

## Autonomic Nervous System Function Testing

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<b>Approved By:</b>	Highmark Health Options – Market Leadership
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<b>Products:</b>	Medicaid
<b>Application:</b>	All participating hospitals and providers
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### Disclaimer

Highmark Health Options medical policy is intended to serve only as a general reference resource regarding coverage for the services described. This policy does not constitute medical advice and is not intended to govern or otherwise influence medical decisions.

### POLICY STATEMENT

Highmark Health Options may provide coverage under the medical-surgical benefits of the Company's Medicaid products for medically necessary benefits.

This policy is designed to address medical necessity guidelines that are appropriate for the majority of individuals with a particular disease, illness or condition. Each person's unique clinical circumstances warrant individual consideration, based upon review of applicable medical records.

The qualifications of the policy will meet the standards of the National Committee for Quality Assurance (NCQA) and the Delaware Department of Health and Social Services (DHSS) and all applicable state and federal regulations.

### DEFINITIONS

**Highmark Health Options (HHO)** – Managed care organization serving vulnerable populations that have complex needs and qualify for Medicaid. Highmark Health Options members include individuals and families with low income, expecting mothers, children, and people with disabilities. Members pay nothing to very little for their health coverage. Highmark Health Options currently serves Delaware Medicaid: Delaware Healthy Children Program (DHCP) and Diamond State Health Plan and Health Plan Plus members.

### POLICY POSITION

Prior Authorization is required.

Autonomic nervous system (ANS) function tests are generally indicated to diagnose a condition, to provide unique differential diagnostic information, or to quantify those aspects of autonomic function that have an impact on outcome or that evaluate treatment efficacy. Autonomic nervous system function testing consists of a battery of calibrated tests that provide an accurate assessment of the status of different parts of the autonomic nervous system.

Autonomic function testing, consisting of a battery of tests in several domains may be considered medically necessary when used as a diagnostic tool to evaluate symptoms indicative of vasomotor instability, such as hypotension, orthostatic tachycardia, and hyperhidrosis after more common causes have been excluded by other testing. ANS testing is directed at establishing a more accurate or definitive diagnosis or contributing to clinically useful and relevant medical decision making for one of the following indications:

- To diagnose the presence of autonomic neuropathy in an individual with signs or symptoms suggesting autonomic neuropathy or to evaluate the severity and distribution of a diagnosed autonomic neuropathy in the following conditions:
  - Amyloid neuropathy; or
  - Diabetic autonomic neuropathy; or
  - Idiopathic neuropathy; or
  - Multiple system atrophy (Shy-Drager syndrome); or
  - Pure autonomic failure; or
  - Sjoren's Syndrome; or
  - Reflex sympathetic dystrophy i.e., sympathetically maintained pain/causalgia; or
- To differentiate the diagnosis between certain complicated variants of syncope from other causes of loss of consciousness; or
- To evaluate inadequate response to beta blockade in vasodepressor syncope; or
- To evaluate distressing symptoms in an individual with a clinical picture suspicious for distal small fiber neuropathy in order to diagnose the condition; or
- To differentiate the cause of postural orthostatic tachycardia syndrome; or
- To evaluate change in type, distribution or severity of autonomic deficits in individuals with autonomic failure; or
- To evaluate the response to treatment in individuals with autonomic failure who demonstrate a change in clinical exam; or
- To diagnose axonal neuropathy or suspected autonomic neuropathy in the symptomatic individual; or
- To evaluate and treat individuals with recurrent unexplained syncope to demonstrate autonomic failure, after more common causes have been excluded by other standard testing.

ANS testing is considered not medically necessary for the following conditions:

- Allergic conditions; or
- Anxiety and other psychologic disorders; or
- Chronic fatigue syndrome; or
- Detoxification/relaxation; or
- Fibromyalgia; or
- Hypertension; or
- Monitoring progression of disease or response to treatment; or
- Screening of asymptomatic individuals; or
- Sleep apnea.

Although there is no standard battery of tests for ANS testing, a full battery generally consists of individual tests in three (3) categories:

- Cardiovagal function (heart rate variability, heart rate response to deep breathing and Valsalva maneuver); or
- Sudomotor function (quantitative sudomotor axon reflex test, quantitative sensory test, thermoregulatory sweat test, silastic sweat imprint, sympathetic skin response, electrochemical sweat conductance; **or**

- Vasomotor adrenergic function (blood pressure response to standing, Valsalva maneuver, hand grip, and tilt table testing).

Note: At least one (1) test in each category is usually performed. More than one (1) test from a category will often be included in a battery of tests, but the incremental value of using multiple tests in a category is unknown.

The following tests are considered not medically necessary:

- Autonomic nervous system testing using portable automated devices (e.g., ANSAR® test, Sudoscan); or
- Cold pressor test; or
- Gastric emptying tests; or
- Plasma catecholamine levels; or
- Pupillography; or
- Pupil edge light cycle; or
- Quantitative direct and indirect testing of sudomotor function test; or
- Skin vasomotor testing.

ANS testing not meeting the criteria as indicated in this policy is considered not medically necessary.

ANS testing should be performed in a dedicated ANS testing laboratory. Testing in a dedicated laboratory should be performed under closely controlled conditions, and results should be interpreted by an individual with expertise in ANS testing. Testing using automated devices with results interpreted by computer software has not been validated and thus has the potential to lead to erroneous results.

**ELIGIBLE PROCEDURE CODES**

95921	Testing Of Autonomic Nervous System Function; Cardiovagal Innervation (parasympathetic Function, Including 2 Or More Of The Following: Heart Rate Response To Deep Breathing With Recorded R-r Interval, Valsalva Ratio, And 30:15 Ratio.
95922	Testing Of Autonomic Nervous System Function; Vasomotor Adrenergic Innervation (sympathetic Adrenergic Function), Including Beat-to-beat Blood Pressure And R-r Interval Changes During Valsalva Maneuver And At Least Five Minutes Of Passive Tilt.
95923	Testing Of Autonomic Nervous System Function; Sudomotor, Including 1 Or More Of The Following: Quantitate Sudomotor Axon Reflex Test (qsart), Silastic Sweat Imprint, Thermoregulatory Sweat Test, And Changes In Sympathetic Skin Potential.
95924	Testing Of Autonomic Nervous System Function; Combined Parasympathetic And Sympathetic Adrenergic Function Testing With At Least 5 Minutes Of Passive Tilt.

**Eligible Diagnosis Codes for procedure codes 95921, 95922, 95923, and 95924**

E08.40	E08.41	E08.42	E08.43	E08.49
E10.40	E10.41	E10.42	E10.43	E10.44
E10.49	E10.610	E11.40	E11.41	E11.42
E11.43	E11.44	E11.49	E11.610	E13.40
E13.41	E13.42	E13.43	E13.44	E13.49

E13.610	E85.0	E85.1	E85.2	E85.3
E85.4	E85.81	E85.82	E85.89	E85.9
G23.0	G23.1	G23.2	G23.8	G23.9
G57.71	G57.72	G57.73	G58.7	G60.0
G60.2	G60.3	G60.8	G60.9	G61.1
G61.81	G61.82	G61.89	G61.9	G90.01
G90.09	G90.1	G90.2	G90.3	G90.4
G90.50	G90.511	G90.512	G90.513	G90.519
G90.521	G90.522	G90.523	G90.529	G90.59
G90.8	G90.9	I49.8	I95.1	I95.9
I99.8	K31.84	L74.4	M32.0	M32.10
M21.11	M32.12	M32.13	M32.14	M32.15
M32.19	M32.8	M32.9	M35.00	M35.01
M35.02	M35.03	M35.04	M35.05	M35.06
M35.07	M35.08	M35.09	M35.0A	M35.0B
M35.0C	R00.9	R03.1	R42	R00.0
R55	R61	R68.89	G61.0	G99.0
<b>I95.0</b>				

## References

- American Association of Neuromuscular and Electrodiagnostic Medicine. Proper performance of autonomic function testing. *Muscle Nerve*. 2017; 55:3-4.
- Yuan T, Li J, Fu Y, et al. A cardiac risk score based on sudomotor function to evaluate cardiovascular autonomic neuropathy in asymptomatic Chinese patients with diabetes mellitus. *PLoS ONE*. 2018;13(10): e0204804.
- Huang F, Xu C, Deng X, et al. Deceleration capacity a novel measure for autonomic nervous system in patients with vasovagal syncope on tilt-table testing. *J Huazhong Univ Sci Technolog Med Sci*. 2017;37(3):326-331.
- Pertab J, Merkley T, Cramond A, et al. Concussion and the autonomic nervous system: An introduction to the field and the results of a systematic review. *Neuro Rehab*. 2018; 42:397-427.
- Bellavere F, Ragazzi E, Chillemi NC, et al. Autonomic testing: Which value for each cardiovascular test? An observational study. *Acta Diabetol*. 2019;56(1):39-43.
- Krieger SM, Reimann M, Haase R, et al. Sudomotor testing of diabetes polyneuropathy. *Frontiers Neurol*. 2018; 9:803.
- Palma JA, Norcliffe-Kaufmann L, Kaufmann H. Diagnosis of multiple system atrophy. *Auton Neurosci*. 2018; 211:15-25.
- Ziemssen T, Siepmann T. The investigation of the cardiovascular and sudomotor autonomic nervous system-A review. *Front Neurol*. 2019; 10:53.

Cheshire WP, Freeman R, Gibbons CH, et al. Electrodiagnostic assessment of the autonomic nervous system: A consensus statement endorsed by the American Autonomic Society, American Academy of Neurology, and the International Federation of Clinical Neurophysiology. Clin Neurophysiol. 2021;132(2):666-682.

Rajan S, Campagnolo M, Callaghan B, Gibbons CH. Sudomotor function testing by electrochemical skin conductance: Does it really measure sudomotor function? Clin Auton Res. 2019;29(1):31-39.

Policy Department, American Association of Neuromuscular & Electrodiagnostic Medicine, Rochester, Minnesota, USA. Proper performance of autonomic function testing. Muscle Nerve. 2017;55(1):3-4.

Cheshire WP, Freeman R, Gibbons CH, et al. Electrodiagnostic assessment of the autonomic nervous system: A consensus statement endorsed by the American Autonomic Society, American Academy of Neurology, and the International Federation of Clinical Neurophysiology. Clin Neurophysiol. 2021;132(2):666-682.

Kłysz B, Bembenek J, Skowrońska M, Członkowska A, Kurkowska-Jastrzębska I. Autonomic nervous system dysfunction in Wilson's disease - A systematic literature review. Auton Neurosci. 2021; 236:102890.

Chow KE, Dhyani R, Chelimsky TC. Basic tests of autonomic function. J Clin Neurophysiol. 2021;38(4):252-261.

**POLICY UPDATE HISTORY**

09/28/2022	Approved in Medical Policy Committee
10/2022	Approved in QI/UM