

## Guidelines for the practice of sleep medicine in South Africa

1. The basic principle is that a clinician remains in charge of the management of a patient. Patient management should not be handed over to a technologist or to a CPAP company representative.
2. It follows that the clinician treating the patient should have adequate training or experience in the field of sleep medicine. The HPCSA has ruled that sleep medicine is in the ambit of neurologists. However, the treating neurologist should ensure that they remain current with management practices.
3. The referral of the patient for a sleep test of whatever nature should only be done by a doctor who is prepared to continue with the management of that patient. The doctor should then, on receipt of the sleep test results, make the further management decisions. The recommendations of a technologist should not be followed blindly. Recommendations from a technologist will not take into account any underlying medical conditions, nor is a technologist trained to consider conditions which may not be suitable for CPAP treatment, or multiple conditions occurring simultaneously. Treatment decisions for a patient are not the field of practice of a technologist.
4. Diagnostic testing for OSA should be performed in conjunction with a comprehensive sleep evaluation and adequate follow-up.
5. Because daytime sleep and nocturnal sleep differ, unless there are compelling reasons to do otherwise, a polysomnogram should always be done overnight.
6. A multiple sleep latency test, if indicated, should be done the day after a night time polysomnogram, in order to exclude sleep deprivation as a cause for an abnormal multiple sleep latency test, as well as to determine whether a 2<sup>nd</sup> condition might be present. In appropriate circumstances, testing for the use of cannabis may also be appropriate as this can also cause an abnormal multiple sleep latency test.
7. There are very few indications <https://learn.aasm.org> for a maintenance of wakefulness test, mainly because of a relatively low sensitivity and specificity. This should not be routinely performed.
8. Overnight polysomnogram is the standard diagnostic test for the diagnosis of OSA in adult patients in whom there is a concern for OSA based on a comprehensive sleep evaluation. Note: a comprehensive clinical sleep evaluation is essential before the referral of the patient for a polysomnogram.
9. As regards the performance of polysomnography:
  - 9.1. Clinical tools, questionnaires and prediction algorithms should not be used to diagnose OSA in adults, in the absence of polysomnography or home sleep apnoea testing. Such tools would include the Epworth Sleepiness Scale, as well as the STOP-BANG questionnaire. In particular, a low Epworth Sleepiness Scale does **not** exclude OSA, as the ESS tends to drop towards normal the longer the condition has been present. A normal BMI does also **not** exclude OSA.
  - 9.2. Polysomnography without sleep staging, or home sleep apnoea testing with a technically adequate device, can be used for the diagnosis of OSA in **uncomplicated** adult patients <https://learn.aasm.org> presenting with signs and symptoms that indicate an increased risk of moderate to severe OSA.

- 9.3. If a single home sleep apnoea test is negative, inconclusive, or technically inadequate, full polysomnography should be performed for the diagnosis of OSA.
- 9.4. Polysomnography, rather than home sleep apnoea testing, should be used for the diagnosis of OSA in patients with significant cardiorespiratory disease, potential respiratory muscle weakness due to neuromuscular condition, awake hypoventilation or suspicion of sleep-related hypoventilation, chronic opioid medication use, history of stroke or severe insomnia. (It should be borne in mind that insomniacs will often not be able to sleep at all in a sleep laboratory, or with even a home sleep test. Such an attempt may, therefore, not yield any useful results, and should be used with caution.)
- 9.5. If clinically appropriate, a split night diagnostic protocol, rather than a full night diagnostic protocol for polysomnography can be used for the diagnosis of OSA. This will allow the simultaneous titration of the CPAP, thus saving a 2<sup>nd</sup> night in the laboratory.
- 9.6. When the initial polysomnogram is negative and clinical suspicion for OSA remains, a 2<sup>nd</sup> polysomnogram can be considered for the diagnosis of OSA.
- 9.7. Because home testing is insensitive, if such a test is negative and clinical suspicion for OSA remains, the condition cannot be excluded without a full polysomnogram.
- 9.8. Many patients suffer from Upper Airways Resistance Syndrome. UARS cannot be diagnosed or excluded unless RERAs are appropriately scored. This should be a routine in a full polysomnogram. Home studies are inaccurate in this regard and cannot be relied on.
- 9.9. A fully trained technologist should be responsible for the technical aspects and analysis of the polysomnogram. Automated analyses have been shown to be generally inaccurate. Monitoring of the equipment overnight, in order to ensure that leads remain connected and that there is not an equipment failure can be done by an individual with a lower level of training.
10. The use of bilevel PAP machines is generally not indicated in people with normal strength. They may occasionally be used in exceptional situations, such as severe central sleep apnoea or Cheyne-Stokes breathing.
11. The decision about using a manual PAP or automatic PAP should be individualised for the patient.
12. Weight loss on its own has a low probability of success for the management of sleep-disordered breathing and should not be used on its own as initial treatment. At best, it will take a long time to become effective, during which time the patient will be exposed to all the risks of the condition.
13. Patients undergoing bariatric surgery should not be assumed to be cured of the OSA once the weight has dropped. A polysomnogram should be performed before cessation of CPAP treatment.
14. In selected individuals, the use of alternative treatments for sleep-disordered breathing may be more appropriate than CPAP and should be considered. These will include the use of a mandibular advancement device, or appropriate surgery, where an adequately trained surgeon is available.
15. Polysomnography should be performed in an environment which is conducive to sleeping. Frequent noise or increased ambient lighting is likely to disrupt the polysomnogram and give a false result.
16. Periodic limb movements should be looked for in a polysomnogram. However, because these can be extremely problematic to diagnose, a brief trial of therapy can be instituted in patients in whom periodic limb movements is strongly suspected.

17. In conditions where abnormal movements are suspected, for example in REM Behaviour Disorder, polysomnography under video surveillance is optimal although not always possible.
18. A sleep diary is considered to be the best initial test for chronic insomnia. Popular electronic devices such as the “Fitbit” are not accurate enough in themselves. Sometimes these can be correlated with the sleep diary, whereafter they may be used as an indicator of the length of sleep. The algorithms used in these devices are not adequate for sleep staging. The same comments hold for the use of actigraphy as a single diagnostic device.
19. Cognitive Behavioural Therapy for insomnia is considered to be the primary treatment modality for chronic insomnia. Medication should be considered if this is ineffective in experienced hands. Melatonin has not been shown to be particularly effective in younger patients, especially if they are getting adequate sunlight exposure in the morning. Melatonin has been shown to be effective in jet lag, as well as in conditions such as REM behaviour disorder and phase shift disorders, where it is one of the drugs of choice. It may be more effective in older patients, i.e. over 55 years of age.
20. For more details on any of these issues, or for a review of American standards, we refer to the Guidelines issued by the American Academy of Sleep Medicine (AASM), <https://learn.aasm.org>

*Extracted and adapted for NASA from American Guidelines by Dr KD Rosman*