



BlueCross BlueShield
of Oklahoma

If a conflict arises between a Clinical Payment and Coding 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 CPCP 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 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 Oklahoma may use reasonable discretion interpreting and applying this policy to services being delivered in a particular case. BCBSOK has full and final discretionary authority for their interpretation and application to the extent provided under any applicable plan documents.

Providers are responsible for submission of 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 PCS, National Drug Codes, Diagnosis Related Group guidelines, Centers for Medicare and 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/procedures billed. Claim submissions are subject to claim review including but not limited to, any terms of benefit coverage, provider contract language, medical policies, clinical payment and coding policies as well as coding software logic. Upon request, the provider is urged to submit any additional documentation.

Cardiovascular Disease Risk Assessment

Policy Number: CPCPLAB020

Version 1.0

Approval Date: July 25, 2025

Plan Effective Date: November 7, 2025

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 Lipid Screening in individuals under 18 years of age, see CPCPLAB016 Pediatric Preventive Screening.

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. For individuals 18 years of age and older, 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 4 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**]).
 - 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.
 - c. For individuals who are about to begin or who are currently receiving statin therapy 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. Annually when no medication changes have occurred.
 - d. Annually for individuals on a long-term drug therapy that requires lipid monitoring (e.g., Accutane, anti-psychotics).
 - e. 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) **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)) **is not reimbursable** as an adjunct to low-density lipoproteins (LDL) cholesterol in the risk assessment and management of cardiovascular disease.
- 4. For individuals for whom a risk-based treatment decision is uncertain (after quantitative risk assessment using ACC/AHA PCEs to calculate 10-year risk of CVD events [see **NOTE 2**]), testing for C-reactive protein with the high-sensitivity method (hsCRP) **may be reimbursable** at the following frequency:
 - a. One test for initial screening;
 - b. If the initial screen was abnormal, confirmatory testing no sooner than two weeks after the initial test;
 - c. Annual screening for those with elevated hs-CRP that has been confirmed.
- 5. The following testing for CRP **is not reimbursable**:
 - a. Hs-CRP testing for all other cardiovascular disease risk assessments not described above;
 - b. Conventional CRP testing for cardiovascular disease risk assessment.
- 6. For CVD risk assessment and stratification in the outpatient setting, measurement of high-sensitivity cardiac troponin (hs-cTnT) **is not reimbursable**.
- 7. For CVD risk assessment screening, evaluation and management, homocysteine testing **is not reimbursable**.
- 8. 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) **is not reimbursable**.
- 9. Other than simple lipid panels (see **NOTE 1**), CVD risk panels consisting of multiple individual biomarkers intended to assess CVD **are not reimbursable**.
- 10. For CVD risk assessment, measurement of serum intermediate density lipoproteins **is not reimbursable**.

11. For CVD risk assessment, measurement of lipoprotein-associated phospholipase A2 (Lp-PLA2) **is not reimbursable**.
12. For measurement of cardiovascular risk for all indications, measurement of secretory type II phospholipase A2 (SPLA2-IIA) **is not reimbursable**.
13. For all situations, measurement of long-chain omega-3 fatty acids in red blood cell membranes **is not reimbursable**.
14. 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, i.e., 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#!/calculate/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 (eg, 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.

Codes
80061, 81599, 82172, 82465, 82610, 83090, 83695, 83698, 83700, 83701, 83704, 83718, 83719, 83721, 83722, 83880, 84478, 84484, 84512, 84999, 85384, 85415, 86140, 86141, 0052U, 0308U, 0309U, 0377U, 0415U, 0541U, 0019M

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 P. Overview of the possible risk factors for cardiovascular disease. Updated November 21, 2024. <https://www.uptodate.com/contents/overview-of-possible-risk-factors-for-cardiovascular-disease>
4. Rosenson R. Measurement of blood lipids and lipoproteins. Updated October 1, 2024. <https://www.uptodate.com/contents/measurement-of-blood-lipids-and-lipoproteins>
5. 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
6. Wilson P. Atherosclerotic cardiovascular disease risk assessment for primary prevention in adults. Updated September 20, 2024.

- <https://www.uptodate.com/contents/atherosclerotic-cardiovascular-disease-risk-assessment-for-primary-prevention-in-adults-our-approach>
7. Rosenson R, Stein J, Durrington P. Lipoprotein(a). Updated April 15, 2025. <https://www.uptodate.com/contents/lipoprotein-a-and-cardiovascular-disease>
 8. Rosenson R. Lipoprotein classification, metabolism, and role in atherosclerosis. Updated October 23, 2023. <https://www.uptodate.com/contents/lipoprotein-classification-metabolism-and-role-in-atherosclerosis>
 9. 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
 10. 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
 11. 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
 12. 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
 13. 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
 14. 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
 15. 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
 16. 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
 17. 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
 18. 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
 19. 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
 20. 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

21. Li N, Wang JA. Brain natriuretic peptide and optimal management of heart failure. *J Zhejiang Univ Sci B*. Sep 2005;6(9):877-84.
22. Tomcsányi J, Somló 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
23. 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
24. Colucci W, Chen HH. Natriuretic peptide measurement in heart failure. Updated March 11, 2024. <https://www.uptodate.com/contents/natriuretic-peptide-measurement-in-heart-failure>
25. 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
26. Rosenson R, Durrington P. HDL cholesterol: Clinical aspects of abnormal values. Updated August 6, 2024. <https://www.uptodate.com/contents/hdl-cholesterol-clinical-aspects-of-abnormal-values>
27. 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
28. 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
29. 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
30. Rule A, Glasscock, Richard. The aging kidney. Updated September 3, 2024. <https://www.uptodate.com/contents/the-aging-kidney>
31. Sarnak M, Gibson, Michael, Henrich, William. Chronic kidney disease and coronary heart disease. Updated May 16, 2023. <https://www.uptodate.com/contents/chronic-kidney-disease-and-coronary-heart-disease>
32. 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
33. 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

34. 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
35. 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
36. Pignone MP. Low-density lipoprotein cholesterol-lowering therapy in the primary prevention of cardiovascular disease. Updated June 27, 2024. <https://www.uptodate.com/contents/management-of-elevated-low-density-lipoprotein-cholesterol-ldl-c-in-primary-prevention-of-cardiovascular-disease>
37. 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
38. 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
39. 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. Pile HD, Sadiq NM. Isotretinoin. *StatPearls*. StatPearls Publishing; 2019.
46. Güler E, Babur Güler G, Yavuz C, Kızıllırmak F. An unknown side effect of isotretinoin: pericardial effusion with atrial tachycardia. *Anatol J Cardiol*. Feb 2015;15(2):168-9.
47. 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 ilişkili olası Kounis sendromu: Olgu sunumu ve diğer kardiyovasküler yan etkilerin literatur derlemesi. doi:10.5543/TKDA.2018.67055

48. 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
49. 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
50. 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
51. 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
52. Crea F, Morrow, David. C-reactive protein in cardiovascular disease. Updated November 18, 2024. <https://www.uptodate.com/contents/c-reactive-protein-in-cardiovascular-disease>
53. 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
54. Rosenson RS, Smith CC, Bauer KA. Overview of homocysteine. Updated January 24, 2025. <https://www.uptodate.com/contents/overview-of-homocysteine>
55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
62. 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
63. Sudhir K. Lipoprotein-associated phospholipase A2, vascular inflammation and cardiovascular risk prediction. *Vascular health and risk management*. 2006;2(2):153-6.
 64. 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
 65. 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
 66. Mozaffarian D. Fish oil: Physiologic effects and administration. Updated August 14, 2024. <https://www.uptodate.com/contents/fish-oil-physiologic-effects-and-administration>
 67. 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
 68. 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
 69. 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
 70. 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
 71. 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
 72. 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
 73. Gibson M, Morrow, D. Elevated cardiac troponin concentration in the absence of an acute coronary syndrome. Updated April 17, 2024. <https://www.uptodate.com/contents/elevated-cardiac-troponin-concentration-in-the-absence-of-an-acute-coronary-syndrome>
 74. Jaffe A. Troponin testing: Analytical considerations. Updated April 17, 2024. <https://www.uptodate.com/contents/troponin-testing-analytical-considerations>
 75. 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

76. 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
77. 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
78. Genova Diagnostics. Cardio Check. <https://www.gdx.net/core/sample-reports/Cardio-Check-Sample-Report.pdf>
79. Cleveland HeartLab. The Science. <https://www.clevelandheartlab.com/providers/the-science/>
80. 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
81. 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
82. ACC. 2018 Guideline on the Management of Blood Cholesterol. Updated June 2019. <https://www.acc.org/~media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2018/Guidelines-Made-Simple-Tool-2018-Cholesterol.pdf>
83. 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
84. American Diabetes Association Professional Practice C. 10. Cardiovascular Disease and Risk Management: Standards of Care in Diabetes-2025. *Diabetes Care*. Jan 1 2025;48(Supplement_1):S207-S238. doi:10.2337/dc25-S010
85. 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
86. 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
87. American Diabetes Association Professional Practice C. 14. Children and Adolescents: Standards of Care in Diabetes-2024. *Diabetes Care*. Jan 1 2024;47(Suppl 1):S258-S281. doi:10.2337/dc24-S014
88. 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
89. 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
90. CDC. Cardiovascular Disease Biomarker Standardization Programs. Updated April 24, 2024. <https://www.cdc.gov/clinical-standardization-programs/php/cvd/>
 91. CDC. Heart Disease Risk Factors. Updated December 2, 2024. <https://www.cdc.gov/heart-disease/risk-factors/>
 92. CDC. LSP: Lipids Standardization Program. Updated December, 2023. <https://wwwn.cdc.gov/dlsdata/lspds/pdf/UserManual.pdf>
 93. 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
 94. CMS. Lipid Testing <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=102>
 95. 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
 96. Jellinger PS, Handelsman Y, Rosenblit PD, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Guidelines 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
 97. 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;
 98. 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
 99. 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
 100. 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
 101. 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
102. 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
 103. 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
 104. ASCP. American Society for Clinical Pathology.
<https://www.ascp.org/content/docs/default-source/get-involved-pdfs/20-things-to-question.pdf>
 105. 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
 106. NICE. Cardiovascular disease: risk assessment and reduction, including lipid modification. Updated December 14, 2023.
<https://www.nice.org.uk/guidance/ng238>
 107. 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
 108. 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
 109. 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
 110. 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
 111. 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
 112. 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
 113. USPSTF. High Blood Pressure in Children and Adolescents: Screening.
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/blood-pressure-in-children-and-adolescents-hypertension-screening>
 114. USPSTF. Hypertension in Adults: Screening.
<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hypertension-in-adults-screening>
 115. 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
116. 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
 117. 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
 118. 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

Policy Update History:

Approval Date	Effective Date; Summary of Change
07/25/2025	11/07/2025; Document updated with literature review. The following changes were made to Reimbursement Information: Revised frequency of testing in #4a and #4b, and added #4c, which now reads: 4.For individuals for whom a risk-based treatment decision is uncertain (after quantitative risk assessment using ACC/AHA PCEs to calculate 10-year risk of CVD events [see NOTE 12]), testing for C-reactive protein with the high-sensitivity method (hsCRP) may be reimbursable at the following frequency: a. One test for initial screening; b. If the initial screen was abnormal, confirmatory testing no sooner than two weeks after the initial test; c. Annual screening for those with elevated hs-CRP that has been confirmed. #5 revised to read: 5. The following testing for CPR is not reimbursable: a. Hs-CRP testing for all other cardiovascular disease risk assessments not described above; b. Conventional CRP testing for cardiovascular disease risk assessment. References revised.
02/04/2025	04/15/2025; Added code 0541U. No other changes.
10/30/2024	01/15/2025: Document updated with literature review. The following changes were made to Reimbursement Information: revised 1.a.i to read every 4 years for individuals ages 18 to 79 years. Added “annually” to 1.d. Added code 84512, and removed 04223T. References updated; some added, others revised, some removed.
03/01/2024	03/01/2024: Added codes 0415U and 0019M. No other changes made.

11/01/2023	11/01/2023: Document updated with literature review. Reimbursement Information revised for clarity; and the following changes were made: Addition of frequency to 1b, now allowing lipid panel screening on an annual basis for those with increased risk of dyslipidemia; addition of frequency to #4 for hs-CRP measurement. References revised.
11/01/2022	11/01/2022: New policy