

MEDICAL POLICY

POLICY TITLE	POLYSOMNOGRAPHY FOR NON-RESPIRATORY SLEEP DISORDERS
POLICY NUMBER	MP 2.335

Original Issue Date (Created):	6/14/2018
Most Recent Review Date (Revised):	7/17/2018
Effective Date:	4/15/2019

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I. POLICY

Note: This policy addresses Polysomnography (PSG) for non-respiratory sleep disorders, which include the hypersomnias (e.g., narcolepsy), parasomnias, and sleep-related movement disorders (e.g., restless legs syndrome [RLS], periodic limb movement disorder [PLMD]). PSG for obstructive sleep apnea is addressed in MP-2.045, Diagnosis and Medical Management of Obstructive Sleep Apnea.

PSG and a multiple sleep latency test performed on the day after the PSG may be considered **medically necessary** in the evaluation of suspected narcolepsy or idiopathic hypersomnia.

PSG may be **medically necessary** when evaluating patients with parasomnias when there is a history of sleep related injurious or potentially injurious disruptive behaviors.

PSG may be **medically necessary** when a diagnosis of periodic limb movement disorder (PLMD) is considered when there is:

- A complaint of repetitive limb movement during sleep by the patient or an observer; AND
- No other concurrent untreated sleep disorder; AND
- At least one of the following is present:
 - Frequent awakenings; or
 - Fragmented sleep; or
 - Difficulty maintaining sleep; or
 - Excessive daytime sleepiness.

PSG for the diagnosis of PLMD is considered **not medically necessary** when there is:

- Concurrent untreated obstructive sleep apnea; or
- Restless legs syndrome; or
- Narcolepsy; or
- Rapid eye movement (REM) sleep behavior disorder.

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PSG is considered **investigational** for the diagnosis of non-respiratory sleep disorders not meeting the criteria above, including but not limited to:

- Nightmare disorder; or
- Depression; or
- Sleep-related bruxism; or
- Noninjurious disorders of arousal.

There is insufficient evidence to support a conclusion concerning the health outcomes or benefits associated with this procedure.

Note: Criteria is met for attended PSG to be completed in a facility for the medically necessary conditions described above.

POLICY GUIDELINES

Hypersomnias include narcolepsy, idiopathic hypersomnia, and Klein-Levine syndrome.

Parasomnias are abnormal behavioral, experiential, or physiologic events that occur during entry into sleep, sleep, or during arousals from sleep (e.g., rapid eye movement sleep behavior disorder) and other parasomnias sleep walking and sleep-related eating disorder).

Sleep-related movement disorders include restless legs syndrome and periodic limb movement disorder.

Cross-reference:

- MP 2.045** - Diagnosis and Medical Management of Obstructive Sleep Apnea
- MP 1.128** - Surgical Treatment of Snoring and Obstructive Sleep Apnea

II. PRODUCT VARIATIONS

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This policy is applicable to all programs and products administered by Capital BlueCross unless otherwise indicated below.

FEP PPO: Refer to FEP Medical Policy Manual MP-2.01.99, Polysomnography for Non-Respiratory Sleep Disorders. The FEP Medical Policy Manual can be found at: www.fepblue.org.

III. DESCRIPTION/BACKGROUND

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PSG is a recording of multiple physiologic parameters relevant to sleep. The standard full polysomnogram includes:

- Electroencephalography (EEG) to differentiate the various stages of sleep and wake,

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- Chin electromyography (EMG) and electrooculography to assess muscle tone and detect rapid eye movement (REM) sleep,
- Respiratory effort, airflow, blood oxygen saturation (oximetry) and electrocardiography to assess apneic events,
- Anterior tibialis EMG to assess periodic limb movements (PLMs) during sleep, and
- Video recording to detect any unusual behavior.

HYPERSOMNIAS

The hypersomnias include such disorders as narcolepsy, Klein-Levine syndrome, and idiopathic hypersomnolence. Narcolepsy is a neurologic disorder characterized predominantly by abnormalities of rapid eye movement (REM) sleep, some abnormalities of non-REM (NREM) sleep, and the presence of excessive daytime sleepiness that cannot be fully relieved by any amount of sleep. The classic symptoms include hypersomnolence, cataplexy, sleep paralysis, and hypnagogic (onset of sleep) hallucinations. Cataplexy refers to the total or partial loss of muscle tone in response to sudden emotion. Most patients with cataplexy have abnormally low levels of hypocretin-1 (orexin-A) in the cerebrospinal fluid.¹ Narcolepsy type 1 (narcolepsy with cataplexy) is defined as excessive daytime sleepiness and at least one of the following criteria: (a) hypocretin deficiency or (b) cataplexy and a positive multiple sleep latency test (MSLT). In the MSLT, the patient lies down in a dark, quiet room to assess the time to enter the different stages of sleep. The test is repeated every 2 hours throughout the day, and the maximum time allowed to fall asleep is typically set at 20 minutes. Patients with narcolepsy often have a mean sleep latency of fewer than 5 minutes and 2 or more early-onset REM periods during the MSLT naps. People with idiopathic hypersomnia fall asleep easily but typically do not reach REM sleep during the MSLT. Narcolepsy type 2 (narcolepsy without cataplexy) is defined by chronic sleepiness plus a positive MSLT; hypocretin-1 levels are in the normal range in most patients.

PARASOMNIAS

Parasomnias are abnormal behavioral, experiential, or physiologic events that occur during entry into sleep, within sleep, or during arousals from sleep. Parasomnias can result in a serious disruption of sleep-wake schedules and family functioning. Some, particularly sleepwalking, sleep terrors, and REM sleep behavior disorder (RBD), can cause injury to the patient and others. Parasomnias are classified into parasomnias associated with REM sleep, parasomnias associated with NREM sleep, and other parasomnias.

Parasomnias Associated With REM Sleep

REM sleep is normally accompanied by muscle atonia, in which there is an almost complete paralysis of the body through inhibition of motor neurons. In patients with RBD, muscle tone is maintained during REM sleep. This can lead to abnormal or disruptive behaviors associated with vivid dreams such as talking, laughing, shouting, gesturing, grabbing, flailing arms, punching, kicking, sitting up or leaping from bed, and running.² Violent episodes that carry a risk of harm to the patient or bed partner may occur up to several times nightly. Idiopathic RBD is associated with the development of degenerative synucleinopathies (Parkinson disease, dementia with Lewy bodies, multiple systems atrophy) in about half of patients. Guidelines recommend maintaining a safe sleeping environment for both the patient and bed partner along with medical therapy. Other

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parasomnias associated with REM sleep are recurrent isolated sleep paralysis and nightmare disorder.

Parasomnias Associated With NREM Sleep

Disorders of arousal from NREM sleep result from the intrusion of wake into NREM sleep. These include confusional arousals, sleepwalking, and sleep terrors. In these parasomnias, the patient has an incomplete awakening from NREM sleep, usually appears awake with eyes open, is unresponsive to external stimuli, and is amnesic to the event. Sleepwalking can range from calm behaviors such as walking through a house to violent and/or injurious behaviors such as jumping out of a second story window. Patients with sleep terrors (also called night terrors) typically awaken with a loud scream and feeling of intense fear, jump out of bed, and occasionally may commit a violent act.

Other Parasomnias

The category of “other parasomnias” has no specific relation to sleep stage and includes sleep-related dissociative disorders, sleep-related enuresis, sleep-related groaning, exploding head syndrome, sleep-related hallucinations, and sleep-related eating disorder. Diagnosis of these disorders is primarily clinical, although polysomnography (PSG) may be used for differential diagnosis.

- In sleep-related dissociative disorders, behaviors occur during an awakening, but the patient is amnesic to them.
- Sleep-related enuresis (bedwetting) is characterized by recurrent involuntary voiding in patients greater than 5 years of age.
- Sleep-related groaning is a prolonged vocalization that can occur during either NREM or REM sleep.
- Exploding head syndrome is a sensation of a sudden loud noise or explosive feeling within the head on falling asleep or during an awakening from sleep.
- Sleep-related hallucinations are hallucinations that occur on falling asleep or on awakening.
- Sleep-related eating disorder is characterized by recurrent episodes of arousals from sleep with involuntary eating or drinking. Patients may have several episodes during the night, typically eat foods that they would not eat during the day and may injure themselves by cooking during sleep.

SLEEP-RELATED MOVEMENT DISORDERS

Sleep-related movement disorders include restless legs syndrome (RLS) and periodic limb movement disorder (PLMD).

Restless Legs Syndrome

RLS is a neurologic disorder characterized by uncomfortable or odd sensations in the leg that usually occur during periods of relaxation, such as while watching television, reading, or attempting to fall asleep. Symptoms occur primarily in the evening. The sensations are typically described as creeping, crawling, itchy, burning, or tingling. There is an urge to move in an effort

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to relieve these feelings, which may be partially relieved by activities such as rubbing or slapping the leg, bouncing the feet, or walking around the room.

Periodic Limb Movement Disorder

Periodic limb movements are involuntary, stereotypic, repetitive limb movements during sleep, which most often occur in the lower extremities, including the toes, ankles, knees, and hips, and occasionally in the upper extremities. The repetitive movements can cause fragmented sleep architecture, with frequent awakenings, a reduction in slow-wave sleep and decreased sleep efficiency, leading to excessive daytime sleepiness. PLMD alone is thought to be rare because periodic limb movements are typically associated with RLS, RBD, or narcolepsy and represent a distinct diagnosis from PLMD.³

IV. RATIONALE

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SUMMARY OF EVIDENCE

Hypersomnia

For individuals who have suspected hypersomnia who receive PSG, the evidence includes a systematic review on diagnostic accuracy. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. The evidence has suggested that PSG followed by the multiple sleep latency test is associated with moderate sensitivity and high specificity in support of the diagnosis of narcolepsy. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

Parasomnias

For individuals who have typical or benign parasomnia who receive PSG, the evidence includes systematic reviews of studies on diagnostic accuracy and controlled cohort studies. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. The evidence has suggested that typical and benign parasomnias (eg, sleepwalking, sleep terrors) may be diagnosed on the basis of their clinical features and do not require PSG. The evidence is sufficient to determine that the technology is unlikely to improve the net health outcome.

For individuals who have violent or potentially injurious parasomnia who receive PSG, the evidence includes systematic reviews of studies on diagnostic accuracy and controlled cohort studies. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. For the diagnosis of REM sleep behavior disorder, the combined use of clinical history and PSG to document the loss of muscle atonia during REM sleep increases diagnostic accuracy and is considered the criterion standard for diagnosis. Diagnostic accuracy is increased with videorecording during PSG to assess parasomnias such as REM sleep behavior disorder. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

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Sleep-Related Movement Disorders

For individuals who have restless legs syndrome who receive PSG, the evidence includes systematic reviews of studies on diagnostic accuracy and controlled cohort studies. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. Restless legs syndrome does not require PSG because the syndrome is a sensorimotor disorder, the symptoms of which occur predominantly when awake; therefore, PSG results are generally not useful. The evidence is sufficient to determine that the technology is unlikely to improve the net health outcome.

For individuals who have periodic limb movement disorder who receive PSG, the evidence includes a systematic review. Relevant outcomes are test accuracy, symptoms, functional outcomes, and quality of life. PSG with electromyography of the anterior tibialis is the only method available to diagnose periodic limb movement disorder, but this sleep-related movement disorder is rare and should only be evaluated using PSG in the absence of symptoms of other disorders. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

V. DEFINITIONS

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NA

VI. BENEFIT VARIATIONS

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The existence of this medical policy does not mean that this service is a covered benefit under the member's contract. Benefit determinations should be based in all cases on the applicable contract language. Medical policies do not constitute a description of benefits. A member's individual or group customer benefits govern which services are covered, which are excluded, and which are subject to benefit limits and which require preauthorization. Members and providers should consult the member's benefit information or contact Capital BlueCross for benefit information.

VII. DISCLAIMER

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Capital BlueCross's medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. Capital BlueCross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

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VIII. CODING INFORMATION

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Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Covered when medically necessary:

CPT Codes®							
95805	95808	95810	95811	95782	95783		

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ICD-10-CM Diagnosis Code*	Description
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
G47.411	Narcolepsy with cataplexy
G47.419	Narcolepsy without cataplexy
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
G47.61	Periodic limb movement disorder

IX. REFERENCES

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2. Aurora RN, Zak RS, Maganti RK, et al. Best practice guide for the treatment of REM sleep behavior disorder (RBD). *J Clin Sleep Med*. Feb 15 2010;6(1):85-95. PMID 20191945
3. Aurora RN, Kristo DA, Bista SR, et al. The treatment of restless legs syndrome and periodic limb movement disorder in adults--an update for 2012: practice parameters with an evidence-based systematic review and meta-analyses: an American Academy of Sleep

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9. *Aurora RN, Zak RS, Auerbach SH, et al. Best practice guide for the treatment of nightmare disorder in adults. J Clin Sleep Med. Aug 15 2010;6(4):389-401. PMID 20726290*
10. *Blue Cross Blue Shield Association Medical Policy Reference Manual. 2.01.99, Polysomnography for Non-Respiratory Sleep Disorders. June 2018.*

X. POLICY HISTORY

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MP 2.335	CAC 1/26/16 New policy adopting BCBSA. Polysomnography for non-respiratory sleep disorders are medically necessary when criteria are met. Added FEP variation to reference MP-2.01.99 Polysomnography for Non-Respiratory Sleep Disorders. Coding added.
	CAC 7/26/16 Minor review. Added note indicating this policy addresses Polysomnography (PSG) for non-respiratory sleep disorders, which include the hypersomnias (e.g., narcolepsy), parasomnias, and sleep-related movement disorders (e.g., restless legs syndrome [RLS], periodic limb movement disorder [PLMD]). PSG for obstructive sleep apnea refer to MP 2.045 Diagnosis and Medical Management of Obstructive Sleep Apnea. Changed NHIC (LCD) L35050 Outpatient Sleep Studies to reference Noridian. Coding reviewed. Variation section reformatted.
	Admin update 1/1/17: Product variation section updated with BlueJourney product name.
	CAC 7/25/17 Consensus. In the section for PLMD changed “no other concurrent sleep disorder” to “no other concurrent untreated sleep disorder”. No change to policy intent. References and rationale updated. Coding reviewed.

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	1/1/18 Admin Update: Medicare variations removed from Commercial Policies.
	7/17/18 Consensus review. Policy statements unchanged. Description/Background, Rationale and Reference sections updated.
	4/15/19 Admin coding update. Diagnosis updated.

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