



Guidelines for sleep studies in adults – a position statement of the Australasian Sleep Association



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Executive summary

This a consensus statement by a committee of experienced sleep practitioners on the indications and performance of sleep studies in adults. The report draws significantly from several reviews of this type, which are referenced throughout the document [3–8,27,37,56] and randomised controlled trials. This guideline is designed to offer practical suggestions rather than act as an absolute standard. The guideline will require further modification as knowledge and technology continue to evolve. The committee was empanelled by the Australasian Sleep Association. Individual conflicts of interest were declared before the review began and are outlined in the [Appendix](#). Individual conflict of interest statements were vetted by the ASA Board and were declared to all other committee members.

The report highlights the expanding and evolving nature of sleep investigations. It stresses the central role of the expert clinician in establishing the indications for sleep investigations and in the interpretation of sleep study results. A major concern regarding the performance of sleep studies is the lack of uniformity of definitions (e.g. definition of abnormal breathing events) between sleep-centres. This document seeks to improve standards within Australian and New Zealand by encouraging an evidenced-based approach to the performance of sleep testing, by promoting an internationally accepted and uniform set of definitions of sleep disordered breathing and by encouraging a high standard of laboratory quality control. This guideline provides indications for sleep studies and the methods for performing and reporting studies. The statement substantially revises and extends the 1994 and 2005 TSANZ/ASA [1,2] guideline on Sleep Studies.

The key changes are:

1. An extensively revised section on home-based and limited channel sleep studies. A clinical investigation flow chart is provided to inform readers of the options for diagnostic pathways for respiratory sleep disorders. The circumstances where the use of type 2, 3 & 4 sleep studies is not recommended has been incorporated into the document.

The committee notes:

- a) for all types of sleep studies, the investigation is only one component of the diagnosis. Clinical history and examination are as important and are complimentary to the sleep study.
- b) that type 2 studies have good diagnostic accuracy (to both “rule-in” and “rule-out” OSA) in selected patients and are an alternative to a type 1 study.

- c) increasing evidence supporting the use of some home-based type 3 and 4 type sleep studies to “rule-in” (but not “rule-out”) moderate to severe obstructive sleep apnoea. Such devices may therefore prove useful in populations where there is high prevalence obstructive sleep apnoea or when combined with validated sleep questionnaire(s) that enhance the pre-test probability of moderate to severe obstructive sleep apnoea. Additionally, research where type 3 & 4 studies have been used to rule in OSA have often been in carefully selected patient populations with minimal cardiorespiratory co-morbidities. The committee currently recommends that type 3 and 4 studies are used under the supervision of an accredited sleep physician who has a sound knowledge of the technical diagnostic capabilities and limitations of these devices plus access to type 1 and/or 2 studies.
 - d) that type 1 studies remain an important option in the diagnostic armamentarium for sleep disorders,
 - e) the use of a clinical tools appropriate for the patient population may help divide patients into high and low pre-test probability for moderate to severe OSA.
 - f) autotitrating positive airway pressure devices (APAP) in carefully selected populations are as effective as attended manual titration CPAP studies in determining optimal CPAP pressure.
 - g) there is no evidence to support “routine” in lab CPAP re-titration studies when the clinical response to CPAP treatment remains satisfactory.
2. Guidelines on the indications and performance of sleep studies in non-respiratory sleep disorders are included in the document. Specifically, the committee recommends that:
 - a. sleep studies are not required for the routine assessment of isolated insomnia, restless legs syndrome or uncomplicated parasomnias if one of these conditions are considered the likely primary abnormality. Such conditions are usually diagnosed with confidence following careful history and examination.
 - b. polysomnography be considered if there is a suspicion of overlapping disorders (e.g. co-existing sleep disordered breathing) or if, following careful clinical assessment, there is doubt about the diagnosis. It is recognised however that insomnia and OSA may co-exist in up to 30% of sleep clinic populations [109].
 - c. an expanded EEG and EMG montage plus continuous synchronised video recording is employed in cases of sleep movement or behaviour disorders that are violent or potentially dangerous, or where there is diagnostic uncertainty. These additional measurements can be helpful

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