

# American Academy of Pain Medicine

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## **Patterns of Sleep-Disordered Breathing in Chronic Pain Patients on Opioid Therapy vs Primary Care Patients not on Opioid Therapy**

**Lynn R. Webster**, Keri L. Fakata, B.J.B Grant, and Greg Stoddard.

**Introduction:** Recent reports raise the possibility that sleep disordered breathing may be associated with increased mortality in patients treated with chronic opioid therapy. **Methods and Materials:** Study was determined exempt and waiver of consent granted by a local IRB. A retrospective cross-sectional study was conducted of diagnostic polysomnography data, comparing n=73 consecutive primary care (PC) non-opioid treated patients referred for sleep studies to n=139 consecutively treated opioid tolerant chronic pain (CP) patients. The apnea-hypopnea index (AHI) and central apnea index (CAI) were evaluated for all patients. Severe sleep apnea was defined as  $\geq 30$  respiratory events per hour, and severe central sleep apnea was defined as  $\geq 30$  central apneas per hour. AHI consists of all types of apneas (obstructive, mixed, and central) and hypopneas. If AHI is  $\geq 5$ /hr, and CAI  $< 5$ /hr = obstructive apnea. **Results:** Severe sleep apnea was similar in the PC patients to CP patients, 36% and 36%, respectively ( $p=0.959$ ), while severe central sleep apnea was significantly more prevalent in CP patients than PC patients, 32% and 4%, respectively ( $p<0.001$ ). Overall, obstructive sleep apnea was significantly more prevalent in the PC patients than CP patients, 89% and 77%, respectively, ( $p=0.014$ ), while central sleep apnea (CAI $\geq 5$ /hr) was significantly more prevalent in CP patients than PC patients, 32% and 6%, respectively ( $p<0.001$ ). **Conclusion:** For patients suspected to have sleep-disordered breathing and referred for sleep studies, PC patients have a greater obstructive apnea component than CP patients, while CP patients have a greater CAI. The clinical impact of these findings on the future treatment of CP patients is yet to be defined. Risk factors such as dose of opioids, concomitant medications, co-morbid disease and the impact on morbidity and mortality of CP patients will need to be studied.

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