Sleep Deprivation Can Affect the MSLT for Days

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I read with great pleasure the Sleep Medicine Pearl entitled "Dangerous Driver" by Dr. Turpen et al., published in the *Journal of Clinical Sleep Medicine* August 15, 2011.¹ This article demonstrates the all too common problem of chronic sleep deprivation in our adolescent population. The consequences in this setting not only include sleepy driving but also include the well-described cognitive, metabolic, and academic consequences. In addition, athletic performance likely suffers as a result of sleep deprivation.²

This article also highlights some of the limitations of our current testing procedures to evaluate excessive daytime sleepiness, namely, the multiple sleep latency test. The authors reinforce the AASM Practice Parameters³ recommendation of a minimum of 6 hours recorded sleep on the preceding night's polysomnogram; the relationship of circadian rhythm disorders such as delayed sleep phase syndrome on the presence of sleep onset REM episodes on the multiple sleep latency test; and the effects of sleep deprivation on the recorded mean sleep latency.

An example of how sleep deprivation can affect the multiple sleep latency test not just initially, but for several days thereafter, has been described in a case report by Janjua et al.⁴ at the Minnesota Regional Sleep Disorders Center. In their report, the patient had been diagnosed with narcolepsy (at an outside center) under similar circumstances to the patient described by Dr. Turpen. Actigraphy performed on this patient clearly showed an erratic sleep pattern with insufficient sleep. Due to persistent concerns, the PSG and MSLT were repeated. However the investigators elected to perform 4 consecutive nights' PSG and MSLT. Eventually the patient discharged her sleep debt in the Sleep Center by being allowed to sleep in an unrestricted fashion. As a result the patient's MSLT normalized in a graded fashion. The authors, like Dr. Turpen, emphasized the value of sleep diaries prior to performing the PSG and MSLT. The authors also contend that the protocol of forced awakenings the morning after the PSG not only can contribute to the potential for the erroneous presence

of SOREMs on the MSLT (as indicated by Dr. Turpen), but also may contribute to a falsely shortened sleep latency.

The two case studies show that interpretation of MSLT results can be affected not only by the patient's sleep patterns on a chronic basis, but also how we administer the test itself. We can improve on the first problem through education of our patients; improving on the second involves continued education of sleep practitioners, and potentially changes in our testing policies and procedures.

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