

Podcast of the *Journal of Clinical Sleep Medicine*

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Welcome to the regular podcast of the *Journal of Clinical Sleep Medicine*. I am Dr. Stuart Quan, editor of the *Journal*. These podcasts are a regular feature of each issue of the *Journal* and can be downloaded at the *Journal's* website. Each podcast features summaries of important articles published in the current issue of the *Journal*, as well as occasional interviews with authors of these papers.

The first paper to be discussed is entitled, "Treatment of Obstructive Sleep Apnea Syndrome with Nasal Positive Airway Pressure Improves Golf Performance," by Dr. Mark L. Benton and Mr. Neil S. Freidman from Morristown Medical Center in Morristown, NJ. Obstructive sleep apnea in many patients is characterized by excessive daytime sleepiness. Frequently, patients have increased fatigue and may have impaired performance during work or other activities. There also is data to indicate that obstructive sleep apnea impairs neurocognitive performance in some, but not all individuals. In patients with obstructive sleep apnea, sleep is often fragmented and of poor quality. Although generally the total amount of sleep is not reduced in those with sleep apnea, relatively short sleep times are noted in some individuals. Recently, there has been data indicating that individuals with insufficient sleep have poor athletic performance. Whether this occurs in persons with obstructive sleep apnea has not been thoroughly investigated. In the current study, the investigators determined whether persons with obstructive sleep apnea had an improvement in their golf performance with CPAP treatment. The investigators studied 24 participants. Twelve of the participants had moderate to severe obstructive sleep apnea. The mean apnea-hypopnea index in this group was 49.8 events per hour. The mean age of these participants was 55.6 years, with an average body-mass index of 29.9 kg/m². Their initial golf handicap was 12.4 strokes. A second group of 12 participants, who did not have sleep apnea, was used as a control group. Their mean age was 55.1 years, body-mass index was 25.8 kg/m² and initial mean handicap was 12.2 strokes. In the group with obstructive sleep apnea, CPAP was prescribed to all participants but compliance data was only available in nine participants, although all subjectively indicated they used their CPAP units.

After 20 rounds of golf using CPAP, those in the CPAP group reduced their handicap from 12.4 to 11.0 strokes and dropped their average Epworth Sleepiness Scale score from 11.8 to 5.5 strokes. Furthermore, among those golfers who had a handicap of less than 12, their handicap dropped from 9.2 to 6.3 strokes. Those in the control group had no change in either their handicap or Epworth Sleepiness Scale score. The results

of this small study indicate that athletic performance in persons with obstructive sleep apnea can improve with CPAP treatment. This not only has implications for golfers, but other sports as well. There are limitations to this study, however. There was no control group in whom those with obstructive sleep apnea were not treated with CPAP. Thus, it is possible that those treated with CPAP may have taken other measures that would have resulted in a reduction in their handicap. Most golfers will try any viable strategy in order to improve their scoring including expensive lessons and equipment. This study suggests that simply treating obstructive sleep apnea will accomplish something that money can't buy.

The next study to be summarized in this podcast is entitled, "The Sleep and Technology Use of Americans: Findings from the National Sleep Foundation's 2011 Sleep In America Poll," by Dr. Michael Gradisar and colleagues from Flinders University, School of Psychology, Adelaide, Australia, College of the Holy Cross, Department of Psychology, Worcester, MA, University of California, Berkeley, CA, Stony Brook University, Department of Preventative Medicine, Stony Brook, NY, Atlanta School of Sleep & Medicine Technology, Atlanta, GA, National Sleep Foundation, Washington, DC, Division of Sleep Medicine, Department of Medicine, Brigham & Women's Hospital, Boston, MA, and the Division of Sleep Medicine, Harvard Medical School, Boston, MA. Every year, the National Sleep Foundation administers a poll to assess the sleep health of Americans. In 2011, this poll focused on the use of technology and its association with sleep and wakefulness. The survey sample consisted of 1,508 participants between the ages of 13 and 64 years who resided in the United States. Fifty percent of the participants were men and fifty percent were women. The participants were drawn from all geographic areas of the United States. Approximately half of the sample completed phone surveys and the other half completed the surveys on the web. The survey instrument consisted of 47 questions focusing on demographic information, issues related to sleep, as well as questions related to various technological devices in the bedroom. The latter included televisions, cell phones, computers and video or computer games.

The results of the survey indicated that 90% of Americans report some use of technology in their bedroom in the hour before trying to sleep. Technology use was more prevalent in those under 30 years of age, with 96% of those adults using some form of technology. Televisions were the most commonly used device, with a prevalence rate of 60%, followed by cell phones at 39%, computers 36%, musical devices 29%,

telephones 21%, video games 8%, and e-book readers at 6%. For most of these devices, young adults used them more frequently than older adults. Importantly, the investigators found that after controlling for covariates, the amount of media use in the bedroom was significantly related to difficulty falling asleep. More specifically, interactive devices, such as video-game consoles, cell phones and computer laptops, were more likely to cause difficulty falling asleep. In addition, 22% of the sample reported going to sleep with their cell phone ringers left on. In this group, being awakened by one's cell phone was a significant factor in the participant's perception of difficulty in maintaining sleep. The results of this survey indicate that technology use in proximity to bedtime is highly prevalent in American society. Furthermore, it appears that technology use is a risk factor for sleep complaints in Americans, especially those devices which are interactive.

I also wish to call the listener's attention to editorial written by Dr. Richard Simon regarding the improvement in golf handicap after CPAP treatment, as well as an editorial by Michael Grandner and colleagues concerning the paper on the use of technology devices at night. Finally, the listener may wish to note that a prominent article published in 2011 in the *New England Journal of Medicine* by Sharma et al. purporting to demonstrate that CPAP could be used to reverse the metabolic syndrome was recently retracted. This was the stimulus for the lead editorial by yours truly in this issue on the role of replication in clinical research.

This concludes the regular podcast of the *Journal of Clinical Sleep Medicine*. The listener is encouraged to read the contents of the *Journal* for additional information regarding each of the articles summarized in this podcast, as well as other papers published in this issue of the *Journal*.