Clinical Guidelines for the Use of Unattended Portable Monitors in the Diagnosis of Obstructive Sleep Apnea in Adult Patients
Portable Monitoring Task Force of the American Academy of Sleep Medicine


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Indications for Portable Monitoring

- **PM for the diagnosis of OSA should be performed only in conjunction with a comprehensive sleep evaluation.** Clinical sleep evaluations using PM must be supervised by a practitioner with board certification in sleep medicine or an individual who fulfills the eligibility criteria for the sleep medicine certification examination. In the absence of a comprehensive sleep evaluation, there is no indication for the use of PM.

- **PM is not appropriate for the diagnosis of OSA in patients with significant comorbid medical conditions that may degrade the accuracy of PM, including, but not limited to, moderate to severe pulmonary disease, neuromuscular disease, or congestive heart failure.**

Only 2 of the studies reviewed did not exclude patients with comorbid medical disorders. The other 35 studies either excluded patients with comorbid medical disorders or did not state exclusion criteria. No new data has been published on this topic since the 2003 guidelines. Use of PM devices should be restricted to populations with data supporting its diagnostic accuracy, and therefore in-laboratory PSG remains the standard for patients with co-morbid medical disorders.

- **PM is not appropriate for the diagnostic evaluation of OSA in patients suspected of having other sleep disorders, including central sleep apnea, periodic limb movement disorder (PLMD), insomnia, parasomnias, circadian rhythm disorders, or narcolepsy.**

This recommendation is consistent with the previous recommendations; no new data are available to evaluate PM in patients with central sleep apnea or OSA with comorbid sleep disorders. In-laboratory PSG should be used in patients suspected of central sleep apnea or hypoventilation syndromes because there are no data evaluating the accuracy of PM devices for the detection of central apneas or hypoventilation. Furthermore, PM does not include data necessary to reach diagnostic criteria for PLMD, parasomnias, circadian rhythm disorders or narcolepsy. PM is not an appropriate methodology for the diagnosis of circadian rhythm disorders.

- **PM is not appropriate for general screening of asymptomatic populations.**

It was the consensus of the Task Force that PM is not appropriate for general screening at this time. Even if screening may be appropriate for asymptomatic individuals in high risk populations (such as congestive heart failure, hypertensives, commercial truck drivers or patients undergoing bariatric surgery) currently available PM devices are not acceptable tools. They have only been shown to have good specificity and sensitivity in populations evaluated by sleep specialists, considered to be at high risk for OSA based on clinical symptoms and without significant comorbid medical disorders or suspicion of comorbid sleep disorders. Although it was the consensus of the Task Force that there is not yet sufficient evidence to guide the use of PM in general screening even of high-risk populations, it is recommended that if such screening is performed, appropriate clinical assessment tools should be used to address potential false positives and false negatives.
Suggested contraindications to unattended home diagnostic sleep studies

CONTRAINDICATIONS

- Congestive heart failure
- Stroke
- Cor pulmonal
- Chronic obstructive pulmonary disease
- Hypoventilation
- Other serious medical disorders (e.g., seizures, psychosis, valvar heart disease, asthma, kidney or liver failure)
- Absence of daytime symptoms
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Abstract

Based on a review of literature and consensus, the Portable Monitoring Task Force of the American Academy of Sleep Medicine (AASM) makes the following recommendations: unattended portable monitoring (PM) for the diagnosis of obstructive sleep apnea (OSA) should be performed only in conjunction with a comprehensive sleep evaluation. Clinical sleep evaluations using PM must be supervised by a practitioner with board certification in sleep medicine or an individual who fulfills the eligibility criteria for the sleep medicine certification examination. PM may be used as an alternative to polysomnography (PSG) for the diagnosis of OSA in patients with a high pretest probability of moderate to severe OSA. PM is not appropriate for the diagnosis of OSA in patients with significant comorbid medical conditions that may degrade the accuracy of PM. PM is not appropriate for the diagnostic evaluation of patients suspected of having comorbid sleep disorders. PM is not appropriate for general screening of asymptomatic populations. PM may be indicated for the diagnosis of OSA in patients for whom in-laboratory PSG is not possible by virtue of immobility, safety, or critical illness. PM may also be indicated to monitor the response to non-CPAP treatments for sleep apnea. At a minimum, PM must record airflow, respiratory effort, and blood oxygenation. The airflow, effort, and oximetric biosensors conventionally used for in-laboratory PSG should be used in PM. The Task Force recommends that PM testing be performed under the auspices of an AASM-accredited comprehensive sleep medicine program with written policies and procedures. An experienced sleep technologist/technician must apply the sensors or directly educate patients in sensor application. The PM device must allow for display of raw data with the capability of manual scoring or editing of automated scoring by a qualified sleep technician/technologist. A board certified sleep specialist, or an individual who fulfills the eligibility criteria for the sleep medicine certification examination, must review the raw data from PM using scoring criteria consistent with current published AASM standards. Under the conditions specified above, PM may be used for unattended studies in the patient's home. A follow-up visit to review test results should be performed for all patients undergoing PM. Negative or technically inadequate PM tests in patients with a high pretest probability of moderate to severe OSA should prompt in-laboratory polysomnography.