BlueCross BlueShield of Illinois

Reimbursement Policy

Policy Number: RPLAB020	**Policy Title:** Cardiovascular Disease Risk Assessment
Approval Date: May 15, 2026	**Effective Date:** Sept. 4, 2026

Policy Disclaimer

If a conflict arises between a Reimbursement Policy and any Plan document under which a member is entitled to covered services, the Plan document will govern. If a conflict arises between a reimbursement policy and any provider contract pursuant to which a provider participates in and/or provides covered services to eligible member(s) and/or plans, the provider's contract will govern. "Plan documents" include, but are not limited to, Certificates of Health Care Benefits, Benefit Booklets, Summary Plan Descriptions, and other coverage documents. Blue Cross and Blue Shield of Illinois may use reasonable discretion interpreting and applying this policy to services being delivered in a particular case. BCBSIL has full and final discretionary authority for their interpretation and application to the extent provided under any applicable Plan documents.

Providers are responsible for submitting accurate documentation of services performed. Providers are expected to submit claims for services rendered using valid code combinations from Health Insurance Portability and Accountability Act approved code sets. Claims should be coded appropriately according to industry standard coding guidelines including, but not limited to: Uniform Billing Editor, American Medical Association, Current Procedural Terminology (CPT®) Assistant, Healthcare Common Procedure Coding System, ICD-10-CM and ICD-10-PCS, National Drug Codes, Diagnosis Related Group guidelines, Centers for Medicare & Medicaid Services National Correct Coding Initiative Policy Manual, CCI table edits and other CMS guidelines.

Claims are subject to the code edit protocols for services and procedures billed. Claim submissions are subject to claim review, including but not limited to, any terms of benefit coverage, provider contract language, medical policies, and reimbursement policies, as well as coding software logic. Upon request, the provider is urged to submit any additional documentation.

Description

The Plan has implemented certain lab management reimbursement criteria. Not all requirements apply to each product. Providers are urged to review Plan documents for eligible coverage for services rendered.

Reimbursement Information

For homocysteine testing for indications other than cardiovascular disease, see CPCPLAB010 Vitamin B12 and Methylmalonic Acid Testing, or CPCPLAB067 Testing of Homocysteine Metabolism-Related Conditions**.**

1. Lipid panel testing (see **NOTE 1**) **may be reimbursable** under **any** of the following conditions:
    a. To screen for cardiovascular disease (CVD) risk;
        i. Every 5 years for individuals ages 18 to 79 years.
        ii. Annually for individuals at increased risk for cardiovascular disease (as defined by 2013 ACC/AHA Pooled Cohort Equations [PCEs] to calculate 10-year risk of CVD events [see **NOTE 2**]). 10-year ASCVD risk cannot be calculated for individuals 39 years of age or younger.
    b. Annually for individuals at an increased risk of dyslipidemia due to **any** of the following conditions:
        i. Obesity or metabolic syndrome;
        ii. Nephrotic syndrome;
        iii. Hypothyroidism;
        iv. Hyperthyroidism;
        v. Pancreatitis;
        vi. Diabetes;
        vii. Chronic kidney disease;
        viii. Cushing Syndrome;
        ix. Pregnancy;
        x. Cholestatic liver disease;
        xi. Lipid metabolism disorders, such as Gaucher disease in adults;
        xii. Being on long-term drug therapy that requires lipid monitoring (e.g., Accutane, anti-psychotics);
        xiii. Family history of elevated lipids;
        xiv. Premature heart disease;
        xv. History of stroke.
    c. For individuals who are about to begin or who are currently receiving statin therapy (e.g., individuals with hyperlipidemia, transplant patients) at the following intervals:
        i. To establish baseline levels before initiating statin therapy;
        ii. Every 4 to 12 weeks after initiation or change of therapy;

iii. Every three to twelve months as clinically indicated.

d. For HIV positive individuals who are about to begin or who are currently receiving antiretroviral therapy (ART) at the following intervals:
    i. To establish baseline levels before initiating ART;
    ii. Every 1 to 3 months after initiation or change of therapy;
    iii. Every 6 to 12 months when no medication changes have occurred.

2. Measurement of apolipoprotein B (apoB) (no more than once every four weeks) **may be reimbursable** for **any** of the following situations:
    a. For individuals with hypertriglyceridemia;
    b. For individuals with diabetes mellitus;
    c. For individuals with obesity or metabolic syndrome
    d. For individuals with other dyslipidemias (such as very low LDL-C)
    e. For individuals who are on lipid therapy
    f. For individuals who are suspected to have familial Dysbetalipoproteinemia or familial combined hyperlipidemia.

3. Measurement of lipoprotein a (Lp(a)) once per lifetime (with measurement occurring when the individual is 18 years of age or older) **may be reimbursable**.

4. For cardiovascular disease risk assessment, CRP testing (conventional measurement or high-sensitivity measurement) **is not reimbursable.**

5. For CVD risk assessment and stratification in the outpatient setting, measurement of high-sensitivity cardiac troponin (hs-cTnT) **is not reimbursable.**

6. For CVD risk assessment screening, evaluation and management, homocysteine testing **is not reimbursable.**

7. For CVD risk assessment, measurement of novel lipid and non-lipid biomarkers (e.g., apolipoprotein AI, apolipoprotein E, B-type natriuretic peptide, cystatin C, fibrinogen, leptin, LDL subclass, HDL subclass, myeloperoxidase) **is not reimbursable.**

8. Other than simple lipid panels (see **NOTE 1**), CVD risk panels consisting of multiple individual biomarkers intended to assess CVD **are not reimbursable.**

9. For CVD risk assessment, measurement of serum intermediate density lipoproteins **is not reimbursable.**

10. Measurement of lipoprotein-associated phospholipase A2 (Lp-PLA2) **is not reimbursable.**

11. For measurement of cardiovascular risk for all indications, measurement of secretory type II phospholipase A2 (SPLA2-IIA) **is not reimbursable.**

12. For all situations, measurement of long-chain omega-3 fatty acids in red blood cell membranes **is not reimbursable.**

13. All other tests for assessing CVD risk **are not reimbursable.**

NOTE 1: A simple lipid panel is generally composed of the following lipid markers:

- Total cholesterol
- LDL cholesterol
- HDL cholesterol
- Triglycerides

Certain calculated ratios, such as the total/HDL cholesterol may also be reported as part of a simple lipid panel.

Other types of lipid testing, e.g., apolipoproteins, lipid particle number or particle size, lipoprotein (a), etc., are not considered to be components of a simple lipid profile.

NOTE 2: 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk (1):
Risk factors include gender, age, race, smoking, hypertension, diabetes, total cholesterol, high- and low-density lipoprotein cholesterol. A race- and sex-specific PCE ASCVD Risk Estimator is available at:
https://tools.acc.org/ldl/ascvd_risk_estimator/index.html#!/calulate/estimator/.

The 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol affirms that "the PCE is a powerful tool to predict population risk, but it has limitations when applied to individuals." Hence a clinician-patient risk discussion can individualize risk status based on PCE, but with the inclusion of additional risk-enhancing factors. These additional factors may include:

- A family history of premature atherosclerotic cardiovascular disease (ASCVD) (males, age <55 y; females, age <65 y)
- Primary hypercholesterolemia (LDL-C, 160–189 mg/dL [4.1–4.8 mmol/L); non–HDL-C 190–219 mg/dL [4.9–5.6 mmol/L])
- Metabolic syndrome (increased waist circumference, elevated triglycerides [>150 mg/dL], elevated blood pressure, elevated glucose, and low HDL-C [<40 mg/dL in men; <50 in women mg/dL] are factors; tally of 3 makes the diagnosis)
- Chronic kidney disease (eGFR 15–59 mL/min/1.73 m2 with or without albuminuria; not treated with dialysis or kidney transplantation)
- Chronic inflammatory conditions such as psoriasis, RA, or HIV/AIDS
- History of premature menopause (before age 40 y) and history of pregnancy-associated conditions that increase later ASCVD risk such as preeclampsia
- High-risk race/ethnicities (e.g., South Asian ancestry)
- Lipid/biomarkers: Associated with increased ASCVD risk
- Persistently elevated, primary hypertriglyceridemia (≥175 mg/dL)
- Elevated high-sensitivity C-reactive protein (≥2.0 mg/L)

- Elevated Lp(a): A relative indication for its measurement is family history of premature ASCVD. An Lp(a) ≥50 mg/dL or ≥125 nmol/L constitutes a risk-enhancing factor especially at higher levels of Lp(a)
- Elevated apoB ≥130 mg/dL: A relative indication for its measurement would be triglyceride ≥200 mg/dL. A level ≥130 mg/dL corresponds to an LDL-C ≥160 mg/dL and constitutes a risk-enhancing factor
- ABI <0.9

Procedure Codes

The following is not an all-encompassing code list. The inclusion of a code does not guarantee it is a covered service or eligible for reimbursement.

Code	Description
80061	LIPID PANEL
81599	UNLISTED MAAA
82172	ASSAY OF APOLIPOPROTEIN
82465	ASSAY BLD/SERUM CHOLESTEROL
82610	CYSTATIN C
83090	ASSAY OF HOMOCYSTEINE
83695	ASSAY OF LIPOPROTEIN(A)
83698	ASSAY LIPOPROTEIN PLA2
83700	LIPOPRO BLD ELECTROPHORETIC
83701	LIPOPROTEIN BLD HR FRACTION
83704	LIPOPROTEIN BLD QUAN PART
83718	ASSAY OF LIPOPROTEIN
83719	ASSAY OF BLOOD LIPOPROTEIN
83721	ASSAY OF BLOOD LIPOPROTEIN
83722	LIPOPRTN DIR MEAS SD LDL CHL
83876	ASSAY MYELOPEROXIDASE
83880	ASSAY OF NATRIURETIC PEPTIDE
84478	ASSAY OF TRIGLYCERIDES
84484	ASSAY OF TROPONIN QUANT
84512	ASSAY OF TROPONIN QUAL
84999	UNLISTED CHEMISTRY PROCEDURE
85384	FIBRINOGEN ACTIVITY
85415	FIBRINOLYTIC PLASMINOGEN
86140	C-REACTIVE PROTEIN
86141	C-REACTIVE PROTEIN HS
0052U	LPOPRTN BLD W/5 MAJ CLASSES
0308U	CRD CAD ALYS 3 PRTN 3 PARAM
0309U	CRD CV DS ALY 4 PRTN PLM ALG
0377U	CV DS QUAN ADVSRM/PLSM LPRTN

0415U	CV DS ACS BLD ALG 5 YR SCORE
0541U	CV DS HDL RCT CEC LC-MS/MS 5
0019M	CV DS PLASMA ALYS PRTN BMRK

References

1. Goff DC, Jr., Lloyd-Jones DM, Bennett G, et al. 2013 ACC/AHA guideline on the assessment of cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*. Jul 1 2014;63(25 Pt B):2935-59. doi:10.1016/j.jacc.2013.11.005
2. AHA. 2025 Heart Disease and Stroke Statistics Update Fact Sheet. https://www.heart.org/en/-/media/PHD-Files-2/Science-News/2/2025-Heart-and-Stroke-Stat-Update/2025-Statistics-At-A-Glance.pdf
3. Wilson PWF. Overview of the possible risk factors for cardiovascular disease. Updated February 18, 2026. https://www.uptodate.com/contents/overview-of-possible-risk-factors-for-cardiovascular-disease
4. Rosenson R. Measurement of blood lipids and lipoproteins. Updated December 19, 2025. https://www.uptodate.com/contents/measurement-of-blood-lipids-and-lipoproteins
5. Patel SS, Rodriguez VA, Siddiqui MB, et al. Management of Dyslipidemia after Liver Transplantation. *American Transplant Congress*. 2019. https://atcmeetingabstracts.com/abstract/management-of-dyslipidemia-after-liver-transplantation/
6. Luo B, Zhong S, Wang X, Guo P, Hou Y, Di W. Management of blood lipids in post-kidney transplant patients: a systematic review and network meta-analysis. *Front Pharmacol*. 2024;15:1440875. doi:10.3389/fphar.2024.1440875
7. Krista L Lentine DCB. Lipid abnormalities after kidney transplantation. Updated January 28, 2026. https://www.uptodate.com/contents/lipid-abnormalities-after-kidney-transplantation
8. MacNamara J, Eapen DJ, Quyyumi A, Sperling L. Novel biomarkers for cardiovascular risk assessment: current status and future directions. *Future cardiology*. Sep 2015;11(5):597-613. doi:10.2217/fca.15.39
9. Wilson P. Atherosclerotic cardiovascular disease risk assessment for primary prevention in adults. Updated December 19, 2025. https://www.uptodate.com/contents/atherosclerotic-cardiovascular-disease-risk-assessment-for-primary-prevention-in-adults-our-approach
10. Rosenson R, Stein J, Durrington P. Lipoprotein(a). Updated January 13, 2026. https://www.uptodate.com/contents/lipoprotein-a

11. Rosenson R. Lipoprotein classification, metabolism, and role in atherosclerosis. Updated June 20, 2025. https://www.uptodate.com/contents/lipoprotein-classification-metabolism-and-role-in-atherosclerosis
12. Antonopoulos AS, Angelopoulos A, Papanikolaou P, et al. Biomarkers of Vascular Inflammation for Cardiovascular Risk Prognostication: A Meta-Analysis. *JACC Cardiovasc Imaging*. Mar 2022;15(3):460-471. doi:10.1016/j.jcmg.2021.09.014
13. Chiesa ST, Charakida M, Georgiopoulos G, et al. Glycoprotein Acetyls: A Novel Inflammatory Biomarker of Early Cardiovascular Risk in the Young. *J Am Heart Assoc*. Feb 15 2022;11(4):e024380. doi:10.1161/jaha.121.024380
14. Morita SY. Metabolism and Modification of Apolipoprotein B-Containing Lipoproteins Involved in Dyslipidemia and Atherosclerosis. *Biol Pharm Bull*. 2016;39(1):1-24. doi:10.1248/bpb.b15-00716
15. Trompet S, Packard CJ, Jukema JW. Plasma apolipoprotein-B is an important risk factor for cardiovascular disease, and its assessment should be routine clinical practice. *Curr Opin Lipidol*. Feb 2018;29(1):51-52. doi:10.1097/mol.0000000000000476
16. Robinson JG, Williams KJ, Gidding S, et al. Eradicating the Burden of Atherosclerotic Cardiovascular Disease by Lowering Apolipoprotein B Lipoproteins Earlier in Life. *J Am Heart Assoc*. Oct 16 2018;7(20):e009778. doi:10.1161/jaha.118.009778
17. Tedeschi-Reiner E, Strozzi M, Skoric B, Reiner Z. Relation of atherosclerotic changes in retinal arteries to the extent of coronary artery disease. *Am J Cardiol*. Oct 15 2005;96(8):1107-9. doi:10.1016/j.amjcard.2005.05.070
18. Lamprea-Montealegre JA, Staplin N, Herrington WG, et al. Apolipoprotein B, Triglyceride-Rich Lipoproteins, and Risk of Cardiovascular Events in Persons with CKD. *Clin J Am Soc Nephrol*. Jan 7 2020;15(1):47-60. doi:10.2215/cjn.07320619
19. Cao J, Nomura SO, Steffen BT, et al. Apolipoprotein B discordance with low-density lipoprotein cholesterol and non-high-density lipoprotein cholesterol in relation to coronary artery calcification in the Multi-Ethnic Study of Atherosclerosis (MESA). *J Clin Lipidol*. Nov 29 2019;doi:10.1016/j.jacl.2019.11.005
20. Hwang YC, Ahn HY, Han KH, Park SW, Park CY. Prediction of future cardiovascular disease with an equation to estimate apolipoprotein B in patients with high cardiovascular risk: an analysis from the TNT and IDEAL study. *Lipids Health Dis*. Aug 22 2017;16(1):158. doi:10.1186/s12944-017-0549-8
21. Mach F, Baigent C, Catapano AL, et al. 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *Eur Heart J*. Aug 31 2019;doi:10.1093/eurheartj/ehz455
22. Sandhu PK, Musaad SM, Remaley AT, et al. Lipoprotein Biomarkers and Risk of Cardiovascular Disease: A Laboratory Medicine Best Practices (LMBP) Systematic Review. *The journal of applied laboratory medicine*. Sep 1 2016;1(2):214-229. doi:10.1373/jalm.2016.021006
23. Kuwahara K, Nakagawa Y, Nishikimi T. Cutting Edge of Brain Natriuretic Peptide (BNP) Research - The Diversity of BNP Immunoreactivity and Its Clinical Relevance. *Circ J*. Sep 25 2018;82(10):2455-2461. doi:10.1253/circj.CJ-18-0824
24. Li N, Wang JA. Brain natriuretic peptide and optimal management of heart failure. *J Zhejiang Univ Sci B*. Sep 2005;6(9):877-84. doi:10.1631/jzus.2005.B0877

25. Tomcsányi J, Somlói M, Bózsik B, Frész T, Nagy E. [The value of early repeated N-terminal pro-B-type natriuretic peptide measurement in acute heart failure]. *Orv Hetil*. Jun 2018;159(25):1009-1012. Az N-terminális pro-B natriureticus peptid mérésének korai ismétlése akut szívelégtelenség miatt hospitalizált betegeken. doi:10.1556/650.2018.31095
26. Mark DB, Cowper PA, Anstrom KJ, et al. Economic and Quality-of-Life Outcomes of Natriuretic Peptide-Guided Therapy for Heart Failure. *Journal of the American College of Cardiology*. Nov 27 2018;72(21):2551-2562. doi:10.1016/j.jacc.2018.08.2184
27. Colucci WS, Chen HH. Natriuretic peptide measurement in heart failure. Updated March 11, 2024. https://www.uptodate.com/contents/natriuretic-peptide-measurement-in-heart-failure
28. Januzzi JL, Jr., Ahmad T, Mulder H, et al. Natriuretic Peptide Response and Outcomes in Chronic Heart Failure With Reduced Ejection Fraction. *Journal of the American College of Cardiology*. Sep 3 2019;74(9):1205-1217. doi:10.1016/j.jacc.2019.06.055
29. Rosenson RS. HDL cholesterol: Clinical aspects of abnormal values. Updated Fbruary 20, 2026. https://www.uptodate.com/contents/hdl-cholesterol-clinical-aspects-of-abnormal-values
30. Grundy SM, Stone Neil J, Bailey Alison L, et al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*. 2019/06/18 2018;139(25):e1082-e1143. doi:10.1161/CIR.0000000000000625
31. Koschinsky ML, Bajaj A, Boffa MB, et al. A focused update to the 2019 NLA scientific statement on use of lipoprotein(a) in clinical practice. *Journal of Clinical Lipidology*. 2024;18(3):e308-e319. doi:10.1016/j.jacl.2024.03.001
32. Willeit P, Ridker PM, Nestel PJ, et al. Baseline and on-statin treatment lipoprotein(a) levels for prediction of cardiovascular events: individual patient-data meta-analysis of statin outcome trials. *Lancet (London, England)*. Oct 13 2018;392(10155):1311-1320. doi:10.1016/s0140-6736(18)31652-0
33. Mehta A, Virani SS, Ayers CR, et al. Lipoprotein(a) and Family History Predict Cardiovascular Disease Risk. *Journal of the American College of Cardiology*. Aug 18 2020;76(7):781-793. doi:10.1016/j.jacc.2020.06.040
34. Rule AD, Glassock RJ. The aging kidney. Updated September 3, 2024. https://www.uptodate.com/contents/the-aging-kidney
35. Sarnak M, Gibson CM. Chronic kidney disease and coronary heart disease. Updated June 12, 2025. https://www.uptodate.com/contents/chronic-kidney-disease-and-coronary-heart-disease
36. Maners J, Gill D, Pankratz N, Tang W. Abstract P106: Genetically Determined Fibrinogen, Gamma Prime Fibrinogen and Risk of Venous Thromboembolism and Ischemic Stroke: Evidence From Mendelian Randomization. *American Heart Association*. 2019;doi:10.1161/circ.139.suppl_1.P106
37. Pieters M, Ferreira M, de Maat MPM, Ricci C. Biomarker association with cardiovascular disease and mortality - The role of fibrinogen. A report from the NHANES study. *Thromb Res*. Dec 16 2020;198:182-189. doi:10.1016/j.thromres.2020.12.009

38. Yang H, Guo W, Li J, et al. Leptin concentration and risk of coronary heart disease and stroke: A systematic review and meta-analysis. *PloS one*. 2017;12(3):e0166360. doi:10.1371/journal.pone.0166360
39. Liu G, Dong M, Ma S, et al. Serum leptin is associated with first-ever ischemic stroke, lesion size and stroke severity in a Chinese cohort. *Neurol Res*. Feb 2019;41(2):125-131. doi:10.1080/01616412.2018.1544399
40. Pignone MP. Low-density lipoprotein cholesterol-lowering therapy in the primary prevention of cardiovascular disease. Updated June 27, 2024. https://www.uptodate.com/contents/low-density-lipoprotein-cholesterol-lowering-therapy-in-the-primary-prevention-of-cardiovascular-disease
41. Reklou A, Katsiki N, Karagiannis A, Athyros V. Effects of Lipid Lowering Drugs on Arterial Stiffness: One More Way to Reduce Cardiovascular Risk? *Curr Vasc Pharmacol*. 2020;18(1):38-42. doi:10.2174/1570161117666190121102323
42. Kongpakwattana K, Ademi Z, Chaiyasothi T, et al. Cost-Effectiveness Analysis of Non-Statin Lipid-Modifying Agents for Secondary Cardiovascular Disease Prevention Among Statin-Treated Patients in Thailand. *Pharmacoeconomics*. Oct 2019;37(10):1277-1286. doi:10.1007/s40273-019-00820-6
43. Boekholdt SM, Hovingh GK, Mora S, et al. Very low levels of atherogenic lipoproteins and the risk for cardiovascular events: a meta-analysis of statin trials. *Journal of the American College of Cardiology*. Aug 5 2014;64(5):485-94. doi:10.1016/j.jacc.2014.02.615
44. Beauchemin M, Geguchadze R, Guntur AR, et al. Exploring mechanisms of increased cardiovascular disease risk with antipsychotic medications: Risperidone alters the cardiac proteomic signature in mice. *Pharmacol Res*. Dec 23 2019;152:104589. doi:10.1016/j.phrs.2019.104589
45. Polcwiartek C, Kragholm K, Schjerning O, Graff C, Nielsen J. Cardiovascular safety of antipsychotics: a clinical overview. *Expert Opin Drug Saf*. May 2016;15(5):679-88. doi:10.1517/14740338.2016.1161021
46. Howell S, Yarovova E, Khwanda A, Rosen SD. Cardiovascular effects of psychotic illnesses and antipsychotic therapy. *Heart*. Dec 2019;105(24):1852-1859. doi:10.1136/heartjnl-2017-312107
47. Kilicaslan EE, Karakilic M, Erol A. The Relationship between 10 Years Risk of Cardiovascular Disease and Schizophrenia Symptoms: Preliminary Results. *Psychiatry Investig*. Dec 2019;16(12):933-939. doi:10.30773/pi.2019.0063
48. Rotella F, Cassioli E, Calderani E, et al. Long-term metabolic and cardiovascular effects of antipsychotic drugs. A meta-analysis of randomized controlled trials. *Eur Neuropsychopharmacol*. Jan 6 2020;doi:10.1016/j.euroneuro.2019.12.118
49. Pile HD, Sadiq NM. *Isotretinoin*. StatPearls Publishing; 2019. https://www.ncbi.nlm.nih.gov/pubmed/30247824
50. Güler E, Babur Güler G, Yavuz C, Kızılırmak F. An unknown side effect of isotretinoin: pericardial effusion with atrial tachycardia. *Anatol J Cardiol*. Feb 2015;15(2):168-9. doi:10.5152/akd.2015.5790
51. Akcay M, Yuksel S. Isotretinoin-associated possible Kounis syndrome: A case report and a review of other cardiovascular side effects reported in the literature. *Turk Kardiyol Dern Ars*. Jun 2019;47(4):324-328. Isotretinoin ile iliskili olasi Kounis sendromu: Olgu

sunumu ve diger kardiyovaskuler yan etkilerin literatur derlemesi. doi:10.5543/tkda.2018.67055
52. Alan S, Unal B, Yildirim A. Premature ventricular contractions associated with isotretinoin use. *An Bras Dermatol*. Nov-Dec 2016;91(6):820-821. doi:10.1590/abd1806-4841.20165138
53. Karadag AS, Gumrukcuoglu HA, Gunes Bilgili S, et al. Does isotretinoin therapy have any effects on electrocardiography, heart rate and blood pressure? *J Dermatolog Treat*. Jun 2012;23(3):168-71. doi:10.3109/09546634.2010.546831
54. Zane LT, Leyden WA, Marqueling AL, Manos MM. A population-based analysis of laboratory abnormalities during isotretinoin therapy for acne vulgaris. *Arch Dermatol*. Aug 2006;142(8):1016-22. doi:10.1001/archderm.142.8.1016
55. Lee YH, Scharnitz TP, Muscat J, Chen A, Gupta-Elera G, Kirby JS. Laboratory Monitoring During Isotretinoin Therapy for Acne: A Systematic Review and Meta-analysis. *JAMA Dermatol*. Jan 2016;152(1):35-44. doi:10.1001/jamadermatol.2015.3091
56. Crea F, Morrow DA. C-reactive protein in cardiovascular disease. Updated August 5, 2025. https://www.uptodate.com/contents/c-reactive-protein-in-cardiovascular-disease
57. Mehta A, Blumenthal RS, Gluckman TJ, Feldman DI, Kohli P. High-sensitivity C-reactive Protein in Atherosclerotic Cardiovascular Disease: To Measure or Not to Measure? *US Cardiol*. 2025;19:e06. doi:10.15420/usc.2024.25
58. Rosenson RS, Smith CC, Bauer KA. Overview of homocysteine. Updated March 5, 2026. https://www.uptodate.com/contents/overview-of-homocysteine
59. Varbo A, Benn M, Tybjaerg-Hansen A, Jorgensen AB, Frikke-Schmidt R, Nordestgaard BG. Remnant cholesterol as a causal risk factor for ischemic heart disease. *Journal of the American College of Cardiology*. Jan 29 2013;61(4):427-36. doi:10.1016/j.jacc.2012.08.1026
60. Jepsen A-MK, Langsted A, Varbo A, Bang LE, Kamstrup PR, Nordestgaard BG. Increased Remnant Cholesterol Explains Part of Residual Risk of All-Cause Mortality in 5414 Patients with Ischemic Heart Disease. *Clinical Chemistry*. 2016;62(4):593. doi:10.1373/clinchem.2015.253757
61. Joshi PH, Khokhar AA, Massaro JM, et al. Remnant Lipoprotein Cholesterol and Incident Coronary Heart Disease: The Jackson Heart and Framingham Offspring Cohort Studies. 2016-05-01 2016;doi:10.1161/JAHA.115.002765
62. Varbo A, Benn M, Nordestgaard BG. Remnant cholesterol as a cause of ischemic heart disease: evidence, definition, measurement, atherogenicity, high risk patients, and present and future treatment. *Pharmacology & therapeutics*. Mar 2014;141(3):358-67. doi:10.1016/j.pharmthera.2013.11.008
63. Di Angelantonio E, Sarwar N, Perry P, et al. Major lipids, apolipoproteins, and risk of vascular disease. *Jama*. Nov 11 2009;302(18):1993-2000. doi:10.1001/jama.2009.1619
64. Rosenson RS, Stafforini DM. Modulation of oxidative stress, inflammation, and atherosclerosis by lipoprotein-associated phospholipase A2. *Journal of lipid research*. Sep 2012;53(9):1767-82. doi:10.1194/jlr.R024190
65. LPSC. Lipoprotein-associated phospholipase A2 and risk of coronary disease, stroke, and mortality: collaborative analysis of 32 prospective studies. *The Lancet*. 2010/05/01 2010;375(9725):1536-1544. doi:10.1016/S0140-6736(10)60319-4
66. Garg PK, McClelland RL, Jenny NS, et al. Lipoprotein-associated phospholipase A2 and risk of incident cardiovascular disease in a multi-ethnic cohort: The multi ethnic study of

atherosclerosis. *Atherosclerosis*. Jul 2015;241(1):176-82. doi:10.1016/j.atherosclerosis.2015.05.006
67. Sudhir K. Lipoprotein-associated phospholipase A2, vascular inflammation and cardiovascular risk prediction. *Vascular health and risk management*. 2006;2(2):153-6. doi:10.2147/vhrm.2006.2.2.153
68. Mohler ER, 3rd, Ballantyne CM, Davidson MH, et al. The effect of darapladib on plasma lipoprotein-associated phospholipase A2 activity and cardiovascular biomarkers in patients with stable coronary heart disease or coronary heart disease risk equivalent: the results of a multicenter, randomized, double-blind, placebo-controlled study. *Journal of the American College of Cardiology*. Apr 29 2008;51(17):1632-41. doi:10.1016/j.jacc.2007.11.079
69. De Stefano A, Mannucci L, Tamburi F, et al. Lp-PLA2, a new biomarker of vascular disorders in metabolic diseases. *Int J Immunopathol Pharmacol*. Jan-Dec 2019;33:2058738419827154. doi:10.1177/2058738419827154
70. Mozaffarian D. Fish oil: Physiologic effects and administration. Updated August 14, 2024. https://www.uptodate.com/contents/fish-oil-physiologic-effects-and-administration
71. de Oliveira Otto MC, Wu JH, Baylin A, et al. Circulating and dietary omega-3 and omega-6 polyunsaturated fatty acids and incidence of CVD in the Multi-Ethnic Study of Atherosclerosis. *J Am Heart Assoc*. Dec 18 2013;2(6):e000506. doi:10.1161/jaha.113.000506
72. Superko HR, Superko AR, Lundberg GP, et al. Omega-3 Fatty Acid Blood Levels Clinical Significance Update. *Curr Cardiovasc Risk Rep*. 2014;8(11)doi:10.1007/s12170-014-0407-4
73. Itakura H, Yokoyama M, Matsuzaki M, et al. Relationships between plasma fatty acid composition and coronary artery disease. *J Atheroscler Thromb*. 2011;18(2):99-107. doi:10.5551/jat.5876
74. Bosch J, Gerstein HC, Dagenais GR, et al. n-3 fatty acids and cardiovascular outcomes in patients with dysglycemia. *The New England journal of medicine*. Jul 26 2012;367(4):309-18. doi:10.1056/NEJMoa1203859
75. Rizos EC, Ntzani EE, Bika E, Kostapanos MS, Elisaf MS. Association between omega-3 fatty acid supplementation and risk of major cardiovascular disease events: a systematic review and meta-analysis. *Jama*. Sep 12 2012;308(10):1024-33. doi:10.1001/2012.jama.11374
76. Siscovick DS, Barringer TA, Fretts AM, et al. Omega-3 Polyunsaturated Fatty Acid (Fish Oil) Supplementation and the Prevention of Clinical Cardiovascular Disease: A Science Advisory From the American Heart Association. *Circulation*. Apr 11 2017;135(15):e867-e884. doi:10.1161/cir.0000000000000482
77. Gibson M, Morrow, D. Elevated cardiac troponin concentration in the absence of an acute coronary syndrome. Updated November 26, 2025. https://www.uptodate.com/contents/elevated-cardiac-troponin-concentration-in-the-absence-of-an-acute-coronary-syndrome
78. Jaffe AS. Troponin testing: Analytical considerations. Updated March 2, 2026. https://www.uptodate.com/contents/troponin-testing-analytical-considerations

79. Ford I, Shah AS, Zhang R, et al. High-Sensitivity Cardiac Troponin, Statin Therapy, and Risk of Coronary Heart Disease. *Journal of the American College of Cardiology*. Dec 27 2016;68(25):2719-2728. doi:10.1016/j.jacc.2016.10.020
80. Tang O, Matsushita K, Coresh J, et al. High-Sensitivity Cardiac Troponin I for Risk Stratification in Older Adults. *J Am Geriatr Soc*. Nov 4 2020;doi:10.1111/jgs.16912
81. Suthahar N, Meems LMG, van Veldhuisen DJ, et al. High-Sensitivity Troponin-T and Cardiovascular Outcomes in the Community: Differences Between Women and Men. *Mayo Clin Proc*. Jun 2020;95(6):1158-1168. doi:10.1016/j.mayocp.2020.01.017
82. Genova Diagnostics. Cardio Check. https://www.gdx.net/core/sample-reports/Cardio-Check-Sample-Report.pdf
83. Cleveland HeartLab. The Science. https://www.clevelandheartlab.com/providers/the-science/
84. Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*. Sep 10 2019;140(11):e596-e646. doi:10.1161/cir.0000000000000678
85. Stone NJ, Robinson JG, Lichtenstein AH, et al. 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*. Jul 1 2014;63(25 Pt B):2889-934. doi:10.1016/j.jacc.2013.11.002
86. Greenland P, Alpert JS, Beller GA, et al. 2010 ACCF/AHA guideline for assessment of cardiovascular risk in asymptomatic adults: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*. Dec 14 2010;56(25):e50-103. doi:10.1016/j.jacc.2010.09.001
87. ACC. 2018 Guideline on the Management of Blood Cholesterol. https://www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2018/Guidelines-Made-Simple-Tool-2018-Cholesterol.pdf
88. Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Hypertension (Dallas, Tex : 1979)*. Jun 2018;71(6):1269-1324. doi:10.1161/hyp.0000000000000066
89. American Diabetes Association Professional Practice C. 10. Cardiovascular Disease and Risk Management: Standards of Care in Diabetes-2026. *Diabetes Care*. Jan 1 2026;48(Supplement_1):S207-S238. doi:10.2337/dc26-S010
90. ElSayed NA, Aleppo G, Aroda VR, et al. 10. Cardiovascular Disease and Risk Management: Standards of Care in Diabetes-2023. *Diabetes Care*. Jan 1 2023;46(Suppl 1):S158-S190. doi:10.2337/dc23-S010
91. American Diabetes A. 10. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes-2021. *Diabetes Care*. Jan 2021;44(Suppl 1):S125-S150. doi:10.2337/dc21-S010

92. American Diabetes Association Professional Practice C. 14. Children and Adolescents: Standards of Care in Diabetes-2026. *Diabetes Care*. Jan 1 2026;47(Suppl 1):S258-S281. doi:10.2337/dc26-S014
93. Wilson DP, Jacobson TA, Jones PH, et al. Use of Lipoprotein(a) in clinical practice: A biomarker whose time has come. A scientific statement from the National Lipid Association. *J Clin Lipidol*. May-Jun 2019;13(3):374-392. doi:10.1016/j.jacl.2019.04.010
94. Wilson PWF, Jacobson TA, Martin SS, et al. Lipid measurements in the management of cardiovascular diseases: Practical recommendations a scientific statement from the national lipid association writing group. *Journal of Clinical Lipidology*. 2021;15(5):629-648. doi:10.1016/j.jacl.2021.09.046
95. Jackson EJ, Willard K-E, Ballantyne CM. LDL cholesterol management simplified in adults—lower for longer is better: Guidance from the National Lipid Association. *Journal of Clinical Lipidology*. 2025;19(5):1200-1207. doi:10.1016/j.jacl.2025.06.002
96. Soffer DE, Marston NA, Maki KC, et al. Role of apolipoprotein B in the clinical management of cardiovascular risk in adults: An Expert Clinical Consensus from the National Lipid Association. *Journal of Clinical Lipidology*. 2024;18(5):e647-e663. doi:10.1016/j.jacl.2024.08.013
97. CDC. Cardiovascular Disease Biomarker Standardization Programs. Updated April 24, 2024. https://www.cdc.gov/clinical-standardization-programs/php/cvd/
98. CDC. Heart Disease Risk Factors. Updated December 2, 2024. https://www.cdc.gov/heart-disease/risk-factors/
99. CDC. LSP: Lipids Standardization Program. Updated December 2023. https://wwwn.cdc.gov/dlsdata/lspds/pdf/UserManual.pdf
100. Pearson TA, Mensah GA, Alexander RW, et al. Markers of inflammation and cardiovascular disease: application to clinical and public health practice: A statement for healthcare professionals from the Centers for Disease Control and Prevention and the American Heart Association. *Circulation*. Jan 28 2003;107(3):499-511. doi:10.1161/01.cir.0000052939.59093.45
101. CMS. Lipid Testing https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=102
102. Reyes-Soffer G, Ginsberg HN, Berglund L, et al. Lipoprotein(a): A Genetically Determined, Causal, and Prevalent Risk Factor for Atherosclerotic Cardiovascular Disease: A Scientific Statement From the American Heart Association. *Arterioscler Thromb Vasc Biol*. Jan 2022;42(1):e48-e60. doi:10.1161/ATV.0000000000000147
103. Jellinger PS, Handelsman Y, Rosenblit PD, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Guidlines for Management of Dyslipidemia and Prevention of Cardiovascular Disease. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*. Apr 2017;23(Suppl 2):1-87. doi:10.4158/ep171764.appgl
104. AACE. Consensus Statement by The American Association Of Clinical Endocrinologists And American College Of Endocrinology On The Management Of Dyslipidemia And Prevention Of Cardiovascular Disease Algorithm – 2020 Executive Summary. 2021. https://pro.aace.com/pdfs/lipids/CS-2020-0490.pdf
105. Patel SB, Belalcazar LM, Afreen S, et al. American Association of Clinical Endocrinology Consensus Statement: Algorithm for Management of Adults with

Dyslipidemia – 2025 Update. *Endocrine Practice*. 2025;31(10):1207-1238. doi:10.1016/j.eprac.2025.07.014
106. Garber AJ, Handelsman Y, Grunberger G, et al. Consensus Statement by the American Association of Clinical Endocrinologists and American College of Endocrinology on the Comprehensive Type 2 Diabetes Management Algorithm– 2020 Executive Summary. *Endocrine Practice*. 2020/01/01 2020;26(1):107-139. doi:10.4158/CS-2019-0472
107. Visseren FLJ, Mach F, Smulders YM, et al. 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice: Developed by the Task Force for cardiovascular disease prevention in clinical practice with representatives of the European Society of Cardiology and 12 medical societies With the special contribution of the European Association of Preventive Cardiology (EAPC). *European Heart Journal*. 2021;42(34):3227-3337. doi:10.1093/eurheartj/ehab484
108. Mach F, Koskinas KC, Roeters van Lennep JE, et al. 2025 Focused Update of the 2019 ESC/EAS Guidelines for the management of dyslipidaemias: Developed by the task force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and the European Atherosclerosis Society (EAS). *European Heart Journal*. 2025;46(42):4359-4378. doi:10.1093/eurheartj/ehaf190
109. Catapano AL, Graham I, De Backer G, et al. 2016 ESC/EAS Guidelines for the Management of Dyslipidaemias. *Eur Heart J*. Oct 14 2016;37(39):2999-3058. doi:10.1093/eurheartj/ehw272
110. Cosentino F, Grant PJ, Aboyans V, et al. 2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD: The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD). *European Heart Journal*. 2020;41(2):255-323. doi:10.1093/eurheartj/ehz486
111. Newman CB, Blaha MJ, Boord JB, et al. Lipid Management in Patients with Endocrine Disorders: An Endocrine Society Clinical Practice Guideline. *The Journal of Clinical Endocrinology & Metabolism*. 2020;105(12):3613-3682. doi:10.1210/clinem/dgaa674
112. Rosenzweig JL, Bakris GL, Berglund LF, et al. Primary Prevention of ASCVD and T2DM in Patients at Metabolic Risk: An Endocrine Society* Clinical Practice Guideline. *J Clin Endocrinol Metab*. Jul 31 2019;doi:10.1210/jc.2019-01338
113. AAFP. Choosing Wisely Recommendations. https://www.aafp.org/pubs/afp/collections/choosing-wisely/316.html
114. Wong ND, Budoff MJ, Ferdinand K, et al. Atherosclerotic cardiovascular disease risk assessment: An American Society for Preventive Cardiology clinical practice statement. *Am J Prev Cardiol*. Jun 2022;10:100335. doi:10.1016/j.ajpc.2022.100335
115. NICE. Cardiovascular disease: risk assessment and reduction, including lipid modification. Updated December 14, 2023. https://www.nice.org.uk/guidance/ng238
116. Bibbins-Domingo K, University of California SF, Grossman DC, et al. Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: US Preventive Services Task Force Recommendation Statement. *Jama*. 2017;316(19):1997-2007. doi:10.1001/jama.2016.15450
117. Chou R, Dana T, Blazina I, Daeges M, Bougatsos C, Jeanne TL. Screening for Dyslipidemia in Younger Adults: A Systematic Review for the U.S. Preventive Services

Task Force. *Annals of internal medicine*. Oct 18 2016;165(8):560-564. doi:10.7326/m16-0946
118. USPSTF. Risk assessment for cardiovascular disease with nontraditional risk factors: Us preventive services task force recommendation statement. *Jama*. 2018;320(3):272-280. doi:10.1001/jama.2018.8359
119. USPSTF. Screening for abnormal blood glucose and type 2 diabetes mellitus: U.s. preventive services task force recommendation statement. *Annals of internal medicine*. 2015;163(11):861-868. doi:10.7326/M15-2345
120. USPSTF. Screening for Cardiovascular Disease Risk With Electrocardiography: US Preventive Services Task Force Recommendation Statement. *Jama*. 2018;319(22):2308-2314. doi:10.1001/jama.2018.6848
121. Moyer VA. Screening for primary hypertension in children and adolescents: U.S. Preventive Services Task Force recommendation statement. *Annals of internal medicine*. Nov 5 2013;159(9):613-9. doi:10.7326/0003-4819-159-9-201311050-00725
122. USPSTF. High Blood Pressure in Children and Adolescents: Screening. Updated November 10, 2020. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/blood-pressure-in-children-and-adolescents-hypertension-screening
123. USPSTF. Hypertension in Adults: Screening. Updated April 27, 2021. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hypertension-in-adults-screening
124. Pearson GJ, Thanassoulis G, Anderson TJ, et al. 2021 Canadian Cardiovascular Society Guidelines for the Management of Dyslipidemia for the Prevention of Cardiovascular Disease in Adults. *Can J Cardiol*. Aug 2021;37(8):1129-1150. doi:10.1016/j.cjca.2021.03.016
125. Thompson MA, Horberg MA, Agwu AL, et al. Primary Care Guidance for Persons With Human Immunodeficiency Virus: 2020 Update by the HIV Medicine Association of the Infectious Diseases Society of America. *Clinical Infectious Diseases*. 2020;73(11):e3572-e3605. doi:10.1093/cid/ciaa1391
126. Aberg JA, Gallant JE, Ghanem KG, Emmanuel P, Zingman BS, Horberg MA. Primary Care Guidelines for the Management of Persons Infected With HIV: 2013 Update by the HIV Medicine Association of the Infectious Diseases Society of America. *Clinical Infectious Diseases*. 2014;58(1):e1-e34. doi:10.1093/cid/cit665
127. O'Malley PG, Arnold MJ, Kelley C, et al. Management of Dyslipidemia for Cardiovascular Disease Risk Reduction: Synopsis of the 2020 Updated U.S. Department of Veterans Affairs and U.S. Department of Defense Clinical Practice Guideline. *Annals of internal medicine*. Nov 17 2020;173(10):822-829. doi:10.7326/m20-4648
128. VA, DoD. VA/DOD Clinical Practice Guidelines. https://www.healthquality.va.gov/guidelines/CD/lipids/
129. NHS. Lipid Management in Renal Transplant Patients Clinical Guideline. 2025. https://doclibrary-rcht.cornwall.nhs.uk/DocumentsLibrary/RoyalCornwallHospitalsTrust/Clinical/Renal/LipidManagementInRenalTransplantPatientsClinicalGuideline.pdf

Policy History

Approval Date	Description
05/15/2026	09/04/2026; Document updated with literature review. The following changes were made to Reimbursement Information: As risk factors (not general screening) are age dependent, "For individuals 18 years of age or older" removed from #1. #1.a.i. Changed "Every 4 years" to "Every 5 years" based on NLA updates #1.a.ii., for clarity, added "10-year ASCVD risk cannot be calculated for individuals 39 years of age or younger." Moved #1.d. into #1. b. annual testing based on elevated risk of dyslipidemia, as the long-term drug therapy is elevating their risk of dyslipidemia. 2025 NLA update results in addition of #1.b.xiii., 1.b.xiv., and 1.b.xv.: "xiii) Family history of elevated lipids xiv) Premature heart disease xv) History of stroke" #1.c., added "therapy (e.g., individuals with hyperlipidemia, transplant patients)" #1.c.iii, annual recommendation changed to "iii) Every three to twelve months as clinically indicated." based on 2025 NLA updates #2, added "(no more than once every four weeks)" frequency based on 2024 NLA guideline Removed #4 allowing hs-CRP, as 2025 VA/DoD guideline update recommending against its general use, along with statements from USPSTF and weaker general support for hs-CRP. #3 Revised to consider measurement of lipoprotein a (Lp(a)) once per lifetime (with measurement occurring when the individual is 18 years of age or older) as reimbursable. Removal of #4 results in changes to former #5, now #4, now reads: "4) For cardiovascular disease risk assessment, CRP testing (conventional measurement or high-sensitivity measurement) is not reimbursable." Former #8, now #7, added "myeloperoxidase" #10, Lp-PLA2 is not reimbursable, resulting in removal of "For CVD risk assessment", as this test is not reimbursable for any indication. Added code 83876. References revised.
09/05/2025	01/01/2026: New policy.