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Please note: This is a Draft policy.
Proposed/Draft LCDs are works in progress that are available on the Medicare Coverage Database site for public review. Proposed/Draft LCDs are not necessarily a reflection of the current policies or practices of the contractor.
This is a non-coverage policy for genetic testing for thrombophilia resulting from mutations in the Factor V Leiden, Prothrombin, or the MTHFR genes. Genetic testing for these genes for all other risk factors, signs, symptoms, diseases, or conditions, including cardiovascular risk assessment, are non-covered.

Background

Thrombophilia (or hypercoagulability) is the propensity to develop thrombosis due to either an acquired or inherited defect in the coagulation system. The major clinical manifestation of thrombophilia is venous thromboembolism. Acquired thrombophilia risk factors include but are not limited to advancing age (> 50), trauma, malignancy, chemotherapy, major surgery, immobilization, pregnancy, estrogen, inflammation, antiphospholipid antibody syndrome, myeloproliferative disorders, heparin-induced thrombocytopenia, liver disease, nephrotic and prolonged air travel. Inherited thrombophilia risk factors include deficiencies in antithrombin, Protein C, Protein S, mutation in Factor V Leiden and prothrombin, and dysfibrinogenemias. Mixed or unknown risk factors include hyperhomocysteinemia, elevated levels of Factor VIII, acquired Protein C resistance in the absence of Factor V Leiden, and elevated levels of Factors IX and XI.

Testing for thrombophilia may consist of functional testing, antigenic testing, and genetic testing. Functional testing for thrombophilia may include tests such as:

- Anti-phospholipid antibody (lupus anticoagulant)
- Protein C
- Protein S
- Activated Protein C resistance (a surrogate for Factor V Leiden mutation)
- Factor VIII
- Fibrinogen
- C-reactive protein
- Homocysteine levels

Antigenic testing may be performed to identify specific glycoprotein antibodies associated with abnormal functional anti-phospholipid antibody studies, or to subtype deficiencies detected by decreased Protein S, Protein C and Antithrombin functional activity.

Venous thrombosis (VTEz) is characteristically seen in deficiencies in Protein C, Protein S and antithrombin, as well as with Factor V Leiden and Prothrombin mutations. This is unlike the combination of arterial and venous thrombosis associated with hyperhomocysteinemia and lupus anticoagulant.

Genetic Testing for Thrombophilia

Genetic testing is available for a number of types of inherited thrombophilia, including mutations in the Factor V Leiden (FVL) gene, the Prothrombin (PT) gene and the MTHFR (methyltetrahydrofolate reductase) gene. However, the clinical utility of testing is uncertain. The clinical utility of genetic testing depends on the ability of testing results to change management that results in improved clinical outcomes. The clinical utility of genetic testing for thrombophilia is based on the overall risk of thromboembolism and the risk/benefit ratio of treatment, primarily with anticoagulants.

During the previous 5 years, a number of guidelines and/or position statements on testing for thrombophilia have been published. In 2011, The Evaluation of Genomic Applications in Practice and Prevention Working Groups (EGAPP) addressed genetic testing for FVL and PT mutations. The expert consensus recommended:

- There is no evidence that knowledge of FVL/PT mutation status in patients with VTE affects anticoagulation treatment to avoid recurrence;
- There is convincing evidence that anticoagulation beyond three months reduces recurrence of VTE, regardless of mutation status;
- There is no evidence that knowledge of FVL/PT mutation status among symptomatic family members of patients with VTE leads to anticoagulation aimed at avoiding initial episodes of VTE (See note).

Note: The Medicare benefit applies only to individuals with signs and symptoms of disease. There is no Medicare benefit for assessment of thrombosis risk in asymptomatic patients (aka screening for inherited thrombophilia) or in asymptomatic individuals whose relatives have documented inherited thrombophilia.

In 2008, the American College of Chest Physicians’s (ACCP) published guidelines for the treatment of thromboembolic disease stated the following concerning genetic testing for thrombophilia:

- The presence of hereditary thrombophilia has not been used as a major factor to guide duration of anticoagulation for VTE in these guidelines because evidence from prospective studies suggests that these factors are not major determinates of the risk of recurrence.

In the 2013 American Congress of Obstetricians and Gynecologists (ACOG) clinical management guidelines for inherited thrombophilia in pregnancy, ACOG experts note that the following guidelines are based on limited or inconsistent scientific evidence:

- Screening for thrombophilia is controversial. It is useful only when results will affect management decisions, and it is not useful in situations where treatment is indicated for other risk factors. Screening may be considered in the following clinical settings:
  - A personal history of VTE that was associated with a non-recurrent risk factor (eg, fractures, surgery, and prolonged immobilizations).
  - A first-degree relative (eg, parent or sibling) with a history of high-risk thrombophilia.” (See note below)
- ACOG also states that testing for inherited thrombophilia in women who have experienced recurrent fetal loss or placental abruption is not recommended because it is unclear if anticoagulation therapy reduces recurrence. They indicate that there is insufficient clinical evidence that antepartum prophylaxis with unfractionated heparin or low molecular weight heparin (LMWH) prevents recurrence in these patients, and note insufficient evidence to either screen for or treat women with inherited thrombophilia including complications such as fetal growth restriction or preclampsia.

Note: The Medicare benefit applies only to individuals with signs and symptoms of disease. There is no Medicare benefit for assessment of thrombosis risk in asymptomatic patients (aka screening for inherited thrombophilia) or in asymptomatic individuals whose relatives have documented inherited thrombophilia.

In 2013, the American College of Medical Genetics (ACMG) published a practice guideline on the lack of evidence for MTHFR polymorphism testing. Among a number of recommendations, ACMG experts concluded:

- MTHFR polymorphism genotyping should not be ordered as part of the clinical evaluation for thrombophilia or recurrent pregnancy loss;

Non-coverage Summary

There is insufficient evidence in the published peer-reviewed scientific literature to determine how testing for mutations in the Factor V Leiden gene, the Prothrombin gene, or the MTHFR genes guides decisions in the clinical setting related to disease treatment, management or prevention. Furthermore, it is not known whether health outcomes are improved as a result of clinical decision-making based on these gene tests. Additionally, according to existing evidence and recent guidelines, the presence of inherited thrombophilia is not an important factor in determining the optimum length of anticoagulation in patients with VTE. Consequently, genetic testing for inherited thrombophilia, specifically testing for Factor V Leiden, Prothrombin and MTHFR mutations are considered investigational, and is NOT a Medicare benefit.
The patient's medical record must contain documentation that fully supports the medical necessity for services included within this LCD. (See "Coverage Indications, Limitations, and/or Medical Necessity"). This documentation includes, but is not limited to, relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures.

Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available to the J11 MAC upon request.

Sources of Information and Basis for Decision

References


Open Meetings/Part B MAC Contractor Advisory Committee (CAC) Meetings

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<th>MEETING TYPE</th>
<th>MEETING STATE(S)</th>
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<tr>
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<td>Carrier Advisory Committee (CAC) Meeting</td>
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<td>02/12/2015</td>
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Comment Period Start Date
02/10/2015

Comment Period End Date
03/27/2015

Released to Final LCD Date
Not yet released.

Reason for Proposed LCD
Provider Education/Guidance

Proposed LCD Contact
Part B Policy
PO Box 100238
AG-275
Columbia, SC 29022-328
J11B.Policy@PalmettoGBA.com

Coding Information

Bill Type Codes:
Contractors may specify Bill Types to help providers identify those Bill Types typically used to report this service. Absence of a Bill Type does not guarantee that the policy does not apply to that Bill Type. Complete absence of all Bill Types indicates that coverage is not influenced by Bill Type and the policy should be assumed to apply equally to all claims.

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<tr>
<td>013x</td>
<td>Hospital Outpatient</td>
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<tr>
<td>014x</td>
<td>Hospital - Laboratory Services Provided to Non-patients</td>
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Revenue Codes:
Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory; unless specified in the policy services reported under other Revenue Codes are equally subject to this coverage determination. Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

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CPT/HCPCS Codes
Group 1 Paragraph: N/A

Group 1 Codes:

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ICD-9 Codes that Support Medical Necessity
Group 1 Paragraph: N/A

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ICD-9 Codes that DO NOT Support Medical Necessity

Associated Documents
Attachments
N/A

Related Local Coverage Documents
N/A

Related National Coverage Documents
N/A

All Versions
Updated on 01/22/2015 with effective dates N/A - N/A

Keywords
N/A