Complete Summary

GUIDELINE TITLE

Practice parameters for using polysomnography to evaluate insomnia: an update.

BIBLIOGRAPHIC SOURCE(S)

Littner M, Hirshkowitz M, Kramer M, Kapen S, Anderson WM, Bailey D, Berry RB, Davila D, Johnson S, Kushida C, Loube DI, Wise M, Woodson BT. Practice parameters for using polysomnography to evaluate insomnia: an update. Sleep 2003 Sep15;26(6):754-60. [61 references] PubMed

GUIDELINE STATUS

This is the current release of this guideline.

This guideline updates a previous version: American Sleep Disorders Association. Practice parameters for the use of polysomnography in the evaluation of insomnia. Sleep 1995 Jan;18(1):55-7.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Insomnia
- Sleep-related breathing disorders
- Periodic limb movement disorder
- Persistent circadian rhythm disorders, such as delayed-sleep-phase syndrome
- Psychiatric disorders
- Drug-related effects
- Dementia
- Depression

- Fibrositis fibromyalgia
- Chronic fatigue syndrome

GUIDELINE CATEGORY

Diagnosis

CLINICAL SPECIALTY

Internal Medicine
Neurology
Otolaryngology
Psychiatry
Psychology
Pulmonary Medicine
Sleep Medicine

INTENDED USERS

Physician Assistants
Physicians
Psychologists/Non-physician Behavioral Health Clinicians

GUIDELINE OBJECTIVE(S)

- To provide recommendations for the use of polysomnography in the evaluation of insomnia
- To update the American Academy of Sleep Medicine (formerly, American Sleep Disorders Association) 1995 practice parameters

TARGET POPULATION

Adults with insomnia

INTERVENTIONS AND PRACTICES CONSIDERED

Polysomnography

MAJOR OUTCOMES CONSIDERED

Utility of polysomnography for diagnosing insomnia according to level of evidence to answer the following questions:

- Does polysomnography help in the evaluation of insomnia?
- Does polysomnography provide information helpful for understanding treatment failure?
- Does polysomnography differentiate between insomnia of different etiologies?

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Literature Search Strategy

A task force appointed by the Standards of Practice Committee (SPC) examined the previously published practice parameters and the reviews upon which they were based. Excluding conference abstracts and letters to the editor, the references cited in the Reite et al (1995) review paper were considered in the current literature reassessment. Medline was searched from 1980 through and including articles published up to February 2002. The terms *insomnia, sleeplessness*, and *sleep initiation and maintenance disorders* were crossed with the terms *polysomnography*, *sleep evaluation*, *monitoring ambulatory*, or *monitoring physiologic*. Searches were also conducted crossing *Ekbom´s syndrome*, *restless legs syndrome*, *nocturnal myoclonus*, *fibromyalgia*, and *depression* with *polysomnography*, *sleep evaluation*, *monitoring ambulatory*, or *monitoring physiologic*. The two Medline searches were then combined and limited to human subject and English language publications.

Inclusion and Exclusion Criteria

Two Standards of Practice Committee members reviewed all of the titles, abstracts, and, if needed, the full publication to determine whether the citation was appropriate for review. Inclusion criteria were: 1) the study included laboratory polysomnography, 2) a formal diagnosis was rendered, and 3) there appeared to be a focus on insomnia. Exclusion criteria were: 1) reports of treatment outcome studies, 2) reports of ambulatory polysomnography (PSG) and specialized waveform analysis, 3) reports that did not present original data (editorials, letters, and reviews), and 4) single case studies.

NUMBER OF SOURCE DOCUMENTS

The Medline search strategy produced 706 citation titles. Of these, 23 articles were selected for data extraction.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Level I (Grade A)

1-Blind, prospective study
2-Large sample with a spectrum of patients reviewed
3-Results are compared according to a reference standard

Level II (Grade B)

1-Blind, prospective study
2-Limited sample or limited spectrum of patients included
3-Results are compared according to a reference standard

Level III (Grade C)

1-Not blind, randomized, or prospective
2-Methodologically limited
3-Results are compared according to a reference standard

Level IV (Grade C)

1-Not blind, randomized, or prospective
2-Methodologically limited
3-Results not compared according to a reference standard

Level V (Grade D)

1-Not blind, randomized, or prospective
2-Methodologically limited
3-Results not compared to any reference

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Data Extraction

Three of the 4 Standards of Practice Committee (SPC) members independently extracted information from each article. Extraction discrepancies were resolved with extraction or grading by another Standards of Practice Committee member. Only minimal discrepancies were encountered. Additionally, each article was graded according to criteria (modified from Sackett [1993]) shown in table 2 of the original guideline document. The extracted data was then summarized.

Of the 8 articles that address diagnostic utility of polysomnography in patients with insomnia, 5 were level III, grade C; 2 were level IV, grade C, and 1 was level V, grade D. Table 3B in the original guideline document focuses on polysomnography in psychiatric disorders associated with insomnia. Except for a single paper rated as level III, grade C, the remaining 7 articles on this topic were graded as level IV, grade C. Finally, Table 3C in the original guideline document

tabulates the 6 other relevant reports. One each was rated as level III, grade C and level V, grade D; the remaining 4 articles were level IV, grade C.

Articles were evaluated to address the utility of polysomnography for the diagnosis of insomnia according to whether there was evidence to answer the key questions. The results are detailed in Tables 3A, B and C in the original guideline document.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Standard

A *standard* is a generally accepted patient care strategy reflecting a high degree of clinical certainty. The term *standard* generally implies a basis in either Level I evidence directly addressing the clinical issue or overwhelming Level II evidence.

Guideline

A *guideline* is a patent care strategy reflecting a moderate degree of clinical certainty. The term *guideline* implies a basis in Level II evidence or a consensus of Level III evidence.

Option

An *option* is a patient care strategy reflecting uncertain clinical use. The term *option* implies either inconclusive or conflicting evidence, or conflicting expert opinion.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The Board of Directors of the American Academy of Sleep Medicine approved these recommendations.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The recommendation ratings (i.e., standard, guideline, option) are given in brackets after each recommendation. Definitions used in the rating schemes follow the recommendations.

1. Insomnia is an important public-health problem that requires accurate diagnosis and effective treatment. (Standard)
2. Insomnia is primarily diagnosed by clinical evaluation through a careful, detailed medical, psychiatric, and thorough sleep history (which includes assessment of sleep patterns and waking processes). (Standard)
3. Polysomnography is indicated when sleep-related breathing disorders or periodic limb movement disorder is suspected. (Standard)
4. Polysomnography is indicated when initial diagnosis is uncertain, treatment fails (behavioral or pharmacologic), or precipitous arousals occur with violent or injurious behavior. (Guideline)
5. Polysomnography is not indicated for the routine evaluation of transient or chronic insomnia. (Guideline)
6. Polysomnography is not indicated for the routine evaluation of insomnia due to psychiatric disorders. (Guideline)
7. Polysomnography is not clinically useful in differentiating the insomnia associated with dementia from other forms of insomnia, including insomnia associated with depression. (Guideline)
8. Polysomnography is not useful in establishing the diagnosis of insomnia associated with fibromyalgia or chronic fatigue syndrome because the alpha-delta sleep pattern described in fibromyalgia syndrome is a nonspecific finding. (Guideline)

Definitions:

Standard

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Guideline

A *guideline* is a patent care strategy reflecting a moderate degree of clinical certainty. The term *guideline* implies a basis in Level II evidence or a consensus of Level III evidence.

Option

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Recommendations are rated as standards, guidelines, or options based on evidence from studies published in peer-reviewed journals that were evaluated and listed in the evidence tables (see Tables 3A, 3B, and 3C in the original guideline document). However, when scientific evidence is not available, insufficient, or inconclusive, the recommendations were based on consensus opinion of the committee.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- The American Academy of Sleep Medicine expects these guidelines to have a positive effect on professional behavior, patient outcomes, and possibly health care costs.
- Overnight polysomnography is a standard tool in sleep medicine for evaluating sleep-related pathophysiology, sleep architecture, and sleep integrity. Some etiologies underlying insomnia have specific pathophysiology detectable with polysomnography (e.g., periodic limb movements). Other insomnias may manifest abnormal sleep architectural patterns (e.g., major depressive disorder) that, while recognizable, are diagnostically nonspecific. Finally, sleep integrity can be directly measured with polysomnography. Measures such as latency to sleep onset, total sleep time, number of arousals and awakenings, and sleep efficiency are routinely calculated to characterize a night of sleep. Disturbance in such measures objectively verify complaints of difficulty initiating and maintaining sleep. Furthermore, polysomnographic criteria can differentiate physiologically-based sleep disturbances from sleep state misperception and help to evaluate whether the subject possibly prefers the drug for the wrong reasons (e.g., because of euphoriant properties). For this reason, polysomnography is a component of the standard procedure used to verify insomnia and assess treatment efficacy for research purposes.
- Monitoring for specific etiology-related pathophysiologies (e.g., obstructive sleep apnea) can be very useful for making a diagnosis when insomnia is secondary to another condition.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- These practice parameters define principles of practice that should meet the needs of most patients in most situations. These guidelines are neither inclusive of all proper methods of care nor exclusive of other methods of care reasonably directed toward obtaining the same result. Judgment regarding the propriety of any care strategy ultimately must be made by health care providers with consideration given to individual circumstances presented by the patient, available diagnostic procedures, and extant treatment resources.
- These practice parameters reflect the state of knowledge at the time of development and will be reviewed, updated, and revised, as new information becomes available.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1995 (revised 2003 Sep)

GUIDELINE DEVELOPER(S)

American Academy of Sleep Medicine - Professional Association

SOURCE(S) OF FUNDING

American Academy of Sleep Medicine

GUIDELINE COMMITTEE

Standards of Practice Committee

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the American Academy of Sleep Medicine Standards of Practice Committee and Board of Directors completed detailed conflict-of-interest statements and were found to have no conflicts of interest with regard to this subject.

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GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American Academy of Sleep Medicine (AASM) Web site.

Print copies: Available from the Standards of Practice Committee, American Academy of Sleep Medicine, One Westbrook Corporate Center, Suite 920, Westchester, IL 60154. Web site: www.aasmnet.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on April 25, 1999. The information was verified by the guideline developer on May 24, 1999. This summary was updated by ECRI on March 4, 2004. The information was verified by the guideline developer on March 25, 2004.

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