Diagnosis of Idiopathic Environmental Intolerance

Policy Number: AHS – G2056 – Diagnosis of Idiopathic Environmental Intolerance	Prior Policy Name and Number, as applicable:
Initial Presentation Date: 06/01/2021 Revision Date: N/A	

I. Policy Description

Idiopathic environmental intolerance (IEI), formerly called multiple chemical sensitivity (MCS), is a subjective condition characterized by recurrent, nonspecific symptoms attributed to low levels of chemical, biologic, or physical agents in the absence of consistent objective diagnostic physical findings or laboratory tests that define an illness (AAAAI, 1999; ACOEM, 1999; D. Black & Temple, 2019).

II. Related Policies

Policy Number	Policy Title
AHS-G2031	Allergen Testing
AHS-G2099	Intracellular Micronutrient Analysis

III. Indications and/or Limitations of Coverage

Application of coverage criteria is dependent upon an individual's benefit coverage at the time of the request. Medical Policy Statements do not ensure an authorization or payment of services. Please refer to the plan contract (often referred to as the Evidence of Coverage) for the service(s) referenced in the Medical Policy Statement. If there is a conflict between the Medical Policy Statement and the plan contract (i.e., Evidence of Coverage), then the plan contract (i.e., Evidence of Coverage) will be the controlling document used to make the determination.

Application of coverage criteria is dependent upon an individual's benefit coverage at the time of the request. If there is a conflict between this Policy and any relevant, applicable government policy [e.g. National Coverage Determinations (NCDs) for Medicare] for a particular member, then the government policy will be used to make the determination. For the most up-to-date Medicare policies and coverage, please visit their search website http://www.cms.gov/medicare-coverage-database/overview-and-quick-search.aspx?from2=search1.asp& or the manual website

The following does not meet coverage criteria due to a lack of available published scientific literature confirming that the test(s) is/are required and beneficial for the diagnosis and treatment of a patient's illness.

1. Laboratory tests designed to affirm the diagnosis of idiopathic environmental illness **DO NOT MEET COVERAGE CRITERIA.**

2. Screening blood, saliva, serum, plasma, urine, and/or stool samples for volatile solvents, organic acids, and organophosphates **DO NOT MEET COVERAGE CRITERIA** in all circumstances including but not limited to the following compounds:

    a. 2-methylhippurate

    b. 2-methylpentane

    c. 3-methylpentane

    d. 3,4-dihydroxyphenylpropionate

    e. 4-nonylphenol

    f. alpha-keto-beta-methylvalerate

    g. alpha-ketoisovalerate

    h. arabinitol

    i. atrazine or atrazine mercapturate

    j. benzene

    k. benzoate

    l. bisphenol A (BPA)

    m. diethydithiophosphate (DEDTP), diethylthiophosphate (DETP), dimethyldithiophosphate (DMDTP), dimethylthiophosphate (DMTP)

    n. ethylbenzene

    o. hexane

    p. Hippurate

    q. Indican

    r. Picolinate

    s. Polychlorinated biphenyls (PCBs)

    t. Quinolinate

    u. Styrene

v. Taurine

w. Toluene

x. Triclosan

y. Xylene

3. Phthalates and parabens profiling using a blood, serum, plasma, saliva, urine, and/or stool sample **DOES NOT MEET COVERAGE CRITERIA**.

4. Chlorinated pesticides, including DDE and DDT, profiling in asymptomatic patients using a blood, serum, plasma, saliva, urine, and/or stool sample **DOES NOT MEET COVERAGE CRITERIA.**

5. Testing blood, serum, plasma, saliva, urine, and/or stool samples for carnitine sufficiency, oxidative stress and antioxidant sufficiency, detoxification adequacy, methylation sufficiency status, lipoic acid and CoQ10 sufficiency, and/or intestinal hyperpermeability **DO NOT MEET COVERAGE CRITERIA** in asymptomatic individuals and/or during general encounters. These tests include, but are not limited to, the following:

   a. Amino acid testing except for newborn screening and for documented metabolic disorders

   b. Carotene/beta-carotene

   c. Citrate

   d. Vanillylmandelic acid (VMA) testing except for use in diagnosis of neuroblastoma or neuroendocrine tumors or for monitoring effectiveness of treatment of cancer

   e. Homovanillic acid (HVA) testing except for use in diagnosis and evaluating neuroblastomas

   f. 5-hydroxyindolacetic acid (5-HIAA) testing except for use in diagnosis and evaluating carcinoid syndrome or for staging, treatment, and surveillance of suspected neuroendocrine tumors

   g. Elastase except for pancreatic insufficiency

   h. Fat differentiation testing, qualitative and quantitative

   i. CoQ10

6. Testing blood, serum, plasma, saliva, urine, and/or stool samples for vitamin sufficiency, mineral sufficiency, and/or nutritional analysis **DO NOT MEET COVERAGE**

CRITERIA in asymptomatic individuals and/or during general encounters without abnormal findings. These tests include, but are not limited to, the following:

a. Amino acid testing except for newborn screenings or for documented metabolic disorders

b. Allergen-specific IgG testing for screening food sensitivities, vitamin sufficiency, or mineral sufficiency

c. Carotene/beta-carotene

d. Citrate

e. Vanillylmandelic acid (VMA) testing except for use in diagnosis of neuroblastoma or neuroendocrine tumors or for monitoring effectiveness of treatment of cancer

f. Homovanillic acid (HVA) testing except for us in diagnosis and evaluating neuroblastomas

g. 5-hydroxyindolacetic acid (5-HIAA) testing except for use in diagnosis and evaluating carcinoid syndrome or for staging, treatment, and surveillance of suspected neuroendocrine tumors

h. Lipid peroxides

i. Behenic acid

j. Lignoceric acid

k. Fat differentiation testing, qualitative and quantitative

l. Prealbumin

7. The use of a breath hydrogen and/or breath methane test to assess or diagnose the following conditions **DOES NOT MEET COVERAGE CRITERIA**:

a. Idiopathic environmental intolerance

b. Food allergies and sensitivities

c. Carbohydrate sensitivity or intolerance, including but not limited to, lactose sensitivity, lactose intolerance, and/or lactase deficiency

d. Bacterial overgrowth, including but not limited to, small intestinal bacterial overgrowth [SIBO]

e. Digestive disorders

f. Constipation, diarrhea, or flatulence

g. Neurological/neuromuscular disorders, including but not limited to, Parkinson disease and fibromyalgia

h. Rosacea

i. Obesity

j. As part of a wellness visit and/or general encounter without abnormal findings

8. Testing blood, serum, urine, cerebrospinal fluid, fingernails, hair, and/or stool sample for metals, including but not limited to, aluminum, arsenic, cadmium, chromium, copper, lead, magnesium, manganese, mercury, molybdenum, nickel, zinc, and heavy metals not otherwise specified **DO NOT MEET COVERAGE CRITERIA** in asymptomatic individuals and/or general encounters without abnormal findings.

IV. Reimbursement Policy

1. For 83918 (Organic acids; total, quantitative, each specimen), a maximum of 2 units per date of service is **ALLOWED**.

2. For 83919 (Organic acids; qualitative, each specimen), a maximum of 1 unit per date of service is **ALLOWED**.

3. For 83921 (Organic acid, single, quantitative), a maximum of 2 units per date of service is **ALLOWED**.

4. For 82127 (Amino acids; single, qualitative, each specimen), a maximum of 1 unit per date of service is **ALLOWED**.

5. For 82136 (Amino acids, 2 to 5 amino acids, quantitative, each specimen), a maximum of 2 units per date of service is **ALLOWED.**

6. For 82139 (Amino acids, 6 or more amino acids, quantitative, each specimen), a maximum of 2 units per date of service is **ALLOWED**.

7. For 84585 (Vanillylmandelic acid (VMA), urine), a maximum of 1 unit per date of service is **ALLOWED**.

8. For 83150 (Homovanillic acid (HVA)), a maximum of 1 unit per date of service is **ALLOWED**.

9. For 83497 (Hydroxyindolacetic acid, 5-(HIAA)), a maximum of 1 unit per date of service is **ALLOWED**.

10. For 82656 (Elastase, pancreatic (EL-1), fecal, qualitative or semi-quantitative), a maximum of 1 unit per date of service is **ALLOWED**.

V. Scientific Background

Patients with idiopathic environmental intolerance (IEI) typically report sensitivity to multiple, chemically unrelated substances and become ill due to a wide range of nonspecific symptoms when exposed. Symptoms may include anxiety, shortness of breath, chest pain, and more. Psychiatric disorders may also be at the core of the IEI patient (D. Black & Temple, 2019). The mean age of patients reporting IEI is between 30 and 40 years, women are diagnosed more than men, and individuals who are married are significantly more likely to be diagnosed with IEI than those who are not (D. Black & Temple, 2019). IEI also occurs in 40% of people with chronic fatigue syndrome and in 16% of people with fibromyalgia (D. W. Black, Carver, & Carver, 2020).

The symptoms of IEI are nonspecific, ambiguous and common in the general population. There is no characteristic set of symptoms and ultimately no major differences between patients self-reporting IEI and those that do not. Virtually any symptom can be considered a symptom of IEI (D. Black & Temple, 2019). Within the definition of multiple chemical sensitivity, identified symptoms included "asthmatic-like, skin irritation, dermatitis, migraine, dysuria, dyspepsia, symptoms of supposed sensitization to food, persistent arthromial pain, vertigo, vestibular impairment," with 80% of patients experiencing "asthenia, arthromial pain, dyspepsia, coriza, eructation, chest pain, insomnia" (Quarato et al., 2020). The classification of IEI as a distinct medical disorder is also in question, as a lack of reliable case reports, lack of consistent findings or laboratory results, and reliance on surveys or self-reporting all cloud the condition and understanding of this disorder (D. Black & Temple, 2019).

Recently, many articles have been published suggesting a relationship between electromagnetic fields and IEI. Electromagnetic fields may include radiofrequencies from telecommunication devices (Eltiti, Wallace, Russo, & Fox, 2018; Huang, Cheng, & Guo, 2018), Wi-Fi and base stations (ANSES, 2018). For an unknown reason, these individuals claim to react to the exposure of certain electromagnetic triggers that most people can tolerate without issues; these triggers are below established toxicological and hazardous thresholds. ANSES (2018) researched the relationship between electric field exposure and IEI symptoms and stated that "either the symptoms experienced by EHS individuals are not caused by exposure to electromagnetic fields and there are no quantifiable biological and/or physiological abnormalities when they are exposed to electromagnetic fields (assumption 1) or the absence of results is due to the methodological limitations of the provocation studies (subject selection, sample size, exposure type, etc.) (assumption 2)." These findings were corroborated by Schmiedchen, Driessen, and Oftedal (2019), who, in their systematic review of articles pertaining to EHS, stated, "limitations in design, conduct and analysis could therefore have given rise to either false positive for false negative results," and that the "nocebo effect or medical/mental disorders may explain the complaints in many individuals." Characteristic symptoms of electromagnetic hypersensitivity include sleep and circadian rhythm disorders, migraines and headaches, hypersensitivity, and other related syndromes and disorders such as fibromyalgia, tinnitus and multiple chemical sensitivity (ANSES, 2018).

Tests such as elimination diets, food challenges, and provocation-neutralization tests have been used to test for food or chemical sensitivities. Immunological tests or tests measuring the amount of various chemicals in body tissues have also been performed (D. Black & Temple, 2019). In fact, testing for a wide range of autoantibodies is generally discouraged, as "pretest probability is low, and false-positive results are far more likely than true-positive results; a weakly positive ANA [antinuclear antibodies] is

present in about 20% of the population" (D. W. Black et al., 2020). However, these assessments are typically not rigorous enough to provide strong evidence; for example, these tests are often not performed blinded or with placebo controls. No unusual laboratory findings have been reliably linked to IEI (D. Black & Temple, 2018, 2019). Due to the vast amount of causes, symptoms, responses, and general heterogeneity of this condition, it may be very difficult to provide a scientifically valid or useful test. Worse, testing may even exacerbate or increase the number of symptoms of a patient. Physicians should use caution in testing for reassurance of patients as negative findings may increase anxiety instead (Barsky & Borus, 1999; D. Black & Temple, 2019).

Due to the number of symptoms that may be considered part of IEI, there are a corresponding amount of tests performed. These tests are generally unnecessary as the condition itself is far too ambiguous to reliably test for and any test can be ordered under the guise of IEI. For example, assessment of factors such as elastase, stool culturing, or fat differentiation may all be done for the sake of IEI treatment. These tests may have legitimate medical purposes (for instance a stool culture may be useful for numerous conditions) but their use for IEI is essentially none, as IEI itself carries no reliable characteristics to test for. Other tests that evaluate a tangentially relevant analyte, such as micronutrient panels or a lactose intolerance breath test, may be done for IEI's sake as well. Since virtually any symptom or sign can be called IEI, these tests are sometimes ordered for nonspecific or subjective symptoms such as fatigue or pain. However, these tests cannot provide any useful results because of the dubious nature of IEI itself.

Another commonly used test for IEI are panels that test multiple factors in one. For example, the Triad Bloodspot Profile offered by Genova Diagnostics measures organic acid levels, "the level of IgG4 reactions for 30 common foods," and "essential amino acid imbalances" (Genova, 2021d). Genova offers several similar panels, such as the Organix Comprehensive Profile (which tests 46 analytes for subjective symptoms such as depression, weight issues and chemical sensitivities) (Genova, 2021c), the NutrEval FMV (which tests 118 analytes for symptoms such as fatigue, weight issues, and sports fitness optimization) (Genova, 2021a) and the Allergix IgG4 Food Antibodies (which tests 90 foods for sensitivity). Genova Diagnostics also offers the GI Effects Profile (advanced stool tests for the management of GI health), a full line of allergy testing and assessment tests (measuring IgG and IgE food antibodies, inhalants, molds and spices), the Ion Profile (which evaluates various types of organic, amino and fatty acids as well as nutrient and toxic elements), the CDSA 2.0 Profile with Parasitology (evaluates the microbiome, digestion and absorption), and SIBO Profile tests (breath tests which measure methane gases and exhaled hydrogen) (Genova, 2020).

An evaluation of symptoms of IEI patients includes a history, physical examination, and laboratory tests (complete blood count, serum electrolytes and glucose, urine analysis) with further testing guided by reported symptoms. An occupational or environmental history is also useful as patients typically report problems from chemical exposure (D. Black & Temple, 2019). A questionnaire such as the "Environmental Exposure and Sensitivity Intolerance" (EESI) may be used for an initial screening (Rossi & Pitidis, 2018). A psychiatric history is also recommended as psychiatric disorders are often co-morbid with IEI. A screening questionnaire such as the Patient Health Questionnaire (PHQ-9) can be used to identify psychiatric conditions in an IEI patient (D. Black & Temple, 2019; Gilbody, Richards, Brealey, & Hewitt, 2007).

Micronutrients are the essential vitamins and minerals required by the body for proper functioning.

Panels have been developed which evaluate intracellular levels of essential vitamins and minerals. These panels may also be used on IEI patients. This may help to identify nutritional deficiencies in otherwise healthy patients or in patients suffering from some type of disease. SpectraCell Laboratories have developed the Micronutrient Test Panel, which is able to measure 31 vitamins, minerals, metabolites, amino acids, fatty acids and antioxidants; this test also measures how these micronutrients affect cellular functioning in an individual (SpectaCell, 2021). SpectraCell Laboratories have also developed the SPECTROX™, claiming it measures total antioxidant function in an individual, reporting on the repair mechanisms and net ability of each individual's cells (SpectraCell, 2008). As noted above, Genova Diagnostics has developed the NutrEval FMV that measures 118 markers, including amino acids, fatty acids and organic acids (Genova, 2021a). ONE (Optimal Nutritional Evaluation) FMV, also by Genova Diagnostics, is a urine-based nutritional test which assesses "the functional need for antioxidants, B-vitamins, minerals, digestive support and amino acids" (Genova, 2021b). The company notes that the ONE FMV test may be used for patients with mood disorders, fatigue, digestive issues, weight problems, general health, dietary guidance and fitness. Another nutrient panel blood test, developed by Life Extension, measures vitamin B12, folate, vitamin D 25-hydroxy, vitamin A, vitamin C, selenium, zinc, coQ10 and magnesium (LifeExtension, 2020). Finally, Vibrant America provides a test which measures approximately 40 intracellular and extracellular vitamins, minerals, fatty acids, amino acids and antioxidants (Vibrant, 2017).

Very little information suggests that the intracellular micronutrient analysis assists with positive health outcomes. Houston (2013) published an article on the role of vitamins, minerals and overall nutrition in the prevention and treatment of hypertension. This article reviewed hypertension-related clinical trials that include information on the "efficacy of nutrition, weight loss, exercise, and nutritional supplements, vitamins, minerals, and antioxidants" (Houston, 2013). Approximately 3338 patients were treated with micronutrient testing over a five-year period, with 20% of these patients exhibiting abnormally high blood pressure. After six months, 62% of the hypertensive patients reached lower blood pressure goals. Hence, the author states that the diagnosis and treatment of various nutritional deficiencies can decrease the number of cardiac events as well as reduce blood pressure and improve vascular biology. However, data for the control group not treated with micronutrients was not provided for comparison.

Another technique that has been used to assess nutritional status is the measurement of the hepatic proteins prealbumin and albumin. However, it seems that a physical examination has evolved as the main technique to diagnose malnutrition in a clinical setting. "The current consensus is that laboratory markers are not reliable by themselves but could be used as a complement to a thorough physical examination" in a malnutrition diagnosis (Bharadwaj et al., 2016). The Academy of Nutrition and Dietetics also do not accept albumin and prealbumin as a diagnostic tool for malnutrition and state that "There is no laboratory test that is both sensitive to and specific for protein-calorie malnutrition" (AND, 2017).

IEI patients may also report bowel irritability. Small intestinal bacterial overgrowth (SIBO) occurs when excessive aerobic and anaerobic bacteria colonize the small intestine; these bacteria are not typically found in the colon and can cause chronic diarrhea and malabsorption (Pimentel, 2019). SIBO may be diagnosed by a breath test. However, a validated gold standard method for diagnosing SIBO has not been indicated (Rezaie et al., 2017). The SIBO breath test uses carbohydrates in a simple, non-invasive and widely available testing method. A carbohydrate substrate (such as lactulose or glucose) is

administered to the patient, which leads to the production of an analyte such as hydrogen or methane. "In individuals without SIBO, the administration of lactulose results in a single peak in breath hydrogen/methane within two to three hours due to the metabolism of lactulose by colonic flora. In patients with SIBO, administration of lactulose results in an early peak in breath hydrogen/methane levels due to metabolism by small bowel bacteria" (Pimentel, 2019). As noted above, Genova Diagnostics has developed the SIBO Profile test which is a two or three hour breath test that measures methane gases and exhaled hydrogen (Genova, 2020). This test requires the patient to ingest a lactulose solution.

Bratten, Spanier, and Jones (2008) completed a study with 224 patients with irritable bowel syndrome (IBS) and 40 controls. A lactulose breath test (LBT) was used to measure methane and hydrogen production to identify patients with IBS. Results showed that "The majority of patients with IBS and healthy subjects meet criteria for an "abnormal" LBT using previously published test criteria, and groups are not discriminated using this diagnostic method" (Bratten et al., 2008). The authors then questioned the utility of an LBT to diagnose IBS as the testing did not discriminate between IBS patients and healthy controls. A more recent study by Ghoshal, Srivastava, Ghoshal, and Misra (2014) evaluated 80 patients with IBS for SIBO. Culture had previously diagnosed 15/80 patients with SIBO. Both lactulose and glucose hydrogen breath tests (LHBT and GHBT, respectively) were used to measure SIBO. The authors conclude that "The specificity of GHBT was 100%, but the sensitivity of this test and the diagnostic performances of LHBT and breath methane were all very poor" (Ghoshal et al., 2014).

VI. Guidelines and Recommendations

Due to the dubious nature of this condition, several prominent medical studies have regarded this condition with suspicion. In 1992, the American Medical Association stated that multiple chemical sensitivity (now IEI) should not be recognized as a syndrome until accurate, reproducible, and well-controlled studies can be done (AMA, 1992). Other societies such as the American College of Physicians and the American Academy of Allergy and Immunology hold similar views (AAAAI, 1986; ACP, 1989).

American Academy of Allergy, Asthma and Immunology (AAAAI) (Bush, Portnoy, Saxon, Terr, & Wood, 2006)

In 2006, AAAAI referenced IEI in their position statement on the medical effects of mold stating that testing many nonvalidated immune based tests, as had been done to suggest an immunologic basis for IEI (MCS), is expensive, not useful or valid, and should be discouraged (Bush et al., 2006).

American College of Occupational and Environmental Medicine (ACOEM) (ACOEM, 1999)

In 1999, the ACOEM published a position statement that stated there have been no consistent physical findings or laboratory abnormalities in IEI (then called MCS) patients and recommended that a generalized clinical approach, such as establishing a therapeutic alliance and avoiding unnecessary tests, would be useful in the management of other nonspecific medical syndromes (ACOEM, 1999).

French Agency for Food, Environmental and Occupational Health & Safety (ANSES) Appraisal-

Collective Expertise Report (ANSES, 2018)

An ANSES expert committee published an opinion piece regarding the expert appraisal on electromagnetic hypersensitivity or IEI due to electromagnetic fields. This committee did not find any conclusive results regarding IEI and therefore does not recommend any specific testing methods for this ailment, other than the psychological testing of patients.

Consensus Document (1999) ("Multiple chemical sensitivity: a 1999 consensus," 1999)

An international document, created by 89 clinicians and researchers with broad experience in the field, aimed to establish consensus criteria for MCS. The recognition criteria of MCS set forth by this expert panel are as follows:

- Chronic condition
- Reproducible symptoms with repeated chemical exposure
- Low exposure levels cause syndrome to occur
- Removal of offending agents cause symptoms to subside
- There are responses to chemically unrelated substances ("Multiple chemical sensitivity: a 1999 consensus," 1999)

The 19999 Consensus Document is the most widely used criteria for recognition of MCS (Martini, Iavicoli, & Corso, 2013).

North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) and European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN) (Mouzaki et al., 2019)

The NASPGHAN and ESPGHAN have stated that “Clinicians should familiarize themselves with the limitations of nutritional biomarkers in the context of chronic liver disease” but do not give specific recommendations regarding nutritional laboratory testing (Mouzaki et al., 2019).

World Health Organization (WHO, 2013)

The WHO published guidelines on the micronutrient intake in children with severe acute malnutrition. The guidelines recommend that the weight-for-height/weight-for-length status should be measured by clinicians to determine malnutrition. Micronutrient laboratory testing is not mentioned by the WHO.

The North American Expert Consensus Guidelines (Rezaie et al., 2017)

A team of experts have published guidelines on breath tests including their use for a SIBO diagnosis. The authors have provided the following recommendations:

- “Current small bowel culture techniques are not satisfactory for the assessment of SIBO.
- If culture is considered for diagnosis of SIBO, based on the current evidence, we suggest the threshold of $>10^3$ c.f.u./ml for the definition of SIBO.

- We suggest breath testing in the diagnosis of small intestinal bacterial overgrowth.
- Until a true gold standard is established, we suggest breath testing in assessing the presence of antibiotic responsive microbial colonization of the gastrointestinal tract.
- We suggest to evaluate for excessive methane excretion on breath test in association with clinical constipation and slowing of gastrointestinal transit.
- We suggest that breath testing should not be used for assessment of orocecal transit time.
- We suggest breath testing for the diagnosis of carbohydrate maldigestion syndromes.
- We suggest breath testing in the assessment of conditions with bloating
- We suggest that fructose and lactose breath test should be performed for at least 3 hours.
- We suggest that the presence of bacterial overgrowth should be ruled out before performing lactose or fructose breath testing (Rezaie et al., 2017)."

It may be worth noting that the above recommendation of LHBT testing for SIBO was publicly criticized by Usai-Satta, Giannetti, Oppia, and Cabras (2018) due to high false positive rates and a low sensitivity. The authors state that "in our opinion, LHBT should be neither recommended nor suggested to detect SIBO in the clinical practice. Despite a low sensitivity, Glucose BT [breath test] remains the most accurate BT for non-invasive diagnosis of SIBO (Usai-Satta et al., 2018)."

The Academy of Nutrition and Dietetics (AND, 2017)

The Academy of Nutrition and Dietetics note that "serum proteins such as albumin and prealbumin are not included as defining characteristics of malnutrition because evidence analysis shows that serum levels of these proteins do not change in response to changes in nutrient intake. Hepatic proteins are not indicators of nutritional status, but are rather indicators of morbidity and mortality, and recovery from acute and chronic disease (AND, 2017)."

VII. State and Federal Regulations, as applicable

No specific U.S. Food and Drug Administration (FDA) approval or clearance of a test for idiopathic environmental intolerance was found. Additionally, many labs have developed specific tests that they must validate and perform in house. These laboratory-developed tests (LDTs) are regulated by the Centers for Medicare and Medicaid (CMS) as high-complexity tests under the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88). As an LDT, the U. S. Food and Drug Administration has not approved or cleared this test; however, FDA clearance or approval is not currently required for clinical use.

VIII. Applicable CPT/HCPCS Procedure Codes

Billing applicable codes is not a guarantee of payment; see Section III for indications and limitations of coverage that may affect payment

Code Number	Code Description
82127	Amino acids; single, qualitative, each specimen
82136	Amino acids, 2 to 5 amino acids, quantitative, each specimen
82139	Amino acids, 6 or more amino acids, quantitative, each specimen

Code Number	Code Description
82379	Carnitine (total and free), quantitative, each specimen
82380	Carotene
82441	Chlorinated hydrocarbons, screen
82495	Chromium
82507	Citrate
82525	Copper
82542	Column chromatography, includes mass spectrometry, if performed (eg, HPLC, LC, LC/MS, LC/MS-MS, GC, GC/MS-MS, GC/MS, HPLC/MS), non-drug analyte(s) not elsewhere specified, qualitative or quantitative, each specimen
82656	Elastase, pancreatic (EL-1), fecal, qualitative or semi-quantitative
82715	Fat differential, feces, quantitative
82978	Glutathione
83150	Homovanillic acid (HVA)
83497	Hydroxyindolacetic acid, 5-(HIAA)
83918	Organic acids; total, quantitative, each specimen
83919	Organic acids; qualitative, each specimen
83921	Organic acid, single, quantitative
84134	Prealbumin
84255	Selenium
84585	Vanillylmandelic acid (VMA), urine
84600	Volatiles (eg, acetic anhydride, diethylether)
84630	Zinc
84999	Unlisted chemistry procedure
86001	Allergen specific IgG quantitative or semiquantitative, each allergen
86353	Lymphocyte transformation, mitogen (phytomitogen) or antigen induced blastogenesis
88348	Electron microscopy, diagnostic
83015	Heavy metal (eg, arsenic, barium, beryllium, bismuth, antimony, mercury); qualitative, any number of analytes
83018	Heavy metal (eg, arsenic, barium, beryllium, bismuth, antimony, mercury); quantitative, each, not elsewhere specified
82108	Aluminum
82300	Cadmium
83735	Magnesium
83885	Nickel
83785	Manganese
82726	Very long chain fatty acids
89125	Fat stain, feces, urine, or respiratory secretions
82710	Fat or lipids, feces; quantitative
84590	Vitamin A
84446	Tocopherol alpha (Vitamin E)

Code Number	Code Description
83655	Lead
91065	Breath hydrogen or methane test (eg, for detection of lactase deficiency, fructose intolerance, bacterial overgrowth, or oro-cecal gastrointestinal transit)

Procedure codes appearing in Medical Policy documents are included only as a general reference tool for each policy. They may not be all-inclusive.

IX. Evidence-based Scientific References

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X. Revision History

Revision Date	Summary of Changes
06-01-2021	Initial presentation