

Clinical Policy: Facility-based Sleep Studies for Obstructive Sleep Apnea

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[Coding Implications](#)

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Description

Polysomnography (PSG) is the continuous and concurrent monitoring and recording of various physiological and pathophysiological parameters of sleep that includes physician evaluation, interpretation and dissemination. PSG is performed to diagnose various sleep disorders and evaluate the response to treatments such as continuous positive airway pressure (CPAP).⁶ This policy establishes the medical necessity requirements for facility-based polysomnography (PSG), split-night studies, and bi-level and continuous positive airway pressure (CPAP/BiPAP) titration for suspected obstructive sleep apnea.

Policy/Criteria

- I. It is the policy of Louisiana Healthcare Connections that initial polysomnography (PSG) or a split-night study in a facility for evaluation of obstructive sleep apnea for members/enrollees ≥ 18 years of age is **medically necessary** when meeting all of the following criteria:
 - A. Member/enrollee has suspected obstructive sleep apnea;
 - B. Portable or home sleep apnea testing (HSAT) is not appropriate due to one or more of the following:
 1. Portable/home HSAT services are not available;
 2. Member/enrollee is unable to properly operate or tolerate home study equipment and another individual is not available to assist;
 3. Previous HSAT results are negative or inadequate for diagnosis and/or auto titration of positive airway pressure (APAP) for suspected obstructive sleep apnea;
 4. Chronic opioid use;
 5. Low pretest probability of OSA (normal BMI (<30), normal airway (Mallampati score 1 to 2), no snoring, and normal neck circumference (less than 17 inches in biological males, and less than 16 inches in biological females)). Note: HSAT has a lower sensitivity for detection of OSA, making a facility PSG more appropriate in the presence of a low pretest probability of OSA;
 6. Member/enrollee works in a mission-critical function and falling asleep at work would have a major negative impact (e.g. airline pilots, bus drivers, taxi drivers, ride-sharing drivers, truck drivers, train operators, police, security, military posts, astronauts);
 7. Member/enrollee has a BMI of ≥ 50 kg/m²;
 8. **Both** of the following:
 - a. Member/enrollee has one or more of the following risk factors:
 - i. Clinically significant chronic obstructive pulmonary disease or other chronic lung disease as evidenced by both of the following:
 - a) Continuous, chronic nocturnal oxygen use;
 - b) Moderate to severe pulmonary function impairment;

- ii. Moderate to severe congestive heart failure as evidenced by one or more of the following:
 - a) Documented pulmonary congestion with associated limiting dyspnea symptoms;
 - b) New York Heart Association (NYHA) class III or IV heart failure. Note: See Table 1 below for NYHA classifications;
- iii. History of ventricular fibrillation or sustained ventricular tachycardia in the absence of an implanted defibrillator;
- iv. Neurologic or neuromuscular disease (e.g., stroke with significant residual effects, epilepsy, Parkinson's disease, spina bifida, myotonic dystrophy, amyotrophic lateral sclerosis);
- v. Complex sleep disorder, suspected (e.g., narcolepsy, parasomnia, cataplexy, periodic limb movement disorder);
- b. Member/enrollee has signs or symptoms suggestive of moderate- to high-risk obstructive sleep apnea as evidenced by one or more of the following:
 - i. Epworth Sleepiness Scale score of 10 or greater;
 - ii. Excessive daytime sleepiness, fatigue, or awakening with gasping or choking, and one of the following:
 - a) High risk for injury (e.g., falling asleep while driving);
 - b) Member/enrollee has a BMI > 30 kg/m²;
 - c) Refractory hypertension and medication regimen includes three or more antihypertensive drugs at therapeutic dosages, including one diuretic, and office blood pressure remains above goal;
 - iii. Observed apnea or choking episodes;
 - iv. Significant oxygen desaturation (i.e., less than 88%) on overnight pulse oximetry.

II. It is the policy of Louisiana Healthcare Connections that repeat facility-based polysomnography (PSG) or split-night study (after an initial PSG or split-night study) for evaluation of obstructive sleep apnea for members/enrollees ≥ 18 years of age is **medically necessary** when meeting all of the following:

- A. All of the criteria in section I.B are met;
- B. The requested study and any previous studies amount to two or less per rolling year;
- C. Any of the following:
 - 1. Oral appliance has been adjusted for fit and requires assessment of efficacy;
 - 2. A change of device is needed due to intolerance of current device;
 - 3. Assessment of whether positive airway pressure (PAP) treatment settings need to be changed (including but not limited to continued symptoms despite adherent use: at least four hours/night for 70% of nights over a 30-day period);
 - 4. Significant weight loss (>10%) in a member/enrollee using PAP to determine if it can be discontinued;
 - 5. Member/enrollee has had significant weight gain or recurrent symptoms and a repeat study will help inform whether PAP should be reinstituted;
 - 6. Postoperative assessment of efficacy of surgery to treat OSA after upper airway surgical procedures;

7. Remote history of OSA and not on PAP with a need to re-establish diagnosis and/or initiate CPAP;
8. Suspicion of obstructive sleep apnea due to new signs or symptoms (e.g., weight gain accompanied by symptoms, new nocturia) in member/enrollee with previous negative study;
9. Signs, symptoms, and strong clinical suspicion of OSA in member/enrollee with a negative study at least six months previous.

- III.** It is the policy of Louisiana Healthcare Connections that facility-based titration of CPAP/BiPAP for evaluation of OSA for members/enrollees ≥ 18 years of age is **medically necessary** when meeting one of the following:
- A. Approved for a facility-based PSG and has not attempted a home-based study for titration of APAP;
 - B. Diagnosed with OSA during HSAT and both of the following:
 1. Criteria in I.B. are met;
 2. Negative, inconclusive or technically inadequate titration results documented by downloaded monitor data;
 - C. Diagnosed with central sleep apnea during HSAT and any of the following:
 1. Five or more central apnea events and/or central hypopnea events per hour of sleep;
 2. Central hypopnea events constitute $> 50\%$ of the total number of apnea and hypopnea events;
 - D. Diagnosed with treatment-emergent central sleep apnea (i.e., CPAP treatment led to emergency of central events) based on HSAT, the apnea was not resolved by a adequate trial of CPAP therapy, and one of the following:
 1. Five or more central apnea events and/or central hypopnea events per hour of sleep;
 2. Central hypopnea constitutes $> 50\%$ of the total number of apneas and hypopneas.
- IV.** It is the policy of Louisiana Healthcare Connections that there is insufficient evidence to support the use of actigraphy testing alone for diagnosis of obstructive sleep apnea as its effectiveness has not been established.

Table 1: NYHA Classifications of Heart Failure	
Classification	Characteristics
Class I	Patients with cardiac disease but without the resulting limitations in physical activity. Ordinary activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain
Class II	Patients with heart disease resulting in slight limitations of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea or anginal pain
Class III	Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.
Class IV	Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. The symptoms of cardiac insufficiency or of

Table 1: NYHA Classifications of Heart Failure

Classification	Characteristics
	the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort increases.

Background

Sleep-disordered breathing consists of several distinct disorders including obstructive sleep apnea (OSA), central sleep apnea (CSA), both with and without Cheyne-Stokes respiration, and sleep-related hypoventilation and hypoxemia.^{2,3} Sleep apnea, a serious and potentially dangerous sleep disorder in which breathing repeatedly stops and starts, is divided into two main types, OSA and CSA.^{4,5,6,7} The most common form of sleep apnea, OSA, is characterized by the partial or complete collapse of the upper airway during sleep, which causes symptoms such as excessive daytime sleepiness, gasping, snorting, loud snoring, and interrupted breathing.^{4,5}

The International Classification of Sleep Disorders defines OSA as five or more predominantly obstructive respiratory events per hour in the presence of symptoms or certain comorbidities; or by 15 or more predominantly obstructive respiratory events per hour in asymptomatic patients.⁴ Global estimates suggest that 936 million people between the ages of 30 and 69 years old have been diagnosed with mild to severe OSA and 425 million people with moderate to severe OSA.⁴

A detailed sleep history and examination accompanied by validated screening tools such as the Epworth Sleepiness Scale or STOP-Bang questionnaire, assist with the identification of patients with sleep-disordered breathing.⁸ However, sleep testing is necessary for diagnostic confirmation.⁸

OSA should be suspected when a patient presents with excessive daytime sleepiness, snoring and choking, or gasping during sleep, especially in the presence of high-risk factors like advanced age and obesity, and in those with a male reproductive system. Additional complications related to OSA include refractory hypertension, atrial fibrillation, nocturnal angina, dysrhythmias, congestive heart failure, stroke, and transient ischemic attacks.^{4, 9,10}

Polysomnography (PSG) is a comprehensive sleep study that monitors several physiologic components relevant to the assessment of sleep-disordered breathing such as sleep stage, respiratory flow, respiratory effort, pulse oximetry and ventilation.^{2,12} PSG results are interpreted by the reviewing clinician and treatment recommendations are made based on the recorded signals, results of scoring, and clinical history.¹³ PSG tests can be used as a part of the diagnosis of a variety of additional sleep disorders including sleep-related movement disorders, narcolepsy, and certain parasomnias.¹³ They are also used for titration of positive airway pressure and to assess the adequacy of ongoing therapy.^{12,14}

PSG is conducted as a full-night study or split night study. A full night study involves monitoring the patient overnight, and if OSA is diagnosed, a return to the facility for PAP titration is sometimes necessary. A split-study involves monitoring of the patient's sleep pattern for the first part of the night, and if OSA is diagnosed, PAP titration is initiated the second part of the night.⁴

Home sleep apnea testing (HSAT) may be an appropriate, less stressful option for select patients with a high pretest probability of moderate to severe uncomplicated OSA, provided there is no suspicion of non respiratory sleep disorders (e.g., narcolepsy, severe insomnia, parasomnias, movement disorders); no significant cardiorespiratory disease (e.g., COPD, asthma, CHF); they are not a mission-critical worker (e.g., airline pilot, bus driver, truck driver, astronaut); and a sleep expert is available to interpret the results.^{4,12,15,16,17}

The most common HSAT devices currently used are classified as sleep monitoring devices of type 3 and type 4. Type 3 is preferred to type 4 because of the additional number of variables measured- four to seven versus one to three variables. The AASM considers home monitoring devices adequate when a minimum of the following sensors are included: nasal pressure, chest and abdominal respiratory inductance plethysmography, oximetry, or peripheral artery tone (PAT), actigraphy, oximetry.^{4,11,18}

Studies have demonstrated the validity of HSAT results when compared to facility-based PSG. They note high sensitivity and specificity in populations at high risk of moderate to severe OSA based on clinical symptoms and in the absence of significant comorbidities that affect sleep or non respiratory sleep disorders.^{4,11,18}

Advantages of HSAT include the convenience of testing at home and cost effectiveness.¹¹ The primary disadvantage of HSAT is that fewer physiologic variables are measured when compared with facility-based PSG, which can increase the likelihood for false-negative results. For most patients with suspected mild OSA, facility-based PSG is preferred since HSAT may lead to the under detection of sleep-related events in this population.^{4,11}

Coding Implications

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CPT codes that support coverage

CPT®* Codes	Description
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

CPT® Codes	Description
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

CPT codes that do not support coverage

CPT® Codes	Description
95803	Actigraphy testing, recording, analysis, interpretation, and report (minimum of 72 hours to 14 consecutive days of recording)

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Rebrand from Corporate policy	04/23	
Changed title to “Facility-Based Sleep Studies for Obstructive Sleep Apnea.” Updated description to include facility-based PSG, split-night studies and titration. Changed “sleep center” studies to “facility-based” studies throughout policy. Expanded scope of policy statement I. to include split-night studies. Clarified in I.B.3. that the titration was APAP. In I.B.5, added note about decreased sensitivity of HSAT in the presence of low probability of OSA. Added I.B.6. and I.B.7. as factors indicating that facility testing: mission-critical workers and BMI >50. Removed indication in I.B. for sleep center PSG performed simultaneously with CPAP titration in split-night study as the criteria now applies to split-night studies. Specified in I.B.8.a.i.a)1) that the nocturnal oxygen use is chronic and continuous. In I.B.8.a.ii.a), specified that pulmonary congestion has associated limiting dyspnea symptoms. In I.B.8.a.ii.b), removed option for left ventricular EF and instead referred to NYHA heart failure classification table. In I.B.8.a.iv., specified that the residual effects from stroke must be significant. In I.B.8.a.v., added parasomnia as an example of a complex sleep disorder. In B.8.b.ii.c), changed “resistant hypertension” to “refractory hypertension.” In B.8.b.v., changed desaturation value to 88% from 90%. Added criteria sections II. and III. for repeat facility-based PSG/split-night studies and facility-based titration. Added code 95811.	05/23	7/24/23

References

1. Pavlova MK, Latreille V. Sleep Disorders. *Am J Med.* 2019;132(3):292 to 299. doi:10.1016/j.amjmed.2018.09.021
2. Schulman D. Polysomnography in the evaluation of sleep-disordered breathing in adults. UpToDate. www.uptodate.com. Updated January 12, 2022. Accessed October 31, 2022.
3. Foldvary-Schaefer NR, Waters TE. Sleep-Disordered Breathing. *Continuum (Minneapolis)*. 2017;23(4, Sleep Neurology):1093 to 1116. doi:10.1212/01.CON.0000522245.13784.f6

4. Kline LR. Clinical presentation and diagnosis of obstructive sleep apnea in adults. UpToDate. www.uptodate.com. Updated June 1, 2022. Accessed October 31, 2022.
5. Laratta CR, Ayas NT, Povitz M, Pendharkar SR. Diagnosis and treatment of obstructive sleep apnea in adults. *CMAJ*. 2017;189(48):E1481-E1488. doi:10.1503/cmaj.170296
6. Local coverage determination: polysomnography and other sleep studies (L36902). Centers for Medicare and Medicaid Services Web site. <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=36902&ver=12&bc=0> Published March 6, 2017 (revised February 3, 2022). Accessed October 31, 2022.
7. Badr MS. Central sleep apnea: risk factors, clinical presentation, and diagnosis. UpToDate. www.uptodate.com. Updated September 30, 2021. Accessed October 31, 2022.
8. Foldvary-Schaefer NR, Waters TE. Sleep-disordered breathing. *Continuum (Minneapolis)*. 2017;23(4, Sleep Neurology):1093 to 1116. doi:10.1212/01.CON.0000522245.13784.f6
9. Franklin KA, Lindberg E. Obstructive sleep apnea is a common disorder in the population—a review on the epidemiology of sleep apnea. *J Thorac Dis*. 2015;7(8):1311 to 322. doi:10.3978/j.issn.2072-1439.2015.06.11
10. Tam W, Ng SS, To KW, Ko FW, Hui DS. The interaction between hypertension and obstructive sleep apnea on subjective daytime sleepiness. *J Clin Hypertens (Greenwich)*. 2019;21(3):390 to 396. doi:10.1111/jch.13485
11. Collop N. Home sleep apnea testing for obstructive sleep apnea in adults. UpToDate. www.uptodate.com. Updated November 1, 2021. Accessed October 31, 2022.
12. Kramer NR, Millman RP. Overview of polysomnography in adults. UpToDate. www.uptodate.com. Updated November 5, 2021. Accessed October 31, 2022.
13. Chervin RD. Approach to the patient with excessive daytime sleepiness. UpToDate. www.uptodate.com. Updated October 4, 2022. Accessed October 31, 2022.
14. Aboussouan LS, Mireles-Cabodevila E. Sleep-disordered breathing in neuromuscular disease: diagnostic and therapeutic challenges. *Chest*. 2017;152(4):880 to 892. doi:10.1016/j.chest.2017.03.023
15. Laratta CR, Ayas NT, Povitz M, Pendharkar SR. Diagnosis and treatment of obstructive sleep apnea in adults. *CMAJ*. 2017;189(48):E1481-E1488. doi:10.1503/cmaj.170296
16. Patil SP, Ayappa IA, Caples SM, Kimoff RJ, Patel SR, Harrod CG. Treatment of adult obstructive sleep apnea with positive airway pressure: an American academy of sleep medicine clinical practice guideline. *J Clin Sleep Med*. 2019;15(2):335 to 343. Published 2019 Feb 15. doi:10.5664/jcsm.7640
17. Mendonça F, Mostafa SS, Ravelo-García AG, Morgado-Dias F, Penzel T. Devices for home detection of obstructive sleep apnea: A review. *Sleep Med Rev*. 2018;41:149 to 160. doi:10.1016/j.smrv.2018.02.004
18. Westenberg JN, Petrof BJ, Noel F, et al. Validation of home portable monitoring for the diagnosis of sleep-disordered breathing in adolescents and adults with neuromuscular disorders. *J Clin Sleep Med*. 2021;17(8):1579 to 1590. doi:10.5664/jcsm.9254
19. Mokhlesi B, Masa JF, Brozek JL, et al. Evaluation and Management of Obesity Hypoventilation Syndrome. An Official American Thoracic Society Clinical Practice Guideline [published correction appears in *Am J Respir Crit Care Med*. 2019 Nov 15;200(10):1326]. *Am J Respir Crit Care Med*. 2019;200(3):e6 to e24. doi:10.1164/rccm.201905-1071ST
20. Sateia MJ. International classification of sleep disorders-third edition: highlights and modifications. *Chest*. 2014;146(5):1387 to 1394. doi:10.1378/chest.14-0970

21. Carey RM, Calhoun DA, Bakris GL, et al. Resistant Hypertension: Detection, Evaluation, and Management: A Scientific Statement From the American Heart Association. *Hypertension*. 2018;72(5):e53 to e90. doi:10.1161/HYP.0000000000000084
22. Steffen A, König IR, Baptista PM, Abrams N, Jeschke S, Hasselbacher K. Home Sleep Testing to Direct Upper Airway Stimulation Therapy Optimization for Sleep Apnea. *Laryngoscope*. 2021;131(4):E1375 to E1379. doi:10.1002/lary.29043
23. Piper A, Yee B. Clinical manifestations and diagnosis of obesity hypoventilation syndrome. UpToDate. www.uptodate.com. Updated June 8, 2021. Accessed November 4, 2022.
24. Thomas SJ, Gamble K. Actigraphy in the evaluation of sleep disorders. UpToDate. www.uptodate.com. Updated May 23, 2022. Accessed October 28, 2022.
25. Kapur VK, Auckley DH, Chowdhuri S, et al. Clinical Practice Guideline for Diagnostic Testing for Adult Obstructive Sleep Apnea: An American Academy of Sleep Medicine Clinical Practice Guideline. *J Clin Sleep Med*. 2017;13(3):479 to 504. Published 2017 Mar 15. doi:10.5664/jcsm.6506
26. American Heart Association. Classes of Heart Failure. Accessed online at www.heart.org. Accessed December 20, 2022.

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved.

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