

Does Acute Exercise Improve Driving Performance in Patients with Untreated Obstructive Sleep Apnea?

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Obstructive Sleep Apnea (OSA) is a highly prevalent, yet frequently undiagnosed sleep disorder that often is associated with excessive daytime fatigue, and increased risk for motor vehicle accidents. Although treatment with continuous positive airway pressure (CPAP) is effective, adherence in many patients with OSA is often problematic. The primary objective of this study is to determine if a brief bout of moderate-intensity exercise improves driving performance in those who have recently been diagnosed with, are awaiting treatment for OSA. Each participant will complete two visits to the TASI Driving Simulator Lab where they will perform two 20-minute driving simulation tests, one of which will involve a brief (10-min) bout of moderate-intensity exercise (e.g. walking briskly). Measures of interest during the driving simulation trials include lane deviation, collision events, and braking response time. We hypothesize that driving performance will be improved during simulated driving trials where OSA patients participate in short duration exercise immediately before driving. The research proposed in this application is significant because our focus is on an inexpensive intervention (i.e. exercise) available to virtually all OSA patients that may have short- and long-term potential for improving key OSA-related outcomes considered essential for driving safety.

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