Medical Policy Criteria: Obstructive Sleep Apnea Diagnosis and Treatment (Commercial and Medicare Plans)

<table>
<thead>
<tr>
<th>POLICY NUMBER</th>
<th>LAST REVIEW DATE</th>
<th>APPROVED BY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG.MM.ME.25p</td>
<td>07/12/2019</td>
<td>MPC (Medical Policy Committee)</td>
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**Definitions**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>Apnea</td>
<td>The cessation of airflow for at least 10 seconds.</td>
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<tr>
<td>Hypopnea</td>
<td>An abnormal respiratory event lasting at least 10 seconds associated with at least a 30% reduction in thoracoabdominal movement or airflow as compared to baseline, and with at least a 3% decrease in oxygen saturation.</td>
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<tr>
<td>Apnea-hypopnea index (AHI)</td>
<td>The average number of apneas and hypopneas per hour of sleep without the use of a positive airway pressure device.</td>
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<tr>
<td>Respiratory disturbance index (RDI)</td>
<td>The average number of apneas plus hypopneas per hour of recording without the use of a positive airway pressure device and specifically does NOT include the number of RERAs (respiratory effort related arousals).</td>
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<tr>
<td>Obstructive sleep apnea (OSA)</td>
<td>Characterized by frequent episodes of hypopnea or apnea during sleep. The level of obstruction (retropalatal, retrolingual, nasal or nasopharyngeal) is variable.</td>
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<tr>
<td>Mild apnea</td>
<td>AHI or RDI of 5–14 episodes of apnea or slowed breathing per hour with ≥ 88% oxygen saturation in the blood. Symptoms may include drowsiness or falling asleep during activities that do not require much attention, such as watching TV or reading. These symptoms may cause only minor problems with work or social function.</td>
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<tr>
<td>Moderate apnea</td>
<td>AHI or RDI of 15–30 episodes of apnea or slowed breathing per hour with 80% to 85% oxygen saturation in the blood. Symptoms may include drowsiness or falling asleep during activities that require some attention, such as attending a concert or a meeting. These symptoms may cause moderate problems with work or social function.</td>
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<tr>
<td>Severe apnea</td>
<td>AHI or RDI of &gt; 30 episodes of apnea or slowed breathing per hour with ≤ 79% oxygen saturation in the blood. Symptoms may include drowsiness or falling asleep during activities that require active attention, such as eating, talking, driving or walking. These symptoms may cause severe problems with work or social function.</td>
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**Coding Criteria:**

In-lab sleep facility polysomnography (PSG) (type I) — technician-attended comprehensive overnight diagnostic sleep test furnished in a sleep laboratory facility. A technologist supervises the recording during sleep time and has the ability to intervene if needed. Type 1 testing includes at least electroencephalography (EEG), electro-oculography (EOG), electromyography (EMG), heart rate or electrocardiography (ECG), airflow, breathing/respiratory effort and arterial oxygen saturation.

Portable sleep study monitor (home sleep test [HST]) (types II, III and IV) — three categories of portable monitors have been developed for the diagnosis of OSA. HSTs may be technician-attended or unattended.
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1. Type II device — monitors and records a minimum of 7 channels (e.g., EEG, EOG, EMG, ECG-heart rate, airflow, respiratory movement/effort and oxygen saturation [SaO2]).
2. Type III device — monitors and records a minimum of 4 channels (e.g., respiratory movement/effort, airflow ECG-heart rate and SaO2).
3. Type IV device — 3 or more channels that allow measurement of AHI/RDI, and must include airflow, respiratory effort and oximetry.

(Note: Type IV devices that do not report AHI/RDI based on direct measurement or airflow or thoracoabdominal movements are excluded unless they are approved by the Centers for Medicare & Medicaid Services (CMS).)

Guidelines
(All sleep studies [including attended in-lab facility sleep studies] require preauthorization effective for dates of service 09/01/2018.)

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<td>Bilevel (BiPAP), demand positive airway pressure (DPAP), variable positive airway pressure (VPAP), adaptive servoventilation (VPAP Adapt SV), auto-titrating positive airway pressure (AutoPap) and Continuous Positive (CPAP)</td>
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<tr>
<td>Post OSA treatment surveillance</td>
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Section 1: OSA diagnostic sleep testing
Members are eligible for technician-attended or unattended sleep studies for the diagnosis of OSA when criteria A, B or C (pediatrics) are met.

A. Unattended (portable monitor) HST — for members ≥ 19 years of age with a high pre-test probability of OSA who do not have atypical or complicating symptoms (1, 2, 3 or 4):

1. Presence of ≥ 3 of the most common symptoms:
   a. Loud snoring
   b. Episodes of apnea, choking, gasping, as observed by bed partner
   c. Excessive daytime fatigue
2. Presence of both:
   a. Loud snoring or witnessed episodes of apnea, choking or gasping
   b. Epworth Scale score ≥ 9 or loud snoring
3. Epworth Scale score > 9 or loud snoring
   AND
   a. One of the following:
      i. Body mass index (BMI) >27
      ii. Coronary artery disease (angina or myocardial infarction)
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iii. Cognitive dysfunction
iv. Depression
v. Diabetes or metabolic syndrome
vi. Erectile dysfunction
vii. Headaches on awakening
viii. Heart failure
ix. Hypertension
x. Mood disorder
xi. Nighttime awakening with gastroesophageal reflux
xii. Nocturia
xiii. Pulmonary hypertension
xiv. Stroke or TIA

4. Presence of both:
   a. Epworth Scale score > 9
   b. Extreme daytime sleepiness

B. Attended (in-lab sleep facility) PSG — for members ≥ 19 years of age with a high pre-test probability of OSA who present with atypical or complicating symptoms. (Criteria “A” must first be met along with any of the following):

1. Significant co-morbidities that could degrade accuracy of testing such as either of the following:
   a. Moderate-severe heart failure (EF <45) if treatment of heart disease has been optimized
   b. Chronic obstructive pulmonary disease and restrictive pulmonary disorders: (FEV1 <30 or PCO2 > 45)
   c. Atrial fibrillation
   d. Significant tachyarrhythmia or bradyarrhythmia
2. Cognitive impairment (inability to follow simple instructions) or physical impairment resulting in inability to apply the home testing equipment when another individual is not available to assist with this task.
3. Suspected or established diagnosis of either: Central Sleep Apnea, Periodic Limb Movement Disorder, Narcolepsy, Idiopathic Hypersomnia, Parasomnia or Nocturnal Seizures
4. Chronic opiate use
5. Member is oxygen dependent

Cases where unattended monitoring is technically inadequate or fails to establish the diagnosis of OSA in patients with high pretest probability are subject to Medical Director review.

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1 A Split-night PSG, whereby the final portion is utilized for CPAP titration, may be medically necessary. Occasionally, an additional full-night PSG may be necessary for CPAP titration if during the split-night study the vast majority of obstructive respiratory events remained present or if the prescribed CPAP treatment failed to control the member’s symptoms.

A video-EEG-PSG (PSG with video monitoring of body positions and extended EEG channels) may be medically necessary to differentiate a diagnosis of paroxysmal arousals or other sleep disruptions that are thought to be seizure related when the initial clinical evaluation and results of a standard EEG are inconclusive.
Limitations/Exclusions
Sleep studies are not medically necessary when snoring or extreme daytime sleepiness are the sole reported symptoms.

The following are not considered medically necessary for diagnosing sleep disorders, as they are regarded as investigational:

a. Actigraphy- (CPT 95803) - covered only for Medicare members eff. 10/12/19
b. Wheeze rate detectors

C. Attended PSG — for members ≤ 18 years of age when any of the following criteria (1–11) are met:

1. Habitual snoring in association with ≥ 1 of the following (a–e) below:
   a. Restless or disturbed sleep
   b. Behavioral disturbance or learning disorders including deterioration in academic performance, attention deficit disorder, hyperactivity disorder
   c. Frequent awakenings
   d. Enuresis (bedwetting)
   e. Growth retardation or failure to thrive
2. Excessive daytime somnolence or altered mental status not explained by other conditions
3. Polycythemia not explained by other conditions
4. Cor pulmonale not explained by other conditions
5. Witnessed apnea with duration > 2 respiratory cycles
6. Labored breathing during sleep
7. Hypertrophy of the tonsils or adenoids in members at significant surgical risk (in order to confirm the presence or absence of OSA) to facilitate clinical management decisions
8. Suspected congenital central alveolar hypoventilation syndrome or sleep-related hypoventilation due to neuromuscular disease or chest wall deformities
9. Clinical evidence of a sleep-related breathing disorder in infants who have experienced an apparent life-threatening event
10. For exclusion of OSA in a member who has undergone adenotonsillectomy for suspected OSA > 8 weeks previously
11. The initial study was inadequate, equivocal or non-diagnostic and the child’s parents or caregiver report that the breathing patterns observed at home were different from those during testing

Section 2: Surgical management
A. Tonsillectomy (with or without adenoidectomy) for members ≤ 18 years of age and ≥ 1 (See MCG # ACG: A-0181 [AC])

B. Uvulopalatopharyngoplasty (UPPP) — Member must meet all of the following criteria for coverage:

1. Diagnosed OSA
2. One of the following:
   a. Members with moderate OSA (AHI/RDI 15–30) to severe OSA (AHI/RDI > 30)
   b. Members with mild OSA (AHI/RDI 5–14) to moderate OSA (AHI/RDI 15–30) with documented symptoms of either:
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i. Excessive daytime sleepiness, impaired cognition, mood disorders or insomnia
ii. Hypertension, ischemic heart disease or history of stroke

C. Failure to respond to or tolerate continuous positive airway pressure (CPAP) or any positive airway pressure (PAP) device, or other appropriate noninvasive treatment
d. Counseling from a physician with recognized training in sleep disorders about the potential benefits and risks of the surgery
e. Evidence of retropalatal or combination retropalatal/retrolingual obstruction as the OSA cause

Genioglossal advancement, with or without resuspension of the hyoid bone, may be performed with or instead of UPPP.

Limitations/Exclusions
UPPP for the treatment of snoring in the absence of OSA is not considered medically necessary.

C. Mandibular maxillary osteotomy and advancement — both of the following criteria must be met:

1. Satisfaction of criteria a–d above
2. Evidence of retrolingual obstruction as the OSA cause, or previous failure of UPPP to correct the OSA

Separate repositioning of teeth is not considered necessary except under unusual circumstances but is covered if necessary. Additionally, application of an interdental fixation device is occasionally necessary and is a covered service (see Section 3: Oral Appliance Therapy)

D. Tracheostomy — may be indicated for OSA if, in the judgment of the attending physician, the member is unresponsive to other means of treatment, or in cases where other means of treatment would be ineffective or contraindicated.

When OSA is caused by discrete anatomic abnormalities of the upper airway (e.g., enlarged tonsils or enlarged tongue), surgery to correct these abnormalities is covered if medically necessary, based on adequate documentation in the medical record supporting the significant contribution.

E. Hypoglossal nerve stimulation (HGNS) (eff.4/8/2019) – may be considered if all of the following are met:

1. Age ≥ 22
2. Moderate to severe obstruction sleep apnea, with apnea hypopnea index on polysomnography between 15 and 65 with less than 25% central apneas
3. Failure of alternative therapies for the treatment of obstructive sleep apnea due to both:
   a. Inability or unwillingness to use CPAP and/or bilevel PAP after a minimum of a one-month trial, as demonstrated by documentation of subjective (i.e. side effects or device-related problems) and/or objective (i.e. titration study results and/or downloaded data reports) assessment of response to PAP
   b. Failure of other non-invasive treatments for obstructive sleep apnea, or
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- Documentation that alternative treatments were considered and deemed inappropriate, including oral appliance therapy
- BMI ≤ 32
- Absence of complete concentric collapse on drug induced endoscopy
- Surgical consultation indicating absence of other anatomical findings that would interfere with performance or evaluation of the device

Limitations/Exclusions
The following procedures are not considered medically necessary, as they are regarded as investigational:

1. Palatal implant or stiffening procedures
2. Electro-sleep therapy
3. Laser-assisted uvulopalatoplasty
4. Radiofrequency tissue-volume reduction somnoplasty for upper airway obstruction
5. Tongue suspension/suturing procedures
6. Vagus nerve stimulation

Section 3: Oral appliance therapy
Members are eligible for custom-fitted oral appliances for OSA for either of the following indications:

1. Members with mild asymptomatic OSA (AHI/RDI 5–14; see Section # 4 — CPAP, BiPAP)
2. Members with moderate OSA (AHI/RDI 15–30) to severe OSA (AHI/RDI > 30) who have had a trial of nasal CPAP or any PAP device but are intolerant to treatment

Oral appliance therapy is also indicated for members who are not candidates for tonsillectomy and adenoidectomy, craniofacial operations or tracheostomy.

Limitations/Exclusions
Oral appliance therapy for members with primary snoring (characterized by loud upper-airway breathing sounds in sleep without episodes of apnea) is not considered medically necessary.

Section 4: Positive airway pressure (PAP) devices
Bilevel (BiPAP), demand positive airway pressure (DPAP), variable positive airway pressure (VPAP), adaptive servoventilation (VPAP Adapt SV), auto-titrating positive airway pressure (AutoPAP) and Continuous Positive (CPAP)

Members with the durable medical equipment (DME) benefit are eligible for PAP device coverage when the following criteria are applicable.

1. CPAP: Positive OSA diagnosis and either:
   a. Members with moderate–severe OSA (AHI/RDI ≥ 15)
   b. Members with mild OSA (AHI/RDI 5–14) with documented symptoms of either:
      i. Excessive daytime sleepiness, impaired cognition, mood disorders or insomnia
      ii. Hypertension, ischemic heart disease or history of stroke
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Either an unheated or heated humidifier is covered when ordered by the treating physician for use with a covered PAP device.

2. BiPAP (or similar device): Can be used for sleep apnea instead of CPAP under either of the following circumstances:
   a. Documentation of failure to eliminate OSA with CPAP pressure of < 20 cm H2O
   b. Failure to tolerate CPAP after both a clinical trial and a CPAP titration study

Continued CPAP Coverage — Conversion from rental to purchase
CPAP compliance is defined as use of CPAP ≥ 4 hours per night on 70% of nights during a consecutive thirty (30) day period anytime during the first three (3) months of initial usage.

Adherence to therapy is evidenced by a CPAP Compliance Report detailing hours of usage per night based on actual nights used.

A CPAP device will be purchased if adherence to therapy within the 90 day period is demonstrated per the report. Failure to achieve compliance within this period will result in the denial of the device as not medically necessary.

Members should receive a face-to-face clinical re-evaluation by the treating physician within two (2) months of initiating therapy.

Limitations/Exclusions
1. A CPAP device that is obtained if the criteria have not been met will be denied as not medically necessary.
2. Accessories used with the CPAP device will be denied as not medically necessary if they are obtained when the CPAP criteria have not been met.

Section 5: Post OSA Treatment Surveillance
Repeat sleep studies may be considered medically necessary up to two times a year when any of the following are applicable:
1. To evaluate PAP treatment effectiveness
2. To determine whether PAP treatment settings require adjustment
3. To determine whether PAP treatment continuation is necessary
4. To assess treatment response post upper airway surgical procedures and after initial treatment with oral appliances
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Revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>06/11/2018</td>
<td>Emblem Health Policy modified for ConnectiCare business rules</td>
</tr>
<tr>
<td>02/08/2019</td>
<td>Added the following indications to the attended PSG section for adults: Cognitive/physical impairment; suspected/established diagnosis of central sleep apnea, periodic limb movement disorder, narcolepsy, idiopathic hypersomnia, parasomnia or nocturnal Seizures; chronic opiate use; and oxygen dependency Added positive coverage criteria for hypoglossal nerve stimulation (HGNS) (Change eff. 4/8/2019)</td>
</tr>
<tr>
<td>04/12/19</td>
<td>Revised attended PSG section regarding factors that could degrade accuracy of testing; severe heart failure (EF ≤ 15) changed to moderate–severe heart failure (EF &lt; 45 [if treatment of heart disease has been optimized])</td>
</tr>
<tr>
<td>07/12/19</td>
<td>Changed the decrease in oxygen saturation from 4% to 3% within the hypopnea definition Actigraphy coverage added for Medicare Members eff. 10/12/19</td>
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References


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Specialty-matched clinical peer review.


Appendix

Epworth Sleep Scale: page 10

Clinical Pathway: OSA Diagnosis: page 11

Clinical Pathway: OSA Treatment: page 12
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**Epworth Sleepiness Scale**

Use the following scale to choose the most appropriate number for each situation:

- **0** = would **never** doze or sleep
- **1** = **slight** chance of dozing or sleeping
- **2** = **moderate** chance of dozing or sleeping
- **3** = **high** chance of dozing or sleeping

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of sleeping or dozing</th>
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<tbody>
<tr>
<td>Sitting and reading</td>
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</tr>
<tr>
<td>Watching TV</td>
<td></td>
</tr>
<tr>
<td>Sitting inactive in a public place</td>
<td></td>
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<tr>
<td>Being a passenger in a motor vehicle for an hour or more</td>
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<tr>
<td>Lying down in the afternoon</td>
<td></td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td></td>
</tr>
<tr>
<td>Sitting quietly after lunch (no alcohol)</td>
<td></td>
</tr>
<tr>
<td>Stopped for a few minutes in traffic while driving</td>
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**Total points for your Epworth Scale**

**Epworth score =**
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Part I: Diagnosis of Obstructive Sleep Apnea

Notes:
*There is consensus that sleep testing is appropriate in patients who have signs and symptoms suggestive of OSA. Sleep testing is not appropriate for general population screening or for all patients who snore. There has not been universal agreement as to a minimal set of signs and symptoms that should trigger a sleep study.

The clusters of signs, symptoms, and associated conditions as listed on these pages represent typical and reasonable scenarios. Individual cases may require exceptions to this algorithm.

**The Epworth Sleepiness Scale is a tool to assist clinicians in quantifying sleepiness which can be useful for assessing the need for OSA testing and the response to OSA interventions. It indicates the likelihood of falling asleep in commonly encountered situations. Another tool, the Berlin questionnaire includes questions regarding weight change, snoring loudness, snoring frequency, witnessed breathing pauses during sleep, daytime fatigue and hypertension. These responses correlate with subsequently demonstrated OSA on sleep testing.
Part II: Treatment of Obstructive Sleep Apnea

- AHI < 5 regardless of testing source
  - Further evaluation if symptoms persist and interfere with function
  - More detailed evaluation for conditions other than OSA (Depression, occult malignancy, inadequate sleep time)
  - If symptoms persist beyond 6 months consider Sleep Medicine consultation

- AHI of > 15 Events per hour (regardless of testing source)
  - AHI of 5-14 (regardless of testing source)
  - One of symptoms or conditions from box III listed on previous page
  - Consider ENT evaluation regarding restriction and/or airway obstruction amenable to surgical intervention or dental device if indicated

- Proceed to auto-titrating PAP therapy
  - OSA Education
  - Training on use of auto-titrating PAP equipment including mask fit and comfort, use of PAP therapy on nightly basis
  - Follow-up to assure understanding of equipment and compliance
  - Life-style changes as appropriate (weight reduction, smoking cessation, alcohol reduction, increased average total sleep time, exercise program, sleep hygiene)
  - Consider ENT evaluation regarding restriction and/or airway obstruction amenable to surgical intervention or dental device if indicated

Determine if CPAP is being used and if not compliant, explore reasons

- Is CPAP being used as prescribed?
  - Yes
  - Increase individualized compliance activities - Include Cognitive Behavioral interventions
  - Reassess impact on ESS. Go to A
  - No
  - Consider ENT evaluation regarding restriction and/or airway obstruction amenable to surgical intervention or dental device if indicated

- No
  - Re-evaluate 2 months after beginning auto-titrating CPAP

Evaluate again at 6 months and annually

- Intolerant to CPAP?
  - Yes
  - Apply enhanced compliance and desensitization techniques
  - Re-evaluate frequently until usage goals or improvements are achieved
  - End
  - No
  - Case A

END

1. CPAP titration study may be indicated
2. Indications for dental device
   1. Milder OSA
   2. Positional Apnea
   3. Absence of Nasal Obstruction