Sleep Studies, Adult

Medical Coverage Policy

Effective Date: 10/24/2013
Revision Date: 10/24/2013
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Policy Number: CLPD-0381-014

Change Summary: Updated Coverage Limitations

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Description

Note: This policy applies to ADULT (18 years of age and older) patients only. For information regarding sleep studies for children (less than 18 years of age), please refer to Sleep Studies, Pediatric Medical Coverage Policy.

A sleep study is a test that may be used to assist in the diagnosis of sleep disorders, such as sleep apnea, narcolepsy and other night time behaviors. It can record a range of bodily functions during sleep, such as: measurement of breathing, respiratory effort, oxygen saturation levels, heart monitoring, eye movement and heart, brain and muscle activity.

A sleep study may be performed in a sleep facility/laboratory or in the home. Polysomnogram (PSG) is a sleep study that is performed in a facility/laboratory setting and requires an overnight stay. This test is designed to capture multiple sensory
channels including brain waves, heartbeat, blood pressure and breathing patterns as a patient sleeps. It can also record eye and leg movements, and muscle tension which can be useful in diagnosing parasomnias. A PSG performed at a facility will record a minimum of twelve channels which is a minimum of 22 wire attachments to the patient. Sensors that send electrical signals to a computer are placed on the head, face, chest and legs. This test is attended by a technologist and the results are evaluated by a qualified physician. A PSG may be performed in conjunction with a positive airway pressure (PAP) machine to determine the titration of oxygen flow.

Facility based positive airway pressure (PAP) titration study is used to set the right level of PAP which can be administered as continuous positive airway pressure (CPAP) or bilevel positive airway pressure (BPAP) once patient tolerance and optimal levels are determined by a sleep technologist. Facility based titration is indicated for patients who are not candidates for auto titrating CPAP due to diminished ventilation from disorders such as chronic obstructive pulmonary disease (COPD), obesity hypoventilation syndrome (OHS) or heart failure.

Facility based PAP titration may be performed in conjunction with a PSG as part of a second or split night study if the diagnosis of moderate or severe OSA can be made within the first two hours of recorded sleep, and at least three hours of PAP titration, including the ability of PAP to eliminate respiratory events during both rapid eye movement sleep and non rapid eye movement sleep, is demonstrated.

Facility based, daytime, abbreviated, cardiorespiratory sleep studies (PAP NAP testing) uses a therapeutic framework that includes mask and pressure desensitization, emotion focused therapy to overcome aversive emotional reactions, mental imagery to divert patient attention from mask or pressure sensations and physiological exposure to PAP therapy during a 100 minute nap period which is purported to enhance PAP therapy adherence. (Refer to Coverage Limitations section)

Multiple Sleep Latency Test (MSLT) is a facility based study that is used to measure levels of daytime sleepiness. During a routine MSLT, a patient is given five nap trials that are separated by two hour intervals: each trial consists of a twenty-minute session in which the patient attempts to fall asleep. Onset of sleep and rapid eye movement, along with heartbeat and chin movements are recorded. The test is typically performed on the night following a PSG (where at least six hours of sleep
were achieved) in order to rule out other sleep disorders as a cause of excessive daytime sleepiness. The results of the study are primarily used to confirm the suspected diagnosis of narcolepsy.

Maintenance of Wakefulness Test (MWT) is a facility based study that is used to measure the ability to stay awake and alert. The procedure protocol is similar to that of the MSLT, with the exception that a patient is given four nap trials, each trial consisting of a forty minute session in which the patient attempts to fall asleep. The clinical setting should have a constant, low level of light that allows the patient to see and focus on objects in the room, but is not overly stimulating. The test is routinely performed the day after a nocturnal PSG and evaluates the ability to stay awake for a defined period of time. Results may be used to determine the efficacy of therapy for sleep disturbance disorders (such as narcolepsy) or to determine if the inability to stay awake is a public or personal safety concern.

Home/Portable Monitor Sleep Testing is a sleep study performed in the home that utilizes portable monitoring (PM) devices that are designed to be used by a patient without supervision of a sleep technologist. The system usually consists of a recording device and related accessories. PM devices measure fewer parameters than a laboratory based sleep study. The American Academy of Sleep Medicine (AASM) has recently suggested categorizing home sleep testing devices based on measurements of Sleep, Cardiovascular, Oximetry, Position, Effort, and Respiratory (SCOPER) parameters. However, the currently used Type I-IV classification system is described below.

NOTE: Only those monitors that record airflow, respiratory effort, and blood oxygenation (at a minimum) are considered effective for the evaluation of sleep apnea.

Type I monitoring devices are used for in laboratory, technologist attended, overnight PSG. They measure a minimum of seven parameters including electroencephalogram (EEG), electrocardiogram (ECG), electrooculogram, chin electromyogram, airflow, respiratory effort and oxygen saturation.

Type II monitoring devices record a minimum of seven monitoring channels, the same as Type I devices; however, Type II monitoring devices are portable, used outside the sleep lab and are unattended by a sleep technologist.
Type III monitoring devices usually measure a minimum of four monitoring channels, including two respiratory variables, such as respiratory movement and airflow, a cardiac parameter (e.g., heart rate or ECG) and oxygen saturation through pulse oximetry. Some Type III devices may offer extra measurements, such as detection of snoring and movement. Type III devices are portable, used outside the sleep lab and are unattended by a sleep technologist.

Type IV monitoring devices typically record only one or two channels, usually measuring oxygen saturation or airflow, but some Type IV devices measure additional parameters but do not meet the definition of a Type III device. Type IV devices are portable, used outside the sleep lab and are unattended by a sleep technologist.

Actigraphy is a technique for monitoring body movement during sleep to detect sleep disorders by using a portable device known as an actigraph, which is worn on the patient’s wrist or ankle. An example of an actigraphy device is the Actiwatch. (Refer to Coverage Limitations section)

For information regarding home oximetry monitoring, please refer to Home Oximetry Monitoring Medical Coverage Policy.

Some providers use prescreening devices to predict pretest probability of obstructive sleep apnea (OSA) prior to seeking a sleep study. Some examples of prescreening devices are SleepStrip™ and acoustic pharyngometry. (Refer to Coverage Limitations section)

Note: This policy applies to ADULT (18 years of age and older) patients only. For information regarding sleep studies for children (less than 18 years of age), please refer to Sleep Studies, Pediatric Medical Coverage Policy.

Facility Based Polysomnogram (PSG)

Humana members may be eligible under the Plan for a facility based PSG to confirm the suspected diagnosis of moderate to severe obstructive sleep apnea (OSA) after a comprehensive sleep history has been performed and the following criteria (I and II) are met:

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I. Patient presents with clinical features of OSA as evidenced by:

- Excessive daytime sleepiness (EDS) and ONE of the following are present:
  - heart failure; OR
  - hypertension; OR
  - BMI greater than 30; OR
  - mission critical profession, including but not limited to: airline pilots, bus drivers and truck drivers; OR
  - excessive sleepiness while driving; OR
  - loud/intense snoring; OR

- Witnessed nocturnal apnea, choking and/or gasping; OR

- Epworth Sleepiness Scale score of 10 or greater; OR

- Hypertension uncontrolled by a three drug regimen which includes a diuretic

II. AND ANY of the following criteria are met:

- Presence of comorbid medical condition(s) that would degrade the accuracy of home/portable monitor sleep testing, when at least ONE of the following is present:
  - Moderate to severe pulmonary disease, including but not limited to: chronic obstructive pulmonary disease (COPD), nocturnal or uncontrolled asthma; OR
  - Neuromuscular disease with associated pulmonary disease, including but not limited to: Parkinson’s, previous stroke with residual respiratory effects, uncontrolled epilepsy, spina bifida, myotonic dystrophy, amyotrophic lateral sclerosis or multiple sclerosis; OR
  - Significant cardiac disease, including but not limited to: congestive heart failure (CHF), (New York Heart Association class III or IV or left ventricular ejection fraction [LVEF] less than 45%), uncontrolled cardiac arrhythmia or pulmonary hypertension; OR

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- Results of previous home/portable monitor sleep test were indeterminate or technically inadequate for suspected OSA in patients with a high pretest probability; OR
- Presence of a cognitive impairment such that the patient is unable to perform a home/portable monitor sleep test or patient lacks the mobility or dexterity to use PM the equipment safely at home

Humana members may be eligible under the Plan for a **facility based PSG** with the presence of ANY of the following **complex sleep disorders**:

- History of or clinical features associated with central sleep apnea [(CSA) primary or secondary associated with Cheyne-Stokes breathing pattern, high altitude periodic breathing or regular use of a long acting opioid medication for at least two months]; OR
- History of or clinical features associated with narcolepsy (moderate to severe daytime sleepiness associated with cataplexy, hypnagogic hallucinations or sleep paralysis) when a MSLT is planned; OR
- History of or clinical features associated with obesity hypoventilation syndrome [(OHS) BMI greater than 30kg/m²] has alveolar hypoventilation when awake (PaCO₂ greater than 45 mmHg), which cannot be attributed to other conditions such as pulmonary disease, skeletal restriction, neuromuscular weakness, hypothyroidism or pleural pathology; OR
- Idiopathic central nervous system hypersomnia (presence of difficult morning awakening, constant somnolence, prolonged night sleep, sleep drunkenness, sleep related behaviors disruptive to other household members or potentially violent/injurious sleep related behaviors) when a MSLT is planned; OR
- Parasomnias that are unusual or atypical because of the patient’s age at onset, the time, duration or frequency of occurrence of the behavior, including but not limited to: sleepwalking, sleep terrors, REM sleep behavior disorder, nocturnal seizures or psychogenic dissociative states; OR

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- Paroxysmal arousals or other sleep disruptions thought to be seizure related; OR

- Periodic limb movement disorder (involuntary, jerking movements of the legs during sleep causing EDS due to sleep fragmentation); OR

- Restless legs syndrome [(RLS) spontaneous, continuous leg movements associated with unpleasant paresthesias which worsen at night and are relieved by movement], when uncertainty exists in the diagnosis or when resistant to treatment

For information regarding OSA and other sleep related breathing disorders nonsurgical treatments, please refer to Obstructive Sleep Apnea and Other Sleep Related Breathing Disorders Nonsurgical Treatments Medical Coverage Policy.

**Repeat Sleep Study - Facility Based Polysomnogram (PSG)**

Humana members may be eligible under the Plan for a repeat facility based PSG when the above criteria for a Facility Based Polysomnogram (PSG) are met.

**Facility Based Positive Airway Pressure (PAP) Titration Study**

Humana members may be eligible under the Plan for facility based PAP titration study when ANY of the following criteria are met:

- Diagnosis of OSA is confirmed by a previous polysomnography or home/portable sleep test; AND

  - Presence of comorbid medical condition(s) that would degrade the accuracy of home/portable monitor sleep testing, when at least ONE of the following is present:
    - Moderate to severe pulmonary disease, including but not limited to: chronic obstructive pulmonary disease (COPD), nocturnal or uncontrolled asthma; OR
    - Neuromuscular disease with associated pulmonary disease, including but not

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limited to: Parkinson’s, previous stroke with residual respiratory effects, uncontrolled epilepsy, spina bifida, myotonic dystrophy, amyotrophic lateral sclerosis or multiple sclerosis; OR

- Significant cardiac disease, including but not limited to: congestive heart failure (CHF), (New York Heart Association class III or IV or left ventricular ejection fraction [LVEF] less than 45%), uncontrolled cardiac arrhythmia or pulmonary hypertension; OR

- Presence of ANY of the following sleep disorders:

  - History of or clinical features associated with central sleep apnea [(CSA) primary or secondary associated with Cheyne-Stokes breathing pattern, high altitude periodic breathing or regular use of a long acting opioid medication for at least two months]; OR

  - History of or clinical features associated with obesity hypoventilation syndrome [(OHS) BMI greater than 30kg/m²] has alveolar hypoventilation when awake (PaCO₂ greater than 45 mmHg), which cannot be attributed to other conditions such as pulmonary disease, skeletal restriction, neuromuscular weakness, hypothyroidism or pleural pathology; OR

- Member lacks cognitive function, dexterity, and mobility to use equipment safely at home and does not have caregiver support

Humana members may be eligible under the Plan for facility based PAP titration study for the following indications:

- Symptoms of OSA persist and/or attempts to comply with PAP device have failed despite documented provider support to include proper fitting of device and patient education

**Multiple Sleep Latency Test (MSLT) and Maintenance of Wakefulness Test (MWT)**

Humana members may be eligible under the Plan for Multiple Sleep Latency Test (MSLT) or Maintenance of Wakefulness Test (MWT) when ALL of the following

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criteria are met:

- Assessment of treatment response or presence of associated features of narcolepsy such as: cataplexy, excessive daytime sleepiness, hypnogogic hallucinations or sleep paralysis; AND

- Testing consists of nap opportunities performed at two hour intervals. The initial nap opportunity begins within 90 minutes to three hours after termination of the nocturnal PSG recording; AND

- Testing is performed following a negative PSG (during which a minimum of six hours sleep was achieved) for the evaluation of symptoms of narcolepsy

Home/Portable Monitor Sleep Testing

Humana members may be eligible under the Plan for a home/portable monitor sleep testing to confirm the suspected diagnosis of moderate to severe obstructive sleep apnea (OSA) when ALL of the following criteria are met:

- Comprehensive sleep history evaluation has been performed; AND

  - Patient presents with clinical features of OSA as evidenced by:

    - Excessive daytime sleepiness (EDS) and ONE of the following are present:
      - heart failure; OR
      - hypertension; OR
      - BMI greater than 30; OR
      - mission critical profession, including but not limited to: airline pilots, bus drivers, and truck drivers; OR
      - excessive sleepiness while driving; OR
      - loud/intense snoring; OR

    - Witnessed nocturnal apnea, choking and/or gasping; OR

    - Epworth Sleepiness Scale score of 10 or greater; OR

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- Hypertension uncontrolled by a three drug regimen which includes a diuretic; **AND**

  - Absence of the following comorbid medical condition(s) that would degrade the accuracy of a home/portable monitoring sleep test:
    - Moderate to severe pulmonary disease, including but not limited to: chronic obstructive pulmonary disease (COPD), nocturnal or uncontrolled asthma; **OR**
    - Neuromuscular disease with associated pulmonary disease, including but not limited to: Parkinson’s, previous stroke with residual respiratory effects, uncontrolled epilepsy, spina bifida, myotonic dystrophy, amyotrophic lateral sclerosis or multiple sclerosis; **OR**
    - Significant cardiac disease, including but not limited to: congestive heart failure (CHF), (New York Heart Association class III or IV or left ventricular ejection fraction [LVEF] less than 45%), uncontrolled cardiac arrhythmia or pulmonary hypertension; **AND**

- None of the following sleep disorders are suspected:
  - Central sleep apnea (CSA) primary or secondary associated with Cheyne-Stokes breathing pattern, high altitude periodic breathing, or regular use of a long-acting opioid medication for at least two months; **OR**
  - Idiopathic central nervous system hypersomnia (presence of difficult morning awakening, constant somnolence, prolonged night sleep, sleep drunkenness, sleep related behaviors disruptive to other household members or potentially violent/injurious sleep related behaviors) when a MSLT is planned; **OR**
  - Narcolepsy (moderate to severe daytime sleepiness associated with cataplexy, hypnagogic hallucinations or sleep paralysis); **OR**
  - Obesity hypoventilation syndrome ([OHS] BMI greater than 30kg/m2) has alveolar hypoventilation when awake (PaCO2 greater than 45 mmHg), which

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cannot be attributed to other conditions such as pulmonary disease, skeletal restriction, neuromuscular weakness, hypothyroidism or pleural pathology; OR

- Parasomnias that are unusual or atypical because of the patient’s age at onset, the time, duration or frequency of occurrence of the behavior, including but not limited to: sleepwalking, sleep terrors, REM sleep behavior disorder, nocturnal seizures or psychogenic dissociative states; OR

- Paroxysmal arousals or other sleep disruptions thought to be seizure related; OR

- Periodic limb movement disorder (involuntary, jerking movements of the legs during sleep causing EDS due to sleep fragmentation); OR

- Restless legs syndrome [(RLS) spontaneous, continuous leg movements associated with unpleasant paresthesias which worsen at night and are relieved by movement], when uncertainty exists in the diagnosis or when resistant to treatment; AND

- Patient has appropriate cognitive function, dexterity and mobility to use equipment safely at home; AND

- Patient is 18 years of age or older; AND

- Type II, Type III, or Type IV* portable monitoring device is used. Examples include:
  - Alice PDx Portable Sleep System
  - ApneaLink™
  - ARES
  - NovaSom
  - SleepView®
  - Stardust II

* Type IV portable monitoring devices must measure a minimum of three channels that include heart rate, oxygen saturation and respiratory analysis.

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Humana members may be eligible under the Plan for a **home/portable monitor sleep testing** to evaluate the response to non CPAP treatments for OSA, including oral appliances, upper airway surgery and weight loss if OSA symptoms persist after treatment.

For information regarding **OSA Surgical Treatments**, please refer to Obstructive Sleep Apnea Surgical Treatments Medical Coverage Policy.

**Note:** The criteria for **sleep studies, adult** are not consistent with the Medicare National Coverage Policy, and therefore may not be applicable to Medicare members. Refer to the CMS website at [http://www.cms.gov](http://www.cms.gov) for additional information.

**Coverage Limitations**

Humana members may **NOT** be eligible under the Plan for a **facility based Polysomnogram (PSG)**, **facility based PAP titration study** or **home/portable monitor sleep testing** for **ANY** indications other than those listed above, including the following:

- Circadian rhythm disorders; **OR**
- Common, uncomplicated or non injurious parasomnias, such as typical disorders of arousal, nightmares, enuresis, sleep talking or bruxism; **OR**
- Insomnia; **OR**

All other indications are considered not medically necessary as defined in the member’s individual certificate. Please refer to the member’s individual certificate for the specific definition.

Humana members may **NOT** be eligible under the Plan for **facility based, daytime, abbreviated, cardiorespiratory sleep studies to acclimate patients to PAP (PAP NAP testing)** for any indications. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for home/portable monitor sleep testing with the **Watch-PAT™** device. This technology is considered
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experimental/investigational as it is not identified as widely used and generally accepted for any other proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may NOT be eligible under the Plan for a facility based PAP titration study for upper airway resistance syndrome (UARS). This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer-reviewed medical literature published in the English language.

**Multiple Sleep Latency Test (MSLT) and Maintenance of Wakefulness Test (MWT)**
Humana members may NOT be eligible under the Plan for MSLT or WMT for any indications other than those listed above, including:

- Single nap studies for the diagnosis of any sleep disorder, including narcolepsy; OR
- Unattended or home MSLT study

These technologies are considered experimental/investigational as they are not identified as widely used and generally accepted for any other proposed uses as reported in nationally recognized peer reviewed medical literature published in the English language.

**Stand Alone Actigraphy**
Humana members may NOT be eligible under the Plan for stand alone actigraphy, such as the Actiwatch, for the diagnosis of any sleep disorder. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer reviewed medical literature published in the English language.

**Prescreening Devices for OSA**
Humana members may NOT be eligible under the Plan for prescreening devices to predict pre-test probability of obstructive sleep apnea prior to seeking a sleep study, including, but not limited to SleepStrip™ and acoustic pharyngometry. This technology is considered experimental/investigational as it is not identified as widely used and generally accepted for the proposed use as reported in nationally recognized peer reviewed medical literature published in the English language.

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Background

You can learn more about OSA and other sleep disorders from the following websites:

- National Center on Sleep Disorders Research - [http://www.nhlbi.nih.gov/about/ncsdr/](http://www.nhlbi.nih.gov/about/ncsdr/)

Medical Alternatives

To make the best health decision for the patient’s individual needs, the patient should consult his/her physician.

Humana may offer a disease management program for this condition. The patient may call the number on his/her member identification card to ask about our programs to help manage his/her care.

Provider Claims Codes

All provider claims codes surrounding this topic may not be included in the following table:

<table>
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<th>CPT® Code(s)</th>
<th>Description</th>
<th>Comments</th>
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<tr>
<td>95800</td>
<td>Sleep study, unattended, simultaneous recording; heart rate, oxygen saturation, respiratory analysis (eg, by airflow or peripheral arterial tone), and sleep time</td>
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<td>95801</td>
<td>Sleep study, unattended, simultaneous recording; minimum of heart rate, oxygen saturation, and respiratory analysis (eg, by airflow or peripheral arterial tone)</td>
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<td>95803</td>
<td>Actigraphy testing, recording, analysis, interpretation, and report (minimum of 72 hours to 14 consecutive days of recording)</td>
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<td>95805</td>
<td>Multiple sleep latency or maintenance of wakefulness testing, recording, analysis and interpretation of physiological measurements of sleep during multiple trials to assess sleepiness</td>
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<td>95806</td>
<td>Sleep study, unattended, simultaneous recording of, heart rate, oxygen saturation, respiratory airflow, and respiratory effort (eg, thoracoabdominal movement)</td>
<td>Facility based, daytime, abbreviated, cardiorespiratory sleep studies to acclimate patients to PAP (PAP NAP), are considered integral to the primary procedure and not separately reimbursable</td>
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<td>95807</td>
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<td>95808</td>
<td>Polysomnography; any age, sleep staging with 1-3 additional parameters of sleep, attended by a technologist</td>
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<td>95810</td>
<td>Polysomnography; age 6 years or older, sleep staging with 4 or more additional parameters of sleep, attended by a technologist</td>
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<td>95811</td>
<td>Polysomnography; age 6 years or older, sleep staging with 4 or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bilevel ventilation, attended by a technologist</td>
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<td>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</td>
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<td>G0399</td>
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<td>G0400</td>
<td>Home sleep test (HST) with type IV portable monitor, unattended; minimum of 3 channels</td>
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### ICD-9 Procedure Code(s)

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<td>89.17</td>
<td>Polysomnogram</td>
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<tr>
<td>89.18</td>
<td>Other sleep disorder function tests</td>
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**Medical Terms**

- **Amyotrophic Lateral Sclerosis (ALS)** - Disease of the nerve cells in the brain and spinal cord that control voluntary muscle movement.
- **Apnea** - Temporary stopping of breathing.
- **Apnea-Hypopnea Index (AHI)** - Index used to measure sleep apnea severity; calculated by dividing the number of apneas and hypopneas by the number of hours of sleep.
- **Bruxism** - Involuntary clenching or grinding of teeth, usually during sleep.
- **Cataplexy** - Sudden and transient episode of loss of muscle tone.
- **Central sleep apnea** - Sleep related disorder in which the brain does not send proper signals to the muscles that control breathing causing spells of apnea.
- **Cheyne-Stokes breathing** - Cyclic breathing marked by a gradual increase in the rapidity of respiration followed by a gradual decrease and total cessation lasting from five to fifty seconds.
- **Chronic Obstructive Pulmonary Disease (COPD)** - Long-lasting progressive obstruction of the airways that occurs with chronic bronchitis, emphysema or both.
- **Circadian Rhythm** - Daily rhythmic activity cycle, based on 24 hour intervals.
- **Comorbid Condition** - Presence of one or more disorders (or diseases) in addition to a primary disease or disorder.
- **Electrocardiogram (ECG)** - Test that measures electrical activity and heart rate.

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**Electroencephalogram (EEG)** - Test that measures and records the electrical activity of the brain.

**Electrooculogram** - Test that measures movement of the eyes during sleep.

**Enuresis** - Involuntary urination, usually during sleep.

**Hypercapnia** - Excessive carbon dioxide in the blood.

**Hypersomnia** - Excessive sleepiness.

**Hypnogogic** - Auditory or has an auditory component.

**Hypopnea** - Slow or shallow breathing.

**Idiopathic Central Nervous System Hypersomnia** - Syndrome of unknown origin that typically occurs in adolescence or young adulthood and persists throughout life. It is associated with a normal or prolonged major sleep episode and significantly impairs patients’ performance.

**Multiple Sleep Latency Test (MSLT)** - Test that is performed during the day to measure a person’s tendency to fall asleep and to determine if isolated elements of REM sleep intrude at inappropriate times during the waking hours.

**Myotonic Dystrophy** - Progressive disease in which the muscles are weak and are slow to relax after contraction.

**Narcolepsy** - Chronic neurological sleep disorder caused by the brain's inability to normally regulate sleep/wake cycles. The main characterizing features are: excessive daytime sleepiness, cataplexy, sudden sleep attacks, insomnia, dreamlike hallucinations and/or sleep paralysis.

**Nocturnal** - Related to nighttime or occurring at night.

**Obesity Hypoventilation Syndrome (OHS)** - Condition in which severely overweight people fail to breathe rapidly enough or deeply enough, resulting in low blood oxygen levels and high blood carbon dioxide (CO₂) levels (aka- Pickwickian syndrome).
Oxygen Saturation - Amount of oxygen in the blood.

PAP NAP Test - Daytime, abbreviated, cardiorespiratory sleep study used to acclimate patients to PAP.

Parasomnia - Disorder of arousal such as sleepwalking, sleep terrors, REM sleep behavior disorder, nocturnal seizures or psychogenic dissociative states.

Paresthesia - Referring to a transient or chronic sensation of tingling, tickling, prickling, pricking or burning on the skin with no apparent long term physical effect.

Paroxysmal - Sudden and uncontrollable attack.

Polycythemia - Increase in red blood cells.

REM Sleep - Normal stage of sleep characterized by rapid and random movement of the eyes.

Respiratory Distress Index (RDI) - Number of breathing pauses (apneas) and the number of breathing slowdowns (hypopneas) per hour. Normal RDI is less than 10 events per hour. An RDI of 16 or greater is considered diagnostic for OSA.

Sleep Apnea - Temporary, involuntary stoppage of breathing during sleep, often resulting in daytime sleepiness.

Somnolence - Sleepiness; the state of feeling drowsy.

Split Night Polysomnography - Initial diagnostic PSG followed by positive airway pressure titration during PSG on the same night. This may be an alternative to one full night of diagnostic PSG followed by a second night of titration.

Titration - Adjusting to the lowest concentration so that the desired effect is achieved.

References


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Rosen CL, Auckley D, Benca R, et al. A multisite randomized trial of portable sleep studies and positive airway pressure auto titration versus laboratory based


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