Important note:
Unless otherwise indicated, this policy will apply to all lines of business.
Even though this policy may indicate that a particular service or supply may be considered medically necessary and thus covered, this conclusion is not based upon the terms of your particular benefit plan. Each benefit plan contains its own specific provisions for coverage and exclusions. Not all benefits that are determined to be medically necessary will be covered benefits under the terms of your benefit plan. You need to consult the Evidence of Coverage (EOC) or Summary Plan Description (SPD) to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and your plan of benefits, the provisions of your benefits plan will govern. However, applicable state mandates will take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, Federal mandates will apply to all plans. With respect to Medicare-linked plan members, this policy will apply unless there are Medicare policies that provide differing coverage rules, in which case Medicare coverage rules supersede guidelines in this policy. Medicare-linked plan policies will only apply to benefits paid for under Medicare rules, and not to any other health benefit plan benefits. CMS's Coverage Issues Manual can be found on the CMS website. Similarly, for Medicaid-linked plans, the Texas Medicaid Provider Procedures Manual (TMPPM) supersedes coverage guidelines in this policy where applicable.

**SERVICE:** Apolipoprotein E Genotype or Phenotype in the Management of Cardiovascular Disease

**PRIOR AUTHORIZATION:** Not applicable.

**POLICY:** SWHP considers Apolipoprotein E Genotype or Phenotype Testing in the management of cardiovascular disease to be unproven and not medically necessary.

**OVERVIEW:** Apolipoprotein E (apo E) is the primary apolipoprotein found in very-low-density lipoproteins (VLDLs) and chylomicrons. Apo E is the primary binding protein for low density lipoproteins (LDL) receptors in the liver and is thought to play an important role in lipid metabolism. The apo E gene is polymorphic, consisting of three alleles (e2, e3, and e4) that code for 3 protein isoforms, known as E2, E3, and E4, which differ from one another by one amino acid. These molecules mediate lipid metabolism through their different interactions with the LDL receptors. The genotype of apo E alleles can be assessed by gene amplification techniques, while the apo E phenotype can be assessed by measuring plasma levels of apolipoprotein E.

There is some evidence that apo E isoforms have different effects on serum cholesterol and triglyceride (TG) levels and may influence risk levels of developing cardiovascular disease (CVD). However, the effect of the apo E isoform types on lipid metabolism and development of atherosclerosis is complex and incompletely understood, and, to date, there has been no health benefit associated with apo E testing. At the present time, there is no evidence to support the use of apo E testing, using either genetic or protein methods, for the screening, diagnosis, or management of dyslipidemia and/or CVD that indicates diminished response. None of the available evidence provides adequate data to establish that apo E genotype or phenotype improves outcomes when used in clinical care.

The American Association of Clinical Chemistry (AACC, 2009) has stated that the test for apo E is not widely used and its clinical usefulness is still being researched. Furthermore, available evidence indicates that apo E genotype is a poor predictor of ischemic stroke.

**CODES:**

*Important note:
CODES: Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.

CPT Not Covered: 82172

CMS: There are no NCDs or LCDs.

POLICY HISTORY:

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REFERENCES:
The following scientific references were utilized in the formulation of this medical policy. SWHP will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available and they are not included in the list, please forward the reference(s) to SWHP so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.