**Sleep Studies, Pediatric**

**Medical Coverage Policy**

**Effective Date:** 01/01/2014  
**Revision Date:** 01/01/2014  
**Review Date:** 8/22/2013  
**Policy Number:** CLPD-0503-006

**Change Summary:** Updated Provider Claims Codes

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**Description**

**NOTE:** This policy applies to **PEDIATRIC** (less than 18 years of age) patients ONLY but does **NOT** apply to neonates and infants. For information regarding **sleep studies for adults** (18 years of age and older), please refer to [Sleep Studies, Adults](#) 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 and respiratory effort, oxygen saturation levels, 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.

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. 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)

Home/Portable Monitoring Sleep Testing is a sleep study performed in the home utilizing portable monitoring (PM) devices that are designed to be used by a patient without supervision of a sleep technologist. PM devices measure fewer parameters than a laboratory based sleep study and are therefore not recommended for assessment of sleep disorder in the pediatric population. (Refer to Coverage Limitations section)

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 actigraph 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 prior to seeking a sleep study. Some examples of prescreening devices are SleepStrip™ and acoustic pharyngometry. (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 20 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.

**Coverage Determination Note:** This policy applies to PEDIATRIC (less than 18 years of age) patients ONLY but does NOT apply to neonates and infants. For information regarding sleep studies for adults (18 years of age and older), please refer to Sleep Studies, Adults Medical Coverage Policy.

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Polysomnogram (PSG)
Humana members may be eligible under the Plan for a sleep study (nocturnal or daytime) performed in a facility based sleep center, when ANY of the following criteria are met:

• Adenotonsillectomy is being considered for treatment of obstructive sleep apnea (OSA); OR

• Clinical assessment suggests the diagnosis of congenital central alveolar hypoventilation syndrome or sleep related hypoventilation due to neuromuscular disorders or chest wall deformities; OR

• History or associated features of narcolepsy (such as cataplexy, excessive daytime sleepiness, hypnogogic hallucinations or sleep paralysis) when MSLT is planned; 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 excessive daytime sleepiness (EDS) due to sleep fragmentation); OR

• Positive airway pressure (PAP) titration in a child diagnosed with OSA; OR

• Presumed parasomnia or sleep related epilepsy that does not respond to conventional therapy; 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; OR

• Sleep related behaviors that are violent or potentially injurious; OR

• Snoring on a regular basis (three or more nights/week) and ANY of the following complaints or associated features of OSA:

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- Adenoidal facies; OR
- Attention Deficit Hyperactivity Disorder (ADHD); OR
- Behavioral problems; OR
- Cyanosis; OR
- Daytime sleepiness; OR
- Failure to thrive; OR
- Gasps/snorting noises/observed episodes of apnea; OR
- Headaches on awakening; OR
- High arched palate; OR
- Hypertension; OR
- Labored breathing during sleep; OR
- Learning problems (such as poor school performance); OR
- Micrognathia/retrognathia; OR
- Overweight (BMI greater than 75th percentile); OR
- Sleep enuresis after at least six months of continence (especially secondary enuresis); OR
- Sleeping in a seated position or with the neck hyperextended; OR
- Tonsillar hypertrophy; OR
- Underweight (BMI less than 5th percentile)

Repeat PSG
Humana members may be eligible under the Plan for a repeat sleep study (nocturnal or daytime) performed in a facility based sleep center when ANY of the following criteria are met:

- Children on chronic PAP support to determine whether pressure requirements have changed as a result of the child’s growth and development, if symptoms recur while on PAP or if additional and/or alternate treatment is instituted; OR
- Previously diagnosed with mild OSA [Apnea-Hypopnea Index (AHI) equal to one to four] and exhibits residual OSA symptoms following surgery (e.g., adenotonsillectomy); OR
- Previously diagnosed with moderate to severe OSA (AHI greater than five), obesity, craniofacial anomalies that obstruct the upper airway or neurologic disorders (e.g., Down syndrome, Prader-Willi syndrome and myelomeningocele) to assess for residual OSA symptoms following surgery (e.g., adenotonsillectomy).
Multiple Sleep Latency Test (MSLT) and Maintenance of Wakefulness Test (MWT)
Humana members may be eligible under the Plan for MSLT or MWT when ALL of the following 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 90 minutes to three hours after termination of the nocturnal PSG recording; AND

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

**Note:** The criteria for sleep studies, pediatric 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 PSG for any indications other than those listed above, including the following:

- Circadian rhythm disorders; OR

- Common, uncomplicated, or noninjurious parasomnias, such as typical disorders of arousal, bruxism, enuresis, nightmares or sleep talking; OR

- Insomnia; OR

- Repeat PSG for children treated with PAP for OSA whose symptoms continue to be resolved; OR

- To assess treatment response of an oral appliance for OSA.

These technologies are considered experimental/investigational as they are not identified as widely used and generally accepted for any other proposed uses as
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 ANY of the following to diagnose sleep disorders, including OSA, in children:

- Actigraphy, such as the Actiwatch; OR
- Home sleep testing; OR
- Prescreening devices to predict pretest probability of OSA prior to seeking a sleep study, such as SleepStrip™ and acoustic pharyngometry.

These technologies are considered experimental/investigational as they are not identified as widely used and generally accepted for the proposed uses 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 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.

**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.

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/


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>
<thead>
<tr>
<th>CPT® Code(s)</th>
<th>Description</th>
<th>Comments</th>
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<tbody>
<tr>
<td>95782</td>
<td>Polysomnography; younger than 6 years, sleep staging with 4 or more additional parameters of sleep, attended by a technologist</td>
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<tr>
<td>95783</td>
<td>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</td>
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<th>Code</th>
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<tbody>
<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>
<td>Not Covered for children &lt;18 years of age</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>
<td>Not Covered for children &lt;18 years of age</td>
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<tr>
<td>95803</td>
<td>Actigraphy testing, recording, analysis, interpretation, and report (minimum of 72 hours to 14 consecutive days of recording)</td>
<td>Not Covered</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>Not Covered for children &lt;18 years of age</td>
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<td>95807</td>
<td>Sleep study, simultaneous recording of ventilation, respiratory effort, ECG or heart rate, and oxygen saturation, attended by a technologist</td>
<td>Not Covered if used to report facility based, daytime, abbreviated, cardiorespiratory sleep studies to acclimate patients to PAP (PAP NAP testing)</td>
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<td>Polysomnography; any age, sleep staging with 1-3 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>
<td>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</td>
<td>Not Covered for children &lt;18 years of age</td>
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<td>G0400</td>
<td>Home sleep test (HST) with type IV portable monitor, unattended; minimum of 3 channels</td>
<td>Not Covered for children &lt;18 years of age</td>
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<td>Polysomnogram</td>
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<td>89.18</td>
<td>Other sleep disorder function tests</td>
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**Medical Terms**

**Adenoidal Facies** - The appearance in children with adenoid hypertrophy, associated with a pinched nose and open mouth.

**Adenotonsillectomy** - Surgical removal of the adenoids and tonsils.

**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.

**Circadian Rhythm** - Daily rhythmic activity cycle, based on 24 hour intervals.

**Congenital Central Alveolar Hypoventilation Syndrome** - Rare genetic disorder of the autonomic nervous system resulting in respiratory ventilation dysregulation.

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Craniofacial - Referring to the skull and face.

Electrocardiogram (ECG) - Test that measures electrical activity and heart rate.

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.

Hypnogogic - Auditory or has an auditory component.

Micrognathia - Facial malformation characterized by a small mandible and receding chin that fail to maintain the tongue in a forward position.

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.

Myelomeningocele - Birth defect in which the backbone and spinal canal do not close before birth.

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.

Neurologic - Referring to the nervous system, including the brain, spinal cord and nerves.

Nocturnal - Related to nighttime or occurring at night.

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.

**Paroxysmal** - Sudden and uncontrollable attack.

**Prader-Willi Syndrome** - Genetic disorder that causes poor muscle tone, low levels of sex hormones and a constant feeling of hunger which can lead to obesity.

**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.

**Retrognathia** - Small or recessed jaw (either the upper jaw [maxilla] or the lower jaw [mandible]) that may predispose to obstruction of the airway and sleep apnea.

**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**


American Academy of Sleep Medicine (AASM) Website. Practice parameters for the

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