# 2025 Evolent Clinical Guidelines for Medical Necessity Review

SLEEP STUDY GUIDELINES

Effective January 1, 2025 – December 31, 2025

# Guidelines for Clinical Review Determination

**Preamble**

Evolent is committed to the philosophy of supporting safe and effective treatment for patients. The medical necessity criteria that follow are guidelines for the provision of diagnostic imaging. These criteria are designed to guide both providers and reviewers to the most appropriate diagnostic tests based on a patient's unique circumstances. In all cases, clinical judgment consistent with the standards of good medical practice will be used when applying the guidelines. Determinations are made based on both the guideline and clinical information provided at the time of the request. It is expected that medical necessity decisions may change as new evidence-based information is provided or based on unique aspects of the patient's condition. The treating clinician has final authority and responsibility for treatment decisions regarding the care of the patient.

**Guideline Development Process**

These medical necessity criteria were developed by Evolent for the purpose of making clinical review determinations for requests for therapies and diagnostic procedures. The developers of the criteria sets included representatives from the disciplines of radiology, internal medicine, nursing, cardiology, and other specialty groups. Evolent's guidelines are reviewed yearly and modified when necessary following a literature search of pertinent and established clinical guidelines and accepted diagnostic imaging practices.

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**94660 – SLEEP DISORDER TREATMENT INITIATION AND MANAGEMENT**

**95806 – SLEEP STUDY, UNATTENDED**

**95811 – SLEEP STUDY, ATTENDED**

# EVOLENT CLINICAL GUIDELINE 400 FOR SLEEP DISORDER TREATMENT INITIATION AND MANAGEMENT

| **Guideline or Policy Number:** Evolent_CG_400 | **Applicable Codes** | |
|---|---|---|
| ***"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc*** <br>  | | |
| **Original Date:** <br> June 2013 | **Last Revised Date:** <br> March 2024 | **Implementation Date:** <br> January 2025 |

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# STATEMENT

## General Information

*It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*

*Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*

## Purpose

Treatment of sleep disorders is often managed during standard evaluation and management services. The "Sleep Disorder Treatment Initiation and Management" service can be used when the only purpose for the office visit is for the implementation of, or issue resolution related to, a PAP device. Devices include continuous positive airway pressure (CPAP), bi-positive airway pressure (BiPAP), auto-adjusting positive airway pressure (APAP), and variable positive airway pressure (VPAP).

# INDICATIONS [1,2,3]

- The individual has been diagnosed with sleep disordered breathing that would benefit from treatment using a positive airway pressure (PAP) device, **AND** all of the following:
  - The chief purpose of the office visit with the physician is to initiate PAP device treatment or address issues related to the PAP device
  - The individual requires education or problem solution related to the PAP device
  - The visit does not include discussion of other health issues beyond initiation and management of a PAP device
- **NOTE**: This service should not occur for the same individual on the same date as an evaluation and management service.

# CODING AND STANDARDS

## Coding

### *CPT Codes*

94660

## Applicable Lines of Business

| | |
|---|---|
| ☒ | CHIP (Children's Health Insurance Program) |
| ☒ | Commercial |
| ☒ | Exchange/Marketplace |
| ☒ | Medicaid |
| ☒ | Medicare Advantage |

# BACKGROUND

- Implementation of both of the following is necessary for appropriate and effective management of patients with obstructive sleep apnea (OSA) treated with positive airway pressure:
  - Treatment of OSA with PAP therapy should be based on a diagnosis of OSA established using objective sleep apnea testing.
  - Adequate follow-up, including troubleshooting and monitoring of objective efficacy and usage data to ensure adequate treatment and adherence, should occur following PAP therapy initiation and during treatment of OSA.[(2)]

# POLICY HISTORY

### *Summary*

| Date | Summary |
|---|---|
| March 2024 | ● Reorganized background section |
| May 2023 | ● No changes |

# LEGAL AND COMPLIANCE

## Guideline Approval

### *Committee*

**Reviewed / Approved Evolent Specialty Clinical Guideline Review Committee**

## Disclaimer

*Evolent Clinical Guidelines do not constitute medical advice. Treating health care professionals are solely responsible for diagnosis, treatment, and medical advice. Evolent uses Clinical Guidelines in accordance with its contractual obligations to provide utilization management. Coverage for services varies for individual members according to the terms of their health care coverage or government program. Individual members' health care coverage may not utilize some Evolent Clinical Guidelines. A list of procedure codes, services or drugs may not be all inclusive and does not imply that a service or drug is a covered or non-covered service or drug. Evolent reserves the right to review and update this Clinical Guideline in its sole discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.*

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# EVOLENT CLINICAL GUIDELINE 402 FOR SLEEP STUDY UNATTENDED (HOME SLEEP TEST)

| **Guideline or Policy Number:** Evolent_CG_402 | **Applicable Codes** | |
|---|---|---|
| ***"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc.*** <br>  | | |
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# STATEMENT

## General Information

*It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*

*Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*

## Purpose

Unattended home sleep studies are used to confirm the diagnosis of obstructive sleep apnea (OSA) when there is high clinical suspicion based on a comprehensive sleep evaluation. This guideline below outlines the indications and contra-indications for unattended home sleep studies in adults with suspected OSA.

# INDICATIONS FOR SLEEP STUDY UNATTENDED - ADULTS

An Unattended sleep study/Home Sleep Test (HST) for obstructive sleep apnea (OSA) should be performed in conjunction with a comprehensive sleep evaluation and adequate follow-up.

A comprehensive sleep evaluation **MUST** include a sleep history (snoring, apneas, daytime sleepiness), BMI, neck circumference, cardiopulmonary examination, and identification of comorbid sleep disorders and medical conditions.

## Suspected Obstructive Sleep Apnea

### *Adults > 18 yrs. Old*

With a high pre-test probability of moderate to severe OSA when there are no contraindications to a home sleep study in any one of these 3 situations [1,2]:

- Signs and symptoms including:
  - Excessive daytime sleepiness **AND** any **TWO** of the following
    - Habitual loud snoring
    - Witnessed apneas or gasping and choking

- Diagnosed hypertension
- BMI ≥ 30 OR large neck circumference (≥ 17 inches in men, ≥ 16 inches in women)

- A member of a high-risk population, including [2]:
  - Congestive heart failure, Class I or II
  - Atrial fibrillation
  - Chronic kidney disease (Stage III or higher with eGRF < 60)
  - Treatment refractory hypertension
  - Type 2 diabetes
  - Nocturnal dysrhythmias
  - Pulmonary hypertension
  - High-risk driving populations
  - Class 2 or 3 Obesity (BMI ≥ 35)
  - Preoperative for bariatric surgery
  - Craniofacial or upper airway soft tissue abnormalities (see **Craniofacial Abnormalities**)

    **AND** any **TWO** of the following
  - Excessive daytime sleepiness
  - Habitual loud snoring
  - Witnessed apneas or gasping and choking
  - Hypertension (if above high-risk feature is not treatment refractory hypertension) or BMI ≥ 30 (if above high-risk feature is not BMI ≥ 35 or preop for bariatric surgery)[3]

- Commercial drivers and individuals in safety-sensitive transportation occupations with any of the following[4,5,6]
  - BMI ≥40 kg/m2
  - BMI ≥33 kg/m2 and either type 2 diabetes or hypertension requiring two or more medications
  - Sleepiness-related crash or accident by report or observation
  - Fatigue or sleepiness during the duty period

## Contraindications for Home Sleep Study, Unattended

| **Comorbid Medical Conditions** |
|---|
| • Moderate to severe pulmonary disease with: FEV1/FVC 0.7 and FEV1 less than 80% predicted, oxygen use, daytime hypercapnia or hypoxemia |
| • Obesity hypoventilation syndrome: BMI ≥ 30 with $PCO_2$ > 45 on arterial blood gas OR BMI ≥ 35 with inability to lie flat in bed, hypoxemia or serum bicarbonate ≥_27 (2,7,8)(9) |
| • Chronic opiate medication use |
| • Neuromuscular disease (e.g., Parkinson's disease, ALS, myotonic dystrophy, spina bifida) |
| • Congestive Heart Failure: NYHA class III or IV, or LVEF less than 45% (see **Table 3**) |
| • Stroke (relative contraindication – either attended or unattended may be performed) |
| **Comorbid Sleep Disorders, known or suspected** |
| • Periodic limb movement disorder |
| • Parasomnia |
| • REM behavior disorder |
| • Nocturnal seizures |
| • Narcolepsy or idiopathic hypersomnia |
| • Circadian rhythm disorder |
| • Central sleep apnea or complex sleep apnea |
| • Hypoventilation |
| • Sleep-related hypoxemia |
| • Severe insomnia |
| **Technical Contraindications** |
| • Inability to follow instructions or lack of mobility or dexterity to use portable equipment and the absence of a competent caregiver |
| • Previous negative or technically inadequate home sleep study* |

## *Special Considerations*

- If a single unattended sleep test is inconclusive, technically inadequate, or negative, and there is continued clinical suspicion of OSA, an attended sleep study is recommended. (2)

- If there is a low pre-test probability of sleep apnea, but well-documented ongoing concern for a sleep disorder causing functional impairment (e.g., upper airway resistance syndrome or mild OSA), an attended sleep study may be indicated (See Evolent Clinical Guideline 401-2 for Sleep Study Attended).
- An unattended sleep study may be indicated for the diagnosis of OSA in individuals for whom attended sleep study is not possible due to immobility, safety, or critical illness. [(2)]

## Indications for Repeat Home Sleep Study [(10)]

- Previously diagnosed OSA and a re-evaluation is required for the following:
  - Response to upper airway surgical procedures
  - Response after initial treatment with oral appliances
  - Re-evaluation in individuals treated for OSA with non-PAP interventions who
    - Have recurrent symptoms or
    - Develop or have a change in cardiovascular disease
  - Re-evaluation of the diagnosis after a change in ≥ 10% of body weight
  - Remote history of OSA not treated with a need to re-evaluate the diagnosis and/or initiate PAP
  - Upper airway stimulation therapy[(11,12,13)]
    - Pre-implantation re-evaluation of known OSA with:
      - PAP failure or PAP intolerance AND
      - BMI ≤ 35 AND
      - No recent sleep study OR a significant change in weight and/or symptoms
    - Post-implantation - PSG titration previously performed with insufficient clinical response, weight gain and/or return of symptoms

# CODING AND STANDARDS

## Coding

### *CPT Codes*

95800, 95801, 95806, G0398, G0399, G0400

## Applicable Lines of Business

| | |
|---|---|
| ☒ | CHIP (Children's Health Insurance Program) |
| ☒ | Commercial |
| ☒ | Exchange/Marketplace |
| ☒ | Medicaid |
| ☒ | Medicare Advantage |

# BACKGROUND

## Definitions

### *Home Sleep Test* [14]

There may be some situations in which home sleep test may require follow-up with an attended test when the home test is negative or there are other factors that contribute to a technical failure. (See separate clinical guideline for Evolent Clinical Guideline 401-2 for Sleep Study Attended when that procedure requires authorization.)

### *AHI/RDI*

After physician review and interpretation of the data recorded in sleep studies, the total number, type, and rate of occurrence of apneas (cessation of breathing for at least 10 seconds) and hypopneas (reduction, but not cessation of airflow with an associated fall in oxygen saturation of 3 to 4% or an arousal) and respiratory event–related arousals (RERAs) are reported. The number of events per hour, the Apnea/Hypopnea Index (AHI) or respiratory disturbance index (RDI) is calculated to classify the severity of OSA. **AHI** is defined as the average number of episodes of apnea and hypopnea per hour. The **RDI** is defined as the average number of respiratory disturbances (apneas, hypopneas, and respiratory event–related arousals [RERAs]) per hour.[1,2]

**Severity of OSA in adults > 18 years old**

- AHI= 5-15/hr.
  - Mild OSA
- AHI= 15-30/hr.
  - Moderate OSA
- AHI= > 30/hr.
  - Severe OSA

### *Obstructive Sleep Apnea (OSA)*

Obstructive sleep apnea is characterized by recurrent episodes of upper airway obstruction and is linked with reductions in ventilation, resulting in repeated arousals and episodic oxyhemoglobin desaturations during sleep.

### *Epworth Sleepiness Scale (ESS)* [15,16]

The ESS is a self-administered questionnaire with 8 questions which is used to assess a person's level of daytime sleepiness. A score of 0-10 is considered a normal level of sleepiness and > 10 as excessive daytime sleepiness.

## Craniofacial Abnormalities [1,2]

- Adenotonsillar enlargement
- Modified Mallampati score of 3 or 4
- Retrognathia
- Lateral peritonsillar narrowing
- Macroglossia
- Elongated/enlarged uvula
- High arched/narrow hard palate
- Nasal abnormalities (polyps, deviation, valve abnormalities, turbinate hypertrophy)

## Positive Airway Pressure (PAP) Titration [17,18]

In-laboratory titration refers to both full-night and split-night titration and includes either CPAP, BIPAP, or ASV. The pressure settings from the titration study will be programmed into the device that the individual uses at home. Automatically titrating positive airway pressure (APAP) supplies variable pressure in response to acute or chronic changes (body position, sleep stage or weight changes). APAP can be initiated in the home setting in those without significant comorbidities. Most PAP machines record at a minimum usage, leak, pressure and AHI. The choice of PAP initiation (either in the home or lab) should be based on access, cost-effectiveness, individual preference, sleep clinician judgement, and other factors.

## Treatment of OSA [19,20]

Once the diagnosis of OSA is made, the patient and physician should decide on an appropriate treatment strategy. Depending on the severity of the OSA, symptoms, and comorbidities, this may include positive airway pressure devices (PAP), oral appliances, behavioral treatments, surgery, and/or adjunctive treatments.

Positive airway pressure (PAP) devices provide a pneumatic splint to maintain upper airway patency during sleep. PAP devices can deliver continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), where there is a difference in inspiratory and expiratory positive pressure, or automatically titrating positive pressure (APAP). PAP therapy can be initiated using either APAP at home or in-laboratory titration in adults with

OSA and no significant comorbidities. Those with comorbidities can be considered for an in-lab PAP titration. CPAP or APAP is preferred over BiPAP except when there is higher pressure requirements required or a failure of CPAP or APAP. Adaptive servo-ventilation (ASV) may be useful in central and complex OSA particularly in specific CHF populations when other treatment options have failed.

An AHI of 15 or more, even in the absence of sleep-related symptoms, warrants treatment due to a greater association of this level of sleep-disordered breathing with consequences, such as increased cardiovascular risk. An AHI of 5-15 (mild OSA) per hour warrants treatment if there is excessive sleepiness, comorbid hypertension, or impaired self-related quality of life (e.g., snoring, insomnia, morning headaches, nocturia, impaired daytime functions, or fatigue). PAP treatment's effect on neurocognitive function, mood disorders, metabolic syndrome, heart failure, and all-cause mortality is currently unclear, and more evidence is needed to determine the efficacy of PAP therapy to improve outcomes and symptoms associated with OSA outside of excessive sleepiness.

## Upper Airway Stimulation Therapy [11,12,21,22]

Inspire® Upper airway stimulation (UAS) system is an implantable nerve stimulator used to treat moderate to severe obstructive **sleep apnea** (15≤AHI≤65). It is FDA-approved for individuals 22 years and older who have failed or cannot tolerate PAP treatment and who do not have a complete concentric collapse at the soft palate level. It is also indicated for use in individuals between the ages of 18 and 21 with moderate to severe OSA (15≤AHI≤65) who do not have complete concentric collapse at the soft palate level; are contraindicated for/or not treated by adenotonsillectomy; have failed, or cannot tolerate, PAP therapy despite attempts to improve compliance; have followed standard of care in considering all other alternative or adjunct therapies. There are several contraindications to UAS, including central or mixed apneas, anatomical abnormalities, pregnancy, neurological conditions, and individuals requiring MRIs. To determine eligibility for the implantation, testing involves confirming AHI on sleep studies, medical and surgical consultation, and endoscopy during drug-induced sleep. Follow-up after implantation involves a follow-up PSG to correctly titrate the device.

## New York Heart Association (NYHA) Functional Classes [23]

### *NYHA Functional Class/Patient Symptoms*

| Class | Patient Symptoms |
|---|---|
| Class I (Mild) | Cardiac disease, but no symptoms and no limitation in ordinary physical activity, e.g., shortness of breath when walking, climbing stairs, etc. |
| Class II (Mild) | Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity. |
| Class III (Moderate) | Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g., walking short distances (20–100 m). Comfortable only at rest. |

| | |
|---|---|
| Class IV (Severe) | Severe limitations. Experiences symptoms even while *at rest*. Mostly bedbound patients. |

# POLICY HISTORY

## *Summary*

| Date | Summary |
|---|---|
| May 2024 | ● Updated references<br>● Updated contraindications re: stroke<br>● Adjusted BMI criteria for upper airway stimulation |
| May 2023 | ● Updated references<br>● Added commercial driver section<br>● General Information moved to beginning of guideline with added statement on clinical indications not addressed in this guideline |

# LEGAL AND COMPLIANCE

## Guideline Approval

### *Committee*

**Reviewed / Approved by Evolent Specialty Clinical Guideline Review Committee**

## Disclaimer

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# EVOLENT CLINICAL GUIDELINE 401-2 FOR SLEEP STUDY ATTENDED (NOCTURNAL POLYSOMNOGRAPHY)

| **Guideline or Policy Number:** Evolent_CG_401-2 | **Applicable Codes** | |
|---|---|---|
| ***"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc.*** ***©2013 - 2025 Evolent. All rights Reserved.*** | | |
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# STATEMENT

## General Information

*It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.*

*Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.*

## Purpose

### *Attended Sleep Studies*

Attended sleep studies or nocturnal polysomnography (PSG) are indicated to assess the following sleep-related disorders:

- Sleep-related breathing disorders (obstructive sleep apnea and central sleep apnea)
- Narcolepsy and idiopathic hypersomnia
- Parasomnias and seizure disorders
- Periodic limb movement disorder

Polysomnography requires a minimum of the following channels: electroencephalogram (EEG), electrooculogram (EOG), chin electromyogram (EMG), airflow, oxygen saturation, respiratory effort and heart rate. PSGs are attended by a technologist. They are used for initial diagnosis as well as follow-up of therapeutic interventions for these conditions in both adult and pediatric patients.

# INDICATIONS FOR SLEEP STUDY ATTENDED - ADULTS

## Suspected Sleep-Related Breathing Disorders

### *Suspected Obstructive Sleep Apnea (OSA)*

- With a high pre-test probability of moderate to severe obstructive sleep apnea (OSA), indicated by: [1,2]
    - Signs and symptoms including:
        - Excessive daytime sleepiness [3] **AND** any **TWO** of the following:

        - □ Habitual loud snoring
        - □ Witnessed apneas, or gasping and choking
        - □ Diagnosed hypertension
        - □ BMI ≥ 30 or large neck circumference (≥ 17 inches in men, ≥ 16 inches in women) **AND**
- A member of a high-risk population that meet the following criteria,[1,2]including:
    - Congestive heart failure
    - Atrial fibrillation
    - Chronic kidney disease
    - Treatment refractory hypertension
    - Type 2 diabetes
    - Nocturnal dysrhythmias
    - Stroke
    - Pulmonary hypertension
    - Class 2 or 3 obesity (BMI ≥ 35)
    - Preoperative for bariatric surgery
    - Craniofacial or upper airway soft tissue abnormalities (see **Craniofacial Abnormalities**)
        - □ **AND** any **TWO** of the following
    - Excessive daytime sleepiness [3]
    - Habitual loud snoring
    - Witnessed apneas or gasping and choking
    - Hypertension (if above high-risk feature is not treatment refractory hypertension) or BMI ≥ 30 (if above high-risk feature is not BMI ≥ 35 or preop for bariatric surgery)
- Commercial drivers and individuals in safety-sensitive transportation occupations [4,5,6] with any of the following
    - BMI ≥40 kg/m2
    - BMI ≥33 kg/m2 and either type 2 diabetes or hypertension requiring two or more medications
    - Sleepiness-related crash or accident by report or observation
    - Fatigue or sleepiness during the duty period

## *Contraindications For a Home Sleep Study, Unattended - Adults*

| **Comorbid Medical Conditions** |
|---|
| ● Moderate to severe pulmonary disease with: FEV1/FVC 0.7 and FEV1 less than 80% predicted, oxygen use, daytime hypercapnia or hypoxemia. |
| ● Obesity hypoventilation syndrome: BMI ≥ 30 with $PCO_2$ > 45 on arterial blood gas OR BMI ≥ 35 with inability to lie flat in bed, hypoxemia or serum bicarbonate ≥ 27 (3,7,8,9,10,11) |
| ● Chronic opiate medication use |
| ● Neuromuscular disease (e.g., Parkinson's disease, ALS, myotonic dystrophy, spina bifida) |
| ● Congestive Heart Failure: NYHA class III or IV, or LVEF less than 45% (see **NYHA table**) |
| ● Stroke (relative contraindication – either attended or unattended may be performed) |
| **Comorbid Sleep Disorders, known or suspected** |
| ● Periodic limb movement disorder |
| ● Parasomnia |
| ● REM behavior disorder |
| ● Nocturnal seizures |
| ● Narcolepsy or idiopathic hypersomnia |
| ● Circadian rhythm disorder |
| ● Central sleep apnea or complex sleep apnea |
| ● Sleep-related hypoxemia or hypoventilation |
| ● Severe insomnia |
| **Technical Contraindications** |
| ● Inability to follow instructions or lack of mobility or dexterity to use portable equipment and the absence of a competent caregiver |
| ● Previous negative or technically inadequate home sleep study* |

## *Suspected Central Sleep Apnea (CSA)*

- With documented clinical concern for central sleep apnea (CSA) based on (12)
  - Sleep symptoms (e.g., fragmented sleep, insomnia, apneas, daytime sleepiness)
  - **AND**
  - Comorbid medical conditions (e.g., heart failure, opioid use, neurological disorders)

### *Special Considerations*

- If a single unattended sleep test is inconclusive or technically inadequate or negative with continued clinical suspicion of OSA, an attended sleep study is recommended
- If there is a low pre-test probability of sleep apnea, but well-documented ongoing concern for a sleep disorder causing functional impairment (e.g., upper airway resistance syndrome or mild OSA), an attended sleep study may be indicated

## Suspected Central Hypersomnia (Narcolepsy/Idiopathic Hypersomnia) [2]

- PSG is done in conjunction with a multiple sleep latency test (MSLT) for the evaluation of central hypersomnias (narcolepsy and idiopathic hypersomnia). PSG must be done on the night preceding MSLT to rule out other sleep disorders and to document adequate nocturnal sleep time (6 hours). The MSLT the following day is used as the diagnostic test in individuals with [7,13,14]:
    - Excessive daytime sleepiness despite adequate sleep and not suspected to be related to another sleep disorder.
    - Suspected central hypersomnia (narcolepsy/idiopathic hypersomnia)

* Narcolepsy can also include symptoms such as cataplexy, hypnogogic hallucinations and sleep paralysis

**Note:** All other indications for an MSLT are considered experimental and investigational since effectiveness for other indications has not been established.

## Suspected Parasomnias and Nocturnal Seizure Disorders [1,2]

- PSG with expanded bilateral montage and video recording is indicated for evaluation of individuals with:
    - Suspected nocturnal seizures based on clinical history with abnormal or inconclusive EEG findings
    - Suspected REM sleep behavior disorder
    - Sleep behaviors suggestive of parasomnias (paroxysmal arousals and other sleep disruptions) that are unusual or atypical because of:
        - Individual's age at onset
        - Time, duration, or frequency of occurrence
        - Behaviors that are violent or otherwise potentially injurious to the individual or others

- Features of the motor patterns in question (e.g., stereotypical, repetitive, or focal)
- Lack of response to conventional therapy

## Suspected Periodic Limb Movement Disorder [1,2,8]

- Polysomnography is indicated when there is no known concurrent untreated sleep disorder, and the individual or an observer report repetitive limb movements during sleep with any of the following:
  - Frequent awakenings
  - Difficulty maintaining sleep
  - Excessive daytime sleepiness [3]
  - No known concurrent untreated sleep disorder
- PSG is not indicated in other sleep related movement disorders (restless leg syndrome, bruxism, sleep related leg cramps, rhythmic movement disorder or sleep-related myoclonus) unless another underlying sleep disorder is suspected.

# INDICATIONS FOR PAP TITRATION AND FOLLOW-UP STUDIES

## Split Night Sleep Study [2,15]

In a split night study, the initial 2 or more hours of the PSG are used to diagnose OSA, and the final portion is used to titrate continuous positive airway pressure (CPAP)

- A split-night study PSG is indicated when criteria for attended PSG is met; **AND BOTH**
  - The **apnea hypopnea index** (AHI) is ≥ 15 in first 2 hours
  - There are 3 hours available to perform the CPAP titration [2]

## CPAP/BiPAP Titration Study

- Indicated after a diagnostic PSG if:
  - The **AHI** is ≥ 15, and a split night study was not performed **OR**
  - The **AHI** is between 5 and 15 and there is significant daytime sleepiness, comorbid hypertension, or impaired self-related quality of life (e.g., snoring, insomnia, morning headaches, nocturia, impaired daytime functions or fatigue) [3,15]
- Indicated after a split night study if:

- The diagnostic portion of the split does not demonstrate an **AHI** of ≥ 15, but the overall study reaches this threshold due to events occurring later in the night; **OR**
- During the titration portion of the split night the titration is not successful (there are residual apneas or hypopneas)

## Attended Sleep Study Following a Home Sleep Test (HST)

Indicated with any of the following:

- HST is technically inadequate (e.g., loss of signal through the night, bad recording due to patient device interface problem, etc.)
- A single HST is inconclusive or negative with continued clinical suspicion of OSA [(2)]
- HST is positive (**AHI** > 15), and an attended sleep study is needed for CPAP/BiPAP titration
- HST shows an **AHI** between 5 and 15, and there is significant daytime sleepiness, comorbid hypertension or impaired self-related quality of life (e.g., snoring, insomnia, morning headaches, nocturia, impaired daytime functions or fatigue) and an attended sleep study is needed for CPAP/BiPAP titration [(15)]
- HST shows prolonged hypoxemia or central apneas

## Repeat Sleep Studies

### *Individuals with diagnosed OSA*

A repeat attended sleep study is indicated if there is a contraindication for an HST (above) or for PAP titration; otherwise, HSTs should be performed

- Repeat sleep studies may be performed up to twice a year for any of the following:
  - Individuals continuing to report symptoms (e.g., daytime sleepiness or snoring) despite adequate adherence (4 hours/night for 70% of nights over a 30-day period)
  - Individuals requiring a change of device due to intolerance of current device
  - Determining if positive airway pressure treatment settings need to be changed
  - Determining if treatment with PAP is still necessary after significant weight loss
  - Determining if there is a need to reinstitute or change treatment after significant weight gain or recurrent symptoms
  - Assessing treatment response after upper airway surgical procedures, or initial treatment with oral appliances
  - Remote history of OSA not on PAP with a need to re-establish diagnosis and/or initiate CPAP

- Reassessment of sleep-related hypoxemia and/or sleep-related hypoventilation following initiation of treatment for OSA [16]
- Reevaluation in individuals treated for OSA who develop or have a change in cardiovascular disease [16]
- Follow-up PSG in individuals with unexplained PAP device-generated data [16]

- Upper airway stimulation therapy (hypoglossal nerve stimulator) [17,18]
  - Pre-implantation- re-evaluation of known OSA with:
    - PAP failure or PAP intolerance **AND**, BMI ≤ 35 and no recent sleep study

    **OR**

    - a significant change in weight and/or symptoms
  - Post-implantation:
    - Initial PSG titration
    - PSG titration previously performed with insufficient clinical response, weight gain and/or return of symptoms

## NOT Indicated

The following is **NOT** indicated:

- Polysomnography for management of oxygen therapy
- Nap (abbreviated) polysomnography

# INDICATIONS FOR SLEEP STUDY ATTENDED - PEDIATRIC (< 18 YRS.) [13,19]

## Respiratory Indications

- Habitual snoring with one or more below signs or symptoms of obstructive sleep apnea syndrome (OSAS) in order to differentiate from primary snoring

| Symptoms | Signs |
|---|---|
| • **Frequent snoring (≥3 nights/week)** | • Underweight or overweight |
| • **Gasps/observed apneas/snorting noises** | • Tonsillar hypertrophy |
| • **Labored breathing during sleep** | • Adenoidal facies |
| • **Cyanosis** | • Micrognathia/retrognathia |
| • **Sleeping in a seated position or with an extended neck** | • High-arched palate |
| • **Cyanosis** | • Failure to thrive |

- **Attention-deficit/hyperactivity disorder**
- **Learning problems**
- **Daytime sleepiness**
- **Sleep enuresis (especially secondary enuresis)**
- Hypertension

*Adapted from Marcus 2012* [20]

**Note**: In children, OSAS is often associated with daytime neurobehavioral problems (e.g., inattention, hyperactivity, impulsivity, and irritability). Daytime sleepiness is less common than in adults.

- Children being considered for adenotonsillectomy to treat OSAS
- Suspected congenital central alveolar hypoventilation syndrome
- Suspected sleep-related hypoventilation due to chest wall deformities or neuromuscular disorders (e.g., Duchenne muscular dystrophy, Charcot-Marie-Tooth disease, myotonic dystrophy, congenital myopathies) [21]
- In the following respiratory disorders only if there is a clinical suspicion for an accompanying sleep-related breathing disorder:
  - Chronic asthma
  - Cystic fibrosis
  - Pulmonary hypertension
  - Bronchopulmonary dysplasia
  - Chest wall abnormality, such as kyphoscoliosis
- Following an apparent life-threatening event (ALTE) where there is clinical evidence of sleep-related breathing disorder
- Neurological disorders (e.g., myelomeningocele, Chiari malformation, known brain lesion) [21,22,23]
- Genetic disorders such as Achondroplasia, Down syndrome, Prader-Willi syndrome, Ehlers-Danlos syndrome, Pierre Robin sequence, sickle cell disease and mucopolysaccharidosis [24]

## Non-Respiratory Indications [13]

- Suspected narcolepsy (PSG/MSLT) as suggested by the presence of:
  - Excessive daytime sleepiness [3] despite adequate sleep and not suspected to be related to another sleep disorder
- *Narcolepsy can also include symptoms such as cataplexy, hypnogogic hallucinations and sleep paralysis
- Hypersomnia from suspected causes other than narcolepsy (PSG/MSLT)
- Suspected parasomnia or seizure disorders:

- Non-REM parasomnias, epilepsy, or nocturnal enuresis when there is a clinical suspicion for co-morbid sleep disorder, such as sleep-disordered breathing or periodic limb movement disorder (PLMD)
- To confirm the diagnosis of an atypical or potentially injurious parasomnia or differentiate a parasomnia from sleep-related epilepsy when the initial clinical evaluation and standard EEG are inconclusive

- Suspected restless leg syndrome or periodic limb movement disorder
  - When the individual or an observer reports repetitive limb movements during sleep along with frequent awakenings, fragmented sleep, difficulty maintaining sleep, or excessive daytime sleepiness
  - To document periodic limb movements when PLMD is suspected
  - To provide supportive data for diagnosis when RLS is suspected

# INDICATIONS FOR TITRATION AND FOLLOW-UP STUDIES - PEDIATRICS (< 18 YRS.) [19,20]

Positive airway pressure (PAP) titration in children with obstructive sleep apnea syndrome

- Children with OSAS treated with an oral appliance, to assess response to treatment
- Following an adenotonsillectomy or other pharyngeal surgery for OSAS when **ANY** of the following is met (study should be delayed 6 to 8 weeks postoperatively):
  - Moderate to severe OSAS was present on preoperative PSG
  - Cardiac complications of OSAS (e.g., right ventricular hypertrophy)
  - Craniofacial anomalies
  - Neurological disorders (e.g., Down syndrome, Prader-Willi syndrome, and myelomeningocele)
  - Obesity
  - Presence of symptoms of OSAS persisting after treatment
  - After rapid maxillary expansion
- Follow-up PSG in children on chronic PAP support to determine whether pressure requirements have changed due to:
  - The child's growth and development (weight or craniofacial)
  - Recurrent symptoms while on PAP
  - The institution of additional or alternate treatment
- Noninvasive positive pressure ventilation (NIPPV) titration in children with other sleep-related breathing disorders
- Children treated with mechanical ventilation to adjust ventilator settings

- Children treated with tracheostomy for sleep-related breathing disorders as part of the evaluation prior to decannulation

# CODING AND STANDARDS

## Coding

### *CPT Codes*

95805, 95807, 95808, 95810, 95811

## Applicable Lines of Business

| | |
|---|---|
| ☒ | CHIP (Children's Health Insurance Program) |
| ☒ | Commercial |
| ☒ | Exchange/Marketplace |
| ☒ | Medicaid |
| ☐ | Medicare Advantage |

# BACKGROUND

## Definitions

### *Home Sleep Test* [25]

There may be some situations in which home sleep test may require follow-up with an attended test when the home test is negative or there are other factors that contribute to a technical failure. (See separate clinical guideline for "Sleep Study, Unattended" when that procedure requires authorization.)

### *AHI/RDI*

After physician review and interpretation of the data recorded in sleep studies, the total number, type, and rate of occurrence of apneas (cessation of breathing for at least 10 seconds) and hypopneas (reduction, but not cessation of airflow with an associated fall in oxygen saturation of 3 to 4% or an arousal) and respiratory event–related arousals (RERAs) are reported. The number of events per hour, the apnea/hypopnea index (AHI) or respiratory disturbance index (RDI) is calculated to classify the severity of OSA: **AHI** is defined as the average number of episodes of apnea and hypopnea per hour. The **RDI** is defined as the average number of respiratory disturbances (apneas, hypopneas, and respiratory event–related arousals [RERAs]) per hour.[1,2,26]

**Severity of OSA in adults > 18 years old**

- AHI= 5-15/hr.
  - Mild OSA
- AHI= 15-30/hr.
  - Moderate OSA
- AHI= > 30/hr.
  - Severe OSA

## *Obstructive Sleep Apnea (OSA)*

Obstructive sleep apnea is characterized by recurrent episodes of upper airway obstruction and is linked with reductions in ventilation, resulting in repeated arousals and episodic oxyhemoglobin desaturations during sleep.

## *Central Sleep Apnea*

The central sleep apnea syndrome is characterized by a lack of drive to breathe during sleep, and there is a diminished or absent respiratory effort during cessation of airflow.[27]

## *Epworth Sleepiness Scale (ESS) [3]*

The ESS is a self-administered questionnaire with 8 questions which is used to assess a person's level of daytime sleepiness. A score of 0-10 is considered a normal level of sleepiness and > 10 as excessive daytime sleepiness.

## *REM Sleep Behavior Disorder [28]*

Dream enactment behavior in sleep due to loss of muscle atonia during REM sleep, which in often seen with, or precedes, neurodegenerative disease. This is evaluated by PSG.

## *Split-night Study*

In a split night sleep study, the diagnosis of OSA is established in the first half of the night and the optimal CPAP pressure is determined during the second half of the night. In this type of study, the apnea/hypopnea index (AHI) needs to be > 15 in the first 2 hours of the diagnostic portion of the study, and there needs to be at least 3 hours available to perform the titration portion. A split night study is expected for most attended PSGs in those who have a high suspicion of OSA.

## Craniofacial Abnormalities [1,2]

- Adenotonsillar enlargement
- Modified Mallampati score of 3 or 4
- Retrognathia
- Lateral peritonsillar narrowing
- Macroglossia
- Elongated/enlarged uvula
- High arched/narrow hard palate
- Nasal abnormalities (polyps, deviation, valve abnormalities, turbinate hypertrophy)

## Narcolepsy Evaluation

PSG must be done on the night preceding the multiple sleep latency testing (MSLT) to rule out other sleep disorders and to document adequate nocturnal sleep time prior to daytime MSLT. The MSLT helps confirm diagnosis of narcolepsy and determine severity of daytime sleepiness.

- The use of MSLT to support a diagnosis of narcolepsy is suspected if total sleep time on prior night sleep study is less than 6 hours.
- MSLT should not be performed after a split night sleep study.

## PAP Titration (CPAP/BIPAP/APAP) [7,15,29]

In-laboratory titration refers to both full-night and split-night titration and includes either CPAP, BIPAP, or ASV. The pressure settings from the titration study will be programmed into the device that the individual uses at home. Automatically titrating positive airway pressure (APAP) supplies variable pressure in response to acute or chronic changes (body position, sleep stage or weight changes). APAP can be initiated in the home setting in those without significant comorbidities. Most PAP machines record at a minimum usage, leak, pressure and AHI. The choice of PAP initiation (either in the home or lab) should be based on access, cost-effectiveness, individual preference, sleep clinician judgement, and other factors.

## Treatment of OSA [13,15,30,31,32]

Once the diagnosis of OSA is made, the patient and physician should decide on an appropriate treatment strategy. Depending on the severity of the OSA, symptoms, and comorbidities, this may include positive airway pressure devices (PAP), oral appliances, behavioral treatments, surgery, and/or adjunctive treatments.

Positive airway pressure (PAP) devices provide a pneumatic splint to maintain upper airway patency during sleep. PAP devices can deliver continuous positive airway pressure (CPAP), bi-level positive airway pressure (BiPAP), where there is a difference in inspiratory and expiratory positive pressure, or automatically titrating positive pressure (APAP). PAP therapy can be initiated using either APAP at home or in-laboratory titration in adults with OSA and no significant comorbidities. Those with comorbidities can be considered for an in-lab PAP titration. CPAP or APAP is preferred over BiPAP except when there are higher pressure requirements required or a failure of CPAP or APAP. Adaptive servo-ventilation (ASV) may be useful in central and complex OSA particularly in specific CHF populations when other treatment options have failed.

An AHI of 15 or more, even in the absence of sleep-related symptoms, warrants treatment due to a greater association of this level of sleep-disordered breathing with consequences, such as increased cardiovascular risk. An AHI of 5-15 (mild OSA) per hour warrants treatment if there is excessive sleepiness, comorbid hypertension, or impaired self-related quality of life (e.g., snoring, insomnia, morning headaches, nocturia, impaired daytime functions, or fatigue). PAP treatment's effect on neurocognitive function, mood disorders, metabolic syndrome, heart failure, and all-cause mortality is currently unclear, and more evidence is needed to determine the efficacy of PAP therapy to improve outcomes and symptoms associated with OSA outside of excessive sleepiness.

## Upper Airway Stimulation Therapy [17,18,33,34]

Inspire® Upper airway stimulation (UAS) system is an implantable nerve stimulator used to treat moderate to severe obstructive sleep apnea (15≤AHI≤65). It is FDA-approved for individuals 22 years and older who have failed or cannot tolerate PAP treatment and who do not have a complete concentric collapse at the soft palate level. It is also indicated for use in individuals between the ages of 18 and 21 with moderate to severe OSA (15≤AHI≤65) who do not have complete concentric collapse at the soft palate level; are contraindicated for/or not treated by adenotonsillectomy; have failed, or cannot tolerate, PAP therapy despite attempts to improve compliance; have followed standard of care in considering all other alternative or adjunct therapies. There are several contraindications to UAS, including central or mixed apneas, anatomical abnormalities, pregnancy, neurological conditions, and individuals requiring MRIs. To determine eligibility for the implantation, testing involves confirming AHI on sleep studies, medical and surgical consultation, and endoscopy during drug-induced sleep. Follow-up after implantation involves a follow-up PSG to correctly titrate the device.

## New York Heart Association (NYHA) Functional Classes [35]

### *NYHA Functional Class/Patient Symptoms*

| Class | Patient Symptoms |
|---|---|
| Class I (Mild) | Cardiac disease, but no symptoms and no limitation in ordinary physical activity, e.g., shortness of breath when walking, climbing stairs, etc. |

| | |
|---|---|
| Class II (Mild) | Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity. |
| Class III (Moderate) | Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g., walking short distances (20–100 m). Comfortable only at rest. |
| Class IV (Severe) | Severe limitations. Experiences symptoms even while *at rest*. Mostly bedbound patients. |

# POLICY HISTORY

## *Summary*

| Date | Summary |
|---|---|
| May 2024 | ● Updated references<br>● Clarified contraindications re: stroke<br>● Changed BMI criteria for upper airway stimulation<br>● Adjusted narcolepsy indications<br>● Edited background |
| May 2023 | ● Updated references<br>● Added commercial driver section<br>● Added initial evaluation of an inconclusive finding on a prior imaging report that requires further clarification |

# LEGAL AND COMPLIANCE

## Guideline Approval

### *Committee*

**Reviewed / Approved by Evolent Specialty Clinical Guideline Review Committee**

## Disclaimer

*Evolent Clinical Guidelines do not constitute medical advice. Treating health care professionals are solely responsible for diagnosis, treatment, and medical advice. Evolent uses Clinical Guidelines in accordance with its contractual obligations to provide utilization management. Coverage for services varies for individual members according to the terms of their health care coverage or government program. Individual members' health care coverage may not utilize some Evolent Clinical Guidelines. A list of procedure codes, services or drugs may not be all inclusive and does not imply that a service or drug is a covered or non-covered service or drug. Evolent reserves the right to review and update this Clinical Guideline in its sole discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.*

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