LDL-C Management Simplified in Adults: Guidance from the National Lipid Association

A three-step guide to simplifying measurement & management of low-density lipoprotein cholesterol in the blood

Step 1: Measure LDL-C

Universal Lipid Screening: Guideline-Directed Intervals

Children 9-11 Years Old	Young Adults 17-21 Years Old	Adults 21+ Years Old
		

Additional Lipid Screening Intervals

4-12 Weeks	4-12 weeks after initiating lipid-lowering therapy or dose change to assess response & adherence.
3-12 Months	Every 3-12 months thereafter to monitor response & adherence to lipid-lowering therapy.
Annually	Individuals (1) at increased risk for heart disease, stroke, and other CVD risk or (2) on lipid-lowering therapy.
Young Children	Children with a family history of (1) hypercholesterolemia or (2) early CVD should have lipids tested as early as 2 years of age.

Step 2: Assess Risk

Adult LDL-C Levels Requiring Immediate Action

LDL-C ≥ 190 mg/dL	Severe hypercholesterolemia & may identify familial hypercholesterolemia (FH). FH is a genetic disorder causing elevated LDL-C, which can result in major ASCVD events at a young age. FH is common, impacting ~1 in 300 people.	Lower LDL-C & refer to Lipid Specialist

*The threshold for children is typically ≥ 160 mg/dL.

Very High-Risk Individuals

Major ASCVD Events

- ☐ ACS (< last 12 months)
- ☐ MI history (other than ACS above)
- ☐ Ischemic stroke history
- ☐ Symptomatic PAD*

High-Risk Conditions

- ☐ Age ≥ 65 years
- ☐ Diabetes mellitus
- ☐ Hypertension
- ☐ Smoker (current)
- ☐ LDL-C ≥ 100 mg/dL despite maximally tolerated statin & ezetimibe
- ☐ CHF history
- ☐ Heterozygous FH (LDL-C ≥ 190 mg/dL)
- ☐ CKD (eGFR 15-59 mL/min/1.73m^2)
- ☐ Prior coronary artery bypass surgery^
- ☐ Prior percutaneous coronary intervention^

Risk Assessment	LDL-C Objective
2+ Major ASCVD Events or 1 Major ASCVD Event & 2+ High-Risk Conditions	**< 55 mg/dL**

*History of claudification with ABI <0.85 or previous revascularization or amputation ^Outside of the major ASCVD event(s)

High-Risk Individuals

Patients with 1+ of the Following:

- ☐ Type 2 diabetes mellitus
- ☐ Familial Hypercholesterolemia, without a prior event
- ☐ CAC score > 100 AU or ≥ 75th percentile of the CAC score distribution for a particular age and sex
- ☐ Clinical ASCVD without other high-risk features
- ☐ Primary prevention patient with an estimated 10-year event risk of ≥ 20% in a pooled cohort risk calculation

LDL-C Objective: **< 70 mg/dL**

Patients with 1+ of the Following:

- ☐ No clinical ASCVD and baseline LDL-C ≥ 190 mg/dL
- ☐ Calculated 10-year ASCVD risk of 7.5-19.9% by AHA/ACC pooled cohort equation

LDL-C Objective: **< 100 mg/dL**

Optimal LDL-C for healthy adults: **< 100 mg/dL**

ACS: acute coronary syndrome; ACC: American College of Cardiology; AHA: American Heart Association; ABI: ankle-brachial index; ASCVD: atherosclerotic cardiovascular disease; AU: Agatston Units; CAC: coronary artery calcium; CHF: congestive heart failure; CKD: chronic kidney disease; eGFR: estimated glomerular filtration rate; FH: familial hypercholesterolemia; LDL-C: low density lipoprotein cholesterol; MI: myocardial infarction; PAD: peripheral artery disease

Step 3: Manage LDL-C (Adults)

Date: _____	My LDL-C: _____	LDL-C Objective: _____

How Low Can You Go? Low LDL-C Safety

Healthy infants are generally born with LDL-C levels between 30-70 mg/dL. Evidence suggests LDL-C levels between 10-40 mg/dL are safe & that there is an incrementally lower risk of ASCVD events with LDL-C levels below 30 mg/dL.	**10-40 mg/dL**

Diet & Lifestyle

Guidelines & best practices emphasize the importance of a heart healthy diet and lifestyle habits for the management of LDL-C. Reduction in LDL-C from healthy diet and lifestyle is usually limited to 5-15%.	**5-15% LDL ↓**

Statin Medicines

Medicine	Anticipated* % LDL-C Reduction
Low-Intensity Statins ☐ Pravastatin 10-20 mg ☐ Other: _____	**< 30%**
Moderate-Intensity Statins ☐ Atorvastatin 10-20 mg ☐ Rosuvastatin 5-10 mg ☐ Other: _____	**30-49%**
High-Intensity Statins ☐ Atorvastatin 40-80 mg ☐ Rosuvastatin 20-40 mg	**≥ 50%**

Non-Statin Medicines
to Add to Statin Therapy for Further LDL-C Lowering

Medicine	Anticipated* % LDL-C Reduction
Ezetimibe ☐ Ezetimibe	**15-25%**
Bempedoic Acid ☐ Bempedoic acid ☐ Bempedoic acid + ezetimibe	**14-21%** **30-47%**
PCSK9 Inhibitor ☐ Alirocumab 75 mg Q2W^ ☐ Alirocumab 150 mg Q2W^ ☐ Evolocumab 140 mg Q2W^ ☐ Inclisiran	**47%** **58%** **60%** **50%**

*Real world evidence suggests individual patient responses may vary. ^ Every 2 weeks.

Statin Safety & Tolerability

Statins are safe & generally well-tolerated. Most patients can tolerate some of statin therapy (agent, dose, and/or regimen).

Partial Statin Intolerance

Partial statin intolerance is the ability to tolerate a dose of statin that is lower than that required to reach the LDL-C objective.

Complete Statin Intolerance

Complete statin intolerance is the inability to take any statin dose or regimen. *It is estimated that < 5% of people are completely statin intolerant.*

Clinical Judgement for Statin Prescribing

Clinical judgement to personalize statin therapy (agent, dose, and/or regimen) may be appropriate to meet the needs of the individual patient.

High & Very High-Risk Individuals

Individuals at high-risk or very high-risk experiencing statin intolerance should consider non-statin therapy while finding a tolerable statin dose or regimen.

Initiating Non-Statin Therapy

Non-statin therapy may be required for patients who cannot reach their LDL-C objective with diet, lifestyle, and maximally tolerated statin therapy.

Lipid Specialists - Support & Referral

A Lipid Specialist is a clinician with advanced expertise in lipid management, certified by the American Board of Clinical Lipidology. Find a Lipid Specialist at learnyourlipids.com/find-a-clinician/.

Key Points

1. LDL-C must be measured regularly
2. LDL-C is managed based on ASCVD risk
3. Low LDL-C is generally safe
4. Lipid lowering medicines are safe
5. Lipid Specialists are available for support & referral

Continue Therapy after Achieving LDL-C Objective

Individuals should continue LDL-C lowering therapies after meeting their LDL-C objective to avoid an increase in LDL-C, keep managing cardiovascular risk, and prevent future events.

Lower (LDL-C) for Longer is Better!

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Jackson EJ, Willard KE, Ballantyne C. LDL Cholesterol Management Simplified in Adults - Lower for Longer is Better: Guidance from the National Lipid Association. *J Clin Lipidol*. 2025 In press.