MEDICAL POLICY

Medical Policy Title	**Sleep Studies**
Policy Number	**2.01.28**
Current Effective Date	**January 23, 2025**
Next Review Date	**January 2026**

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. A facility-based polysomnography (PSG) is considered **medically appropriate** for the evaluation of sleep disorders when **ANY** of the following are met:

- A. To diagnose sleep-related breathing disorders when home sleep testing is negative, inconclusive, or technologically inadequate;
- B. To assess the quality and quantity of night-time sleep in an individual with suspected narcolepsy or hypersomnia (PSG is performed the night prior to the Multiple Sleep Latency Test (MSLT);
- C. As a pre and post evaluation test for the U.S. Food & Drug Administration (FDA) approved hypoglossal nerve stimulation (e.g., Inspire) device;
- D. To diagnose sleep-related disorders in infants and children under 18 years of age whose medical records document **ONE or more** of the following:
  1. observations of gross or subtle snoring (snoring may be of a continuous nature, rather than periodic as in adults);
  2. cessation in breathing, difficulty breathing, and sleep disturbances;
  3. symptoms associated with cardio-pulmonary;
  4. growth delays;
  5. behavior and/or developmental problems that are suspected to be caused by upper airway obstruction;
- E. When performed for individuals after standard evaluation is inconclusive and treatment decisions will be made based on the results of the study;
- F. When symptoms are of a severity-which place the individual at risk for serious complications or injuries for **ANY** of the following indications:
  1. neuromuscular disorders and sleep-related symptoms;
  2. paroxysmal arousals or other sleep disturbances thought to be seizure-related;
  3. sleep-related epilepsy that does not respond to conventional therapy;
  4. unexplained hypersomnolence;

5. complicated/injurious parasomnias;
6. periodic limb movement disorder;
7. central nervous system (CNS) hypoventilation;
8. chronic opioid medication misuse or abuse, including for individuals on a methadone maintenance program or a chronic pain treatment program;
9. recent stroke or myocardial infarction (MI) within the last six months;
10. moderate or severe congestive heart failure (CHF) (NYHA Class III or IV);
11. moderate (FEV1 between 50% and 80% of normal) or severe (FEV1 between 30% and 50% of normal) chronic obstructive pulmonary disease (COPD) with hypercapnia or hypoxemia;
12. congenital syndromes (e.g., spina bifida) in an adult;
13. cognitive deficits making understanding of instructions difficult;
14. limb extremity impediments (missing or non-functioning);
15. BMI greater than or equal to 45 kg/m^2;
16. drainage tubes in abdomen (e.g., post operative colostomy/urostomy);
17. significant arrhythmias (not including atrial fibrillation);
18. burns or wounds affecting significant portion of the abdomen;
19. language barrier, where attempts to give instructions are unavailable or have failed;
20. group home resident; elderly or disabled person;
21. infant or child being considered for removal of a tracheostomy;
22. infant or child with suspected congenital central alveolar hypoventilation syndrome or sleep-related hypoventilation due to neuromuscular disorders or chest wall deformities;
23. child being considered for adenotonsillectomy to treat obstructive sleep apnea (OSA) syndrome; or
24. male impotency for EITHER of the following indications:
    a. nocturnal penile tumescence test is positive; or
    b. brachiopenile impotence is suspected.

II. Follow-up or repeat facility-based PSG is considered **medically appropriate** in the following circumstances:

A. When a prior, medically necessary PSG that was appropriately prepared and performed was inadequate/not diagnostic due to limited sleep time or other variable (not an inconclusive or negative exam);

B. For the re-evaluation of an individual diagnosed with OSA with adequate treatment and persistent symptoms;

C. For individual with a current OSA diagnosis who is seeking to discontinue positive airway pressure, continuous positive airway pressure, automatic positive airway pressure (PAP/CPAP/APAP) therapy (e.g., as a result of expected symptom improvement after treatment);

D. To assess treatment response after surgical intervention for OSA or after initiation of an oral appliance to ensure therapeutic benefit;

E. After a substantial weight loss (10% of body weight) to determine whether CPAP is still needed at the previously titrated pressures;

F. After a substantial weight gain (10% of body weight) in an individual who has been treated successfully with CPAP/APAP and whose symptoms have returned, to assess whether pressure adjustments are needed;

G. To re-evaluate a pediatric individual diagnosed with OSA who:

1. after adequate treatment with tonsillectomy and/or adenoidectomy;
2. compliance with PAP therapy and has continued signs and symptoms of OSA (including disturbed or restless sleep);
3. has a high risk of having persistent OSA after tonsillectomy or adenoidectomy;

III. Split-night study is considered **medically appropriate** when criteria for PSG are met (refer to Policy Statement I or IV).

IV. A facility-based CPAP titration study is considered **medically appropriate** when criteria for PSG are met (refer to Policy Statement I) **AND** the individual has been diagnosed with **ANY** of the following indications:

A. Co-morbid conditions (e.g., COPD, asthma, documented neuromuscular disease, CHF with left ventricular ejection fraction (LVEF) less than 45%, cognitive impairment) and positive diagnosis of OSA;

B. Central sleep apnea; (e.g., central hypopnea/apnea greater than 50% of the total apnea hypopnea rate, or central hypopnea/apnea rate/index greater than five events per hour);

C. Mixed sleep apnea;

D. Significant hypoxemia defined as oxygen saturation less than or equal to 88% for a minimum of five continuous minutes during a two-hour diagnostic time period; or

E. Oxygen deficiency requiring supplemental oxygen.

V. An initial Multiple Sleep Latency Test (MSLT) is considered **medically appropriate** as a diagnostic tool when **ALL** of the following are met:

A. The individual is suspected of having narcolepsy or idiopathic hypersomnia, as evidenced by **ONE** of the following indications:

1. Excessive sleepiness;
2. Recurrent daytime naps or lapses into sleep daily for at least three months;
3. Cataplexy – the sudden loss of muscle tone occurring in association with intense emotion (e.g., laughing or crying);
4. Sleep paralysis, hypnagogic hallucinations, hypnopompic hallucinations, automatic behaviors, or disrupted major sleep episodes; or
5. Idiopathic hypersomnia;

B. The MSLT immediately follows a PSG that was negative for OSA, where total sleep time is greater than six hours (however, it should not follow a split-night study);

C. The individual has not used stimulants, stimulant-like medications, sedatives, or REM-suppressing medications for two weeks prior to the test or negative results on urine drug testing immediately preceding within a day of the study;

D. A comprehensive sleep evaluation, including established sleep disorder tools or questionnaires has been performed;

AND EITHER of the following:

1. If OSA is suspected, a diagnostic study has been performed;

OR

2. OSA is present, therapy has been initiated and has resolved the individual's symptoms.

VI. Repeat MSLT testing is considered **medically appropriate** when **BOTH** of the following criteria are met:

A. The initial MSLT results are negative, ambiguous, or did not provide polygraphic confirmation after a properly performed test; **and**

B. The clinical history strongly indicates a diagnosis of narcolepsy or idiopathic hypersomnia's or when the response to treatment must be ascertained.

VII. Nocturnal pulse oximetry is considered **medically appropriate** when **ONE** of the following criteria are met:

A. As a follow-up study, when a diagnosis has been established by standard polysomnography, CPAP, BiPAP, or APAP;

B. Oxygen therapy has been initiated;

C. When determining the proper oxygen dose for chronic pulmonary disease;

D. When ordered by a pulmonologist or sleep medicine specialist (The intent is most often to evaluate response to therapy).

VIII. Actigraphy is considered medically appropriate when **BOTH** of the following criteria are met:

A. For children aged four (4) to 18 years who have insomnia or circadian rhythm disorder associated with excessive daytime sleepiness; **and**

B. There is a discrepancy between reported sleep history and described symptoms (Only one actigraphy study per year is allowed).

IX. PSG is considered **not medically appropriate** for the following indications:

A. Diagnosis of chronic lung disease;

B. Cases of typical uncomplicated and non-injurious parasomnias (e.g., somnambulism, pavor nocturnus, or nocturnal seizures) when the diagnosis is clearly delineated;

C. Epilepsy in individuals who have no specific complaints consistent with a sleep disorder;

D. Diagnosis or treatment of restless leg syndrome, except where uncertainty exists in the diagnosis;

E. Diagnosis of circadian rhythm sleep disorders;

F. Diagnosis of depression;

G. Determining risk of sudden infant death syndrome (SIDS);

H. Diagnosis of bruxism (grinding of teeth);

I. Diagnosis of drug dependency;

J. Insomnia (inability to sleep);

K. Night terrors/dream anxiety;

L. Migraine headaches;

M. Male impotence, other than the allow indications of Policy Statements I.H;

N. Evaluation of for medication-related (titration) sleep stage effects;

O. CPAP titration studies that do not meet criteria for a facility-based PSG (see policy statement I.) and CPAP criteria (see policy statement IV); **or**

P. Nocturnal pulse oximetry as a diagnostic tool for any other OSA indication.

X. The following tests are considered **investigational**:

A. EEG topography when used for diagnosis or medical management of OSA syndrome;

B. PAP-Nap;

C. Pharyngometry and Rhinometry Testing for screening, diagnosis, or treatment planning in persons with suspected or known OSA including but not limited to:

1. acoustic pharyngometry (e.g., Eccovision Acoustic Pharyngometer)
2. versions of the SNaP Testing System using fewer than three channels;
3. rhinomanometry;

4. acoustic rhinometry; **or**
5. optical rhinometry.

RELATED POLICIES

Corporate Medical Policy

1.01.06 Positive Airway Pressure Devices

1.01.07 Oral Appliances for the Treatment of Sleep-Related Breathing Disorders

7.01.41 Surgical Management of Sleep Disorders

11.01.03 Experimental or Investigational Services

POLICY GUIDELINE(S)

I. Polysomnography after hypoglossal nerve stimulation implant will require follow up polysomnography specifically related to titration of device.

II. Wrist actigraphy requires a minimum of 14 days of recording, with interpretation of report and results generated. Commercial fitness trackers (e.g., Fitbit) are ineligible for coverage;

III. The probability of OSA is determined via a comprehensive sleep evaluation by a sleep specialist. Established sleep disorder tools and questionnaires (e.g., Epworth Sleepiness Scale; Berlin questionnaire, Wisconsin questionnaire, STOP, and STOP-BANG questionnaires) may assist the specialist in the evaluation of an individual with a suspected sleep disorder.

IV. The testing facility must be a sleep disorder center. A sleep disorder center is a medical facility providing clinical diagnostic services and treatment to individuals who present with symptoms or features that suggest the presence of a sleep disorder.

V. The American Academy of Sleep Medicine must accredit all sleep disorder centers, for coverage of the services to be considered.

VI. Sleep studies should be interpreted by a physician who meets any of the following criteria:

   A. Certified by the American Board of Sleep Medicine (ABSM);

   B. Holds subspecialty certification in sleep medicine by a member board of the American Board of Medical Specialties (ABMS), such as the American Board of Family Medicine, the American Board of Internal Medicine, the American Board of Otolaryngology, the American Board of Pediatrics, or the American Board of Psychiatry and Neurology;

   C. Has completed a residency in sleep medicine and meets the Health Plan's credentialing criteria for board certification; or

   D. Is an active staff member of a sleep disorder center certified by the American Academy of Sleep Medicine.

VII. An unattended, cardiorespiratory sleep study (Type III device) may be an acceptable alternative to full night PSG for those individuals with a high-pretest probability of OSA who are without

significant comorbid conditions. A full PSG may be required for those symptomatic individuals who have a negative cardiorespiratory home sleep study.

VIII. A home/portable sleep study (HST) is an alternative to a facility-based PSG for individuals who do not meet medically necessary criteria in Policy Statement I.

DESCRIPTION

Sleep disorders medicine is a clinical specialty concerned with diagnosis and treatment of individuals with disorders of sleep and daytime alertness. Categories of sleep disorders include:

Insomnia

Insomnia is a persistent difficulty with sleep initiation, duration, consolidation, or quality that occurs despite adequate opportunity and circumstances for sleep, and results in daytime impairment. Among adults with insomnia, sleep complaints most typically include difficulties initiating or maintaining sleep. Concerns about lengthy periods of nocturnal wakefulness, insufficient amounts of nocturnal sleep, or poor sleep quality often accompany these complaints. Insomnia among children is often reported by their caretakers and characterized by bedtime resistance, frequent nighttime awakenings and/or an inability to sleep independently. Regardless of the exact nature of the nocturnal sleep concerns, daytime impairments are reported, presumably caused by the nighttime sleep difficulties or by some common but unidentified mechanism during sleep and wakefulness. Daytime symptoms typically include fatigue, decreased mood or irritability, general malaise, and cognitive impairment.

Sleep Related Breathing Disorders

Sleep related breathing disorders are characterized by abnormalities of respiration during sleep. In some of these disorders, respiration is also abnormal during wakefulness. The disorders are grouped into OSA disorders, central sleep apnea disorders, sleep related hypoventilation disorders, and sleep-related hypoxemia disorder. However, many individuals will meet diagnostic criteria for more than one of these groups. In particular, many individuals have a combination of obstructive and central sleep apnea. Although a diagnosis is often based on which disorder predominates, this may vary from night to night, as well as over time, in individuals. There is also overlap in pathophysiology, as some central apneas are associated with a closed upper airway and many obstructive apneas begin during a time of falling ventilatory drive.

An individual with a high pre-test probability of moderate to severe obstructive sleep apnea may exhibit the following signs and symptoms, which have been persistent for greater than four weeks in duration. The individual has reported excessive sleepiness or non-restorative, disturbed, or restless sleep and apneas, gasping, or choking at night has been witnessed. The individuals has reported excessive sleepiness or non-restorative, disturbed, or restless sleep and has at least two of the following supporting signs, symptoms, or risk factors: neck circumference greater than or equal to 17 inches for males or 16 inches for females; obesity (BMI greater than 30); physiologic abnormalities compromising respiration (e.g., retrognathia, tonsillar hypertrophy); regularly observed disruptive snoring; refractory hypertension; morning headaches; decreased concentration; memory loss; decreased libido; irritability; nocturia; individual has unexplained documented pulmonary

hypertension; individual has unexplained polycythemia with Hg greater than 18.5 g/dL in males or 16.5 g/dL in females.

Pediatric individuals, aged six years or less, may exhibit the following symptoms: neurobehavioral problems including attention deficit hyperactivity disorder; failure to thrive; neuromuscular disorders; paradoxical breathing; nocturnal diaphoresis; secondary enuresis; or persistent symptoms present for greater than four weeks in duration not only associated with respiratory infections.

Central Disorders of Hypersomnolence

Central disorders of hypersomnolence includes a group of disorders in which the primary complaint is daytime sleepiness not caused by disturbed nocturnal sleep or misaligned circadian rhythms. Other sleep disorders may be present, but they must be adequately treated before a diagnosis in this category can be established. The term "hypersomnolence" is used to describe the symptom of excessive sleepiness, whereas "hypersomnia" refers to specific disorders, such as idiopathic hypersomnia.

Circadian Rhythm Sleep-Wake Disorders

Circadian rhythm sleep-wake disorders (CRSWDs) are disorders that are caused by alterations of the circadian time-keeping system or its entrainment mechanisms, or a misalignment of the endogenous circadian rhythm and the external environment. Most CRSWDs arise when a substantial misalignment exists between the internal rhythm and the required timing of the individual's school, work, or social activities. The most common presenting symptoms of CRSWDs are difficulty initiating and maintaining sleep and excessive sleepiness, but their impact extends to adverse health outcomes; impairments in social, occupational, and educational performance; and safety concerns.

Parasomnias

Parasomnias are undesirable physical events or experiences that occur during entry into sleep, within sleep, or during arousal from sleep. Parasomnias may occur during non-rapid eye movement sleep (NREM), rapid eye movement sleep (REM), or transitions to and from sleep. Parasomnias encompass abnormal, sleep-related, complex movements, behaviors, emotions, perceptions, dreams, and autonomic nervous system activity. Parasomnias are clinical disorders because of the resulting injuries, sleep disruption, adverse health effects, and untoward psychosocial effects. The clinical consequences of the parasomnias can affect the individual, the bed partner, or both.

Sleep Related Movement Disorders

Sleep-related movement disorders are primarily characterized by simple, usually stereotyped, movements that disturb sleep or its onset. Restless leg syndrome (RLS) is an exception in that individual typically engage in walking or non-stereotypic limb movement to reduce leg discomfort. However, RLS is closely associated with periodic limb movements (PLMs), which are usually simple and stereotyped within a series. Nocturnal sleep disturbance or complaints of daytime sleepiness or fatigue are a prerequisite for a diagnosis of a sleep-related movement disorder. Body movements that disturb sleep also are seen in many other sleep disorder categories (e.g., parasomnias such as sleepwalking, sleep terrors, and REM sleep behavior disorder). However, these parasomnias differ from the simple stereotyped movements categorized as sleep-related movement disorders in that

they involve complex behaviors during the sleep period. Parasomnia-related movements may appear purposeful and goal-directed but are outside the conscious awareness of the individual. Parasomnias are listed in a separate section from the sleep-related movement disorders.

Types of Sleep Assessments

A polysomnography, or PSG, refers to any one of a class of tests that utilizing continuous polygraph recording, usually over the course of a night, of electrophysiological measurements relevant to diagnosing sleep disorders. The four components of a PSG include: (1) electrographic recordings (EKG, EMG, EEG, EOG); (2) ventilatory variables that permit the identification of apneas and their classification as central or obstructive; (3) arterial oxygen saturation by finger oximetry; and (4) heart rate. In addition, a PSG may also include additional monitoring modalities such as esophageal monitoring and blood pressure monitoring. By definition, a PSG always requires sleep staging (EEG, EOG, and EMG).

In contrast, an unattended cardiorespiratory sleep study does not include sleep staging. The components of any sleep test are dictated by the clinical situation. The number and nature of parameters studied depends upon the judgment of the sleep disorders medical specialist. The terms "sleep studies" and "polysomnogram" are often used interchangeably. However, CPT and HCPCS coding makes the distinction between the two in the following way: polysomnography includes EEG monitoring, while unattended cardiorespiratory sleep studies do not.

Home Sleep Test

An at home sleep apnea test (HSAT) is an alternative to an attended PSG for OSA diagnosis. The test is performed in the individual home, unsupervised by a sleep technician and usually consist of a recording device and related accessories. Home sleep apnea test measures fewer parameters than attended sleep study. Depending on the type of home device, it can monitor and track breathing efforts, detect snoring, oxygen level, and body movements. Most HSAT measure airflow, breathing efforts, blood oxygen levels and heart rate and produce an estimate of severity (i.e., respiratory event index (REI) based on monitoring time. The conventional sensors used in HSAT devices are unable to detect hypopneas and may underestimate the severity of OSA.

Sleep studies have been categorized as Type I, Type II, Type III or Type IV. Unattended studies fall into categories Type II through Type IV. Type II studies use the same monitoring sensors as full PSGs (Type I) but are unattended and can be performed outside of the sleep laboratory. Type III studies are conducted with portable monitors that have at least two respiratory channels in addition to measuring oxygen saturation and heart rate. Some Type III devices may offer extra measurements, such as detection of snoring and movement. Type IV studies utilize devices that measure only 1 or 2 parameters, typically oxygen saturation and heart rate, or in some cases, just air flow.

Split-night sleep studies utilize the final portion of the overnight PSG to titrate CPAP. A split-night sleep study is an alternative to a full night of diagnostic PSG followed by a second night of CPAP titration.

Multiple Sleep Latency Test (MSLT) is performed the day after overnight PSG is completed. MSLT utilizes the same parameters as a basic polysomnogram for sleep staging (e.g., EEG, EKG, EMG, EOG). It measures mean sleep latency (MSL), calculated by the average time elapsed from the start of daytime nap periods to the onset of sleep. The standardized MSLT is conducted with four or five nap attempts during a single day, which are each separated by two hours. Each nap attempt is ended if the subject fails to fall asleep within 20 minutes. An MSL of eight minutes or less and two or more sleep onset REM periods on the MSLT is indicative of a pathological state called narcolepsy (Iskander et al., 2023).

Pharyngometer and rhinometer testing, the pharyngometer graphically displays the relationship between the cross-sectional area of the airway and the distance down the airway in centimeters. The rhinometer uses acoustic reflection to map out the cross-sectional area measurements into the nasal airway.

EEG Topography is a computer based electroencephalographic mapping of the spatial distributions of pre-defined frequency bands.

Nocturnal pulse oximetry is the measurement of oxygen saturation, usually overnight, in the home. It is utilized for several clinical purposes such as evaluating individuals for obstructive sleep apnea and for determining oxygen dosing in individuals with chronic pulmonary disease.

Actigraphy consists of a small portable device, usually worn on the wrist or ankle, that senses physical motion and stores that information for future displaying, scoring, and interpretation. Recordings can be conducted for days or weeks on individuals in their own homes. Actigraphy has been used by researchers to measure sleep disturbances reflective of a variety of clinical sleep disorders, including insomnias, hypersomnia, circadian rhythm disorders, and PLM disorders.

PAP-Nap (Positive Airway Pressure Nap) is an abbreviated daytime sleep evaluation that has been proposed as a method of assessing, addressing and alleviating physical, mental, and emotional barriers in individuals who may benefit from PAP therapy. PAP-NAPs include mask and pressure desensitization, emotion-focused therapy to overcome aversive emotional reactions, mental imagery to divert individual attention from mask or pressure sensations, and physiological exposure to PAP therapy during a 100-minute nap period. The primary goal of PAP-Nap is to help individuals use PAP therapy for more than one hour, during which they have the potential to fall asleep with the mask in place or at least report that the experience was comfortable. PAP-Nap is not a titration but instead provides the individual with physiologic exposure to PAP therapy as well as to the lab environment. It does not provide definitive sleep or breathing evaluations.

SUPPORTIVE LITERATURE

Overnight PSG is an established diagnostic procedure used in conjunction with clinical examination in determining the presence and extent of OSA. PSG is considered the "gold standard" of OSA diagnosis and follow-up. It provides objective data on the type and severity of sleep-disordered breathing.

Pulse oximetry, when used alone, has not shown to have an adequate negative predictive value to rule out OSA (all individuals with symptoms of OSA would require PSG regardless of whether pulse

oximetry was negative or positive). Overnight oximetry has not been demonstrated to be a sufficiently reliable predictor of the presence of OSA, particularly mild OSA.

Actigraphy has been used in many research studies for the evaluation of rest-activity cycles. This technique has not been validated as a method of diagnosing OSA. The major limitation of the methodology is precision, as well as the lack of correlation between physical movement and sleep architecture. The role of actigraphy in clinical management of OSA is not clear, but it can be helpful in determining the length of time in bed and activity levels. Actigraphy studies show that it is not a sufficiently accurate substitute measure for sleep time, to recommend for routine use. The default actigraphy settings may not be optimal for people with COPD and coexisting insomnia. The American Academy of Sleep Medicine (AASM) 2018 guidelines considered the use of actigraphy "conditional" (low degree of certainty of the outcome and appropriateness of the patient-care strategy) for all indications including insomnia (adult and pediatric) and circadian rhythm sleep-wake disorder, and to estimate or monitor total sleep time for patients with sleep-disordered breathing. The AASM indicated that actigraphy should not be used in place of electromyography for the diagnosis of periodic limb movement (PLM) disorder in either adults or pediatric patients.

MSLT is a validated, objective measure of the tendency to fall asleep and the ability to stay awake for a defined time, respectively. Studies of the MSLT procedure demonstrate significant differences in mean sleep latency values between healthy subjects and patients with excessive sleepiness due to narcolepsy or idiopathic hypersomnia.

There is insufficient evidence in the published medical literature to determine whether PAP-Nap studies result in improved adherence to therapy of improved patient outcomes.

The diagnosis of PLM disorder requires quantification of PLMs and PLM-related arousals, assessment of the impact of the movements upon sleep architecture, and identification and exclusion of other sleep disorders. Although PLM disorder can exist independent of restless leg syndrome (RLS), it is estimated that over 80% of individuals with RLS have evidence of PML on PSG, so PSG may be helpful in increasing the confidence in the RLS diagnosis.

Pharyngometer and rhinometer testing for screening, diagnosis, or treatment planning in persons with suspected or known OSA and for all other indications lacks clinical studies demonstrating that these tests improve clinical outcomes, and their effectiveness has not been established. The methods that detect structural and functional abnormalities of the upper airway implicated as risk factors for OSA continue to stimulate interest, because it is hoped that they may allow physicians to distinguish patients more easily with OSA from those without it, and, thereby, reduce the number of unnecessary sleep studies. The evidence of efficacy necessary to support the correlation between test results and OSA diagnosis is lacking.

PROFESSIONAL GUIDELINE(S)

The American Academy of Sleep Medicine issued recommendation in 2017 that were intended as a guide for clinicians diagnosing OSA in adults. A STRONG recommendation was one that clinicians should follow under most circumstances. A WEAK recommendation reflected a lower degree of certainty regarding the outcome and appropriateness of the patient-care strategy for all individuals.

The AASM indicated that the ultimate judgment regarding the propriety of any specific care must be made by the clinician in light of the individual circumstances presented by the individuals, available diagnostic tools, accessible treatment options, and resources.

The AASM considered the following to be good practice statements:

- Diagnostic testing for OSA should be performed in conjunction with a comprehensive sleep evaluation and adequate follow-up.
- Polysomnography is the standard diagnostic test for the diagnosis of OSA in adult individuals in whom there is a concern for OSA based on a comprehensive sleep evaluation.

The AASM 2017 recommendations:

- Clinical tools, questionnaires and prediction algorithms should not be used to diagnose OSA in adults, in the absence of polysomnography or home sleep apnea testing. (STRONG)
- Polysomnography, or home sleep apnea testing with a technically adequate device, should be used for the diagnosis of OSA in uncomplicated adult individuals presenting with signs and symptoms that indicate an increased risk of moderate-to-severe OSA. (STRONG)
- If a single home sleep apnea test is negative, inconclusive, or technically inadequate, polysomnography should be performed for the diagnosis of OSA. (STRONG)
- Polysomnography, rather than home sleep apnea testing, should be used for the diagnosis of OSA in individuals with significant cardiorespiratory disease, potential respiratory muscle weakness due to neuromuscular condition, awake hypoventilation or suspicion of sleep-related hypoventilation, chronic opioid medication use, history of stroke or severe insomnia. (STRONG)
- If clinically appropriate, a split-night diagnostic protocol, rather than a full-night diagnostic protocol for polysomnography should be used for the diagnosis of OSA. (WEAK)
- When the initial polysomnogram is negative and clinical suspicion for OSA remains, a second polysomnogram should be considered for the diagnosis of OSA. (WEAK)
- The AASM Position Statement for the Use of Home Sleep Apnea Test (HSAT) for Diagnosis of OSA in Children states that the use of a home sleep apnea test is not recommended for the diagnosis of OSA in children.

According to the American Association of Sleep Technologists (2020), and the AASM (2017) a technically adequate HSAT device incorporates a minimum of the following sensors: nasal pressure, chest and abdominal respiratory inductance plethysmography, and oximetry; or peripheral arterial tonometry (PAT) with oximetry and actigraphy (2). The technical requirements for these channel types should meet the standards outlined in the current AASM Manual for the Scoring of Sleep and Associated Events (3). A single HSAT recording should be conducted over at least one night. If a HSAT result is negative, inconclusive or technically inadequate, polysomnography should be performed to rule out the diagnosis of OSA.

In 2021, the AASM published a guidance statement that focused on indications for follow-up sleep apnea testing with PSG or home sleep apnea tests in individuals with OSA. The following clinical guidance statements were provided:

- Follow-up PSG or HSAT is not recommended for routine reassessment of asymptomatic individuals with obstructive sleep apnea on PAP therapy, however, follow-up PSG or HSAT can be used to reassess individuals with recurrent or persistent symptoms, despite good PAP adherence;
- Follow-up PSG or HSAT is recommended to assess response to treatment with non-PAP interventions;
- Follow-up PSG or HSAT may be used if clinically significant weight gain or loss has occurred since diagnosis of OSA or initiation of its treatment;
- Follow-up PSG may be used for reassessment of sleep-related hypoxemia and/or sleep-related hypoventilation following initiation of treatment for OSA;
- Follow-up PSG or HSAT may be used in individuals being treated for OSA who develop or have a change in cardiovascular disease;
- Follow-up PSG may be used in individuals with unexplained PAP device-generated data.

REGULATORY STATUS

The United States Food and Drug Administration (FDA) has approved several home sleep devices to diagnosis sleep related breathing disorders. The Somfit system is a non-invasive prescription device intended for home use with individuals suspected to have sleep-related breathing disorders. It collects physiological data and is comprised of a single-use adhesive-gel electrode worn on the individual forehead, an app and a cloud-based data management and reporting system. The device calculates and reports to clinicians EEG/EOG channels, sleep stages, oxygen saturation, peripheral arterial tonometry signal, pulse rate and snoring level. The Sleep Doctor is another FDA approved home sleep device that utilizes finger, wrist, and chest sensors to monitor seven metrics associated with sleep apnea. quality.

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
92512 (E/I)	Nasal function studies (e.g., rhinomanometry)

Code	Description
92520 (E/I)	Laryngeal function studies (i.e., aerodynamic testing and acoustic testing)
94762	Noninvasive ear or pulse oximetry for oxygen saturation by continuous overnight monitoring (separate procedure)
95782	Polysomnography; younger than 6 years, sleep staging with four (4) or more additional parameters of sleep, attended by a technologist
95783	Polysomnography; younger than 6 years, sleep staging with four (4) or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bi-level ventilation, attended by a technologist
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
95807	Sleep study, simultaneous recording of ventilation, respiratory effort, ECG or heart rate, and oxygen saturation, attended by a technologist. Please note: 95807 with modifier 52 (reduced service) may be billed for a PAP-NAP and is considered E/I.
95808	Polysomnography; any age, sleep staging with 1-3 additional parameters of sleep, attended by a technologist
95810	Polysomnography; age 6 years or older, sleep staging with four (4)or more additional parameters of sleep, attended by a technologist
95811	Polysomnography; age 6 years or older, sleep staging with four (4) or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bilevel ventilation, attended by a technologist

HCPCS Codes

Code	Description
	No specific codes

ICD10 Codes

Code	Description
F51.8	Other sleep disorders not due to a substance or known physiological condition
G40.001-G40.219	Localization-related (focal) (partial) idiopathic of symptomatic epilepsy and epileptic syndromes (code range)
G40.301-G40.319	Generalized idiopathic epilepsy and epileptic syndromes (code range)
G40.401-G40.419	Other generalized epilepsy and epileptic syndromes (code range)
G40.501-G40.509	Epileptic seizures related to external causes (code range)
G40.801-G40.804	Other epilepsy (code range)
G40.811-G40.814	Lennox-Gastaut syndrome (code range)
G40.821-G40.824	Epileptic spasms (code range)
G40.89	Other seizures
G40.901-G40.919	Epilepsy, unspecified (code range)
G40.A01-G40.A19	Absence epileptic syndrome (code range)
G40.B01-G40.B19	Juvenile myoclonic epilepsy (code range)
G47.00	Insomnia, unspecified
G47.10	Hypersomnia, unspecified
G47.20	Circadian rhythm sleep disorder, unspecified type
G47.30	Sleep apnea, unspecified
G47.411-G47.429	Narcolepsy (code range)
G47.8-G47.9	Other and unspecified sleep disorders (code range)

Code	Description
R56.9	Unspecified convulsions

REFERENCES

*Agency for Healthcare Research and Quality Technology Assessment. Home diagnosis of obstructive sleep apnea-hypoapnea syndrome. 2007 Aug 8 [accessed 2024 Dec 30.] Available from: [http://www.cms.hhs.gov/determinationprocess/downloads/id48TA.pdf]

*American Academy of Pediatrics. Clinical Practice Guideline: Diagnosis and management of childhood obstructive sleep apnea syndrome. Pediatrics 2012 Aug Sep;130(3):576-84 [accessed 2024 Dec 30] Available from: [https://publications.aap.org/pediatrics/article/130/3/576/30284/Diagnosis-and-Management-of-Childhood-Obstructive?autologincheck=redirected]

*American Academy of Sleep Medicine. International Classification of Sleep Disorders – Third Edition (ICSD-3) Darien, IL. 2014.

American Association of Sleep Technologist. Home Sleep Apnea Testing (HSAT) December 2020. [Accessed December 30, 2024] Available from: HSAT Technical Guideline 2020_FINAL_New Template-1.pdf

*Arand D, et al. The clinical use of the MSLT and MWT. Sleep. 2005 Jan;28(1):123-44.

*ATS/ACCP/AASM Taskforce Steering Committee. Executive summary on the systemic review and practice parameters for portable monitoring in the investigation of suspected sleep apnea in adults. Am J Respir Crit Care Med 2004 May 15;16910):1160-3.

*Caples SM, et al. Use of polysomnography and home sleep apnea tests for the longitudinal management of obstructive sleep apnea in adults: an American Academy of Sleep Medicine clinical guidance statement. J Clin Sleep Med. 2021 Jun 1;17(6):1287-1293.

Chinoy ED, et al. Performance of seven consumer sleep-tracking devices compared with polysomnography. Sleep. 2021 May 14;44(5).

*Collop NA, et al. Portable Monitoring Task Force. Clinical guidelines for the use of unattended portable monitors in the diagnosis of obstructive sleep apnea in adult patients. J Clin Sleep Med 2007 Dec;3(7):1-16 [accessed 2024 Dec 30] Available from: [http://www.aasmnet.org/Resources/ClinicalGuidelines/040210.pdf]

Danzig R, et al. The wrist is not the brain: Estimation of sleep by clinical and consumer wearable actigraphy devices is impacted by multiple patient- and device-specific factors. J Sleep Res. 2020 Feb;29(1):e12926.

*Epstein LJ, et al. Adult Obstructive Sleep Apnea Task Force of the American Academy of Sleep Medicine. Clinical guideline for the evaluation, management and long-term care of obstructive sleep apnea in adults. J Clin Sleep Med. 2009 Jun 15;5(3):263-76.

Fitzpatrick M, SIESTA - Home sleep study with BresoDx for obstructive sleep apnea: a randomized controlled trial. Sleep Med. 2020 Jan;65:45-53.

Hamilton GS, Chai-Coetzer CL. Update on the assessment and investigation of adult obstructive sleep apnoea. Aust J Gen Pract. 2019 Apr;48(4):176-181.

Hiensch R, Rapoport DM. Sleep Studies Interpretation and Application. Otolaryngol Clin North Am. 2020 Jun;53(3):367-383.

Iskander A, et al. Normal multiple sleep latency test values in adults: A systematic review and meta-analysis. Sleep Med. 2023 Sep;109:143-148.

*Kapur VK, 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 Mar 15;13(3):479-504.

Khan LE, et al. Recommended protocols for the Multiple Sleep Latency Test and Maintenance of Wakefulness Test in adults: guidance from the American Academy of Sleep Medicine. J Clin Sleep Med. 2021 Dec 1;17(12):2489-2498.

*Krakow B, et al. A daytime, abbreviated cardio-respiratory sleep study (CPT 95807-52) to acclimate insomnia patients with sleep disordered breathing to positive airway pressure (PAP-NAP). J Clin Sleep Med. 2008 Jun 15;4(3):212-22.

*Kushida CA, et al. Clinical guidelines for the manual titration of positive airway pressure in patients with obstructive sleep apnea. Positive Airway Pressure Titration Task Force of the American Academy of Sleep Medicine. J Clin Sleep Med. 2008;4(2):157-71 [accessed 2024 Dec 30] Available from: [http://www.aasmnet.org/Resources/ClinicalGuidelines/040210.pdf]

*Littner MR, et al. Standards of Practice Committee of the American Academy of Sleep Medicine. Practice parameters for clinical use of the multiple sleep latency test and the maintenance of wakefulness test. Sleep. 2005 Jan;28(1):113-21.

*Littner M, et al. American Academy of Sleep Medicine; Standards of Practice Committee. Practice parameters for using polysomnography to evaluate insomnia: an update. Sleep. 2003 Sep;26(6):754-60.

*Morgenthaler T, et al. Practice parameters for the use of actigraphy in the assessment of sleep and sleep disorders: an update for 2007. Sleep. 2007 Apr;30(4):519-29.

*Morgenthaler TI, et al. Standards of Practice Committee of the American Academy of Sleep Medicine. Practice parameters for the treatment of narcolepsy and other hypersomnias of central origin. Sleep. 2007 Dec;30(12):1705-11.

*Mulgrew AT, et al. Diagnosis and initial management of obstructive sleep apnea without polysomnography: a randomized validation study. Ann Intern Med. 2007 Feb 6;146(3):157-66.

*Pillar G, et al. An automatic ambulatory device for detection of AASM defined arousals from sleep: the WP100. Sleep Med. 2003 May;4(3):207-12.

Torstensen EW, et al. Diagnostic value of actigraphy in hypersomnolence disorders. Sleep Med. 2021 Sep;85:1-7.

*Key Article

SEARCH TERMS

Actigraphy, EEG Topography, MSLT, PAP-Nap, Polysomnography, Sleep study.

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

Sleep Testing for Obstructive Sleep Apnea (OSA) NCD - Sleep Testing for Obstructive Sleep Apnea (OSA) (240.4.1) [accessed 2024 Dec 09].

Polysomnography and Other Sleep Studies LCD - Polysomnography and Other Sleep Studies (L36839) accessed 2024 Dec 09].

Polysomnography and Sleep Studies Article - Polysomnography and Sleep Studies – Medical Policy Article (A53019) [accessed 2024 Dec 09].

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION

Committee Approval Dates

10/18/01, 11/21/02, 10/15/03, 08/19/04, 07/21/05, 04/20/06, 02/15/07, 03/20/08, 05/28/09, 03/18/10, 04/21/11, 03/15/12, 10/17/13, 07/17/14, 10/16/14, 10/15/15, 10/20/16, 01/18/18, 09/17/20, 11/19/20, 02/18/21, 02/17/22, 11/16/23, 01/18/24, 01/23/25

Date	Summary of Changes
01/23/25	• Annual policy review, a policy statement was added to facility-based indications for pre and post evaluation testing for the hypoglossal nerve

	stimulation (e.g., Inspire) device; removed "otherwise not a covered benefit" from Policy Statement I.A.
01/01/25	• Summary of changes tracking implemented.
10/18/01	• Original effective date