Medical Policy
Genetic Testing for Alpha-1 Antitrypsin Deficiency

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Policy Number: 906
BCBSA Reference Number: 2.04.79

Related Policies
None

Policy
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity
Medicare HMO BlueSM and Medicare PPO BlueSM Members
Genetic testing for alpha-1 antitrypsin deficiency may be considered MEDICALLY NECESSARY when both of the following conditions are met:
1. Patient is suspected of having alpha-1 antitrypsin deficiency because of clinical factors and/or because the patient may be at high risk of having alpha-1 antitrypsin deficiency due to a first-degree relative with AAT deficiency; AND
2. Patient has a serum alpha-1 antitrypsin level in the range of severe deficiency

Genetic testing for alpha-1 antitrypsin deficiency is considered INVESTIGATIONAL in all other situations.

Prior Authorization Information
Commercial Members: Managed Care (HMO and POS)
Prior authorization is NOT required.

Commercial Members: PPO, and Indemnity
Prior authorization is NOT required.

Medicare Members: HMO BlueSM
Prior authorization is NOT required.

Medicare Members: PPO BlueSM
Prior authorization is NOT required.
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. A draft of future ICD-10 Coding related to this document, as it might look today, is included below for your reference.

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>CPT codes</th>
<th>Code Description</th>
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</thead>
<tbody>
<tr>
<td>81332</td>
<td>SERIPINA 1 (serpin peptidase inhibitor, clade A, alpha-1 antiproteinase, antitrypsin, member 1) (e.g., alpha-1-antitrypsin deficiency), gene analysis, common variants (e.g., *S and *Z)</td>
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**ICD-9 Diagnosis Codes**

<table>
<thead>
<tr>
<th>ICD-9-CM diagnosis codes:</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>273.4</td>
<td>Alpha-1 antitrypsin deficiency</td>
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</table>

**ICD-10 Diagnosis Codes**

<table>
<thead>
<tr>
<th>ICD-10-CM diagnosis codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>E88.01</td>
<td>Alpha-1-antitrypsin deficiency</td>
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**Description**

Alpha-1 antitrypsin deficiency (AATD) is an autosomal recessive genetic disorder that results in decreased production of the alpha-1 antitrypsin (AAT) protein, or production of abnormal types of the protein that are functionally deficient. Individuals with AATD, especially smokers, have an increased risk of lung and liver disease. Tests are available to measure serum AAT levels and for AAT protein variant phenotyping. Genetic testing is also available to detect the most common mutations associated with AATD.

Production of AAT is encoded by the SERPINA1 gene. Although there are more than 75 sequence variants of the SERPINA1 gene only several are common in North America. Genetic testing for AATD is most commonly done by the alpha-1 genotype test. This test uses Polymerase chain reaction (PCR) analysis, or some other type of nucleic acid-based analysis, to identify abnormal alleles of AAT DNA. Currently, genotype tests are only designed to detect the most common mutations i.e. the S and Z alleles.

**Summary**

The literature evidence on the analytic and clinical validity of genetic testing for AATD is limited. In addition, there are few RCTs evaluating the impact of AATD testing on patient outcomes. However, national guidelines recommend specific interventions for patients with emphysema and AATD, and AAT augmentation therapy is often prescribed for patients with AATD and COPD. The available evidence suggests that knowledge of AATD status may discourage non-smokers from initiating smoking and may increase quit attempts among smokers, but it has not been shown to increase successful quitting. Evidence from small RCTs on AAT augmentation therapy are not definitive of a treatment benefit, but reports trend toward improvement in lung function. As a result, genetic testing for AATD may lead to improved outcomes by altering interventions for AATD and therefore may be considered medically
necessary for individuals with suspected AATD or those at high risk for AATD due to personal or family history, who have serum levels of alpha-1 antitrypsin level in the range for homozygous disease.

**Policy History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>7/2014</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>6/2014</td>
<td>Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.</td>
</tr>
<tr>
<td>11/2013</td>
<td>Corrected CPT code: Correct code is 81332 not 81322.</td>
</tr>
<tr>
<td>5/2013</td>
<td>New references from BCBSA National medical policy.</td>
</tr>
<tr>
<td>2/2013</td>
<td>New policy describing coverage and non-coverage</td>
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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**


