

Obstructive Sleep Apnea Diagnosis and Treatment

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Definitions

Apnea	The cessation of airflow for at least 10 seconds.
Hypopnea	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.
Apnea-hypopnea index (AHI)	The average number of apneas and hypopneas per hour of sleep without the use of a positive airway pressure device.
Respiratory disturbance index (RDI)	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).
Obstructive sleep apnea (OSA)	Characterized by frequent episodes of hypopnea or apnea during sleep. The level of obstruction (retropalatal, retrolingual, nasal or nasopharyngeal) is variable.
Mild apnea	AHI or RDI of 5–14 episodes of apnea or slowed breathing per hour with $\geq 88\%$ 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.
Moderate apnea	<u>AHI or RDI of 15–30</u> 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.
Severe apnea	AHI or RDI of > 30 episodes of apnea or slowed breathing per hour with $\leq 79\%$ 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.

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 can 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.

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 CMS)

Guidelines

(All sleep studies [including attended in-lab facility sleep studies] require prior authorization from EmblemHealth)

Criteria Title	Section
OSA diagnostic sleep testing	1
<u>Surgical management</u>	2
<u>Oral appliance therapy</u>	3
<u>Positive airway pressure (pap) devices</u> 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)	4
<u>Post OSA treatment surveillance</u>	5

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, 4, 5 or 6):

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)
 - 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
5. Atrial fibrillation
6. Chronic insomnia (sleep onset or maintenance type)

B. Attended (in-lab sleep facility) PSG¹ — 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 or NYHA Class III or IV) 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

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.

- d. Significant tachyarrhythmia or bradyarrhythmia
2. Cognitive impairment (inability to follow simple instructions) or physical impairment resulting in inability to apply the home sleep 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
6. Neuromuscular disease (e.g., Parkinson's disease, myotonic dystrophy, amyotrophic lateral sclerosis)
7. History of stroke
8. Epilepsy

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.

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 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
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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:
 - 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 2: [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 \geq 22
2. Moderate to severe obstructive 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 documentation that alternative treatments were considered and deemed inappropriate, including oral appliance therapy
4. BMI \leq 32
5. Absence of complete concentric collapse on drug induced endoscopy
6. 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

Covered for **Medicaid members only** when **one** of the following criteria is met:

- 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:
 - 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 retrolingual obstruction as the OSA cause
5. Tongue suspension/suturing procedures
 6. Vagus nerve stimulation
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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 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

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 2 months of initiating therapy.

Accessories

A7031	1 per month
A7032/A7033	2 per 1 month
A7034	1 per 3 months
A7035	1 per 6 months
A7036	1 per 6 months
A7037	1 per 3 months
A7038	2 per 1 month
A7039	1 per 6 months

CPAP accessories are covered when the coverage criteria for the device are met. The table represents the usual maximum amount of accessories expected to be medically necessary.

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.
3. Quantities of supplies greater than those described in this guideline as the usual maximum amounts, in the absence of documentation clearly explaining the medical necessity of the excess quantities, will be denied as not medically necessary.

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

Revision History

4/22/2021	Added indications to Unattended (portable monitor) criteria: Atrial fibrillation, Chronic insomnia (sleep onset or maintenance type) Added indications to Attended (in-sleep facility) criteria: Neuromuscular disease (e.g., Parkinson's disease, myotonic dystrophy, amyotrophic lateral sclerosis), History of stroke, Epilepsy
7/12/19	Changed the decrease in oxygen saturation from 4% to 3% within the hypopnea definition Actigraphy coverage added for Medicare members eff. 10/12/19
4/12/19	Revised attended PSG section regarding factors that could degrade accuracy of testing; severe heart failure (EF ≤ 15) changed to moderate–severe heart failure (EF < 45 [if treatment of heart disease has been optimized])
2/8/2019	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) eff. 4/8/2019
2/22/2018	Added actigraphy and wheeze rate detectors to list of investigational procedures for diagnosing sleep disorders Added vagus nerve stimulation to list of investigational procedures for treatment
11/16/2017	Removed suggestive symptom criteria from Attended (facility-based) sleep study section for members ≥ 19 years of age
3/17/2017	Added pediatric PSG criteria
8/12/2016	Added coverage criteria for radiofrequency tissue-volume reduction somnoplasty (Medicaid members only)
3/11/2016	Added tonsillectomy (with or without adenoidectomy) to surgical management section
10/9/2015	Added atrial fibrillation and significant tachyarrhythmia or bradyarrhythmia to list of co-morbidities that could degrade accuracy of testing in the attended sleep lab environment
9/11/2015	Added hypoglossal nerve stimulators to list of investigational procedures

Applicable Procedure Codes

21121	Genioplasty; sliding osteotomy, single piece
21122	Genioplasty; sliding osteotomies, 2 or more osteotomies (eg, wedge excision or bone wedge reversal for asymmetrical chin)
21141	Reconstruction midface, LeFort I; single piece, segment movement in any direction (eg, for Long Face Syndrome), without bone graft
21196	Reconstruction of mandibular rami and/or body, sagittal split; with internal rigid fixation
21198	Osteotomy, mandible, segmental
21199	Osteotomy, mandible, segmental; with genioglossus advancement
31600	Tracheostomy, planned (separate procedure);
31601	Tracheostomy, planned (separate procedure); younger than two years
42145	Palatopharyngoplasty (eg, uvulopalatopharyngoplasty, uvulopharyngoplasty)

42820	Tonsillectomy and adenoidectomy; younger than age 12
42821	Tonsillectomy and adenoidectomy; age 12 or over ²
42825	Tonsillectomy, primary or secondary; younger than age 12
42826	Tonsillectomy, primary or secondary; age 12 or over
64568	Incision for implantation of cranial nerve (eg, vagus nerve) neurostimulator electrode array and pulse generator
64569	Revision or replacement of cranial nerve (eg, vagus nerve) neurostimulator electrode array, including connection to existing pulse generator
64570	Removal of cranial nerve (eg, vagus nerve) neurostimulator electrode array and pulse generator
0466T	Insertion of chest wall respiratory sensor electrode or electrode array, including connection to pulse generator (List separately in addition to code for primary procedure)
0467T	Revision or replacement of chest wall respiratory sensor electrode or electrode array, including connection to existing pulse generator
0468T	Removal of chest wall respiratory sensor electrode or electrode array
95970	Electronic analysis of implanted neurostimulator pulse generator/transmitter (eg, contact group[s], interleaving, amplitude, pulse width, frequency [Hz], on/off cycling, burst, magnet mode, dose lockout, patient selectable parameters, responsive neurostimulation, detection algorithms, closed loop parameters, and passive parameters) by physician or other qualified health care professional; with brain, cranial nerve, spinal cord, peripheral nerve, or sacral nerve, neurostimulator pulse generator/transmitter, without programming
94660	Continuous positive airway pressure ventilation (CPAP), initiation and management
95782	Polysomnography; younger than 6 years, sleep staging with 4 or more additional parameters of sleep, attended by a technologist Note: Service not included in Medicaid managed care benefit package prior to 01-01-2016. Services covered for Medicaid as of 01/01/2016
95783	Polysomnography; younger than 6 years, sleep staging with 4 or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bi-level ventilation, attended by a technologist Note: Service not included in Medicaid managed care benefit package prior to 01-01-2016. Services covered for Medicaid as of 01/01/2016
95800	Sleep study, unattended, simultaneous recording; heart rate, oxygen saturation, respiratory analysis (eg, by airflow or peripheral arterial tone), and sleep time
95801	Sleep study, unattended, simultaneous recording; minimum of heart rate, oxygen saturation, and respiratory analysis (eg, by airflow or peripheral arterial tone)
95805	Multiple sleep latency or maintenance of wakefulness testing, recording, analysis and interpretation of physiological measurements of sleep during multiple trials to assess sleepiness
95806	Sleep study, unattended, simultaneous recording of, heart rate, oxygen saturation, respiratory airflow, and respiratory effort (eg, thoracoabdominal movement)
95807	Sleep study, simultaneous recording of ventilation, respiratory effort, ECG or heart rate, and oxygen saturation, attended by a technologist

95808	Polysomnography; any age, sleep staging with 1-3 additional parameters of sleep, attended by a technologist
95810	Polysomnography; age 6 years or older, sleep staging with 4 or more additional parameters of sleep, attended by a technologist
95811	Polysomnography; age 6 years or older, sleep staging with 4 or more additional parameters of sleep, with initiation of continuous positive airway pressure therapy or bilevel ventilation, attended by a technologist
A4604	Tubing with integrated heating element for use with positive airway pressure device
A7027	Combination oral/nasal mask, used with continuous positive airway pressure device, each
A7028	Oral cushion for combination oral/nasal mask, replacement only, each
A7029	Nasal pillows for combination oral/nasal mask, replacement only, pair
A7030	Full face mask used with positive airway pressure device, each
A7031	Face mask interface, replacement for full face mask, each
A7032	Cushion for use on nasal mask interface, replacement only, each
A7033	Pillow for use on nasal cannula type interface, replacement only, pair
A7034	Nasal interface (mask or cannula type) used with positive airway pressure device, with or without head strap
A7035	Headgear used with positive airway pressure device
A7036	Chinstrap used with positive airway pressure device
A7037	Tubing used with positive airway pressure device
A7038	Filter, disposable, used with positive airway pressure device
A7039	Filter, non disposable, used with positive airway pressure device
A7044	Oral interface used with positive airway pressure device, each
A7045	Exhalation port with or without swivel used with accessories for positive airway devices, replacement only
A7046	Water chamber for humidifier, used with positive airway pressure device, replacement, each
E0470	Respiratory assist device, bi-level pressure capability, without backup rate feature, used with noninvasive interface, e.g., nasal or facial mask (intermittent assist device with continuous positive airway pressure device)
E0471	Respiratory assist device, bi-level pressure capability, with back-up rate feature, used with noninvasive interface, e.g., nasal or facial mask (intermittent assist device with continuous positive airway pressure device)
E0472	Respiratory assist device, bi-level pressure capability, with backup rate feature, used with invasive interface, e.g., tracheostomy tube (intermittent assist device with continuous positive airway pressure device)
E0485	Oral device/appliance used to reduce upper airway collapsibility, adjustable or non-adjustable, prefabricated, includes fitting and adjustment
E0486	Oral device/appliance used to reduce upper airway collapsibility, adjustable or non-adjustable, custom fabricated, includes fitting and adjustment
E0561	Humidifier, non heated, used with positive airway pressure device

E0562	Humidifier, heated, used with positive airway pressure device
E0601	Continuous positive airway pressure (CPAP) device
G0398	Home sleep study test (HST) with type II portable monitor, unattended; minimum of 7 channels: EEG, EOG, EMG, ECG/heart rate, airflow, respiratory effort and oxygen saturation
G0399	Home sleep test (HST) with type III portable monitor, unattended; minimum of 4 channels: 2 respiratory movement/airflow, 1 ECG/heart rate and 1 oxygen saturation
G0400	Home sleep test (HST) with type IV portable monitor, unattended; minimum of 3 channels

Applicable Diagnosis Codes

E66.01	Morbid (severe) obesity due to excess calories
E66.2	Morbid (severe) obesity with alveolar hypoventilation
F10.182	Alcohol abuse with alcohol-induced sleep disorder
F10.282	Alcohol dependence with alcohol-induced sleep disorder
F10.982	Alcohol use, unspecified with alcohol-induced sleep disorder
F11.182	Opioid abuse with opioid-induced sleep disorder
F11.282	Opioid dependence with opioid-induced sleep disorder
F11.982	Opioid use, unspecified with opioid-induced sleep disorder
F13.182	Sedative, hypnotic or anxiolytic abuse with sedative, hypnotic or anxiolytic-induced sleep disorder
F13.282	Sedative, hypnotic or anxiolytic dependence with sedative, hypnotic or anxiolytic-induced sleep disorder
F13.982	Sedative, hypnotic or anxiolytic use, unspecified with sedative, hypnotic or anxiolytic-induced sleep disorder
F14.182	Cocaine abuse with cocaine-induced sleep disorder
F14.282	Cocaine dependence with cocaine-induced sleep disorder
F14.982	Cocaine use, unspecified with cocaine-induced sleep disorder
F15.182	Other stimulant abuse with stimulant-induced sleep disorder
F15.282	Other stimulant dependence with stimulant-induced sleep disorder
F15.982	Other stimulant use, unspecified with stimulant-induced sleep disorder
F19.182	Other psychoactive substance abuse with psychoactive substance-induced sleep disorder
F19.282	Other psychoactive substance dependence with psychoactive substance-induced sleep disorder
F19.982	Other psychoactive substance use, unspecified with psychoactive substance-induced sleep disorder
F51	Sleep disorders not due to a substance or known physiological condition
F51.0	Insomnia not due to a substance or known physiological condition
F51.01	Primary insomnia
F51.02	Adjustment insomnia
F51.03	Paradoxical insomnia
F51.04	Psychophysiological insomnia
F51.05	Insomnia due to other mental disorder
F51.09	Other insomnia not due to a substance or known physiological condition
F51.1	Hypersomnia not due to a substance or known physiological condition
F51.11	Primary hypersomnia
F51.12	Insufficient sleep syndrome
F51.13	Hypersomnia due to other mental disorder

F51.19	Other hypersomnia not due to a substance or known physiological condition
F51.3	Sleepwalking [somnambulism]
F51.4	Sleep terrors [night terrors]
F51.5	Nightmare disorder
F51.8	Other sleep disorders not due to a substance or known physiological condition
F51.9	Sleep disorder not due to a substance or known physiological condition, unspecified
G12.0	Infantile spinal muscular atrophy, type I [Werdnig-Hoffman]
G12.1	Other inherited spinal muscular atrophy
G12.21	Amyotrophic lateral sclerosis
G12.22	Progressive bulbar palsy
G12.29	Other motor neuron disease
G12.8	Other spinal muscular atrophies and related syndromes
G20	Parkinson's disease
G25.3	Myoclonus
G25.81	Restless legs syndrome
G37.3	Acute transverse myelitis in demyelinating disease of central nervous system
G40.309	Generalized idiopathic epilepsy and epileptic syndromes, not intractable, without status epilepticus
G40.311	Generalized idiopathic epilepsy and epileptic syndromes, intractable, with status epilepticus
G40.319	Generalized idiopathic epilepsy and epileptic syndromes, intractable, without status epilepticus
G40.401	Other generalized epilepsy and epileptic syndromes, not intractable, with status epilepticus
G40.409	Other generalized epilepsy and epileptic syndromes, not intractable, without status epilepticus
G40.411	Other generalized epilepsy and epileptic syndromes, intractable, with status epilepticus
G40.419	Other generalized epilepsy and epileptic syndromes, intractable, without status epilepticus
G40.42	Cyclin-Dependent Kinase-Like 5 Deficiency Disorder
G40.501	Epileptic seizures related to external causes, not intractable, with status epilepticus
G40.509	Epileptic seizures related to external causes, not intractable, without status epilepticus
G40.801	Other epilepsy, not intractable, with status epilepticus
G40.802	Other epilepsy, not intractable, without status epilepticus
G40.803	Other epilepsy, intractable, with status epilepticus
G40.804	Other epilepsy, intractable, without status epilepticus
G40.811	Lennox-Gastaut syndrome, not intractable, with status epilepticus
G40.812	Lennox-Gastaut syndrome, not intractable, without status epilepticus
G40.813	Lennox-Gastaut syndrome, intractable, with status epilepticus
G40.814	Lennox-Gastaut syndrome, intractable, without status epilepticus
G40.821	Epileptic spasms, not intractable, with status epilepticus
G40.822	Epileptic spasms, not intractable, without status epilepticus
G40.823	Epileptic spasms, intractable, with status epilepticus
G40.824	Epileptic spasms, intractable, without status epilepticus
G40.833	Dravet syndrome, intractable, with status epilepticus
G40.834	Dravet syndrome, intractable, without status epilepticus
G40.833	Dravet syndrome, intractable, with status epilepticus
G40.834	Dravet syndrome, intractable, without status epilepticus
G40.901	Epilepsy, unspecified, not intractable, with status epilepticus

G40.909	Epilepsy, unspecified, not intractable, without status epilepticus
G40.911	Epilepsy, unspecified, intractable, with status epilepticus
G40.919	Epilepsy, unspecified, intractable, without status epilepticus
G40.89	Other seizures
G47.00	Insomnia, unspecified
G47.01	Insomnia due to medical condition
G47.09	Other insomnia
G47.1	Hypersomnia
G47.10	Hypersomnia, unspecified
G47.11	Idiopathic hypersomnia with long sleep time
G47.12	Idiopathic hypersomnia without long sleep time
G47.13	Recurrent hypersomnia
G47.14	Hypersomnia due to medical condition
G47.19	Other hypersomnia
G47.2	Circadian rhythm sleep disorders
G47.20	Circadian rhythm sleep disorder, unspecified type
G47.21	Circadian rhythm sleep disorder, delayed sleep phase type
G47.22	Circadian rhythm sleep disorder, advanced sleep phase type
G47.23	Circadian rhythm sleep disorder, irregular sleep wake type
G47.24	Circadian rhythm sleep disorder, free running type
G47.25	Circadian rhythm sleep disorder, jet lag type
G47.26	Circadian rhythm sleep disorder, shift work type
G47.27	Circadian rhythm sleep disorder in conditions classified elsewhere
G47.29	Other circadian rhythm sleep disorder
G47.3	Sleep apnea
G47.30	Sleep apnea, unspecified
G47.31	Primary central sleep apnea
G47.32	High altitude periodic breathing
G47.33	Obstructive sleep apnea (adult) (pediatric)
G47.34	Idiopathic sleep related nonobstructive alveolar hypoventilation
G47.35	Congenital central alveolar hypoventilation syndrome
G47.36	Sleep related hypoventilation in conditions classified elsewhere
G47.37	Central sleep apnea in conditions classified elsewhere
G47.39	Other sleep apnea
G47.4	Narcolepsy and cataplexy
G47.41	Narcolepsy
G47.411	Narcolepsy with cataplexy
G47.419	Narcolepsy without cataplexy
G47.42	Narcolepsy in conditions classified elsewhere
G47.421	Narcolepsy in conditions classified elsewhere with cataplexy
G47.429	Narcolepsy in conditions classified elsewhere without cataplexy
G47.5	Parasomnia
G47.50	Parasomnia, unspecified

G47.51	Confusional arousals
G47.52	REM sleep behavior disorder
G47.53	Recurrent isolated sleep paralysis
G47.54	Parasomnia in conditions classified elsewhere
G47.59	Other parasomnia
G47.6	Sleep related movement disorders
G47.61	Periodic limb movement disorder
G47.62	Sleep related leg cramps
G47.63	Sleep related bruxism
G47.69	Other sleep related movement disorders
G47.8	Other sleep disorders
G47.9	Sleep disorder, unspecified
G71.0	Muscular dystrophy
G71.11	Myotonic muscular dystrophy
G71.2	Congenital myopathies
G71.9	Primary disorder of muscle, unspecified
G72.9	Myopathy, unspecified
G80.9	Cerebral palsy, unspecified
G82.50	Quadriplegia, unspecified
G90.1	Familial dysautonomia [Riley-Day]
G93.1	Anoxic brain damage, not elsewhere classified
I42.0	Dilated cardiomyopathy
I42.5	Other restrictive cardiomyopathy
I42.7	Cardiomyopathy due to drug and external agent
I42.8	Other cardiomyopathies
I42.9	Cardiomyopathy, unspecified
I48.0	Paroxysmal atrial fibrillation
I48.11	Longstanding persistent atrial fibrillation
I48.19	Other persistent atrial fibrillation
I48.20	Chronic atrial fibrillation, unspecified
I48.21	Permanent atrial fibrillation
I48.3	Typical atrial flutter
I48.4	Atypical atrial flutter
I48.91	Unspecified atrial fibrillation
I48.92	Unspecified atrial flutter
I50.2	Systolic (congestive) heart failure
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.3	Diastolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure

I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.4	Combined systolic (congestive) and diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.9	Heart failure, unspecified
J35.3	Hypertrophy of tonsils with hypertrophy of adenoids
J96.1	Chronic respiratory failure
J96.10	Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia
J96.11	Chronic respiratory failure with hypoxia
J96.12	Chronic respiratory failure with hypercapnia
N52	Male erectile dysfunction
N52.0	Vasculogenic erectile dysfunction
N52.01	Erectile dysfunction due to arterial insufficiency
N52.02	Corporo-venous occlusive erectile dysfunction
N52.03	Combined arterial insufficiency and corporo-venous occlusive erectile dysfunction
N52.1	Erectile dysfunction due to diseases classified elsewhere
N52.2	Drug-induced erectile dysfunction
N52.3	Post-surgical erectile dysfunction
N52.31	Erectile dysfunction following radical prostatectomy
N52.32	Erectile dysfunction following radical cystectomy
N52.33	Erectile dysfunction following urethral surgery
N52.34	Erectile dysfunction following simple prostatectomy
N52.39	Other post-surgical erectile dysfunction
N52.8	Other male erectile dysfunction
N52.9	Male erectile dysfunction, unspecified
Q07.8	Other specified congenital malformations of nervous system
Q31.1	Congenital subglottic stenosis
Q31.2	Laryngeal hypoplasia
Q31.3	Laryngocele
Q31.5	Congenital laryngomalacia
Q31.8	Other congenital malformations of larynx
Q31.9	Congenital malformation of larynx, unspecified
Q32	Congenital malformations of trachea and bronchus
Q32.0	Congenital tracheomalacia
Q32.1	Other congenital malformations of trachea
Q32.2	Congenital bronchomalacia
Q32.3	Congenital stenosis of bronchus
Q32.4	Other congenital malformations of bronchus
Q75	Other congenital malformations of skull and face bones
Q75.0	Craniosynostosis

Q75.1	Craniofacial dysostosis
Q75.2	Hypertelorism
Q75.3	Macrocephaly
Q75.4	Mandibulofacial dysostosis
Q75.5	Oculomandibular dysostosis
Q75.8	Other specified congenital malformations of skull and face bones
Q75.9	Congenital malformation of skull and face bones, unspecified
Q77.0	Achondrogenesis
Q77.1	Thanatophoric short stature
Q77.4	Achondroplasia
Q77.5	Diastrophic dysplasia
Q77.7	Spondyloepiphyseal dysplasia
Q77.8	Other osteochondrodysplasia with defects of growth of tubular bones and spine
Q77.9	Osteochondrodysplasia with defects of growth of tubular bones and spine, unspecified
Q78.4	Enchondromatosis
Q78.9	Osteochondrodysplasia, unspecified
Q87.0	Congenital malformation syndromes predominantly affecting facial appearance
R06.00	Dyspnea, unspecified
R06.09	Other forms of dyspnea
R06.3	Periodic breathing
R06.81	Apnea, not elsewhere classified
R06.83	Snoring
R06.89	Other abnormalities of breathing
R09.02	Hypoxemia
R41.8	Other symptoms and signs involving cognitive functions and awareness
R41.9	Unspecified symptoms and signs involving cognitive functions and awareness
Z99.81	Dependence on supplemental oxygen

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APPENDIX

Epworth Sleep Scale

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

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