Medical Policy
Genetic Testing for Inherited Thrombophilia

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Policy Number: 802
BCBSA Reference Number: 2.04.82

Related Policies
- Homocysteine Testing, #016

Policy
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity
Medicare HMO BlueSM and Medicare PPO BlueSM Members

Genetic testing for inherited thrombophilia, including testing for factor V Leiden mutations, prothrombin gene mutations, and mutations in the MTHFR gene, is considered INVESTIGATIONAL.

Prior Authorization Information
Commercial Members: Managed Care (HMO and POS)
This is NOT a covered service.

Commercial Members: PPO, and Indemnity
This is NOT a covered service.

Medicare Members: HMO BlueSM
This is NOT a covered service.

Medicare Members: PPO BlueSM
This is NOT a covered service.

CPT Codes / HCPCS Codes / ICD-9 Codes
The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.
CPT Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>81240</td>
<td>F2 (prothrombin, coagulation factor II)(e.g., hereditary hypercoagulability) gene analysis, 20210G&gt;A variant</td>
</tr>
<tr>
<td>81241</td>
<td>F5 (coagulation Factor V)(e.g., hereditary hypercoagulability) gene analysis, Leiden variant</td>
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<tr>
<td>81291</td>
<td>MTHFR (5, 10-methylenetetrahydrofolate reductase)(e.g., hereditary hypercoagulability) gene analysis, common variants (e.g., 677T, 1298C)</td>
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Diagnosis Codes

Investigational for all diagnoses.

Description

Inherited thrombophilias are a group of disorders that predispose to thrombosis (formation of a blood clot inside a blood vessel). Genetic testing is available for some of these disorders and could potentially assist in the diagnosis and/or management of patients with thrombosis.

Treatment of thrombosis involves anticoagulation for a minimum of 3 to 6 months. Following this initial treatment period, patients deemed to be at a continued high risk for recurrent thrombosis may be continued on anticoagulation for longer periods, sometimes indefinitely. Anticoagulation is effective in reducing the subsequent risk of thrombosis, but has its own risks of bleeding.

Genetic testing for gene variants associated with thrombophilias is available for factor V Leiden, the prothrombin gene mutation, and the MTHFR gene. The use of genetic testing for inherited thrombophilia can be considered in several clinical situations. The clinical situations that will be addressed in this policy include the following:

- Assessment of the risk for thrombosis in asymptomatic patients (screening for inherited thrombophilia)
- Evaluation of a patient with established thrombosis, in consideration of change in anticoagulant management based on results
- Evaluation of close relatives of patients with documented inherited thrombophilia, or with a clinical and family history that is consistent with an inherited thrombophilia
- Evaluation of patients in other situations that are considered high risk for thrombosis, e.g. pregnancy, planned major surgery, or oral contraceptive use.

Summary

For MTHFR testing, the clinical validity and clinical utility of genetic testing is uncertain. Since the clinical utility of testing for elevated serum homocysteine itself has not been established, the utility of genetic testing has also not been established.

For FVL and prothrombin gene testing, clinical validity has been established in a variety of clinical situations, by the association of genetic status with subsequent risk of venous thromboembolism (VTE). Increased risk of VTE has been demonstrated for asymptomatic patients, patients with a personal history of VTE, family members of a patient with established inherited thrombophilia, and pregnant women. However, in most reports, the magnitude of this association is modest, resulting in a relatively low absolute rate of VTE even in patients with a genetic mutation.

The clinical utility of genetic testing for thrombophilia is less certain. Surveys of physicians indicate that a substantial number order thrombophilia testing with the intent of influencing management, but the specific management changes and the impact of those management changes on outcomes is uncertain. According to the 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. For other clinical situations, given the low absolute risk of VTE, and the defined risks of anticoagulation, it is not possible to define a clinical situation in which the benefit of testing clearly outweighs the risk. Because of the lack of documented clinical utility, and the lack of consensus on clinical vetting as to which populations benefit from testing, genetic testing for inherited thrombophilia is considered investigational.
Policy History

<table>
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<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>9/2014</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
<tr>
<td>2/04/2013</td>
<td>New policy describing ongoing non-coverage</td>
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</tbody>
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Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:
- Medical Policy Terms of Use
- Managed Care Guidelines
- Indemnity/PPO Guidelines
- Clinical Exception Process
- Medical Technology Assessment Guidelines

References