



# **2026**

## **Evolent Clinical Guidelines for Medical Necessity Review**

Sleep Studies Guidelines

Effective January 1, 2026 – December 31, 2026

# 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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### **Sleep Studies Clinical Guidelines**

- **Sleep Study Attended (Nocturnal Polysomnography)**
- **Sleep Study Unattended (Home Sleep Test)**

# Evolut Clinical Guideline 2050 for Sleep Study Attended (Nocturnal Polysomnography)

<b>Guideline Number:</b> Evolut_CG_2050	<b><u>Applicable Codes</u></b>	
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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.*
- *The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.*

### Purpose

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 OSA when there is a **contraindication to a home sleep study** in any **ONE** of these 3 situations <sup>(1)</sup>

- 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  $\geq 30$  or large neck circumference ( $\geq 17$  inches in men,  $\geq 16$  inches in women) <sup>(2)</sup>
- A member of a high-risk population (see below) **AND** any **TWO** of the following <sup>(1,2)</sup>:
  - 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  $\geq 30$  (if above high-risk feature is not BMI  $\geq 35$  or preop for bariatric surgery)

**NOTE:** One or more of the following classifies an individual as high risk:

  - 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  $\geq 35$ )
  - Preoperative for bariatric surgery
  - Coronary artery disease
  - Polycystic ovarian syndrome (PCOS)
  - Craniofacial or upper airway soft tissue abnormalities (see **Craniofacial Abnormalities**)
- Commercial drivers and individuals in safety-sensitive transportation occupations with any of the following <sup>(3–5)</sup>:
  - BMI  $\geq 40$  kg/m<sup>2</sup>
  - BMI  $\geq 33$  kg/m<sup>2</sup> 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***

<b>Comorbid Medical Conditions</b>
Moderate to severe pulmonary disease with: FEV1/FVC < 0.7 and FEV1 < 80% predicted, oxygen use, daytime hypercapnia or hypoxemia. <sup>(6)</sup>
Obesity hypoventilation syndrome: BMI ≥ 30 with PaCO <sub>2</sub> ≥ 45 mmHg on arterial blood gas OR BMI ≥ 35 with inability to lie flat in bed, hypoxemia or serum bicarbonate ≥ 27 <sup>(2,7–9)</sup>
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 < 45% (see <b><u>NYHA table</u></b> )
Stroke (relative contraindication – either attended or unattended may be performed)
<b>Comorbid Sleep Disorders, known or suspected</b>
Periodic limb movement disorder
Parasomnia
REM behavior disorder
Nocturnal seizures
Narcolepsy or idiopathic hypersomnia <sup>(10)</sup>
Circadian rhythm disorder
Central sleep apnea or complex sleep apnea
Sleep-related hypoxemia or hypoventilation
Severe insomnia (i.e. refractory insomnia on medication, limited sleep time nightly)
<b>Technical Contraindications</b>
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 CSA based on <sup>(11)</sup>:



- 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) <sup>(10)</sup>**

- Polysomnography (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 (minimum is 6 hours). The MSLT the following day is used as the diagnostic test in individuals with <sup>(12,13)</sup>:
  - 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, hypnagogic 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 <sup>(14)</sup>**

- 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 <sup>(9,14)</sup>

- PSG is indicated when there is no known concurrent untreated sleep disorder, and the individual or an observer reports repetitive limb movements during sleep with any of the following:
  - Frequent awakenings
  - Difficulty maintaining sleep
  - Excessive daytime sleepiness
  - 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 - ADULTS

### Split Night Sleep Study <sup>(1,2)</sup>

- A split-night study PSG is indicated when criteria for attended PSG is met; **AND BOTH**
  - The apnea hypopnea index (AHI)  $\geq 15$  during the first 2 or more hours
  - $\geq 3$  hours available to perform the CPAP titration

### CPAP/BPAP Titration Study

- Indicated after a diagnostic PSG if <sup>(15)</sup>:
  - The AHI is  $\geq 15$ ), 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))
- Indicated after a split night study if <sup>(1)</sup>:
  - The diagnostic portion of the split does not demonstrate an AHI of  $\geq 15$ , 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.)<sup>(1,2)</sup>
- A single HST is inconclusive or negative with continued clinical suspicion of OSA<sup>(1,2)</sup>
- HST is positive (AHI  $\geq 15$ ), and an attended sleep study is needed for CPAP/BPAP titration<sup>(15)</sup>
- 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/BPAP titration<sup>(15)</sup>
- 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<sup>(16)</sup>:
  - 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
  - Reevaluation in individuals treated for OSA who develop or have a change in cardiovascular disease
  - Follow-up PSG in individuals with unexplained PAP device-generated data
- Upper airway stimulation therapy (hypoglossal nerve stimulator)<sup>(17,18)</sup>
  - Pre-implantation- re-evaluation of known OSA with:
    - PAP failure or PAP intolerance **AND**
    - BMI  $\leq 35$  **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.)

### Respiratory Indications <sup>(13)</sup>

- Habitual snoring with one or more below signs or symptoms of obstructive sleep apnea syndrome (OSAS) in order to differentiate from primary snoring <sup>(19)</sup>

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	Hypertension
Learning problems	
Daytime sleepiness	
Sleep enuresis (especially secondary enuresis)	

*Table adapted from Marcus et al. 2012*

**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) <sup>(20)</sup>
- 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) <sup>(20)</sup>
- Genetic disorders such as Achondroplasia, Down syndrome, Prader-Willi syndrome, Ehlers-Danlos syndrome, Pierre Robin sequence, sickle cell disease and mucopolysaccharidosis <sup>(21)</sup>

## **Non-Respiratory Indications** <sup>(22,23)</sup>

- Suspected narcolepsy (PSG/MSLT) as suggested by the presence of:
  - Excessive daytime sleepiness despite adequate sleep and not suspected to be related to another sleep disorder

\*Narcolepsy can also include symptoms such as cataplexy, hypnagogic 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 FOLLOW-UP PAP TITRATION STUDIES - PEDIATRICS (< 18 YRS.) <sup>(13,19)</sup>

- 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

### Codes

95782, 95783, 95805, 95807, 95808, 95810, 95811

## Applicable Lines of Business

<input checked="" type="checkbox"/>	CHIP (Children's Health Insurance Program)
<input checked="" type="checkbox"/>	Commercial
<input checked="" type="checkbox"/>	Exchange/Marketplace
<input checked="" type="checkbox"/>	Medicaid
<input checked="" type="checkbox"/>	Medicare Advantage

## BACKGROUND

### Definitions

#### ***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.

#### ***Epworth Sleepiness Scale (ESS)*** <sup>(24)</sup>

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***

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

#### ***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. A split night study is expected for most attended PSGs in those who have a high suspicion of OSA.

#### ***Craniofacial Abnormalities*** <sup>(2)</sup>

- 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.

### ***Treatment of OSA (1,11)***

Depending on the severity of the OSA, symptoms, and comorbidities, treatment 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 (BPAP), 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 BPAP 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.

### ***Upper Airway Stimulation Therapy (17,18,25)***

Inspire® Upper airway stimulation (UAS) system is an implantable nerve stimulator used to treat moderate to severe obstructive sleep apnea ( $15 \leq \text{AHI} \leq 65$ ). 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 ( $15 \leq \text{AHI} \leq 65$ ) 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 <sup>(26)</sup>**

<b>Class</b>	<b>Patient Symptoms</b>
Class I (Mild)	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation or shortness of breath.
Class II (Mild)	Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, shortness of breath or chest pain.
Class III (Moderate)	Marked limitation of physical activity. Comfortable at rest. Less than ordinary activity causes fatigue, palpitation, shortness of breath or chest pain.
Class IV (Severe)	Symptoms of heart failure at rest. Any physical activity causes further discomfort.

## **SUMMARY OF EVIDENCE**

### **International Consensus Statement on Obstructive Sleep Apnea <sup>(2)</sup>**

**Study Design:** This study is an international consensus statement on obstructive sleep apnea (OSA) created by a collaborative of multidisciplinary experts. The methodology involved literature review, evidence-based review, and evidence-based review with recommendations, with iterative reviews for consensus.

**Target Population:** The study focuses on adult patients with OSA.

**Key Factors:** The study addresses various aspects of OSA including syndrome definitions, pathophysiology, epidemiology, risk factors, screening methods, diagnostic testing types, treatment modalities, and the effects of OSA treatment on associated comorbidities. It emphasizes outcomes with positive airway pressure (PAP) and surgical treatments, and identifies knowledge gaps and research opportunities.

### **Clinical Practice Guideline for Diagnostic Testing for Adult Obstructive Sleep Apnea: An American Academy of Sleep Medicine Clinical Practice Guideline <sup>(1)</sup>**

**Study Design:** This is a clinical practice guideline for the diagnosis of OSA in adults, developed by the American Academy of Sleep Medicine (AASM). The guideline was created using a systematic review and the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) process.

**Target Population:** The guideline is intended for adult patients suspected of having OSA.

**Key Factors:** The guideline provides recommendations for the use of clinical tools, questionnaires, and prediction algorithms for diagnosing OSA, emphasizing the use of polysomnography (PSG) or home sleep apnea testing (HSAT) for diagnosis. It also addresses the use of split-night diagnostic protocols and the need for repeat PSG in certain cases.

## **Treatment of Adult Obstructive Sleep Apnea with Positive Airway Pressure: An American Academy of Sleep Medicine Clinical Practice Guideline <sup>(15)</sup>**

**Study Design:** This is a clinical practice guideline for the treatment of adult OSA with positive airway pressure (PAP), developed by the AASM. The guideline was created using a systematic review and the GRADE process.

**Target Population:** The guideline is intended for adult patients diagnosed with OSA.

**Key Factors:** The guideline provides recommendations for the use of PAP therapy, including continuous PAP (CPAP), auto-adjusting PAP (APAP), and bilevel PAP (BPAP). It emphasizes the importance of patient education, behavioral interventions, and telemonitoring to improve adherence to PAP therapy. The guideline also addresses the initiation of PAP therapy using either APAP at home or in-laboratory PAP titration

## **ANALYSIS OF EVIDENCE**

### **Shared Findings <sup>(1,2,15)</sup>:**

- **Diagnosis and Screening:**
  - All three articles emphasize the importance of accurate diagnosis and screening for OSA. Chang et al 2023 discusses various diagnostic tools and methodologies, including polysomnography (PSG) and home sleep apnea testing (HSAT). Kapur et al 2017 also highlights the use of PSG and HSAT for diagnosing OSA, recommending PSG for patients with significant comorbidities. Patil et al 2019 stresses that treatment with Positive Airway Pressure (PAP) should be based on a diagnosis established using objective sleep apnea testing.
- **Treatment Modalities:**
  - The articles agree on the effectiveness of PAP therapy for treating OSA. Patil et al 2019 provides detailed guidelines on using PAP therapy, including CPAP, APAP, and BPAP, and emphasizes the importance of educational and behavioral interventions to improve adherence. Chang et al 2023 discusses various treatment modalities, including PAP and surgical options, and highlights the need for individualized treatment plans. Kapur et al 2017 also mentions PAP therapy as a standard treatment for OSA.
- **Impact on Comorbidities:**
  - All three articles recognize the significant impact of OSA on comorbid conditions such as cardiovascular disease, hypertension, and diabetes. Chang et al 2023 discusses the association between OSA and various comorbidities, including cardiovascular and metabolic diseases. Kapur et al 2017 highlights the prevalence of OSA in patients with comorbid conditions and the importance of accurate diagnosis to manage these conditions effectively. Patil et al 2019 suggests using PAP therapy to treat OSA in adults with comorbid hypertension

### Conclusion <sup>(1,2,15)</sup>:

The three articles collectively provide a comprehensive overview of the evidence for diagnosing and treating OSA. They share common findings on the importance of accurate diagnosis, the effectiveness of PAP therapy, and the impact of OSA on comorbid conditions. However, they differ in their diagnostic recommendations, treatment guidelines, and the quality of evidence used to support their conclusions. Chang et al 2023 offers a broad review of diagnostic tools and treatment modalities, Kapur et al 2017 focuses on diagnostic recommendations using PSG and HSAT, and Patil et al 2019 provides detailed guidelines for PAP therapy and emphasizes the importance of educational and behavioral interventions to improve adherence.

## POLICY HISTORY

Date	Summary
May 2025	<ul style="list-style-type: none"> <li>● Guideline number changed from 401-2 to 2050</li> <li>● Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices</li> <li>● Updated reference and background section</li> <li>● Updated high risk population</li> <li>● Clarified severe insomnia</li> <li>● Added CPT codes: 95782, 95783</li> <li>● Adjusted applicable lines of business – Medicare Advantage checked</li> <li>● Added a Summary of Evidence and Analysis of Evidence</li> </ul>
May 2024	<ul style="list-style-type: none"> <li>● Updated references</li> <li>● Clarified contraindications re: stroke</li> <li>● Changed BMI criteria for upper airway stimulation</li> <li>● Adjusted narcolepsy indications</li> <li>● Edited background</li> </ul>

## LEGAL AND COMPLIANCE

### Guideline Approval

#### Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

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*Evolent Clinical Guidelines are comprehensive and inclusive of various procedural applications for each service type. Our guidelines may be used to supplement Medicare criteria when such criteria is not fully established. When Medicare criteria is determined to not be fully established, we only reference the relevant portion of the corresponding Evolent Clinical Guideline that is applicable to the specific service or item requested in order to determine medical necessity.*

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# Evolent Clinical Guideline 2051 for Sleep Study Unattended (Home Sleep Test)

<b>Guideline Number:</b> Evolent_CG_2051	<b><u>Applicable Codes</u></b>	
<b><i>"Evolent" refers to Evolent Health LLC and Evolent Specialty Services, Inc.</i></b> <b>© 2013 - 2026 Evolent. All rights Reserved</b>		
<b>Original Date:</b> September 2013	<b>Last Revised Date:</b> May 2025	<b>Implementation Date:</b> January 2026

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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.*
- *The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice 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 <sup>(1)</sup>

- 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  $\geq 30$  or large neck circumference ( $\geq 17$  inches in men,  $\geq 16$  inches in women) <sup>(2)</sup>
  - A member of a high-risk population (see below) **AND** any **TWO** of the following <sup>(1,2)</sup>
    - 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  $\geq 30$  (if above high-risk feature is not BMI  $\geq 35$  or preop for bariatric surgery)
- NOTE:** One or more of the following classifies an individual as high risk:
- Congestive heart failure, Class I or II
  - Atrial fibrillation
  - Chronic kidney disease (Stage III or higher with eGFR  $< 60$ )
  - Treatment refractory hypertension
  - Type 2 diabetes
  - Nocturnal dysrhythmias
  - Pulmonary hypertension
  - Class 2 or 3 Obesity (BMI  $\geq 35$ )
  - Preoperative for bariatric surgery
  - Coronary artery disease
  - Polycystic ovarian syndrome (PCOS)
  - Craniofacial or upper airway soft tissue abnormalities (see **Craniofacial Abnormalities**)
- Commercial drivers and individuals in safety-sensitive transportation occupations with any of the following <sup>(3–5)</sup>
  - BMI  $\geq 40$  kg/m<sup>2</sup>
  - BMI  $\geq 33$  kg/m<sup>2</sup> 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 <sup>(6)</sup>

<b>Comorbid Medical Conditions</b>
Moderate to severe pulmonary disease with: FEV1/FVC < 0.7 and FEV1 < 80% predicted, oxygen use, daytime hypercapnia or hypoxemia <sup>(7)</sup>
Obesity hypoventilation syndrome: BMI ≥ 30 with PaCO <sub>2</sub> ≥ 45 mmHg on arterial blood gas OR BMI ≥ 35 with inability to lie flat in bed, hypoxemia or serum bicarbonate ≥ 27 <sup>(2,8,9)</sup>
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 < 45% (see <a href="#">NYHA table</a> )
Stroke (relative contraindication – either attended or unattended may be performed)
<b>Comorbid Sleep Disorders, known or suspected</b>
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 (i.e. refractory insomnia on medication, limited sleep time nightly)
<b>Technical Contraindications</b>
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 <sup>(1)</sup>
- 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\_CG\_2050 - 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 <sup>(6)</sup>

## INDICATIONS FOR REPEAT HOME SLEEP STUDY <sup>(10)</sup>

- 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 with any **ONE** of the following
    - Have recurrent symptoms or
    - Develop or have a change in cardiovascular disease
  - Re-evaluation of the diagnosis after a change in  $\geq 10\%$  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 <sup>(11,12)</sup>
  - Pre-implantation re-evaluation of known OSA with:
    - PAP failure or PAP intolerance **AND**
    - BMI  $\leq 35$  **AND**
    - No recent sleep study OR 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

### Codes

95800, 95801, 95806, G0398, G0399, G0400

## Applicable Lines of Business

<input checked="" type="checkbox"/>	CHIP (Children's Health Insurance Program)
<input checked="" type="checkbox"/>	Commercial
<input checked="" type="checkbox"/>	Exchange/Marketplace
<input checked="" type="checkbox"/>	Medicaid
<input checked="" type="checkbox"/>	Medicare Advantage

## BACKGROUND

### Definitions

#### ***Epworth Sleepiness Scale (ESS)*** <sup>(13)</sup>

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*** <sup>(2)</sup>

- 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)

#### ***Treatment of OSA*** <sup>(1,14)</sup>

Depending on the severity of the OSA, symptoms, and comorbidities, treatment 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 (BPAP), 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 BPAP 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.

### ***Upper Airway Stimulation Therapy*** <sup>(11,12,15)</sup>

Inspire® Upper airway stimulation (UAS) system is an implantable nerve stimulator used to treat moderate to severe obstructive sleep apnea ( $15 \leq \text{AHI} \leq 65$ ). 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 ( $15 \leq \text{AHI} \leq 65$ ) 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*** <sup>(16)</sup>

<b>Class</b>	<b>Patient Symptoms</b>
Class I (Mild)	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation or shortness of breath.
Class II (Mild)	Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, shortness of breath or chest pain.
Class III (Moderate)	Marked limitation of physical activity. Comfortable at rest. Less than ordinary activity causes fatigue, palpitation, shortness of breath or chest pain.
Class IV (Severe)	Symptoms of heart failure at rest. Any physical activity causes further discomfort.

## SUMMARY OF EVIDENCE

### **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 <sup>(10)</sup>**

**Study Design:** This study is a clinical guidance statement from the American Academy of Sleep Medicine (AASM) regarding the use of polysomnography (PSG) and home sleep apnea tests (HSATs) for the longitudinal management of obstructive sleep apnea (OSA) in adults. The guidance was developed by a task force of sleep medicine experts who reviewed the literature and provided expert opinion.

**Target Population:** The target population includes adult patients with a diagnosis of OSA who are undergoing treatment.

#### **Key Factors:**

- The guidance provides recommendations for follow-up PSG and HSAT in various clinical scenarios, such as recurrent or persistent symptoms despite good PAP adherence, response to non-PAP interventions, significant weight changes, and changes in cardiovascular disease.
- It emphasizes the importance of clinical judgment in determining the need for follow-up testing.
- The guidance also highlights the limitations of HSAT in certain patient populations and the need for PSG in specific cases.

### **Clinical Guidelines for the Use of Unattended Portable Monitors in the Diagnosis of Obstructive Sleep Apnea in Adult Patients <sup>(6)</sup>**

**Study Design:** This study is a clinical guideline for the use of unattended portable monitors (PM) in the diagnosis of obstructive sleep apnea (OSA) in adult patients, developed by the Portable Monitoring Task Force of the American Academy of Sleep Medicine (AASM). The guideline is based on a review of the literature and consensus among task force members.

**Target Population:** The target population includes adult patients suspected of having OSA.

#### **Key Factors:**

- The guideline provides recommendations for the use of PM as an alternative to PSG for diagnosing OSA in patients with a high pretest probability of moderate to severe OSA.
- It emphasizes the need for a comprehensive sleep evaluation and the supervision of PM by a board-certified sleep specialist.
- The guideline also addresses the limitations of PM in patients with significant comorbid medical conditions and other sleep disorders.
- Recommendations include the use of specific sensors for PM and the importance of manual scoring and review of raw data by qualified personnel.

## **Clinical Practice Guideline for Diagnostic Testing for Adult Obstructive Sleep Apnea: An American Academy of Sleep Medicine Clinical Practice Guideline <sup>(1)</sup>**

**Study Design:** This study is a clinical practice guideline for the diagnosis of obstructive sleep apnea (OSA) in adults, commissioned by the American Academy of Sleep Medicine (AASM). The guideline was developed by a task force of sleep medicine experts who conducted a systematic review of the literature and used the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) process to assess the evidence.

**Target Population:** The target population includes adult patients suspected of having OSA.

### **Key Factors:**

- The guideline provides recommendations for the use of polysomnography (PSG) and home sleep apnea testing (HSAT) for diagnosing OSA.
- It emphasizes the importance of a comprehensive sleep evaluation and adequate follow-up.
- Recommendations include the use of clinical tools, questionnaires, and prediction algorithms, but only in conjunction with PSG or HSAT.
- The guideline also addresses the use of split-night diagnostic protocols and the need for repeat PSG in certain cases

## **ANALYSIS OF EVIDENCE**

### **Shared Findings <sup>(1,6,10)</sup>:**

- **Use of Polysomnography (PSG) and Home Sleep Apnea Tests (HSATs):** All three articles emphasize the importance of PSG and HSATs in diagnosing and managing obstructive sleep apnea (OSA). They agree that PSG is the gold standard for diagnosing OSA, while HSATs can be used as an alternative in specific circumstances.
- **Clinical Guidelines and Recommendations:** The articles provide clinical guidelines and recommendations for the use of PSG and HSATs. They highlight the need for comprehensive sleep evaluations and follow-up to ensure accurate diagnosis and effective treatment of OSA.
- **Patient Populations and Comorbidities:** The articles discuss the importance of considering patient populations and comorbidities when choosing between PSG and HSATs. They agree that certain patient populations, such as those with significant cardiopulmonary diseases, neuromuscular conditions, or severe insomnia, may require PSG for accurate diagnosis.

### **Conclusion <sup>(1,6,10)</sup>**

In summary, while all three articles agree on the importance of PSG and HSATs in diagnosing and managing OSA, they differ in their specific recommendations for follow-up testing, technological considerations, and clinical practice implementation. Caples et al 2021 focuses on the longitudinal management of OSA, Collop et al 2007 emphasizes the use of unattended portable monitors, and Kapur et al 2017 provides a detailed decision tree for diagnosing OSA in uncomplicated adult patients. These differences highlight the evolving nature of clinical



guidelines and the need for tailored approaches based on patient populations and specific clinical scenarios.

## POLICY HISTORY

Date	Summary
May 2025	<ul style="list-style-type: none"> <li>Guideline number changed from 402 to 2051</li> <li>Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices</li> <li>Updated references and background sections</li> <li>Updated high risk population</li> <li>Clarified severe insomnia (i.e. refractory insomnia on medication, limited sleep time nightly)</li> <li>Added a Summary of Evidence and Analysis of Evidence</li> </ul>
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#### Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

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