Introduction

Actigraphy is the recording of how a body moves. It has been used to look at a person’s sleep-wake cycles. Actigraphy uses a small device that is usually placed on the wrist or ankle. In some cases the device is placed on a leg to assess restless legs syndrome. High quality medical studies do not show that actigraphy works as well as or better than the usual ways of determining sleep-wake cycles. For this reason, actigraphy is considered investigational (unproven).

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

<table>
<thead>
<tr>
<th>Service</th>
<th>Investigational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actigraphy</td>
<td>Actigraphy is considered investigational when used as the sole technique to record and analyze body movement, including but not limited to its use to evaluate sleep disorders.</td>
</tr>
</tbody>
</table>
Service

<table>
<thead>
<tr>
<th></th>
<th>Investigational</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Note: This does not include the use of actigraphy as a component of portable sleep monitoring.</td>
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</table>

Coding

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>CPT</td>
<td></td>
</tr>
<tr>
<td>95803</td>
<td>Actigraphy testing, recording, analysis, interpretation and report (minimum of 72 hours to 14 consecutive days of recording)</td>
</tr>
</tbody>
</table>

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

Related Information

N/A

Evidence Review

Background

Actigraphy refers to the use of devices to assess activity patterns (body movement). The devices are typically placed on the wrist or ankle, and the results are interpreted by computer algorithms to determine periods of sleep (absence of activity) and wake (activity). Actigraphic devices are typically placed on the nondominant wrist with a wristband and are worn continuously for at least 24 hours. Activity is usually recorded for a period of 3 days to 2 weeks but can be collected continuously over extended time periods with regular downloading of data onto a computer. The activity monitors may also be placed on the ankle to assess restless legs syndrome or on the trunk to record movement in infants.
Data on patient bed times (lights out) and rise times (lights on) are usually entered into the computer from daily patient sleep logs or by patient-activated event markers. Proprietary software is then used to calculate periods of sleep based on the absence of detectable movement, along with movement-related level of activity and periods of wake. In addition to providing graphic depiction of the activity pattern, device-specific software can then analyze and report a variety of sleep parameters including sleep onset, sleep offset, sleep latency, total sleep duration, and wake after sleep onset. Actigraphy could also be used to measure the level of a person’s physical activity.

Actigraphy has been used for more than 2 decades as an outcome measure in sleep disorders research. For clinical applications, actigraphy is being evaluated as a measure of sleep-wake cycles in sleep disorders, including insomnia and circadian rhythm sleep disorders. In addition, actigraphy is being investigated as a measure of sleep-wake disturbances associated with numerous other diseases and disorders.

**Summary of Evidence**

For individuals who have circadian sleep-wake rhythm disorders, central disorders of hypersomnolence, or insomnia who receive actigraphy, the evidence includes prospective and retrospective validation studies. Relevant outcomes are test accuracy and validity. The clinical validity of actigraphy depends on the modality to which it is being compared. Comparisons with sleep diaries have shown reasonable correlations for measures of bedtime, sleep onset, and wake time in adults but not in adolescents. The relative and unique contributions of actigraphy and sleep logs in the diagnosis of sleep disorders and measuring the effects of treatment remain to be demonstrated. Comparisons with the more resource-intensive polysomnography or behavioral scoring have indicated that, with the appropriate sensitivity threshold, actigraphy has sufficient sensitivity to detect sleep but has poor specificity distinguishing between wake and sleep. The literature has also revealed that the accuracy of actigraphy for differentiating between wake and sleep decreases as the level of sleep disturbance increases. Overall, progress has been made, especially since 2007 when the American Academy of Sleep Medicine made research recommendations that compared the reliability and validity of different algorithms with the reference standard. Although actigraphy appears to provide reliable measures of sleep onset and wake time in some patient populations, its clinical utility over sleep diaries has not been demonstrated. Moreover, evidence has shown that actigraphy does not provide a reliable measure of sleep efficiency in clinical populations. The evidence is insufficient to determine the effects of the technology on health outcomes.
Ongoing and Unpublished Clinical Trials

A search of ClinicalTrials.gov in December 2016 did not identify any ongoing or unpublished trials that would likely influence this review.

Practice Guidelines and Position Statements

American Academy of Sleep Medicine

The most recent practice parameters by the American Academy of Sleep Medicine (AASM) were published in 2007 on the use of actigraphy in the assessment of sleep and sleep disorders (including a separate practice parameter on circadian rhythm sleep disorders) (see Table 1).4,5

Table 1. Recommendations for Actigraphy

<table>
<thead>
<tr>
<th>Condition</th>
<th>Actigraphy for Diagnosis</th>
<th>Actigraphy to Measure Treatment Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift work disorder</td>
<td>Indicated (option)</td>
<td>Indicated (guideline)</td>
</tr>
<tr>
<td>Jet lag disorder</td>
<td>Not routinely indicated (option)</td>
<td>Indicated (guideline)</td>
</tr>
<tr>
<td>Advanced sleep phase disorder</td>
<td>Indicated (guideline)</td>
<td>Indicated (guideline)</td>
</tr>
<tr>
<td>Delayed sleep phase disorder</td>
<td>Indicated (guideline)</td>
<td>Indicated (guideline)</td>
</tr>
<tr>
<td>Free running disorder</td>
<td>Indicated (option)</td>
<td>Indicated (guideline)</td>
</tr>
<tr>
<td>Irregular sleep-wake rhythm</td>
<td>Indicated (option)</td>
<td>Indicated (guideline)</td>
</tr>
</tbody>
</table>

“Standards” describe a generally accepted patient care strategy, which reflects a high degree of clinical certainty.

“Guidelines” reflect a moderate degree of clinical certainty.

“Options” imply either inconclusive or conflicting evidence or conflicting expert opinion.

AASM: American Academy of Sleep Medicine.

AASM practice parameters from 2008 on the clinical management of chronic insomnia in adults reference the 2007 practice parameters on actigraphy, stating that actigraphy is indicated as a method (option) to characterize circadian rhythm patterns or sleep disturbances in individuals with insomnia, including insomnia associated with depression.27
Medicare National Coverage

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of local Medicare carriers.

Regulatory Status

Numerous actigraphy devices have been cleared for marketing by the U.S. Food and Drug Administration 510(k) process. Some actigraphy devices are designed and marketed to measure sleep-wake states while others are designed and marketed to measure levels of physical activity. Food and Drug Administration product code: OLV.

References


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**History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/11/05</td>
<td>Add policy to Medicine Section - New Policy</td>
</tr>
<tr>
<td>Date</td>
<td>Comments</td>
</tr>
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<td>------------</td>
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<td>08/08/06</td>
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<td>11/13/07</td>
<td>Replace Policy - Policy reviewed with literature search; references added; no change in policy statement.</td>
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<td>01/13/09</td>
<td>Code Update - Code 95803 added, effective 1/1/09.</td>
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<td>10/13/09</td>
<td>Replace Policy - Policy reviewed with literature search; references added; no change in policy statement.</td>
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<tr>
<td>05/10/11</td>
<td>Replace Policy - Policy updated with literature review through December 2010; references added and reordered; policy statement unchanged.</td>
</tr>
<tr>
<td>04/10/12</td>
<td>Replace policy. Policy updated with literature review through November 2011; references 10 and 12 added and references reordered; some references removed. Policy statement unchanged.</td>
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<td>12/4/12</td>
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<td>Annual Review. Policy updated with literature review through January 6, 2014; references 7, 10, 12, 15, 18, and 25 added; policy statement unchanged. ICD-9 and ICD-10 diagnosis and procedure codes removed; they are not utilized in adjudication.</td>
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<td>Update Related Policies. Change title to 2.01.503.</td>
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<td>11/20/15</td>
<td>Update Related Policies. Remove 7.01.516.</td>
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<tr>
<td>12/01/16</td>
<td>Annual Review, approved November 8, 2016. Policy reviewed with literature search; No new studies were identified that compared actigraphy with other diagnostic methods; no change in policy statement.</td>
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<tr>
<td>01/01/18</td>
<td>Minor update; removed 2.01.503 from Related Policies as it was archived.</td>
</tr>
</tbody>
</table>

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and
local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2018 Premera All Rights Reserved.

**Scope:** Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.
Discrimination is Against the Law

Premera Blue Cross complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Premera does not exclude people or treat them differently because of race, color, national origin, age, disability or sex.

Premera:
- Provides free aids and services to people with disabilities to communicate effectively with us, such as:
  - Qualified sign language interpreters
  - Written information in other formats (large print, audio, accessible electronic formats, other formats)
- Provides free language services to people whose primary language is not English, such as:
  - Qualified interpreters
  - Information written in other languages

If you need these services, contact the Civil Rights Coordinator.

If you believe that Premera has failed to provide these services or discriminated in any other way on the basis of race, color, national origin, age, disability, or sex, you can file a grievance with:

Civil Rights Coordinator - Complaints and Appeals
PO Box 91102, Seattle, WA 98111
Toll free 855-332-4535, Fax 425-918-5592. TTY 800-842-5357
Email AppealsDepartmentInquiries@Premera.com

You can file a grievance in person or by mail, fax, or email. If you need help filing a grievance, the Civil Rights Coordinator is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD)

Getting Help in Other Languages

This Notice has Important Information. This notice may have important information about your application or coverage through Premera Blue Cross. There may be key dates in this notice. You may need to take action by certain deadlines to keep your health coverage or help with costs. You have the right to get this information and help in your language at no cost. Call 800-722-1471 (TTY: 800-842-5357).

Arabic (Arabic):

لا يوجد الإشعار معلومات هامة. قد يوجد هذه الإشعار معلومات مهمة بخصوص طلبك أو المعلمة التي تحدد المواقع. قد تكون هناك ترجمة مهنية Premera Blue Cross. يرجى توضيح المواقع على هذه المعلومات والمساعدة بذلك عند طلبك. إتصل 800-722-1471 (TTY: 800-842-5357) لموعد.

中文 (Chinese):

本通知有重要的訊息。本通知可能有關於您透過 Premera Blue Cross 提交的申請或保單的重要訊息。本通知可能有重要的日期。您可能需要在截止日期之前採取行動，以保留您的健康保險或費用補貼。您有權利免費以您的母語得到本訊息和幫助。請撥電話 800-722-1471 (TTY: 800-842-5357)。

Oromoo (Cushite):


Français (French):


Kreyòl ayisyen (Creole):

Avi sila a gen Enfòmasyon Empòtan la. Avi sila a kapab genyen enfòmasyon enpòtan konsan aplanifikasyon y m la osawa konsan kouvèti asirans lan atravet Premera Blue Cross. Kapab genyen dat ki enpòtan nan av sily a. Ou ka gen pou pran kék aksyon avan seten d lòt pou ka konte kouvèti asirans sante w la osawa pou yo ka ede w avèk defòris yo. Se dwa w pou resewva enfòmasyon sa a ak asistans nan lang ou pale a, san ou pa gen pou peye pou sa. Rate nan 800-722-1471 (TTY: 800-842-5357).

Deutsche (German):


Hmoob (Hmong):


Iloko (Ilocano):

Daytoy a pakdaara ket naglaon iti Napateg nga Impormasion. Daytoy a pakdaara mabalina nga adda ket naglaon iti napateg nga impormasion mainpapeeg iiti aplanifikasyon any wo coverage babaen iti Premera Blue Cross. Daytoy ket mabalina dagiti importante a pelsa iti daytoy a pakdaara. Mabalina nga adda rumbenga a aramidenyo nga adda sakyay dagiti partikular a naltinguna nga adda tidap magpalatinaldyay a coverage ti salun-atyo wenno tulong kadagiti gastos. Adda karbenganyo a mangala iti daytoy nga impormasion ken tulong iti bukodyo a pagasaaa nga awan ti bayadanyo. Tumawag iti numero nga 800-722-1471 (TTY: 800-842-5357).

Italiano (Italian):

Este aviso contém informações importantes. Este aviso pode conter informações importantes a respeito de sua aplicação ou cobertura por meio do Premera Blue Cross. Poderão existir datas importantes neste aviso. Por favor, leia atentamente este aviso.

Les inforamations contenues dans ce avis sont importantes. Il peut contenir des informations importantes relatives à votre application ou couverture par le Premera Blue Cross. Il peut y avoir des dates importantes dans ce avis. Veuillez lire attentivement ce avis.

이 사항이 중요합니다. 이 사항이 적용되거나 적용될 예정인 사항이 있을 수 있습니다. 이 사항을 주의 깊게 살펴보세요.

El aviso contiene información importante. Puede contener información importante relacionada con su aplicación o cobertura a través del Premera Blue Cross. Puede haber fechas importantes en este aviso. Por favor, lea cuidadosamente este aviso.


この通知には重要な情報が含まれています。この通知には、Premera Blue Crossの適用および適用される際の重要な情報を含んでいます。この通知には、重要な日付が含まれる場合があります。この通知をよくお読みください。

При цьому повідомлення містить важливі інформації. На цьому повідомленні можуть бути важливі дата. Ви повинні читати цей повідомлення з увагою.

この通知には重要な情報が含まれています。この通知には、Premera Blue Crossの適用および適用される際の重要な情報を含んでいます。この通知には、重要な日付が含まれる場合があります。この通知をよくお読みください。