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## Perioperative Narcotic Use and Carpal Tunnel Release: Trends, Risk Factors, and Complications

### Abstract

**Introduction:** The goals of the present study were to 1) evaluate trends in preoperative and prolonged postoperative narcotic use in patients undergoing carpal tunnel release (CTR), 2) characterize risk factors for prolonged narcotic use, and 3) evaluate narcotic use as an independent risk factor for complications following CTR.

**Methods:** A query of a large insurance database, which included both private-payer and Medicare records from 2007-2015, was conducted. All patients who underwent open or endoscopic CTR with a minimum follow up of 6 months were included. Revision surgeries or patients with concomitant distal radius fracture fixation were excluded. Preoperative use was defined as a narcotic prescription between 4 months and one month prior to CTR. A new narcotic prescription between 3 and 6 months after surgery was considered prolonged postoperative use. Demographic, comorbidity and other risk factors for prolonged postoperative narcotic use were assessed using a multivariable logistic regression analysis. Subgroup analysis was performed according to the number of preoperative narcotic prescriptions. Narcotic use as an independent risk factor for complications, including CRPS and revision CTR was assessed using a similar regression analysis.

**Results:** 59,032 patients were included. Overall decreases in the prescribing of perioperative narcotics were noted. Notable risk factors for prolonged narcotic use included preoperative narcotic use, other drug and substance use and abuse, lumbago, and depression. Preoperative narcotics were associated with increased emergency room visits, readmissions, CRPS, and infection compared to patients without preoperative narcotic use. Prolonged postoperative narcotic use was correlated with an increased incidence of CRPS and revision surgery.

**Discussion:** Preoperative narcotic use is strongly associated with prolonged postoperative use. Both preoperative and prolonged postoperative prescriptions narcotic use are associated with increased risk of complications. Importantly, preoperative narcotic use is associated with a substantially higher risk of postoperative CRPS.