Subject: Serum Immunoglobulin G Allergy Testing

Background: Serum IgG and IgG subclass antibody testing have been proposed as a method of identifying levels of sensitivity to various allergens.

Policy and Coverage Criteria:
Harvard Pilgrim Health Care (HPHC) only covers IgG and IgG Subclass allergen testing for venom immunotherapy. Harvard Pilgrim does NOT cover serum IgG testing or IgG subclass testing for any other specific allergens; it is considered not medically necessary.

Exclusions: Harvard Pilgrim Health Care considers IgG and IgG subclass allergen testing as not medically necessary for all other indications.

Supporting Information:
Allergy testing typically consists of testing for the presence of allergen-specific antibodies called Immunoglobulin E (IgE). These tests are usually performed via a skin test or a challenge test. In some situations, a blood test may be used to assess IgE levels. There is increased interest in the use of IgG testing for specific allergen testing such as food-sensitivity. IgG antibodies in human serum are tested to assist in the diagnosis of adverse food reactions.

The clinical utility of serum IgG testing remains unclear. Published studies show conflicting reports on its efficacy as a reliable predictor of allergy or sensitivity.

A 2013 study by Wu, et al. investigated the serum levels and population distribution of food-specific IgGs and the association with chronic symptoms in a large population. Results found levels of food-specific IgGs were variable both in healthy and in symptomatic individuals. The authors noted that demographic factors, the type of food and specific chronic symptoms should be considered before food elimination treatment based on IgG testing in patients with chronic symptoms is used in clinical practice.

Ligaarden et al. (2012) investigated the role of IgG-mediated food hypersensitivity in patients with irritable bowel syndrome (IBS). The researchers compared food and yeast specific IgG and IgG4 antibodies in subjects with and without IBS. 269 subjects had IBS and 277 did not. After correction for subject characteristics and diet, there were no significant differences with regard to food- and yeast-specific IgG and IgG4 antibodies between subjects with IBS and controls.

An article by Levine (2012) discussed the utility of food-specific IgG levels. Key points from the article noted food-specific IgG testing is not a recognized diagnostic tool for food allergy and IgG subclass 4 is believed to be a marker of exposure to food and possibly of tolerance, indicating normal human response.

Philpot et al. (2013) published a study that examined alternative investigations advocated for the assessment of gastrointestinal disease. The study noted immunoglobulin G (IgG) antibodies to food antigens may be detected in the serum of normal healthy individuals as well as patients with irritable bowel syndrome (IBS). It’s theorized that elevated levels of IgG in patients with IBS may represent food sensitivity. However, Philpot et al. highlighted that...
the studies referencing this found no link between high IgG levels and symptom severity. The researchers concluded “As the measurement of specific IgG in serum may be unreliable and the level of evidence of the efficacy of exclusion diets is limited, treatment based on “abnormally” high antibodies cannot be recommended.”

Insect venom-specific IgG testing has been investigated to correlate the efficacy of venom immunotherapy. In practice, clinicians may use the testing to assess patients who have failed venom immunotherapy. However, the utility of the testing remains unclear. Wilson, et al. (1994) found absolute levels of IgG subclass anti-venom antibodies are not reliably indicative of clinical responsiveness. Reisman (1992) reviewed evidence investigating whether routine, venom-specific IgG testing should be standard of practice in patients receiving venom immunotherapy. The review concluded, “although the accurate measurement of serum venom-specific IgG is an important research tool and has clarified many aspects of the insect sting allergy field, no current clinical indication exists for its assay as part of the routine assessment of patients with insect sting allergy.”

A 2008 Practice Parameter on Allergy Testing from the American Academy of Allergy Asthma and Immunology (AAAAI) on Allergy Testing states: “IgG and IgG subclasses can be measured using immunoassays similar to those used for allergen specific IgE. Controversy exists regarding whether increases of IgG4 are valid harbingers of either diagnosis or clinical efficacy after immunotherapy. Specific IgG/IgG4 results do not correlate with oral food challenges and are not recommended for the diagnosis of food allergy.”

Coding:
Codes are listed below for informational purposes only, and do not guarantee member coverage or provider reimbursement. The list may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible.

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<th>CPT® Code</th>
<th>Description</th>
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<tr>
<td>86001</td>
<td>Allergen specific IgG quantitative or semi-quantitative, each allergen</td>
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List of Medically Necessary ICD-10 Codes

References:

HPHC Medical Policy

Coverage described in this policy is standard under most HPHC plans. Specific benefits may vary by product and/or employer group. Please reference appropriate member materials (e.g., Benefit Handbook, Certificate of Coverage) for member-specific benefit information.
**Summary of Changes**

<table>
<thead>
<tr>
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<th>Changes</th>
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<tbody>
<tr>
<td>4/20</td>
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<tr>
<td>12/19</td>
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Approved by Medical Policy Committee: 3/23/20  
Approved by Clinical Policy Operational Committee: 7/14; 2/16; 12/19; 4/20  
Policy Effective Date: 4/16/20  
Initiated: 7/14