



Geisinger Health Plan Policies and Procedure Manual

Policy: MP217

Section: Medical Benefit Policy

Subject: Polysomnography and Sleep Studies

Applicable Lines of Business

Commercial	X	CHIP	X
Medicare	X	ACA	X
Medicaid	X		

I. Policy: Polysomnography and Sleep Studies

II. Purpose/Objective:

To provide a policy of coverage regarding Polysomnography and Sleep Studies

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community.
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

- Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
- Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.

- Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age

DESCRIPTION:

Polysomnography testing is used to diagnose sleep disorders. It includes the following measurements: the electrophysiologic indices of sleep staging (EEG, EOG, EMG); electromechanical indices contrasting respiratory effort with actual ventilation (chest or abdomen movement; airflow at the nose and mouth); and consequences of apneic events, including electrocardiograms and pulse oximetry.

In the clinical guidelines of the American Academy of Sleep Medicine, there are four types of monitoring devices:

Type 1	Comprehensive standard overnight polysomnography in a sleep center or laboratory with a sleep technician in constant attendance.	Minimum of 7 parameters including EEG, EOG, chin EMG, ECG or heart rate, airflow, respiratory effort, oxygen saturation
Type 2	Comprehensive, portable sleep study	Minimum of 7 parameters including EEG, EOG, chin EMG, ECG or heart rate, airflow, respiratory effort, oxygen saturation
Type 3	Modified, portable sleep apnea testing	Minimum of 4 parameters, including ventilation (at least 2 channels of respiratory movement, or respiratory movement and airflow), heart rate or ECG, oxygen saturation
Type 4	Unattended sleep testing	Minimum of three parameters, including oximetry

Multiple sleep latency testing (MSLT) involves several 20 minute nap opportunities offered at 2 hour intervals to assess an individual’s sleep tendency by measuring the number of minutes it takes the individual to fall asleep as well as the premature occurrences of REM sleep.

INDICATIONS:

UNATTENDED/UNSUPERVISED SLEEP STUDIES

- I. The Plan considers the following portable or unattended sleep studies medically necessary as an alternative to in-laboratory polysomnography (PSG) for the diagnosis of OSA in members with a high pretest probability of moderate to severe OSA when no comorbidities exist that are contraindications to home/unattended testing:
 - A Type II or a Type III sleep testing device is covered when used to aid the diagnosis of obstructive sleep apnea (OSA) in beneficiaries who have clinical signs and symptoms indicative of OSA if performed unattended in or out of a sleep lab facility or attended in a sleep lab facility.
 - A Type IV sleep testing device measuring three or more channels, one of which is airflow, is covered when used to aid the diagnosis of obstructive sleep apnea (OSA) in beneficiaries who have signs and symptoms indicative of OSA if performed unattended in or out of a sleep lab facility or attended in a sleep lab facility
 - A sleep testing device measuring three or more channels that include actigraphy, oximetry, and peripheral arterial tone is covered when used to aid the diagnosis of obstructive sleep apnea (OSA) in beneficiaries who have signs and symptoms indicative of OSA if performed unattended in or out of a sleep lab facility or attended in a sleep lab facility.

Contraindications to home/unattended testing (ANY of the following):

- Member is less than 18 years of age
- Suspected central sleep apnea or narcolepsy
- Moderate to severe heart failure (NYHA Class III or IV)
- Chronic pulmonary disease including moderate to severe asthma
- Established diagnosis of obesity hypoventilation syndrome
- Neuromuscular/neurodegenerative disorder causing restrictive lung diseases (e.g. myasthenia gravis, amyotrophic lateral sclerosis (ALS), polymyositis, Guillian Barre syndrome, etc)
- Cerebral vascular accident (CVA) or transient ischemic attack (TIA) within the preceding 30 days;
- cardiac arrhythmias
- parasomnias that pose risk of injury

- General Screening of Asymptomatic patients

REPEAT UNATTENDED/UNSUPERVISED SLEEP STUDIES

The Plan considers repeat testing to be medically necessary for the following indications

- Evaluation of need for modification and/or discontinuance of positive pressure breathing devices if the member has experienced significant weight change or change in symptomology
- Evaluation of effectiveness of oral devices or surgical intervention

SUPERVISED FACILITY- BASED POLYSOMNOGRAPHY

- I. The Plan considers Type I polysomnography (PSG) when used to aid the diagnosis of obstructive sleep apnea (OSA) in members who have clinical signs and symptoms indicative of OSA if performed attended in a sleep lab facility be medically necessary for **ANY** of the following:
 - a. member does not meet criteria for unattended home sleep study
 - b. portable or unattended sleep study was technically inadequate or failed to establish a diagnosis of obstructive sleep apnea in spite of high pre-test probability
 - c. In the evaluation of sleep related behaviors that are violent or potentially injurious to the member or others
 - d. in members with neuromuscular disorders (e.g., myasthenia gravis, amyotrophic lateral sclerosis
 - e. (ALS), polymyositis, Guillian Barre syndrome, etc) and sleep related symptoms
 - f. evaluation of suspected narcolepsy or central sleep apnea

REPEAT FACILITY- BASED POLYSOMNOGRAPHY

The Plan considers repeat testing to be medically necessary for the following indications:

- Evaluation of need for modification and/or discontinuance of positive pressure breathing devices if the member has experienced significant weight change or change in symptomology
 - Evaluation of effectiveness of oral devices or surgical intervention if the member does not meet criteria for an unattended home study
- II. A Multiple Sleep Latency Test (MSLT) may be considered medically necessary when documented evidence of excessive daytime somnolence exists despite the cessation of apnea or a significant decrease in AHI.
 - III. Polysomnography followed by a MSLT performed the day after may be considered medically necessary in the evaluation of suspected narcolepsy or idiopathic hypersomnia if obstructive sleep apnea has been ruled out.

LIMITATIONS:

*** For the Medicare & Medicaid Business Segment Only** - Additional coverage may be available through the applicable CMS mandates and/or the Coverage with Evidence Development (CED) when enrolled in a Centers for Medicare & Medicaid Services (CMS)-approved practical clinical trial.

The facility or provider must maintain documentation that it is in compliance with the criteria set by the American Sleep Disorders Association or the American Academy of Sleep Medicine. Failure to do so may result in a delay in processing of claims or denial of the claim.

The patient's medical record must contain documentation that fully supports the medical necessity and frequency for sleep studies as covered in the above policy. The documentation must include, but is not limited to, relevant medical history, physical examination and results of pertinent diagnostic tests and/or procedures.

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.

Home sleep testing should be performed over a period of three (3) consecutive nights to acquire quality data. The performance of home sleep testing for multiple nights will be considered as one (1) study.

EXCLUSIONS:

The Plan considers the use of Home MSLT not medically necessary and **NOT COVERED**. Home MSLT testing has not been proven to be equivalent to formal MSLT performed in a facility-based sleep study laboratory.

The Plan considers diagnostic testing that is duplicative of previous sleep testing done by the attending physician **NOT COVERED** when there have been not significant clinical changes in the members documented medical history since the previous study.

The Plan considers portable diagnostic sleep studies by home health agencies or durable medical equipment providers **NOT COVERED**.

Devices /Procedures related to diagnosis sleep apnea – The Plan does **NOT** provide coverage for the following devices/procedures for the diagnosis of OSA or other sleep disorders because they are considered **experimental, investigational or unproven**. The current body of evidence in the peer-reviewed, published medical literature supporting the use of these devices/procedures for patients with sleep disorders is insufficient to allow adequate conclusions regarding their efficacy. (This list may not be all inclusive):

- SNAP™ Testing
- SleepStrip™
- Actigraphy (Requires Program Exception for Medicaid business segment)

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven is outlined in MP 15 - Experimental Investigational or Unproven Services or Treatment.

Medicaid Business Segment:

Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis.

CODING ASSOCIATED WITH:

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

- 94660 Continuous positive airway pressure ventilation (CPAP), initiation and management
- 95782 Polysomnography; younger than 6 years, sleep staging with 4 or more additional parameters of sleep, attended by a technologist.
- 95783 Polysomnography; younger than 6 years, sleep staging with 4 or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bi-level ventilation, attended by a technologist
- 95800 Sleep study, unattended, simultaneous recording; heart rate, oxygen saturation, respiratory analysis (eg, by airflow or peripheral arterial tone), and sleep time
- 95801 Sleep study, unattended, simultaneous recording; minimum of heart rate, oxygen saturation, and respiratory analysis (eg, by airflow or peripheral arterial tone)
- 95803 Actigraphy testing, recording, analysis, interpretation and report (minimum of 72 hours to 14 consecutive days of recording)
- 95805 Multiple sleep latency or maintenance of wakefulness testing, recording, analysis and interpretation of physiological measurements of sleep during multiple trials to assess sleepiness
- 95806 Sleep study, simultaneous recording of ventilation, respiratory effort, ECG or heart rate, and oxygen saturation, unattended by a technologist
- 95807 Sleep study, simultaneous recording of ventilation, respiratory effort, ECG or heart rate, and oxygen saturation, attended by a technologist
- 95808 Polysomnography; sleep staging with 1-3 additional parameters of sleep, attended by a technologist
- 95810 Sleep staging with 4 or more additional parameters of sleep, attended by a technologist
- 95811 Sleep staging with 4 or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bi-level ventilation, attended by a technologist
- G0398 Home sleep study test (HST) with type II portable monitor, unattended; minimum of 7 channels; EEG, EOG, EMG, ECG/heart rate, airflow, respiratory effort and oxygen saturation
- G0399 Home sleep test (HST) with type III portable monitor, unattended; minimum of 4 channels: 2 respiratory movement/airflow, 1 ECG/heart rate and 1 oxygen saturation
- G0400 Home sleep test (HST) with type IV portable monitor, unattended; minimum of 3 channels

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

ASDA "Practice Parameters for the Indications of Polysomnography and Related Procedures", ASDA Standards of Practice Committee, 1997. Updated: Sleep 2005;28(4):499-521.

"Sleep Related Breathing Disorders in Adults- Recommendations for Syndrome Definition and Measurement Techniques in Clinical Research," AASM Task Force, SLEEP, Volume 22(5), 1999.

Sadeh A, Acebo C. The role of actigraphy in sleep medicine. Sleep Medicine reviews. 2002;6(2):113-124.

Sforza E, Zamagni M, Petiav C, Krieger J. Actigraphy and leg movements during sleep: A validation study. Journal of Clinical Neurophysiology. March 1999;16(2):154-160.

Littner M, Kushida CA, Anderson WM, et. al. Practice Parameters for the Role of Actigraphy in the Study of Sleep and Circadian Rhythms: An Update for 2002. American Academy of Sleep Medicine. Sleep 2003;26(3):337-341.

Thorpy M, Chesson A, Derderian S, et. al. Practice Parameters for the Use of Actigraphy in the Clinical Assessment of Sleep Disorders. American Academy of Sleep Medicine. Sleep 1995;18;285-287.

American Academy of Sleep Medicine. Practice Parameters for the Evaluation of Chronic Insomnia. Sleep 2000;23(2):237-241.

Hauri PJ, Wisbey J. Wrist actigraphy in insomnia. Sleep 1992;15(4):293-301.

Vallieres A, Morin CM. Actigraphy in the assessment of insomnia. Sleep 2003;26(7):902-906.

Elbaz M, Roue GM, Lofaso F, Quera Salva MA. Utility of actigraphy in the diagnosis of obstructive sleep apnea. Sleep 2002;25(5):527-531.

Jean-Louis G, Kripke DF, Cole RJ, Assmus JD, Langer RD. Sleep detection with an accelerometer actigraph: comparisons with polysomnography. Physiological Behavior Jan. 2001;72(1-2):21-28.

Pollak CP, Tryon WW, Nagaraja H, Dzwonczyk R. How accurately does wrist actigraphy identify the states of sleep and wakefulness? Sleep 2001;24(8):957-965.

Penzel T, Kesper K, Pinnow I, Becker HF, Vogelmeier C. Peripheral arterial tonometry, oximetry and actigraphy for ambulatory recording of sleep apnea. Physiological Measurement 2004;25:1025-1036.

American Academy of Sleep Medicine. Standards of Practice Committee of the Practice parameters for clinical use of the multiple sleep latency tests and the maintenance of wakefulness test. Sleepiness; hypersomnia; daytime wakefulness Sleep. 2005;28(1):113-121.

Kushida CA, Littner MR, Hirshkowitz M, Morgenthaler TI, Alessi CA, Bailey D, et al. Practiceparameters for the use of continuous and bilevel positive airway pressure devices to treat adult patients with sleep-related breathing disorders. Sleep. 2006 Mar 1;29(3):375-80.

Kushida CA, Littner MR, Morgenthaler T, Alessi CA, Bailey D, Coleman J, et al. Practice parameters for the indications for polysomnography and related procedures: an update for 2005. Accessed February 5, 2007. Available at URL address: <http://www.aasmnet.org/PracticeParam.aspx>

Chesson A, Berry R, Pack A. Practice parameters for the use of portable monitoring devices in the investigation of suspected obstructive sleep apnea in adults. Sleep. 2003;26(7):907-13.

Kushida CA, Chediak A, Berry RB, Brown LK, Gozal D, Iber C, Parthasarathy S, Quan SF, and Rowley JA. Clinical guidelines for the mutual titration of positive airway pressure in patients with obstructive sleep apnea. Journal of Clinical Sleep Medicine 2008;4(2):157-171.

Morgentheler TI, Aurora RN, Brown T, Zak R, Alessi C, Boehlecke B, Chesson AL, Friedman L, Kapur V, Maganti R, Owens J, Pancer J, Swick TJ. Practice Parameters for the use of autotitrating continuous positive airway pressure devices for titrating pressures and treating adult patients with obstructive sleep apnea syndrome: An update for 2007. *SLEEP* 2008; 31(1):141-147.

Portable Monitoring Task Force of American Academy of Sleep Medicine' "Clinical Guidelines for the Use of Unattended Portable Monitors in the Diagnosis of Obstructive Sleep Apnea in Adult Patients," *Journal of Clinical Sleep Medicine*, 2007, 3(7):737-747.

Novitas Solutions, Inc. Local carrier Determination (LCD) for Outpatient Sleep Studies (L27530). Accessed 2/11/14.

Choi JH, Kim EJ, et al. Validation study of portable device for the diagnosis of obstructive sleep apnea according to the new AASM scoring criteria: Watch-PAT 100. *Acta Otolaryngol.* 2010 Jul;130(7):838-43

Yalamanchali S, Farajian V, et al. Diagnosis of obstructive sleep apnea by peripheral arterial tonometry: meta-analysis. *JAMA Otolaryngol Head Neck Surg.* 2013 Dec;139(12):1343-50

Kapur VK, Auckley DH, et al. Clinical Practice Guideline for Diagnostic Testing for Adult Obstructive Sleep Apnea: An American Academy of Sleep Medicine Clinical Practice Guideline. *J Clin Sleep Med* 2017;13(3):479-504

UpToDate. Overview of Obstructive Sleep Apnea in Adults. Kingman P. Strohl M.D., Topic last updated June 24, 2016.

Marino M, Li Y, Rueschman MN, et al. Measuring sleep: accuracy, sensitivity, and specificity of wrist actigraphy compared to polysomnography. *Sleep.* Nov 2013;36(11):1747-1755.

Collop NA, Tracy SL, et al. Obstructive sleep apnea devices for out-of-center (OOC) testing: Technology Evaluation. *J Sleep Medicine* 2011;7(5):531-548.

Sasai-Sakuma T, et al. Polysomnographic Assessment of Sleep Comorbidities in Drug-Naïve Narcolepsy-Spectrum Disorders—A Japanese Cross-Sectional Study. *PLOS One.* Aug 31, 2015.

Alakuijala A, Sarkanen T, et al. Accuracy of Actigraphy Compared to Concomitant Ambulatory Polysomnography in Narcolepsy and Other Sleep Disorders. *Front. Neurol.*, 04 March 2021

Dietmann A, Gallino C, et al. Multiple sleep latency test and polysomnography in patients with central disorders of hypersomnolence. *Sleep medicine* 2021;79:6-10.

Uptodate. Overview of polysomnography in adults. Kramer NR, Millman RP. Topic last updated: Nov 05, 2021.

This policy will be revised as necessary and reviewed no less than annually.

Devised: 4/08

Revised: 9/09, 10/10 (add'l limitations, exclusion); 3/18 (remove WatchPAT exclusion); 3/21 (add indication, formatting); 3/22 (add indications); 12/23 (Revise criteria)

Reviewed: 10/11, 10/12, 10/13; 2/14, 3/15, 3/16, 3/17, 3/19, 3/20, 3/23

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

Please be advised that the use of the logos, service marks or names of Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company on a marketing, press releases or any communication piece regarding the contents of this medical policy is strictly prohibited without the prior written consent of Geisinger Health Plan. Additionally, the above medical policy does not confer any endorsement by Geisinger Health

Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company regarding the medical service, medical device or medical lab test described under this medical policy.