EFFECTIVE DATE: 05|01|2013
POLICY LAST UPDATED: 02|19|2013

OVERVIEW

A sleep study test is used to record various body functions during sleep. The tests are used in the evaluation and diagnosis of sleep apnea, narcolepsy, movement disorders, and insomnia. Sleep studies are provided in a sleep laboratory, outpatient facility or in the home depending on the test that is being performed.

PRIOR AUTHORIZATION

Preauthorization required for Blue CHip for Medicare and recommended for Commercial products for sleep laboratory based testing.

POLICY STATEMENT

Blue CHip for Medicare and Commercial Products

Sleep studies performed in a sleep laboratory are covered when the medical necessity criteria are met.

Split-night study is covered if the initial request for a facility based study was approved and it is felt that a split-night study is appropriate during the testing.

Home sleep testing with a with a minimum of 4 recording channels (including oxygen saturation, respiratory movement, airflow, and EKG or heart rate) are considered medically necessary in adult patients who are at high risk for obstructive sleep apnea.

Blue Chip for Medicare

Home sleep testing with 3 channel recordings are considered medically necessary in adult patients who are at high risk for obstructive sleep apnea.

Commercial Products

Three (3) channel studies as not medically necessary as a minimum sleep study must record airflow, respiratory effort, and blood oxygenation.

For all Products

Actigraphy is not medically necessary as there is insufficient peer-reviewed scientific literature that demonstrates that the procedure/service is effective.

Effective April 1, 2010 for labs:

- All sleep laboratories must be accredited by the American Academy of Sleep Medicine (AASM).
- All sleep laboratory providers performing sleep testing services must participate and be in good standing with Medicare

Effective April 1, 2010 for physicians:

- All physicians reading or supervising sleep tests must be board-certified in sleep medicine or have completed the necessary training requirements to take the exam in sleep medicine.

MEDICAL CRITERIA

For all Products

Sleep Laboratory testing include repeat testing is medically necessary if one of the following criteria is met:

- Severe pulmonary disease including:
  1. symptomatic lung disease not controlled by medical therapy
  2. COPD with O2 requirements
  3. Obesity Hypoventilation syndrome
- Cardiac disease including
  1. Congestive heart failure NYHA class 3 or 4
  2. Documented pulmonary hypertension (moderate or severe)
  3. Uncontrolled Cardiac arrhythmias
  4. Prior myocardial infarction within the last 6 months
- Neurologic disorders including:
  1. Suspicion for nocturnal seizures
  2. Neurodegenerative disorders resulting in neuromuscular weakness or cognitive impairment
  3. History of prior stroke/TIA within previous 6 months
- Suspicion of central sleep apnea, periodic limb movement disorder, restless leg movements , parasomnias, narcolepsy
- Body Mass Index (BMI)>35
- Individual with special needs that is not capable of following instructions for HST with a high pretest probability of OSA
- Previous HST was inconclusive in the diagnosis of OSA in an individual with a high pretest probability of OSA
- Age < 18 years of age
- Patients who are not doing well with an autotitrating (APAP) or while on a fixed CPAP setting have a failure of resolution of symptoms or recurrence of symptoms;

CPAP Titration

Sleep laboratory CPAP titration is indicated for patients who have had a positive sleep laboratory study (PSG)

Home autotitrating (APAP) studies are indicated for patients who have had a positive home sleep study (HST) except for patients with Central Sleep Apnea. For these patients, a positive sleep laboratory study (PSG) is indicated.

BACKGROUND

A sleep study test is used to record various body functions during sleep. Electrodes are placed on the body to record electrical activity of the brain, heart rate, respiratory effort, air flow, blood oxygen levels, and movement of the eye and/or muscle. The tests are used in the evaluation and diagnosis of sleep apnea, narcolepsy, movement disorders, and insomnia. Sleep studies are provided in a sleep laboratory, outpatient facility or in the home depending on the test that is being performed.

Sleep apnea is a disorder where breathing nearly or completely stops for periods of time during sleep. Sleep apnea may be further classified into three categories, obstructive sleep apnea (OSA), central sleep apnea (CSA) and complex sleep apnea (CompSA). Obstructive sleep apnea is the most common category of sleep apnea. In obstructive sleep apnea, the brain sends the message to breathe, but there is a blockage to air flowing into the chest. It is a condition in which repetitive episodes of upper airway obstruction occur during

sleep. The obstruction may be localized to one or two areas, or may encompass the entire upper airway passages to include the nasal cavity (nose), oropharynx (palate, tonsils, tonsillar pillars) and hypopharynx (tongue base). The hallmark clinical symptom of OSA is excessive daytime sleepiness.

In central sleep apnea, the message that is normally sent from the brain to the chest muscles to initiate breathing does not reliably occur during sleep. Patients with CSA show no signs of attempts to breathe despite an open airway. CSA is common in patients with heart failure, after stroke or brain injury. There are several types of central sleep apnea, including high altitude-induced periodic breathing, idiopathic CSA, narcotic-induced central apnea, obesity hypoventilation syndrome, and Cheyne-Stokes breathing. Complex sleep apnea is a combination of both obstructive and central sleep apneas. Patients with CompSA at first appear to have OSA but unlike typical OSA patients, central apneas persist or emerge during treatment attempts with a continuous positive airway pressure (CPAP) or bilevel device.

Consequences of sleep apnea may include excessive daytime sleepiness, hypertension, cardiac arrhythmias, pulmonary hypertension, and stroke. Excessive daytime sleepiness is a result of fragmented sleep due to repeated arousals during sleep which can lead to impairment of almost any daytime activity.

An electroencephalogram (EEG), submental electromyogram, and electro-oculogram are required for sleep staging. By definition, a polysomnogram always includes sleep staging, while a cardiorespiratory "sleep study" does not. The actual components of the study will be dictated by the clinical situation.

Typically, the evaluation of obstructive sleep apnea (OSA) includes sleep staging to assess arousals from sleep, and determination of the frequency of apneas and hypopneas from channels measuring oxygen desaturation, respiratory airflow, and respiratory effort. In adults, an obstructive apnea is defined as at least a 10-second cessation of respiration associated with ongoing ventilatory effort.

Polysomnogram:
The polysomnogram (PSG), also referred to as a sleep study, is a multiple-component test which electronically records data and is needed for an accurate diagnosis of sleep disorders. PSGs are used when there is no other adequate and less complex way to treat a sleep disorder. Sleep apnea, narcolepsy, movement disorders, and persistent insomnia are examples of medical conditions that might require a PSG.

A split-night study (initial diagnostic polysomnography [PSG] followed by CPAP titration during PSG on the same night) in the facility setting is appropriate if the following criteria are met during a facility based test:

1. An AHI of at least 40 is documented during a minimum of 2 hours of diagnostic PSG. Split-night studies may sometimes be considered at an AHI of 20 to 40, based on clinical judgment (e.g., if there are repetitive long obstructions and major desaturations). However, at AHI values below 40, determination of CPAP pressure requirements based on split-night studies, may be less accurate than in full-night calibrations.
2. CPAP titration is carried out for more than 3 hours because respiratory events can worsen as the night progresses.
3. PSG documents that CPAP eliminates or nearly eliminates the respiratory events during rapid eye movement (REM) and non-REM (NREM) sleep, including REM sleep with the patient in the supine position.

Types of sleep studies performed in a sleep laboratory:
Type I
Attended studies (sleep studies are performed with the oversight of a sleep technologist) with full sleep staging (sleep staging monitors the transition through the sleep stages, traditionally with the use of EEG electrodes that monitor the brain). Type I devices must include the following channels:

- EEG
- EOG
- ECG/Heart rate
- Chin EMG
- Limb EMG
- Respiratory effort at thorax and abdomen
- Air Flow from nasal canula thermistor and/or X-Flow (AASM recommends RIP technology)
- Pulse Oximetry
- Additional channels for CPAP/BiPap levels, CO2, pH, pressure, etc.

Types of sleep studies performed in the home
Type II
Home sleep test (HST) with Type II portable monitor, unattended (sleep studies are performed without the oversight of a sleep technologist), with a minimum of 7 channels. Type II devices must include the following channels:

- EEG
- EOG
- ECG/heart rate
- EMG
- Airflow
- Respiratory effort
- Oxygen saturation

Type III
Home sleep test (HST) with Type III portable monitor, unattended with a minimum of 4 channels. Type III devices must include the following channels:

- 2 respiratory movement/airflow
- 1 ECG/heart rate
- 1 oxygen saturation

Type IV
Home sleep test (HST) with Type IV portable monitor, unattended; minimum of 3 channels. Type IV devices must allow channels that allow:

- direct calculation of an Apnea Hypopnea Index (AHI) or Respiratory Disturbance Index (RDI) as the result of measuring airflow or thoracoabdominal movement

Home sleep testing with a minimum of 4 recording channels (including oxygen saturation, respiratory movement, airflow, and EKG or heart rate) are considered medically necessary in adult (≥18) patients who are at high risk for obstructive sleep apnea* (OSA) as described below and have no evidence by history or physical examination, of a health condition that might alter ventilation or require alternative treatment, including but not limited to the following:

- central sleep apnea
- congestive heart failure
- chronic pulmonary disease
- obesity hypoventilation syndrome
- narcolepsy
- periodic limb movements in sleep
- restless leg syndrome

Repeat unattended home sleep studies with a minimum of four recording channels (including oxygen saturation, respiratory movement, airflow, and EKG/heart rate) may be considered medically necessary in adult patients under the following circumstances:

- Inadequate results from initial test; or
- To assess efficacy of surgery or oral appliances/devices; or
- To re-evaluate the diagnosis of OSA and need for continued CPAP, e.g., if there is a significant change in weight or change in symptoms suggesting that CPAP should be retitrated or possibly discontinued

Home sleep studies are not appropriate for general screening of asymptomatic populations or low risk patients.

*High risk criteria for OSA

- Habitual snoring
- Observed apneas
- Excessive daytime sleepiness with a Berlin Questionnaire or Epworth Sleepiness Scale evaluation consistent with moderate to high risk for OSA
- A BMI >35

Actigraphy refers to the assessment of activity patterns by devices typically placed on the wrist or ankle that record body movement, which is interpreted by computer algorithms as periods of sleep and wake. Sleep/wake cycles may be altered in sleep disorders including insomnia, circadian rhythm sleep disorders, sleep-related breathing disorders, restless legs syndrome, and periodic limb movement disorder. In addition, actigraphy could potentially be used to assess sleep/wake disturbances associated with numerous other diseases or disorders such as attention-deficit/hyperactivity disorder, chronic fatigue syndrome, asthma, Parkinson's syndrome, post-surgical delirium, stroke, advanced cancer, and intensive care monitoring. Literature review updates have not identified any studies that evaluated whether the use of actigraphy would result in improved health outcomes for patients with sleep disorders. Actigrapht is not medically necessary as there is insufficient peer-reviewed scientific literature that demonstrates that the procedure/service is effective.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement, or Benefit Booklet for applicable diagnostic testing coverage/benefits.

CODING

Blue Chip for Medicare and Commercial Products

The following codes are covered for in a sleep laboratory when the medical criteria are met:

95782
95783
95805
95807
95808
95810
95811

The following codes are covered for Blue Chip for Medicare and Commercial Products

95800
95801
95806
G0398
G0399

The following code is covered for Blue CHip for Medicare only and not medically necessary for Commercial Products

G0400

The following code is not medically necessary Blue Chip for Medicare and Commercial Products

95803

NOTE:
Sleep studies and polysomnography refer to the continuous and simultaneous monitoring and recording of various physiological and pathophysiological parameters of sleep for 6 or more hours with physician review, interpretation and report. Sleep studies of 6 hours or less should be classified as reduced services and should be reported with a 52 modifier.

RELATED POLICIES

Not applicable. CPAP, BiPAP-S, BiPAP-ST
Minimally Invasive Surgery for Snoring, Obstructive Sleep Apnea Syndrome/Upper Airway Resistance Syndrome
Oral appliances in the treatment of sleep apnea

PUBLISHED

Provider Update	Apr 2013
Provider Update	Dec 2012
Provider Update	Sep 2011
Provider Update	Aug 2010
Provider Update	Dec 2009
Provider Update	Sep 2008
Policy Update	Aug 2007
Policy Update	Aug 2006
Policy Update	Oct 2005
Policy Update	Apr 1998

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