

# UPMC Health Plan POLICY AND PROCEDURE MANUAL

**POLICY NUMBER: PAY.069**  
**REVISION DATE: 09/09**  
**ANNUAL APPROVAL DATE: 11/09**  
**PAGE NUMBER: 1 of 7**

**SUBJECT:** Home Sleep Study  
**INDEX TITLE:** Medical Management  
**ORIGINAL DATE:** September 2008

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

<b>Commercial:</b>				
HMO ( )	POS ( )	PPO ( )	OOA/DOC ( )	
Fully Insured ( )	Self-funded/ASO ( )	HSA ( )	All (X)	
Medicare Select ( )	Medicare Supplement ( )			
<b>DPW-MA:</b>				
Health Choices ( )	Voluntary ( )	All ( )		
<b>CMS-MA:</b>				
OH ( )	WV ( )	PA ( )	All (X)	Other ( )
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 Home Sleep Study when it is medically necessary and covered by the member's benefit plan.

## **II. DEFINITIONS**

**Apnea** is defined as the cessation of airflow for at least 10 seconds.

**Continuous Positive Airway Pressure (CPAP)** is a non-invasive technique for providing single levels of air pressure from a flow generator, via a nose mask, through the nares. The purpose is to prevent the collapse of the oropharyngeal walls and the obstruction of airflow during sleep, which occurs in OSA.

**Home Sleep Study Test (HST)** is a polysomnography performed unattended in the member's home using a portable monitoring device.

**Hypopnea** is an abnormal respiratory event lasting at least 10 seconds with at least a 30% reduction in thoracoabdominal movement or airflow as compared to baseline, and with at least a 4% oxygen desaturation.

**Obstructive Sleep Apnea (OSA)** is a disorder of sleep apnea in which complete or partial obstruction of the airway during sleep causes loud snoring, reduction in oxygen content of the blood, and frequent arousals. Obstructive sleep apnea (OSA) is caused by one of the following: (1) reduced upper airway caliber due to obesity, adenotonsillar

hypertrophy, mandibular deficiency, macroglossia, or upper airway tumor; (2) excessive pressure across the collapsible segment of the upper airway; or (3) activity of the muscles of the upper airway insufficient to maintain patency.

**Multiple Sleep Latency Testing (MSLT)** involves several 20 minute nap opportunities offered at 2 hour intervals. The MSLT is designed to objectively assess sleep tendency by measuring the number of minutes it takes the patient to fall asleep as well as premature occurrences of REM sleep. To insure validity, interpretation of the MSLT should only be made following a PSG performed on the preceding night. The mean sleep latency on the MSLT indicating excessive daytime sleepiness should be 8 minutes or less.

**Polysomnography (PSG)** (facility based or home) is the continuous and simultaneous monitoring and recording of various physiological and pathophysiological parameters of sleep for 6 or more hours with physician review, interpretation and report. Less than 6 hours of recording may be utilized if a definitive diagnosis can be made prior to that time. The studies are performed to diagnose sleep disorders and/or evaluate a patient's response to therapies such as nasal continuous positive airway pressure (CPAP). Polysomnography includes at least the following:

- 1-4 lead electroencephalogram (EEG) to measure global neural encephalographic activity
- Electrooculogram (EOG) to measure eye movements
- A submental electromyogram
- Rhythm electrocardiogram (ECG) with 2 or 3 chest leads
- Nasal and/or oral airflow
- Ventilation and respiratory effort by chest-wall and abdominal movement
- Gas exchange (oxygen saturation (SP0<sup>2</sup>) by oximetry, transcutaneous monitoring, or end-tidal gas analysis)
- Extremity muscle activity, motor activity/movement using EMG
- Body positions

**Sleep apnea** is a respiratory dysfunction resulting in cessation or near cessation of respiration during sleep. These cessations of breathing may be due to either an occlusion of the airway (obstructive sleep apnea- OSA), absence of respiratory effort (central sleep apnea), or a combination of these factors (mixed sleep apnea).

**Sleep Study/Test** (Refer to Polysomnography).

### **III. PURPOSE**

The purpose of this policy is to describe coverage for Home Sleep Study Tests.

### **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

Obstructive sleep apnea (OSA) is a disorder in which complete or partial obstruction of the airway during sleep causes loud snoring, reduction in oxygen content of the blood, and frequent arousals. OSA is caused by repetitive upper airway obstruction during sleep as a result of narrowing of the respiratory passages and in some cases due to a receding jaw that result in insufficient room for the tongue. These anatomic abnormalities decrease the cross-sectional area of the upper airway. Decreased airway muscle tone during sleep and the pull of gravity while sleeping on the back, further decrease airway size, thereby impeding air flow during respiration.

Until recently, diagnosing OSA required an overnight stay in a specialized sleep laboratory or clinic. Testing included standard laboratory polysomnography (LPSG), which is the accepted test for the diagnosis of OSA. However, the demand for testing in the laboratory setting has exceeded the capacity of these clinics. A number of smaller, portable systems that can be used at home have been developed in an effort to make testing more convenient and cost-effective.

### B. Indications

The following home sleep study testing (HST) is covered for the purpose of diagnosing obstructive sleep apnea (OSA):

1. Unattended HST with a Type II home sleep monitoring device, OR
2. Unattended HST with a Type III home sleep monitoring device, OR
3. Unattended HST with a Type IV home sleep monitoring device that measures at least 3 channels.

Repeat Sleep Study/PSG may be indicated for any the following:

1. If the first study is technically inadequate due to equipment failure,
2. If the member could not sleep or was unable to sleep for sufficient amount of time to determine a clinical diagnosis,
3. If initiation of therapy or confirmation of the efficacy of prescribed therapy is clinically needed,
4. If the sleep-study results were inconclusive.

Follow Up Sleep Study/PSG is indicated for any of the following:

1. To evaluate the response to treatment (CPAP, oral appliances, surgical intervention),
2. After substantial weight loss has occurred in members on CPAP for treatment of sleep-related breathing disorders to ascertain whether CPAP is still needed at the previously titrated pressure,
3. After substantial weight gain has occurred in members previously treated with CPAP successfully, who are again symptomatic

- despite the continued use of CPAP, to ascertain whether pressure adjustments are needed,
4. When clinical response is insufficient or when symptoms return despite a documented good initial response to treatment with CPAP,
  5. When the member has had a significant change in cardiorespiratory status, such as the development or worsening of congestive Heart Failure (CHF) or left ventricular dysfunction.

### C. Limitations

1. The sleep test should be ordered by the member's treating physician and the study furnished under appropriate physician supervision.
2. The professional services related to home sleep testing is limited to testing a member for the diagnosis of obstructive sleep apnea when the home sleep testing is reasonable and necessary for the diagnosis of the member's condition, meets all of the indications, and the physician who performs the service has sufficient training and experience to reliably perform the service.
3. Performance of home sleep testing is limited to FDA approved devices furnished with adequate patient instruction and support to assure successful completion and reliable results.
4. Sleep disorder testing performed during the acute phase of an illness or injury is not appropriate.
5. Home Sleep Testing **not covered** for :
  - Members with comorbidities (moderate to severe pulmonary disease, Neuromuscular disease, congestive heart failure
  - Other sleep disorders (central sleep apnea, periodic limb movement disorder, insomnia, parasomnias, circadian rhythm disorders or narcolepsy),
  - Screening asymptomatic patients.
6. Documentation supporting a diagnosis of OSA must be available upon request by Medicare.
7. Repeat PSG for diagnosing sleep apnea requires documentation to support the medical necessity for the repeat test.
8. Multiple sleep latency testing (MSLT) is not routinely indicated for most members with sleep-related breathing disorders. A subjective assessment of excessive daytime sleepiness should be obtained routinely. A MSLT may be indicated in members with excessive daytime somnolence despite the cessation of apnea or a significant decrease in Apnea Hypoxia Index (AHI).

Note: This test is not applicable for home sleep studies that are unattended.

## **D. Variations**

N/A

## **Quality Audit**

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.

## **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.

## **H. References**

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[http://www.ta.ecri.org/Hotline/Prod/summary/archive.aspx?doc\\_id=7573](http://www.ta.ecri.org/Hotline/Prod/summary/archive.aspx?doc_id=7573)
4. CMS NCD #240.4 Continuous Positive airway pressure (CPAP) Device, effective 3/2/09.  
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5. CMS, Technology Assessments for Continuous Positive Airway Pressure (CPAP) Therapy for Obstructive Sleep Apnea (OSA) (CAG-00093R).  
<http://www.cms.hhs.gov/mcd/viewtechassess.asp?id=110>
6. CMS Technology Assessment. Effectiveness of portable monitoring devices for diagnosing obstructive sleep apnea: update of a systematic review, 9-1-04
7. Highmark Medicare Services, Sleep Disorders Testing, LCD # L27530, effective 8-1-08. <http://www.highmarkmedicareservices.com/policy/mac-ab/127530.html>
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[http://www.guideline.gov/summary/summary.aspx?ss=15&doc\\_id=4369](http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=4369)

9. ECRI Custom Hotline Response, SNAP Testing (Unattended Polysomnography) to Evaluate Obstructive Sleep Apnea (OSA), archived 11-30-04.
10. CMS MLN Matters: Sleep Testing for Obstructive Sleep Apnea (OSA) , No MM6534, Transmittal No. R103NCD, effective 3/3/09.  
<http://www.cms.hhs.gov/MLNMattersArticles/downloads/MM6534.pdf>

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