

## Evidence Based Guideline

# Lipoprotein(a) Enzyme Immunoassay in Cardiac Disease Risk Assessment

**File Name:** lipoprotein\_a\_enzyme\_immunoassay\_in\_cardiac\_disease\_risk\_assessment  
**Policy Number:** EBG.MED1495  
**Origination:** 9/2009  
**Last CAP Review:** not applicable  
**Next CAP Review:** 9/2011  
**Last Review:** 9/2009

### Description of Procedure or Service

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Lipoprotein(a) (lp[a]) is a lipid-rich particle similar to low-density lipoprotein (LDL). Apolipoprotein B is the major apolipoprotein associated with LDL; in lp(a), however, there is an additional apolipoprotein A covalently linked to the apolipoprotein B. The apolipoprotein (a) molecule is structurally similar to plasminogen, suggesting that lp(a) may contribute to the thrombotic and atherogenic basis of cardiovascular disease. Levels of lp(a) are relatively stable in individuals over time, but vary up to 1000-fold between individuals, presumably on a genetic basis. The similarity between lp(a) and fibrinogen has stimulated intense interest in lp(a) as a link between atherosclerosis and thrombosis. In addition, approximately 20% of patients with coronary artery disease (CAD) have elevated levels of lp(a). Therefore, it has been proposed that levels of lp(a) may be an independent risk factor for CAD.

Traditional lipid risk factors such as LDL-C, while predictive on a population basis, are weaker markers of risk on an individual basis. Only a minority of subjects with elevated LDL and cholesterol levels will develop clinical disease, and up to 50% of cases of CAD occur in subjects with “normal” levels of total and LDL cholesterol. Thus there is considerable potential to improve the accuracy of current cardiovascular risk prediction models.

***\*\*\*Note: This Evidence Based Guideline is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.***

### Evidence Based Guideline for Lipoprotein(a) Enzyme Immunoassay in Cardiac Disease Risk Assessment

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The measurement of lipoprotein(a) may not be appropriate in the evaluation and management of cardiovascular disease.

### Medical Evidence regarding Lipoprotein(a) Enzyme Immunoassay in Cardiac Disease Risk Assessment:

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Lipoprotein(a) has been identified as an “emerging risk factor” in the Adult Treatment Panel (ATP) III report of the National Cholesterol Education Program. However, improved risk prediction does not by itself result in better health outcomes. To improve outcomes, clinicians must have the tools to translate this information into clinical practice, which requires guidelines that incorporate emerging risk factors into existing risk prediction models and that have been demonstrated to classify patients into risk categories with greater accu-

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racy. Predictive models also need to be accompanied by treatment guidelines that target interventions toward patients who will get the most benefit.

Such tools for linking lp(a) to clinical decision-making, both in risk assessment and treatment response, are currently not available. The ATP III practice guidelines continue to tie clinical decision-making to conventional lipid measures, such as total cholesterol, LDL-C, and HDL-C. As a result, there is a lack of recommendations from this body regarding how the additional information from lp(a) levels might be used in clinical practice.

In summary, a large amount of epidemiologic evidence has determined that lp(a) is an independent risk factor for cardiovascular disease. The overall degree of risk associated with lp(a) levels appears to be modest, and the degree of risk may be mediated by other factors such as LDL levels and/or hormonal status. There is considerable uncertainty regarding the clinical utility of measuring lp(a), specifically how knowledge of lp(a) levels can be used in clinical care of patients who are being evaluated for lipid disorders. There is scant evidence on the use of lp(a) as a treatment target for patients with hyperlipidemia.

### **Benefits Application**

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Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the guideline.

### **Billing/Coding/Physician Documentation Information**

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This guideline may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: 83695*

### **Scientific Background and Reference Sources**

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BCBSA Medical Policy Reference Manual [Electronic Version]. 2.04.21, 4/24/09

Senior Medical Director review 9/2009

### **Policy Implementation/Update Information**

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10/26/09 New evidence based guideline issued. The measurement of lipoprotein(a) may not be appropriate in the evaluation and management of cardiovascular disease. (adn)

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