Clearing the Arteries:
Navigating the New Frontier of Dyslipidemia Care

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Conflict of Interest Disclosure

- The speakers have no conflicts of interest with ineligible companies to disclose

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Learning Objectives for Pharmacists

- Assess ASCVD risk based on lipid panels, the PREVENT equation, and other lab values including coronary artery calcium (CAC), apolipoprotein B (ApoB), and lipoprotein(a) [Lp(a)].
- Apply current dyslipidemia guidelines to determine when to initiate, intensify, or modify statin therapy for primary and secondary prevention based on ASCVD risk assessment and lipid treatment goals.
- Develop evidence-based strategies to identify and address barriers to statin adherence, including the evaluation and management of statin-associated muscle symptoms (SAMS) and other patient concerns.
- Compare available non-statin lipid-lowering therapies based on efficacy, safety, cardiovascular outcomes, and patient-specific factors to optimize individualized treatment plans.
- Evaluate clinical guideline recommendations and clinical trial data supporting FDA-approved lipid-lowering therapies.

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Learning Objectives for Pharmacy Technicians

MA1

- Identify the goals of dyslipidemia treatment, including LDL-C and non-HDL-C goals.
- Examine the role of the PREVENT equations, ApoB, Lp(a), and CAC scoring in ASCVD risk assessment.
- Analyze which patient populations may benefit from treatment with statins and other lipid-lowering agents.
- Compare common patient-reported adverse effects of statin therapy and situations that warrant referral to the pharmacist.
- Describe statin and non-statin medication classes used to treat dyslipidemia, and their storage, handling, and dispensing considerations.

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Slide 4

MA1 Objectives updated

Maciejewski, Alexander, 2026-08-08T15:50:01.879

Why Lipids Still Matter

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Cardiovascular Disease in the United States

- 130.6 million adults with total CVD
- 91.2 million with total cholesterol ≥ 200 mg/dL
- 63.1 million with LDL-C ≥ 130 mg/dL
- $414.7 billion dollars average annual cost of CVD

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Cardiovascular Disease in the United States

Health Conditions	Lifestyle Factors	Non-modifiable
High blood pressure	Tobacco use	Age
High cholesterol	Unhealthy diet	Family history
Diabetes	Physical inactivity	Genetics
Obesity	Excess alcohol	

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Atherosclerotic Cardiovascular Disease (ASCVD)

- Acute coronary syndromes (ACS)
- History of myocardial infarction (MI)
- Stable or unstable angina
- Coronary or other arterial revascularization
- Stroke (CVA)
- Transient ischemic attack (TIA)
- Peripheral arterial disease (PAD)

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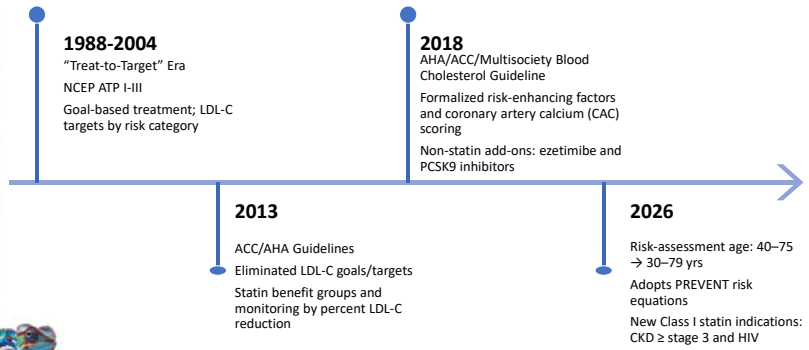
Slide 8

kr1 I realized we should probably define clinical ASCVD to make the rest of the slides more clear
krisdenzel.tupas, 2026-08-12T21:57:37.766

Evolution of US Cholesterol Guidelines



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Assessing ASCVD Risk

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Screening with a Lipid Panel

Children	Adults
• One lipid panel for individuals ≥2 years old if 1st or 2nd-degree relatives with premature ASCVD, severe hypercholesterolemia, or familial hypercholesterolemia (FH) • Ages 9 to 11 - lipid panel recommended to identify FH	• Starting at age 19 years old and every 5 years thereafter • More frequent screening for individuals with additional risk factors

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Assessing a Lipid Panel

Total Cholesterol (mg/dL)		HDL-C (mg/dL)	
<200	Optimal	<40	Low (Men)
≥240	High	<50	Low (Women)
LDL-C (mg/dL)		**Triglycerides (mg/dL)**	
<100	Optimal	<150	Normal
≥190	Very high	≥500	Very high

Lipid panel | Johns Hopkins Medicine

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PREVENT Calculator

Category	Pooled Cohort Equation	PREVENT-ASCVD
Low	<5%	<3%
Borderline	5% to <7.5%	3% to <5%
Intermediate	7.5% to <20%	5% to <10%
High	≥ 20%	≥ 10%

Approximate equivalent ranges of 10-year ASCVD risk categories

Required: age, sex, total and HDL cholesterol, systolic BP, smoking, diabetes, BP and lipid medication use, eGFR, BMI
Optional: zip code, HbA1c, urine albumin-to-creatinine ratio
Removed: race

COR	Recommendation
1	Use the PREVENT-ASCVD equations to estimate 10-year ASCVD risk in adults aged 30–79 years without ASCVD or subclinical atherosclerosis who have an LDL-C of 70–189 mg/dL.

- Provides 10-year and 30-year estimates of total CVD, ASCVD, and heart failure
- 30-year estimates are reported only for adults aged 30-59 years
- Derived from a larger, contemporary, more diverse cohort than the pooled cohort equation

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Other Assessments

Apolipoprotein B (ApoB)

- What is it: direct measurement of atherogenic particle number (1 molecule per LDL), VLDL, and Lp(a)
- More reliable marker of ASCVD risk vs. LDL-C
- **When to measure: in high-risk patients (ASCVD, CKM syndrome, T2DM, or elevated TG) on lipid-lowering therapy (LLT) to determine if therapy should be intensified once LDL-C and/or non-HDL-C goals are met**

Lipoprotein a [Lp(a)]

- What is it: LDL-like particle mostly genetically determined by the LPA gene, associated with higher ASCVD risk
- ≥125 nmol/L is considered high
- **When to measure:**
  - **At least once in all adults**
  - **Cascade testing for 1st-degree family members of individuals with premature ASCVD or high Lp(a)**

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Other Assessments

Coronary Artery Calcium (CAC)

- What is it: estimate of overall coronary plaque burden
- Measured in Agatston Units (AU)
- Ranges from none (CAC=0) to severe (CAC=300-999) and extensive (CAC ≥1000)
- **When to measure:**
  - **Individuals at intermediate (5-10%) or select individuals at borderline (3-5%) ASCVD risk in whom the decision to initiate LLT is uncertain**
  - **Adults with intermediate (5-10%) to high risk (≥10%) with no ASCVD to determine treatment goals and intensity of LLT**

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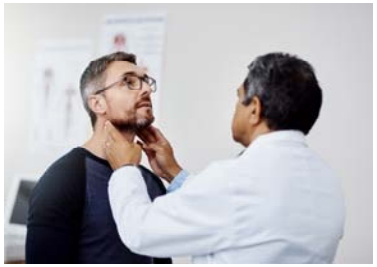
Knowledge Check #1 – All

JL is a 60-year-old male presents to the pharmacist-run cardiometabolic clinic for follow-up. He has hypertension treated with losartan 50 mg daily. He quit smoking 6 years ago (25 pack-year history). He has no history of ASCVD, diabetes, CKD, or heart failure, and is not taking a statin or other lipid-lowering therapy. His father had an MI at age 68. Physical exam is unremarkable.



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Knowledge Check #1 – All

Which of the following best represents his 10-year ASCVD risk using the PREVENT-ASCVD equations, and the resulting risk category?

A. 4.6% — borderline risk
B. 7.4% — intermediate risk
C. 10.1% — high risk
D. 14.7% — high risk

Vitals	Result
BP	138/82 mmHg
HR	72 bpm
Height	5'10"
Weight	205 lb
BMI	29.4 kg/m^2

Test	Result
Total cholesterol	232 mg/dL
LDL-C	158 mg/dL
HDL-C	42 mg/dL
Triglycerides	160 mg/dL
Non-HDL-C	190 mg/dL

Test	Result
HbA1c	5.8%
Serum creatinine	1.16 mg/dL
eGFR	72 mL/min/1.73 m^2
UACR	Not obtained

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Five Treatment Groups Drive Every Decision

Primary Prevention

Severe hypercholesteremia

Diabetes

Secondary Prevention

Subclinical atherosclerosis

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Primary Prevention

Severe hypercholesteremia

Diabetes

Secondary Prevention

Subclinical atherosclerosis

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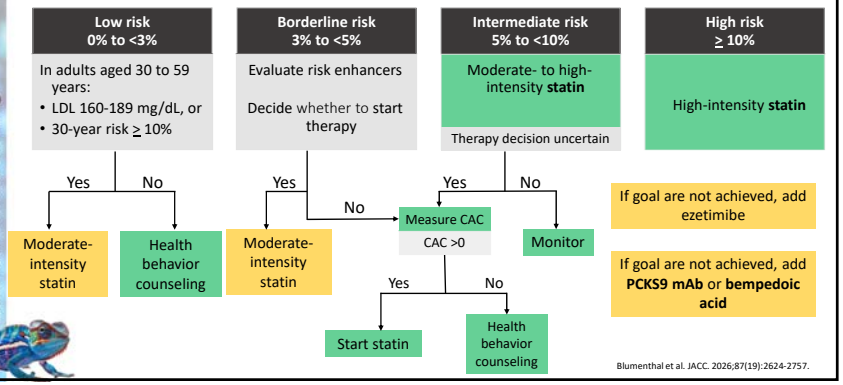
Primary Prevention in Adults 30 to 79 Years of Age With LDL-C Levels 70 to 189 mg/dL



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Risk-Enhancing Factors

All Patients

- Premature ASCVD in a parent or sibling (<55 y men, <65 y women)
- Higher-risk ancestry (eg, South Asian, Filipino)
- Chronic inflammatory disease (lupus, rheumatoid arthritis, HIV)
- Lp(a) ≥125 nmol/L or ≥50 mg/dL
- hsCRP ≥2 mg/L on more than one occasion
- Triglycerides persistently ≥175 mg/dL non-fasting or ≥150 mg/dL fasting
- Cardiovascular-kidney-metabolic syndrome
- LDL-C persistently 160-189, non-HDL-C 190-219, or apoB ≥120 mg/dL

Specific to Women

- Hypertensive disorders of pregnancy (preeclampsia, gestational hypertension)
- Gestational diabetes
- Delivery of a small-for-gestational-age infant
- Preterm delivery before 37 weeks
- Recurrent spontaneous pregnancy loss
- Early menarche (<10 years)
- Early or premature menopause (<45 or <40 years)
- Polycystic ovary syndrome or irregular menses

Specific to Diabetes

- Long duration: ≥10 years (type 2) or ≥20 years (type 1)
- Albuminuria ≥30 mg albumin/g creatinine
- eGFR <60 mL/min/1.73m2
- Retinopathy
- Neuropathy
- Ankle-brachial index <0.9

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Primary Prevention

Severe hypercholesteremia

Diabetes

Secondary Prevention

Subclinical atherosclerosis

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Severe Hypercholesterolemia

What is **severe hypercholesteremia**?

LDL-C ≥190 mg/dL, non-HDL-C >220 mg/dL, or apoB ≥140 mg/dL

- Very high lifetime risk from cumulative LDL burden, even without other risk factors
- Do not calculate PREVENT — **treat regardless of estimated 10-year risk**
- Screen for **heterozygous** or **homozygous familial hypercholesterolemia**; cascade screen first-degree relatives

Rule out secondary causes: hypothyroidism, nephrotic syndrome, chronic kidney disease, ketogenic or high–saturated fat diet, corticosteroids

↓

Maximally tolerated **statin**

↓

Ezetimibe, **PCSK mAb**, and/or **bempedoic acid**

↓

Inclisiran as an alternative to PCSK9 mAb

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Primary Prevention

Severe hypercholesteremia

Diabetes

Secondary Prevention

Subclinical atherosclerosis

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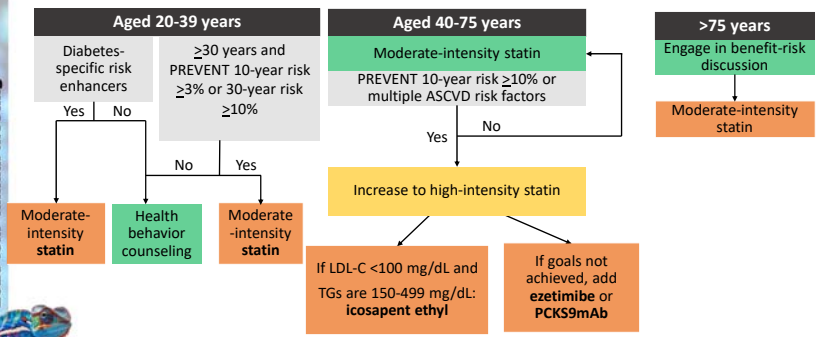
Diabetes in Adults Without Established ASCVD



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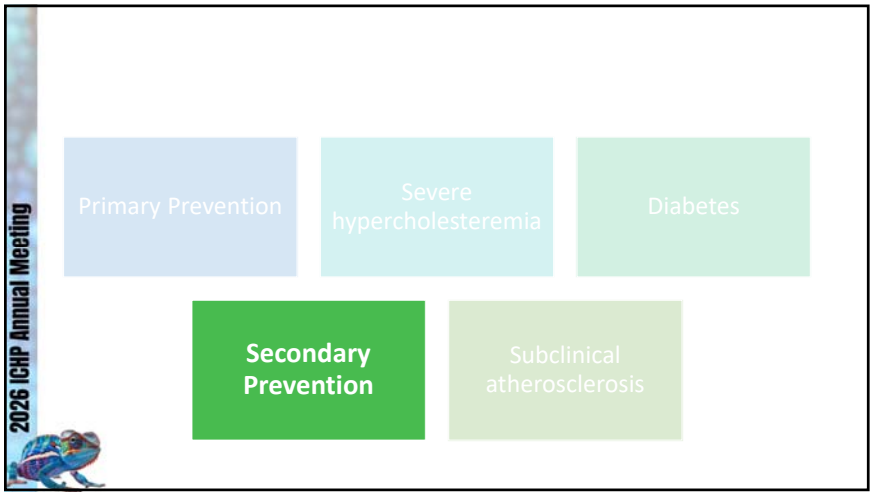

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Very High Risk Clinical ASCVD

≥2 major ASCVD events

1 major ASCVD event and ≥2 high-risk conditions

Major ASCVD Events	High-Risk Conditions
• ACS within the past 12 months • History of MI (other than ACS above) • History of ischemic stroke • Symptomatic PAD	• Age ≥65 years old • Coronary bypass or percutaneous intervention • Current smoker • Diabetes • Hx of congestive heart failure • Hypertension • LDL-C ≥100 mg/dL despite max-tolerated statin and ezetimibe

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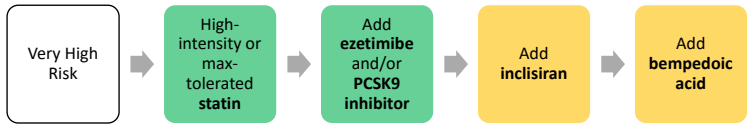
Secondary Prevention: Very High Risk



Move to next step if goals are not achieved:

- ≥50% LDL-C reduction
- LDL-C <55 mg/dL
- Non-HDL-C <85 mg/dL
- (Optional) ApoB <55 mg/dL

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Secondary Prevention: NOT Very High Risk

Not Very High Risk → High-intensity or max-tolerated **statin** → Add **ezetimibe**, **PCSK9 inhibitor**, and/or **bempedoic acid** → Add **inclisiran**

Move to next step if goals are not achieved:

- ≥50% LDL-C reduction
- LDL-C <70 mg/dL
- Non-HDL-C <100 mg/dL
- (Optional) ApoB <70 mg/dL

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Primary Prevention / Severe hypercholesteremia / Diabetes / Secondary Prevention / **Subclinical atherosclerosis**

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Subclinical Coronary Atherosclerosis

CAC 1 to 99 AU	CAC ≥100 to 299 AU	CAC ≥300 to 999 AU	CAC ≥1000 AU
Moderate-intensity **statin**	LDL-C lowering therapy	LDL-C lowering therapy	LDL-C lowering therapy
Goals: • ≥30-49% LDL-C reduction • LDL-C <100 mg/dL • Non-HDL-C <130 mg/dL	Goals: • ≥50% LDL-C reduction • LDL-C <70 mg/dL • Non-HDL-C <100 mg/dL	Goals: • ≥50% LDL-C reduction • LDL-C <70 mg/dL • Non-HDL-C <100 mg/dL • (optional) ApoB <70 mg/dL	Goals: • ≥50% LDL-C reduction • LDL-C <55 mg/dL • Non-HDL-C <85 mg/dL • (optional) ApoB <55 mg/dL

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Summary of Treatment Goals

Patient Population	LDL-C <100 mg/dL Non-HDL-C <130 mg/dL Optional apoB goal <90 mg/dL	LDL-C <70 mg/dL Non-HDL-C <100 mg/dL Optional apoB goal <70 mg/dL	LDL-C <55 mg/dL Non-HDL-C <85 mg/dL Optional apoB goal <55 mg/dL
Primary prevention	PREVENT-ASCVD <10%	PREVENT-ASCVD ≥10%	
Severe hypercholesteremia	Without clinical ASCVD and without FH, ASCVD risk factors, and subclinical atherosclerosis	Without clinical ASCVD and with FH, ASCVD risk factors, or subclinical atherosclerosis	Severe hypercholesteremia and clinical ASCVD
Diabetes	Without ASCVD risk factors or diabetes-specific risk modifiers	PREVENT-ASCVD ≥10% or ASCVD risk factors or diabetes-specific risk modifiers	
Clinical ASCVD *secondary prevention*		Not at very high risk	• At very high risk • With CKD • Optional for patients not at very high risk
Subclinical atherosclerosis	CAC = 1-99 AU and <75th percentile for age, sex, and race	• CAC ≥ 100 to 299 AU or ≥75th percentile for age, sex, and race • CAC ≥ 300 to 999 AU	• CAC ≥ 1000 AU • Optional for CAC ≥ 300 to 999 AU

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Slide 32

kr1 Kris to double check
krisdenzel.tupas, 2026-08-13T17:15:19.367

kr1 0 I added apoB goals to the top instead of having individual bullet points in the rest of the table
krisdenzel.tupas, 2026-08-14T16:48:57.931

Knowledge Check #2- Pharmacists

GY is a 63-year-old female presenting to the cardiology clinic for follow-up. Her PMH includes hypertension and asthma. She recently got a coronary artery CT scan which showed a CAC of 684 AU. Her lipid panel results are below.

Test	Result (mg/dL)
Total cholesterol	201
Triglycerides	129
HDL	46
LDL	129
Non-HDL	155

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Knowledge Check #2- Pharmacists

What is the most appropriate recommendation for this patient?

A. Lifestyle management
B. Initiate a moderate-intensity statin
C. Initiate a high-intensity statin
D. Initiate ezetimibe

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Knowledge Check #3 – All

Select the most appropriate cholesterol goal(s) for this patient. Select all that apply.

A. LDL-C reduction ≥30%
B. LDL-C reduction ≥50%
C. LDL-C <70 mg/dL
D. LDL-C <100 mg/dL

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Lipid-Lowering Therapies

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Statins

Mechanism of Action	HMG-CoA reductase inhibitors
Effects on Cholesterol	↓LDL and TG, ↑HDL
Effects on ASCVD risk	↓ASCVD risk
Evidence to Support Use	Demonstrated by many cardiovascular outcome trials (CVOTs) and meta-analyses **JUPITER trial** • Rosuvastatin 20 mg daily vs. placebo • Inclusion: patients without history of CVD (primary prevention), LDL >130 mg/dL, hs-CRP >2.0 mg/L, and TG <500 mg/dL • Results: Rosuvastatin significantly reduced primary endpoint of nonfatal MI, nonfatal stroke, angina, arterial revascularization, CV death (HR 0.56, CI 0.46-0.69, p<0.00001)

Lexi-Drugs. UpToDate Lexidrug. UpToDate Inc.
Blumenthal et al. JACC. 2026;87(19):2624-2757.
Ridker et al. N Engl J Med. 2008;359(21):2195-2207.

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Statins

High Intensity Reduce LDL ≥50%	Moderate Intensity Reduce LDL 30-50%	Low Intensity Reduce LDL <30%
Atorvastatin 40-80 mg Rosuvastatin 20-40 mg	Atorvastatin 10-20 mg Rosuvastatin 5-10 mg Simvastatin 20-40 mg Pravastatin 40-80 mg Lovastatin 40-80 mg Fluvastatin 80 mg Pitavastatin 1-4 mg	Simvastatin 10 mg Pravastatin 10-20 mg Lovastatin 20 mg Fluvastatin 20-40 mg

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Statins

Statin Name	Lipophilicity	CYP Enzyme	Half-life (hours)
Atorvastatin	+++	3A4	14
Fluvastatin	++	2C9 (2C8, 3A4 minor)	3
Lovastatin	+++	3A4	2-3
Pitavastatin	+	2C9 (2C8 minor)	12
Pravastatin	-	None	1.8
Rosuvastatin	-	2C9	19
Simvastatin	+++	3A4	2

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Statin-Attributed Muscle Symptoms (SAMS)

- Most common: myalgia/muscle aches, stiffness, soreness, tenderness, or cramps, typically symmetric and proximal, with or without an increase in creatine kinase (CK)
- Rare and serious: myonecrosis with marked CK elevation; rhabdomyolysis with acute kidney injury occurs in roughly 1 in 10,000
- Onset usually within weeks of starting or increasing a dose

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Identifying Patients at Higher Risk for SAMS

Patient demographics	Age ≥ 65 years, female sex, low body weight or high BMI (both extremes)
Comorbid conditions	Hypothyroidism, diabetes , chronic liver disease, chronic kidney disease
Muscle/rheumatologic disease	Fibromyalgia, polymyalgia rheumatica, polymyositis, primary myopathies
Lifestyle factors	Alcohol use, vigorous exercise
Drug- and gene-related	High-intensity statin dosing, interacting medications (CYP3A4, OATP1B1 inhibitors), *SLCO1B1* variants

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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Managing SAMS

- Intolerance = SAMS with 2 or more statins, with 1 at lowest FDA-approved dose
- Have benefit/risk discussion
- Evaluate secondary causes of muscle symptoms
  - Excessive muscular activity, disease states, drug interactions
  - ACC's Statin Intolerance tool: https://tools.acc.org/LDL/StatinIntolerance
- If severe myalgias or muscle weakness, measure creatine kinase

Blumenthal et al. JACC. 2026;87(19):2624-2757.

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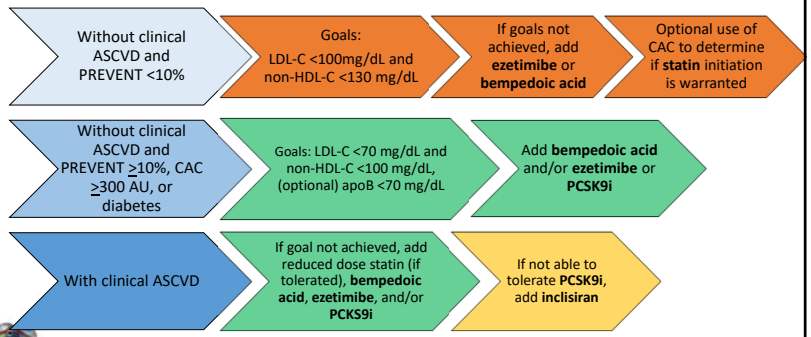
Managing SAMS



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Other Statin Side Effects

- Rare elevation in liver function tests (>3x upper limit of normal)
- Slight increase in risk of new-onset T2DM in patients with predisposing risk factors
  - 9% increased risk in 2010 meta-analysis of 13 statin trials
  - Benefit of statins outweighs risk
- Cognitive impairment
  - Postmarketing reports, not observed in prospective clinical trials
  - Analysis of ASPREE trial found no association with statin use or nonuse with dementia or mild cognitive impairment
  - Generally rare and reversible when statin is discontinued

Blumenthal et al. JACC. 2026;87(19):2624-2757.
Sattar er al. Lancet. 2010;375:735–742
Zhou et al. JACC. 2021;77(25):3145-3156

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Ezetimibe

Mechanism of Action	Inhibits NPC1L1 at the intestinal brush border, reducing cholesterol absorption and upregulating LDL receptors
Effects on Cholesterol	↓LDL (18% to 25% LDL-C reduction); additive to statin therapy
Effects on ASCVD risk	↓ASCVD
Adverse Effects	Generally well tolerated; upper respiratory infection, muscle spasms, hyperuricemia, back pain, abdominal pain, bronchitis, pain in extremity, anemia, elevated liver enzymes
Dosing and Administration	10 mg orally once daily, with or without food
Evidence to Support Use	**IMPROVE-IT** (post-ACS, added to simvastatin) - lowered the composite of CV death, MI, unstable angina rehospitalization, revascularization, and stroke **SHARP** showed event reduction with simvastatin/ezetimibe in CKD
Clinical Pearls	Avoid simvastatin >20 mg and pravastatin >40 mg (increased statin levels/myopathy risk); fibrates may increase triglycerides and decrease HDL-C (monitor)

Lexi-Drugs. UpToDate Lexidrug. UpToDate Inc.
Zhan S et al. Cochrane Database Syst Rev. 2018;(11):CD012502.

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PCSK9 Inhibitors

Mechanism of Action	Monoclonal antibodies (mAb); inhibit binding of proprotein covertase subtilisin kexintype 9 (PCSK9) to LDL receptors
Effects on Cholesterol	↓LDL (≤60%)
Effects on ASCVD risk	↓ASCVD risk
Adverse Effects	Injection site reactions, flu-like symptoms
Dosing and Administration	**Evolocumab (Repatha)** • 140 mg subcutaneously every 2 weeks, OR • 420 mg subcutaneously every month **Alirocumab (Praluent)** • 150 mg subcutaneously every 2 weeks, OR • 300 mg subcutaneously every 4 weeks
Storage	Refrigerated

Lexi-Drugs. UpToDate Lexidrug. UpToDate Inc.

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PCSK9 Inhibitors

Evidence to Support Use	**FOURIER** • Evolocumab vs. Placebo • **Inclusion**: between 40-85 years old with clinical ASCVD, LDL >70 mg/dL or non-HDL >100 mg/dL on max intensity statin +/- ezetimibe • **Results**: Evolocumab significantly reduced the primary composite endpoint of MACE (HR 0.85, CI 0.79-0.92, P<0.001) **ODYSSEY OUTCOMES** • Alirocumab vs. Placebo • **Inclusion**: ≥40 years old with ACS, LDL >70 mg/dL and non-HDL >100 mg/dL, on max intensity statin +/- ezetimibe • **Results**: Alirocumab significantly reduced the primary composite endpoint of MACE (HR 0.85, CI 0.78-0.93, P<0.001)

Sabatine MS et al. N Engl J Med. 2017;376(18):1713-1722.
Schwartz GG et al. N Engl J Med. 2018;379(22):2097-2107.

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Bempedoic Acid

Mechanism of Action	Adenosine triphosphate-citrate lyase (ACL) inhibitor; prodrug activated only in the liver, inhibits cholesterol synthesis upstream of HMG-CoA reductase and upregulates LDL receptors
Effects on Cholesterol	↓LDL (17-18%; 21-24%; in combination with a statin)
Effects on ASCVD risk	↓ASCVD risk
Adverse Effects	Hyperuricemia and gout, tendon rupture, ↑ serum creatinine, ↑ hepatic enzymes, cholelithiasis
Dosing and Administration	180 mg orally once daily, with or without food
Storage	Room temperature
Clinical Pearls	*Brand name only and often requires prior authorization* Avoid simvastatin >20 mg and pravastatin >40 mg (increased statin levels/myopathy risk) Fibrates may increase triglycerides and decrease HDL-C (monitor)

Nexlizet [package insert]. Esperion Therapeutics, Inc.; 2026.

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Bempedoic Acid

Evidence to Support Use	**CLEAR OUTCOMES** • Bempedoic acid vs. Placebo • Inclusion: 18-85 years old, unable or unwilling to take statins, with established ASCVD or at high risk for CVD • Results: Bempedoic acid significantly reduced the primary composite endpoint of MACE (HR 0.87, CI 0.79-0.96, P=0.004) • LDL-C lowering of 21.1% (29.2 mg/dL) vs. placebo at 6 months

Nissen SE et al. *N Engl J Med.* 2023;388(15):1353-1364.

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Inclisiran (Leqvio)

Mechanism of Action	Small interfering RNA (siRNA), reduces production of PCSK9 by inhibiting messenger RNA
Effects on Cholesterol	↓LDL (50%)
Effects on ASCVD risk	Data not available
Adverse Effects	Injection site reactions, arthralgia, bronchitis
Dosing and Administration	Via subcutaneous injection 300 mg initially, then again after 3 months, then once every 6 months Must be administered by a healthcare provider
Storage	Refrigerated
Evidence to Support Use	**ORION 10 and ORION 11** • Inclisiran 300 mg every 3 months vs. placebo • Inclusion: adults with ASCVD or at high risk of ASCVD on max tolerated statin therapy • Results: LDL decreased by ~50%

LEQVIO® (inclisiran). https://www.leqviohcp.com/.
Ray et al. N Engl J Med. 2020;382:1507-1519

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Enlicitide (Lipfendra)

Mechanism of Action	Macrocyclic peptide; binds PCSK9 and inhibits its interaction with LDL receptors – same target as the injectable mAbs, but orally bioavailable
Effects on Cholesterol	↓LDL (56–59% placebo-adjusted); ↓non-HDL-C (~53%), ↓apoB (~50%)
Effects on ASCVD risk	Data not available
Adverse Effects	Similar to placebo in hypercholesterolemia; diarrhea and dizziness in HeFH trial. No contraindications listed
Dosing and Administration	20 mg orally once daily; take on an empty stomach in the morning with water, black coffee, or plain tea (wait ≥ 30 minutes before any other food or drink)
Evidence to Support Use	**CORALreef Lipids and CORALreef HeFH** • Enlicitide vs. placebo • Inclusion: adults needing additional LDL-C lowering on moderate- or high-intensity statin ± other lipid-lowering therapy (lipids: history of or risk for major ASCVD event; HeFH: clinical or genetic diagnosis) • Results: LDL-C reduced 56% (95% CI −61, −51) and 59% (95% CI −66, −53) vs. placebo at week 24, both p<0.001

Lipfendra [package insert]. Merck Sharp & Dohme LLC; 2026

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Lerodalcibep (Lerochol)

Mechanism of Action	Third-generation, non-mAb PCSK9 inhibitor
Effects on Cholesterol	↓LDL (50-55%), ↓ApoB (43%), ↓Lp(a) (30%)
Effects on ASCVD risk	Data not available
Adverse Effects	Injection site reactions, nasopharyngitis, peripheral edema
Dosing and Administration	300 mg subcutaneous injection self-administered once per month Allow med to warm up to room temp for at least 30 minutes if stored in fridge
Storage	Refrigerated, but stable at room temp for up to 3 months

Evidence to Support Use	**LIBerate-CVD and LIBerate-HR**
	• Lerodalcibep 300 mg every 4 weeks vs. placebo
	• Inclusion:
	  ○ CVD: adults with established ASCVD or at very high risk for ASCVD, max tolerated LLT
	  ○ HR: adults at high or very high risk for ASCVD, max tolerated LLT
	• Results: lerodalcibep decreased LDL-C on average by 50-55%

Lerochol (lerodalcibep-Liga) for injection. Package insert. 2025.

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Knowledge Check #4 – Pharmacists

HW is a 68-year-old male with a past medical history of MI s/p stent placement (2025), type 2 diabetes, hypertension, HFrEF, and current cigarette use. He reports adherence to his medications including atorvastatin 80 mg daily. His lipid panel is below:

Test	Result (mg/dL)
Total cholesterol	146
Triglycerides	100
HDL	45
LDL	81
Non-HDL	101

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Knowledge Check #4 – Pharmacists

Which is the most appropriate recommendation to lower cholesterol and ASCVD risk for this patient?

A. No changes
B. Add inclisiran
C. Add bempedoic acid
D. Add alirocumab

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Knowledge Check #5 – Technicians

Which lipid-lowering agents should be refrigerated? Select all that apply.

A. Alirocumab (Praluent)
B. Bempedoic acid (Nexletol)
C. Inclisiran (Leqvio)
D. Rosuvastatin (Crestor)

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Knowledge Check #6: Think-Pair-Share

RT is a 62-year-old man who had an NSTEMI with drug-eluting stent placement 10 months ago. Atorvastatin 80 mg was started at discharge; at week 5 he reported aching in both thighs and shoulders and stopped it on his own. Symptoms resolved in about 3 weeks.

A rechallenge with rosuvastatin 5 mg three times weekly was tolerated for two months, but he now reports the aches are back "not as bad, but they're there." CK has been normal at every check.

Current Medications:
- aspirin 81 mg daily
- metoprolol succinate 50 mg daily lisinopril 20 mg daily
- ezetimibe 10 mg daily
- rosuvastatin 5 mg 3x weekly

LDL-C today: **118 mg/dL** (peak untreated 165 mg/dL)

At the counter, he tells the technician: *"I'm done with these. My cousin's kidneys shut down on one of these drugs. Just take it off my list."*

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Knowledge Check #6: Think-Pair-Share

- ***Everyone:*** What in RT's story argues against calling this a true statin intolerance? What would change your mind?
- ***Technicians:*** What did you hear at the counter that must be handed to the pharmacist, and what can you address yourself? How would you document the refusal so the pharmacist sees it?
- ***Pharmacists:*** RT has had two statins and two dose strategies fail. Do you rechallenge a third time, or move to nonstatin therapy? Why?

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Top 10 Take-Home Messages

1. Treat dyslipidemia earlier
2. Use PREVENT-ASCVD and the "CPR" model
3. Lower treatment thresholds in primary prevention
4. LDL-C and non-HDL-C goals are back
5. ApoB refines residual risk
6. Measure Lp(a) at least once
7. CAC scoring to reclassify risk
8. Treat high-risk conditions regardless of LDL-C
9. Secondary prevention: LDL-C <55 mg/dL
10. Statins stay first-line for high triglycerides

Wiggins BS, et al. J Am Coll Cardiol. 2026;87(19):2617-2623.

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Clearing the Arteries:
Navigating the New Frontier of Dyslipidemia Care

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