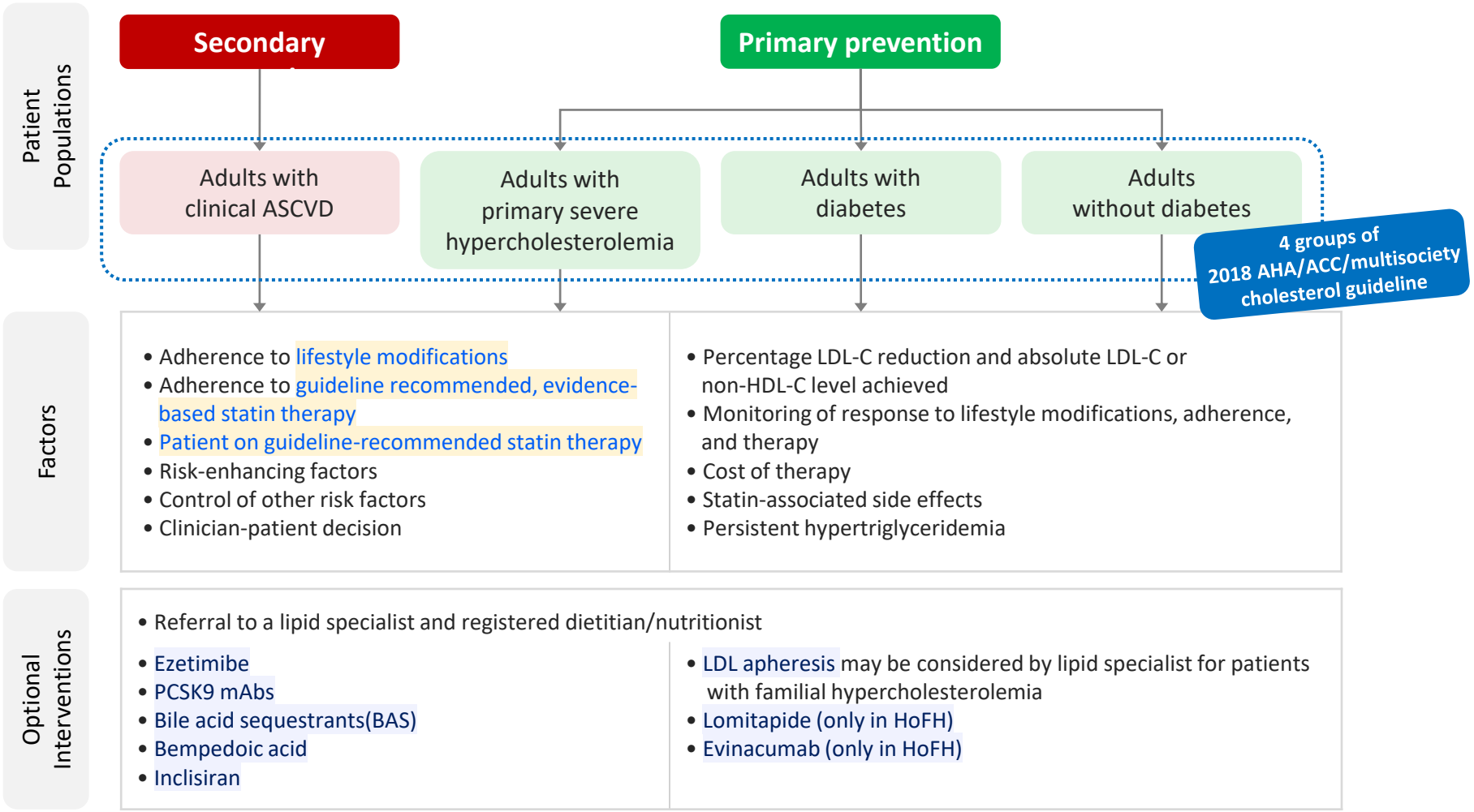
2. **In what situations should newer nonstatin therapies be considered?**

3. **Which newer nonstatin therapies should be considered and in what order to maximize patient benefit and preference?**

ACC, American College of Cardiology; ASCVD, Atherosclerotic Cardiovascular Disease

Ref. Lloyd-Jones DM, et al. J Am Coll Cardiol. 2022 Oct 4;80(14):1366-1418.

Patient Populations, Factors and Interventions to Consider



*2022 ACC Expert Consensus Decision Pathway on the Role of Nonstatin Therapies for LDL-Cholesterol Lowering in the Management of Atherosclerotic Cardiovascular Disease Risk, ** LDL-C ≥190 mg/dL
PCSK9 mAb includes alirocumab and evolocumab. ASCVD, atherosclerotic cardiovascular disease; HDL-C, high-density lipoprotein cholesterol; HoFH, homozygous familial hypercholesterolemia; LDL-C, low-density lipoprotein cholesterol; PCSK9 mAb, proprotein convertase subtilisin/kexin type 9 monoclonal antibodies

Ref. Lloyd-Jones DM, et al. J Am Coll Cardiol. 2022 Oct 4;80(14):1366-1418.

Nonstatin Options to Consider for ASCVD Secondary Prevention

	Adults with clinical ASCVD	Adults with clinical ASCVD, and LDL-C ≥190	Adults with clinical ASCVD, at very high risk	Adults with clinical ASCVD, at very high risk and LDL-C ≥190
Statin therapy	**Maximally-tolerated statin therapy**			
LDL-C target	**≥50% LDL-C reduction and LDL < 70 mg/dL**		**≥50% LDL-C reduction and LDL < 55 mg/dL**	
Factor to consider	1. Evaluate and optimize lifestyle modifications, statin adherence, risk factor control, and SASEs 2. Increase to high-intensity statin therapy, if not already taking 3. Consider referral to lipid specialist and RD/RDN for all patients, especially for HoFH (if LDL-C ≥ 190 mg/dL)			
Situation to consider nonstatin agents	**If not achieved LDL target, consider the following as the initial nonstatin agent**			
Option 1	Ezetimibe	Ezetimibe and/or PCSK9 mAb	Ezetimibe and/or PCSK9 mAb	Ezetimibe and/or PCSK9 mAb
Option 2	Adding or replacing with PCSK9 mAb	Bempedoic acid or inclisiran	Bempedoic acid or inclisiran	Bempedoic acid or inclisiran
Option 3	Bempedoic acid or inclisiran	LDL apheresis	-	Evinacumab, Lomitapide, and/or LDL apheresis for HoFH

ASCVD, atherosclerotic cardiovascular disease; RD/RDN, registered dietitian/registered dietitian nutritionist; SASE, statin-associated side effect; HoFH, homozygous familial hypercholesterolemia; PCSK9 mAb, proprotein convertase subtilisin/kexin type 9 monoclonal antibody

Ref. Lloyd-Jones DM, et al. J Am Coll Cardiol. 2022 Oct 4;80(14):1366-1418.

Nonstatin Options to Consider for ASCVD Primary Prevention

	Adults aged 40-75 years			Adults aged 40-75 years with diabetes		Adults with LDL-C ≥190
	10-y risk 5-20% and CAC score >100 AU†		10-y risk ≥20%	Not high risk	High risk*	
Statin therapy	**Moderate to high -intensity statin**		**High -intensity statin**	**Moderate -intensity statin**	**High -intensity statin**	**Maximally-tolerated statin therapy**
LDL-C target	**≥50% LDL-C reduction and LDL < 70 mg/dL**			**≥50% LDL-C reduction and LDL < 100 mg/dL**	**≥50% LDL-C reduction and LDL < 70 mg/dL if 10-y risk ≥ 20 %**	**≥50% LDL-C reduction and LDL < 100 mg/dL**
Factor to consider	CAC score ≥ 100 AU† ➔ Consider moderate to high intensity statin	CAC score ≥ 1000 AU ➔ Consider high intensity statin	-	1. Calculate 10-y risk and consider diabetes risk enhancers** 2. Evaluate and optimize lifestyle modifications, statin adherence, risk factor control, and SASEs 3. Referral to RD/RDN		1. Evaluate and optimize lifestyle modifications, statin adherence, risk factor control, and SASEs 2. Increase to high-intensity statin therapy 3. Consider referral to lipid specialist and RD/RDN for all patients, especially for HoFH
Situation to consider nonstatin agents	**If not achieved LDL target, on high-intensity statin,** may be reasonable to consider the following		**If not achieved LDL target,** may be reasonable to consider ezetimibe	**If not achieved LDL target, high-intensity statin therapy**	**If not achieved LDL target on maximally-tolerated statin,** consider ezetimibe	**If not achieved LDL target,** consider the following as the initial nonstatin agent
Option 1	Ezetimibe	Ezetimibe	Ezetimibe	-	Ezetimibe	Ezetimibe and/or PCSK9 mAb
Option 2		PCSK9 mAb	-	-	-	Bempedoic acid or inclisiran
Option 3			-	-	-	Evinacumab, Lomitapide, and/or LDL apheresis for HoFH

†CAC score >100 AU or ≥75th percentile for the patient's age, sex, and race

*10-year risk ≥7.5%, diabetes-specific risk enhancers, or subclinical atherosclerosis; **Long duration (≥10 years for type 2 diabetes or ≥ 20 years for type 1 diabetes, albuminuria ≥ 30 mcg of albumin/ mg creatinine, eGFR <60 mL/min/1.73 m2, retinopathy, neuropathy, ankle-brachial index <0.9

Ref. Lloyd-Jones DM, et al. J Am Coll Cardiol. 2022 Oct 4;80(14):1366-1418.

2022 ACC Expert Consensus Decision Pathway

Role of Nonstatin Therapies for LDL-Cholesterol Lowering in the Management of ASCVD Risk

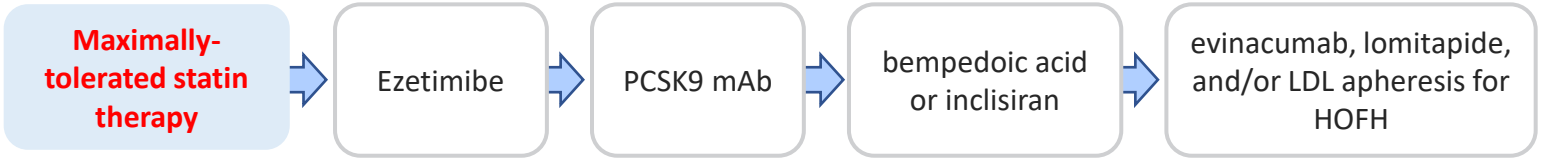
1. In what patient populations should newer nonstatin therapies be considered?

The algorithms endorse the **4 evidence-based patient management groups (Adults with clinical ASCVD, primary severe hypercholesterolemia, diabetes and without diabetes)** and assume that the **patient is currently taking or has attempted to take a statin, given that this is the most effective initial therapy**.

2. In what situations should newer nonstatin therapies be considered?

✓ When statins do not fully achieve the LDL-C goals for reducing ASCVD risk
✓ When statins are not tolerated at effective doses

3. Which newer nonstatin therapies should be considered and in what order to maximize patient benefit and preference?

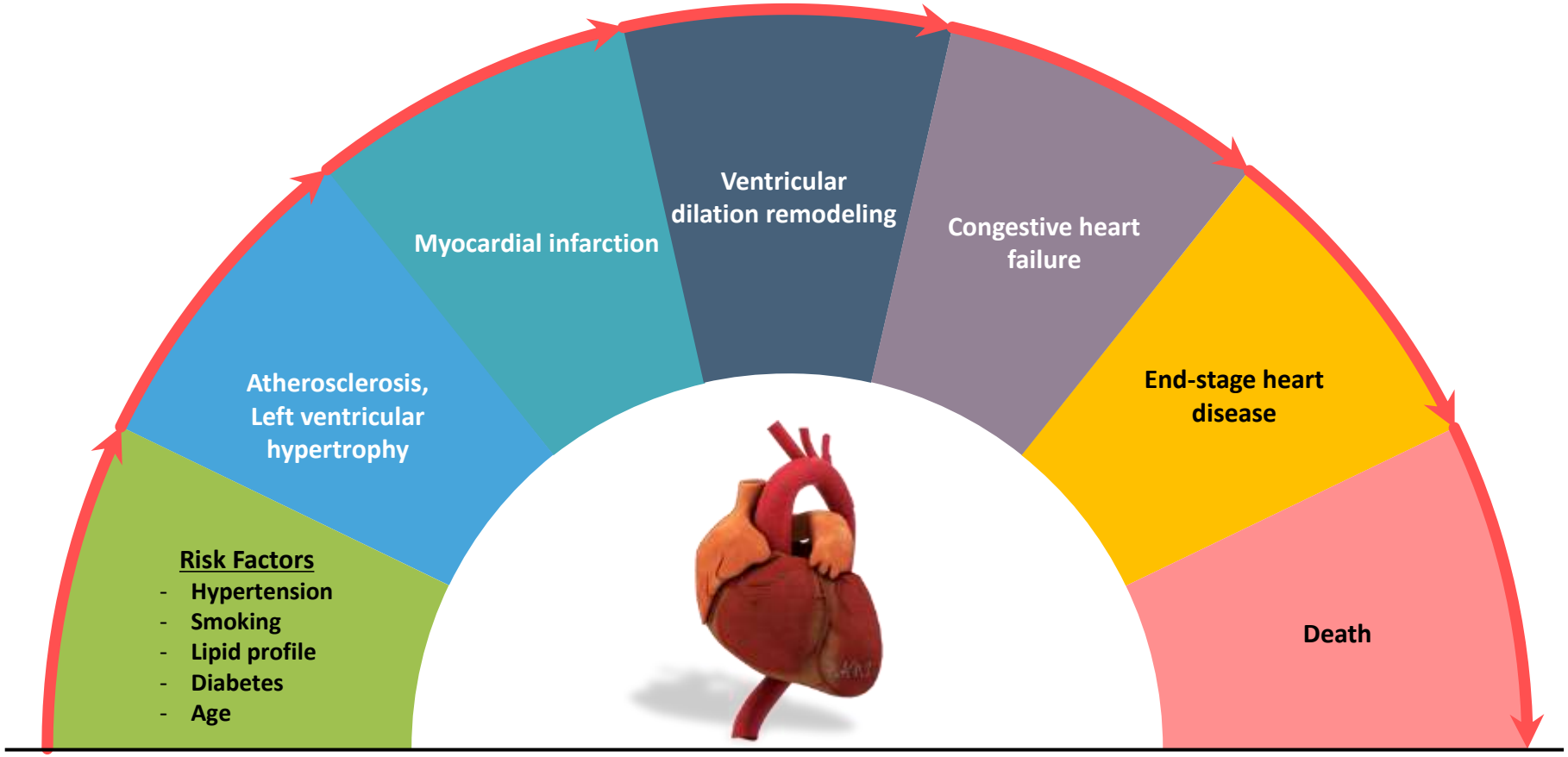


ACC: American College of Cardiology, ASCVD: Atherosclerotic Cardiovascular Disease

Ref. Lloyd-Jones DM, et al. J Am Coll Cardiol. 2022 Oct 4;80(14):1366-1418.

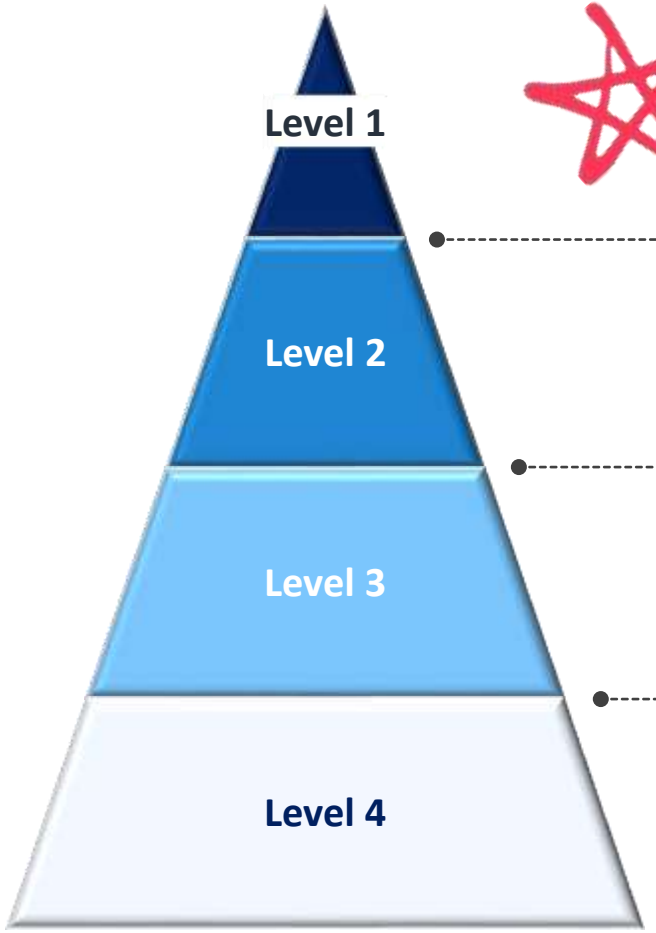
Tailored approach for CV prevention with Atorvastatin

A sequence of cardiovascular events, Cardiovascular Disease Continuum



Ref. Dzau V et al. Am Heart J. 1991;121:1244-1263.

Hierarchy for outcome measures



1. True Clinical Endpoint Measure
ex. MI, stroke, death, etc. → **CV outcome**

2. Validated Surrogate Endpoint
ex. LDL cholesterol, Apo-B, hsCRP, BP, etc

3. Non-validated Surrogate Endpoint that is
"reasonably likely to predict clinical benefit"

4. Correlated that is
"solely a measure for Biological Activity"

Ref. Fleming TR, et al. Health Aff (Millwood). 2005;24(1):67-78.

Lipitor's CV outcome trials

Number of clinical trials proved CV outcome[1-11]	Number of clinical trials reached on primary endpoint [1-7]
11	8

Lipitor's landmark trials reached on primary endpoint[1-7]

- **ASCOT-LLA** Proven CVD prevention in patients **with Hypertension** [3]
- **CARDS** Proven CVD prevention in patients **with T2DM**[1]
- **TNT** Proven CVD prevention in patients **with CAD**[2]
- **ALLIANCE** Proven CVD prevention in patients **with CAD**[4]
- **GREACE** Proven CVD prevention in patients **with CAD**[6]
- **MIRACL** Proven CVD prevention in patients **with ACS**[5]
- **PROVE-IT** Proven CVD prevention in patients **with ACS**[7]
- **SPARCL** Proven CVD prevention in patients **with Stroke**[8]

Ref. 1. Colhoun HM, et al Lancet. 2004 Aug 21-27;364(9435):685-96. 2. LaRosa JC, et al. N Engl J Med. 2005 Apr7;352(14):1425-35. 3. Sever PS, et al. Lancet. 2003 Apr 5;361(9364):1149-58. 4. Koren MJ, et al. J Am Coll Cardiol. 2004 Nov 2;44(9):1772-9. 5. Schwartz GG, et al. JAMA. 2001 Apr 4;285(13):1711-8. 6. Athyros VG, et al. Curr Med Res Opin. 2002;18(4):220-8. 7. Cannon CP, et al. N Engl J Med. 2004 Apr 8;350(15):1495-504. 8. Amarenco P, et al. N Engl J Med 2006;355:549-59. 9. Wanner C, et al. N Engl J Med. 2005 Jul 21;353(3):238-48. 10. Knopp RH, et al. Diabetes Care. 2006 Jul;29(7):1478-85. 11. Pedersen TR, et al. JAMA. 2005 Nov 16;294(19):2437-45.

Lipitor's CV outcome trials is cited as evidence for major clinical guidelines

2018 ACC/AHA Cholesterol Guideline

Cited 9 trials

- ASCOT-LLA
- CARDS
- TNT
- ALLIANCE
- GREACE
- PROVE-IT
- IDEAL
- ASPEN
- Wanner C, et al.

2019 ACC/AHA Primary Prevention of CVD Guideline

Cited 3 trials

- ASCOT-LLA
- CARDS
- ASPEN

2019 ESC/EAS Cholesterol Guideline

Cited 4 trials

- MIRACL
- PROVE-IT
- Wanner C, et al.
- SPARCL

2022 KSoLA Dyslipidemia Guideline

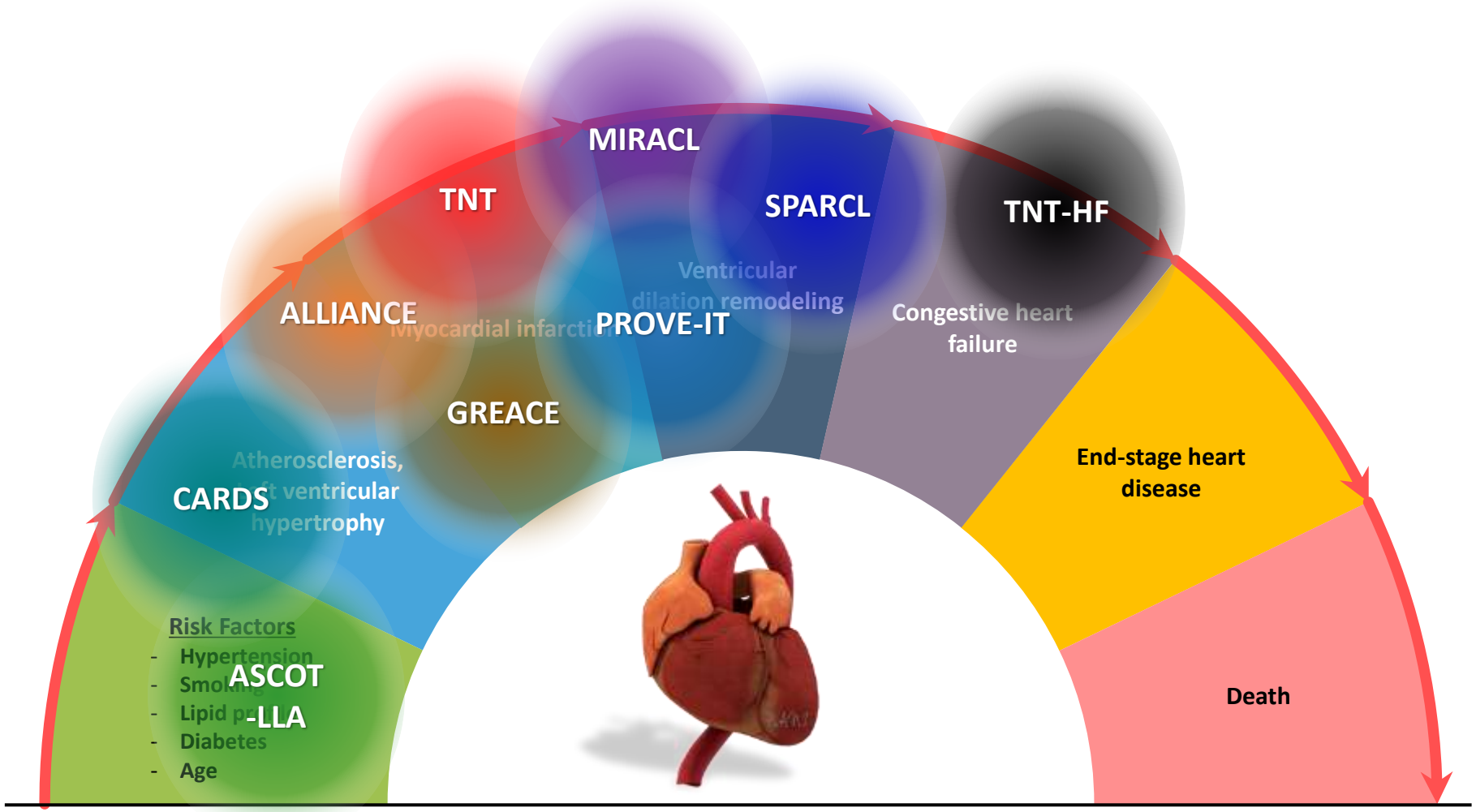
Cited 6 trials

- CARDS
- TNT
- PROVE-IT
- IDEAL
- Wanner C, et al.
- SPARCL

ACC/AHA, American College of Cardiology/American Heart Association; **ESC/EAS**, European Society of Cardiology and European Atherosclerosis Society; **KSoLA**, Korean Society of Lipid and Atherosclerosis

Ref. 1. Grundy SM, et al. Circulation. 2019;139:e1082–e1143. 2. Arnett DK, et al. Circulation. 2019;140:e596–e646. 3. Mach F, et al. European Heart Journal 2020;41:111-188. 4. 한국지질동맥경화학회. 이상지질혈증 진료지침 제5판. 5 Colhoun HM, et al Lancet. 2004 Aug 21-27;364(9435):685-96. 6. LaRosa JC, et al. N Engl J Med. 2005 Apr7;352(14):1425-35. 7. Sever PS, et al. Lancet. 2003 Apr 5;361(9364):1149-58. 8. Koren MJ, et al. J Am Coll Cardiol. 2004 Nov 2;44(9):1772-9. 9. Schwartz GG, et al. JAMA. 2001 Apr 4;285(13):1711-8. 10. Athyros VG, et al. Curr Med Res Opin. 2002;18(4):220-8. 11. Cannon CP, et al. N Engl J Med. 2004 Apr 8;350(15):1495-504. 12. Wanner C, et al. N Engl J Med. 2005 Jul 21;353(3):238-48. 13. Knopp RH, et al. Diabetes Care. 2006 Jul;29(7):1478-85. 14. Pedersen TR, et al. JAMA. 2005 Nov 16;294(19):2437-45.

A sequence of cardiovascular events, Cardiovascular Disease Continuum



Ref. 1. Dzau V et al. Am Heart J. 1991;121:1244-1263. 2. Server PS, et al. Lancet 2003; 361: 1149–58. 3. Colhoun HM, et al. Lancet 2004;364:685-96. 4. Koren MJ, et al. J Am Coll Cardiol. 2004 Nov 2;44(9):1772-9.5. Athyros VG, et al. Curr Med Res Opin. 2002;18(4):220-8. 6. LaRosa JC, et al. N Engl J Med 2005;352:1425–1435. 7. Schwartz GG, et al. JAMA 2001;285:1711–8. 8. Cannon CP, et al. N Engl J Med. 2004;350:1495-1504. 9. Khush KK, et al. Circulation. 2007;115:576-583.

Tailored Approach with Lipitor portfolio

	Lipitor 10mg	Lipitor 20mg	Lipitor 40mg	Lipitor 80mg
Image[2]				
Price[2] (2023.01)	642won	690won	1,338won	1,523won
LDL-C reduction (%) from baseline*,[3] (Adjusted mean %)	-39%	-43%	-50%	-60%

*Adjusted mean % change from baseline. Results are pooled from 2 multicenter, placebo-controlled, dose-response studies in patients with primary hyperlipidemia. LIPITOR was given as a single dose over 6 weeks

	Lipitor Plus 10/10mg	Lipitor Plus 10/20mg	Lipitor Plus 10/40mg
Image[4]			
Price[4] (2023.01)	637won	808won	1,415won
LDL-C reduction (%) from baseline*,[5] (Mean change %)	-53%	-54%	-56%

*Results are from a multicenter, double-blind, placebo-controlled, clinical study in patients with primary hyperlipidemia.

Ref. 한국지질동맥경화학회. 이상지질혈증 진료지침 제5판. 2022. 2. 식품의약품안전처 의약품통합정보시스템. 의약품등 제품정보 검색. 리피토정. Available at <https://nedrug.mfds.go.kr/searchDrug> accessed on Jan 17, 2023. 3. LIPITOR. (atorvastatin calcium). US PI. Revised:12/2022. 4. 식품의약품안전처 의약품통합정보시스템. 의약품등 제품정보 검색. 리피토플러스정. Available at <https://nedrug.mfds.go.kr/searchDrug> accessed on Jan 17, 2023. 4. LIPTRUZET. (ezetimibe and atorvastatin). US PI. Revised:9/2020. 5. LIPTRUZET. (ezetimibe and atorvastatin). US PI. Revised:9/2020.

Take Home Messages

1. Statins up to maximal tolerable dose are recommended to reach the goal

2. If the goal is not reached, a statin combined with ezetimibe should be considered or is recommended

3. Atorvastatin family has full lineup treatment option for Cardiovascular Disease Continuum