

# UPMC Health Plan POLICY AND PROCEDURE MANUAL

POLICY NUMBER: PAY.081  
REVISION DATE: N/A  
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SUBJECT:                    Autonomic Nervous System Testing  
INDEX TITLE:                Medical Management  
ORIGINAL DATE:              November 2009

**This policy applies to the following lines of business: (Check those that apply.)**

<b>Commercial:</b>					
HMO ( )		POS ( )		PPO ( )	
Fully Insured ( )		Self-funded/ASO ( )		HSA ( )	
Medicare Select ( )		Medicare Supplement ( )			
<b>DPW-MA:</b>					
Health Choices ( )			Voluntary ( )		All ( )
<b>CMS-MA:</b>					
OH ( )		WV ( )		PA ( )	All ( X )
HMO ( X )	PPO ( X )	Specialty Needs Plan ( X )		Part D ( )	PFFS ( X )
<b>PID-CHIP:</b>					
Free ( )		Sub ( )		Full ( )	All ( X )
<b>APPLICABLE TO:</b>					
Community Care ( )			Work Partners ( )		

## I. POLICY

It is the policy of UPMC Health Plan to cover Autonomic Nervous System Testing when it is medically necessary as detailed in this policy and covered under the member's specific benefit plan

## II. DEFINITIONS

N/A

## III. PURPOSE

The purpose of this policy is to define the indications of coverage for Autonomic Nervous System Testing.

## IV. SCOPE

This policy applies to various UPMC Health Plan departments as indicated by the Benefit and Reimbursement Committee. These include but are not limited to Medical Management, Benefit Configuration and Claims Departments.

## V. PROCEDURE

### A. Medical Description / Background:

The autonomic nervous system (ANS) is a regulatory branch of the central nervous system which controls and regulates the autonomic functions within our body which includes regulation of blood pressures, heart rate, airway size and airflow to the lungs, digestive tract functions, sweat production, bladder control and sexual function. The ANS acts through a balance of its own two components- the sympathetic nervous system and the parasympathetic nervous system. Autonomic failure results from an imbalance between the two components and can affect any system of the body. Autonomic disorders may be congenital or acquired- primary or secondary. Imbalance of the ANS with uncompensated sympathetic hyperactivity may predispose to increased platelet aggregation, coronary artery spasm, LV stress, ischemia and life threatening arrhythmias that could precipitate sudden cardiac death.

Autonomic disorders are mostly diagnosed clinically with formal testing playing an adjunctive or confirmatory role. ANS function testing consists of a battery of calibrated tests capable of providing an accurate assessment of the status of different parts of the autonomic nervous system. The purpose is to determine the presence of autonomic dysfunction, the site of the dysfunction and the various autonomic systems which may be damaged. Appropriate application and interpretation of these tests requires significant knowledge, training and expertise generally found at dedicated neurodiagnostic laboratories and academic facilities.

Testing is grouped into three categories:

- Cardiovagal Innervation – a test that provides a standardized quantitative evaluation of vagal innervation to parasympathetic function of the heart. The responses are based on the interpretation of changes in continuous heart recordings in response to test maneuvers and include heart rate response to deep breathing, Valsalva ratio and 30:15 ratio heart rate response to standing. Impairment occurs in autonomic failure due to diseases such as idiopathic orthostatic hypotension, diabetic neuropathy, and other neuropathies affecting the autonomic nerves.
- Sympathetic cholinergic function testing or Quantitative Sudomotor Autonomic Reflex Testing (QSART) is used to diagnose:
  1. Painful small nerve fiber neuropathy when nerve conduction testing is normal
  2. Disturbances of which control the sweat glands, heart, gastrointestinal tract, and other organs and blood pressure
  3. Complex regional pain syndrome or reflex sympathetic dystrophy
- Vasomotor Adrenergic Innervation testing evaluates adrenergic innervation of the circulation and of the heart in autonomic failure due to diseases such as Shy-Drager syndrome, idiopathic orthostatic hypotension, diabetic neuropathy and other neuropathies affecting autonomic nerves. The tests are included are beat-to-beat blood pressure

and R-R interval response to Valsalva maneuver, sustained hand grip and blood pressure and heart rate responses to tilt-up or active standing.

**B. Indications:**

Autonomic nervous system testing is indicated after more common causes have been excluded by other testing. The aim of such testing is to correlate signs and symptoms of possible autonomic dysfunction with objective measurement in a way that is clinically useful. It may be indicated for any of the following:

- Diagnose the presence of autonomic neuropathy in a patient with signs and symptoms suggesting a progressive peripheral autonomic neuropathy.
- Evaluate the severity and distribution of a diagnosed progressive autonomic neuropathy.
- Evaluate distressing symptoms in the patient with a clinical picture suspicious for distal small fiber neuropathy in order to diagnose the condition.
- Evaluate the response to treatment in patients with autonomic failure who demonstrate a change in clinical exam.
- Diagnose axonal neuropathy or suspected autonomic neuropathy in the symptomatic patient.

**C. Limitations include any of the following:**

- Syndromes of autonomic dysfunction for which ANS might add valuable clinical information are relatively rare. Generally, only after excluding more common causes of autonomic signs or symptoms (e.g., hypotension, hyperhidrosis, and orthostatic tachycardia) may formal autonomic testing be indicated to exclude or confirm rarer autonomic disorders.
- The use of these tests to screen patients without signs or symptoms of autonomic dysfunction, including patients with diabetes, hepatic or renal disease, is not covered.
- Testing for the sole purpose of monitoring disease intensity or treatment efficacy in diabetes, hepatic or renal disease is not considered reasonable and necessary.
- Testing is not covered unless the results are used in clinical decision-making and patient management.
- Appropriate application and interpretation of these tests requires significant knowledge, training and expertise. Testing is therefore limited to Neurologists.

**D. Variations:**

N/A

**E. Audits:**

Quality Audit may monitor policy compliance or billing accuracy at the request of the UPMC Health Plan's Technology Assessment Committee or the Benefits Reimbursement Committee.

**F. Records Retention:**

Records Retention for UPMC Health Plan documents, regardless of medium are provided within the UPMC Health System Policy and as indicated in the UPMC Insurance Services Division Policy and Procedure.

**G. References:**

1. American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM), *Recommended Policy for Electrodiagnostic Medicine*, 1995-2009
2. University of Pittsburgh Department of Neurology, *Neuromuscular Disease Autonomic Testing*, 2007
3. ECRI Institute, *Heart Rate Variability/R-R Variability Testing for Cardiovascular Autonomic Neuropathy*, 08/09/2004
4. UPMC Health Plan TAC Committee, *Autonomic Nervous System Testing*, 07/13/2009
5. American Heart Association, *Autonomic Nervous System*, 2009
6. National Government Services, Inc., Retired LCD L3118 – *Autonomic Nervous System Function Testing*, 2007

**Disclaimer:**

UPMC Health Plan medical payment and prior authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. The policies constitute only the reimbursement and coverage guidelines of UPMC Health Plan and its affiliated managed care entities. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies.

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