

# Alcoholism's effect on sleep persists during long periods of sobriety

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A study in the Oct.1 issue of the journal *Sleep* shows that long-term alcoholism affects sleep even after long periods of abstinence, and the pattern of this effect is similar in both men and women.

Results indicate that in long-term alcoholics who had not had a drink for up to 719 days, the percentage of slow wave sleep was significantly lower (6.6% in men, 11.1% in [women](#)) than in controls (12.0% in men, 12.1% in women). Alcoholics also had significantly more stage 1 non-rapid eye movement (NREM) sleep (8.5% in men, 6.3% in women) than controls (6.2% in men, 5.6% in women). According to the authors, having less deep, slow wave sleep and more light, stage 1 sleep is reflective of poorer sleep quality, which could act as an exacerbating factor in alcoholics' [cognitive decline](#).

Although women had better sleep efficiency and fewer wake periods than men, no significant interactions between sex and alcoholism diagnosis were found for any measures. This suggests that women show the same general pattern of alcoholism-related sleep changes as men.

Principal investigator Ian Colrain, PhD, director of the SRI International Human Sleep Research Program and a professional fellow in psychology at the University of Melbourne in Australia, also was surprised to find that a significant increase in the percentage of REM sleep persisted in alcoholics who had abstained from drinking for an extended period.

"Previously the REM changes in the acute detox period were assumed to

be related to a rebound of the REM suppression effects of [alcohol](#)," said Colrain. "The persistence indicates that there is some possibly permanent structural/functional change in REM regulation mechanisms produced by long-term alcohol abuse."

The study involved 42 alcoholics (mean age 49 years, 27 men) who were recruited from an inpatient treatment program and 42 controls (mean age 51 years, 19 men). Estimated lifetime alcohol consumption was significantly higher in male alcoholics (1,607.2 kg) than female alcoholics (843.7 kg). All participants were screened for medical, psychiatric and sleep problems, and their sleep was measured by a full night of polysomnography following an adaptation night. Data were collected from multiple scalp sites and subjected to power spectral analysis. Sleep architecture and electroencephalogram (EEG) spectral power measures were evaluated for the effects of alcoholism diagnosis and sex using age as a covariate.

Results also show that perceived sleep as measured by the Pittsburgh Sleep Quality Index (PSQI) was significantly worse in alcoholics than in controls. Estimated lifetime [alcohol consumption](#) was significantly related to the scores on the PSQI in [men](#) and women, with higher lifetime consumption predicting less sleep satisfaction. Spectral analysis revealed that alcoholics had significantly reduced levels of slow wave activity during NREM sleep but not during REM sleep, showing that the reduction in slow wave activity in alcoholism is sleep-state specific.

Colrain said that there is a substantial body of literature describing the functional correlates of the structural damage produced by long-term [alcohol](#) abuse. Many aspects of psychological functioning are affected by damage to the frontal cortex, including those that relate to judgment and risk taking. He added that there is a growing appreciation for the role of slow wave sleep in supporting memory and other mental functions.

Source: American Academy of [Sleep](#) Medicine ([news](#) : [web](#))

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