AMBULATORY SURGERY DAY OF THE WEEK DOES NOT IMPACT READMISSION OR ED USE

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Introduction: Surgery is increasingly performed on an ambulatory basis, and has proven to be relatively safe. However, over 3% of patients may require unplanned acute postoperative medical care. The day of the week of surgery has been shown to impact postoperative mortality following inpatient surgery; the impact after ambulatory surgery is unknown. We hypothesized that ambulatory surgery performed later in the work week may impact access to continuous care, and shift the burden of care to emergency departments (ED) or hospitals.

Methods: Following approval by the ethical review board, we conducted a historical cohort analysis of population-based health administrative data in Ontario, Canada. Individuals were selected if they underwent planned ambulatory knee or shoulder surgery, hernia repair, lumpectomy, transurethral resection, or laparoscopic cholecystectomy between 2002 and 2012. Multivariable regression was used to measure the association between day of the week of surgery and our primary outcome, a composite of ED visit or readmission within 30 days of successful discharge on the day of surgery; and unsuccessful discharge on the day of surgery, our secondary outcome. We also determined which day of the week ambulatory surgery patients were most likely to return to the ED, regardless of the day of surgery.

Results: Of 296,497 patients, 9,197 (3.1%) were not discharged on the day of surgery. 32,100 (10.5%) discharged patients returned to the ED or were readmitted within 30 days. Adjusting for socio-demographic factors, comorbidities, and preoperative health resource use, Friday surgery was significantly associated with ED visit or readmission (adjusted HR 1.07, 95%CI 1.03-1.11) compared to Monday. This association was notably stronger after transurethral and shoulder surgery. No association between day of the week and unsuccessful discharge was noted. Regardless of day of surgery, patients were most likely to visit the ED on Saturday or Sunday after ambulatory surgery.

Conclusion: On a population-level, day of the week of ambulatory surgery is not strongly associated with ED visits or readmission. Certain surgical types may be more susceptible to a day of the week effect, but more research is needed. With over 10% of successfully discharged ambulatory surgery patients requiring acute medical attention within 30 days, and higher rates of ED visits over the weekend, we suggest future
efforts to address issues of continuity and transitions in care to improve patient safety
and experience.

References:
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Introduction: Intensive perioperative smoking cessation interventions increase abstinence\(^1,2\) and reduce complications.\(^3\) However, the American Society of Anesthesiologists and the Canadian Anesthesiologists’ Society suggest brief advice and referral to Smokers’ Helpline. The efficacy of this approach on abstinence is unclear. The objective of this study was to determine the efficacy of a multi-faceted intervention vs. brief advice and self-referral to Smokers’ Helpline on abstinence in patients undergoing elective surgery.

Methods: Approval was obtained from the REB of two participating institutions and informed consent was obtained from all participants for this multi-centred, randomized controlled trial. A total of 296 patients were randomized to receive either: 1) multi-faceted intervention (a standardized 10-15 min counseling session by anesthesiologists trained to provide smoking cessation interventions, varenicline for 3 months, and a fax referral to Smokers’ Helpline); or 2) standardized brief advice (\(< 5 \text{ min}\)) by anesthesiologists trained to provide smoking cessation interventions and provision of the Smokers’ Helpline number for self-referral. The primary outcome was biochemically (urine cotinine) confirmed 7-day point prevalence abstinence at 12 months. Secondary outcomes included: 7-day point prevalence abstinence at 1, 3, 6 months. An intention-to-treat analysis was performed. Chi-square test or Fisher’s exact test (for categorical variables) and unpaired Student \(t\) tests (for continuous variables) were used. Multivariable logistic regression was performed to identify independent variables related to abstinence. \(P < 0.05\) was considered statistically significant.

Results: Demographic variables were similar between the two groups, except the nicotine dependence was higher in the multi-faceted intervention group vs. the brief advice group (Fagerstrom test-score 4.99±2 vs. 4.37±2, \(p < 0.01\)). The 7-day point prevalence abstinence at 12 months for the multi-faceted intervention vs. brief advice was 46.6% vs. 29.2% \((p < 0.01)\). At 1, 3, and 6 months, the 7-day point prevalence
abstinence was 51.1% vs. 24.8% (p < 0.01), 53.3% vs. 28.2% (p < 0.01), 50.8% vs. 29% (p < 0.01), respectively (Figure). The rate of quitline contact was 78.8% vs. 8.3% (p < 0.01) in the multi-faceted intervention group vs. the brief advice group. The multi-faceted intervention was associated with higher abstinence at 1, 6, 12 months (OR 2.0; 95% CI 1.02-3.92, p < 0.05, OR 1.9; 95% CI 1.12-3.20, p=0.02, OR 2.1; 95% CI 1.22-3.54, p < 0.01), respectively. Smokers' Helpline utilization was associated with abstinence in both groups at 1, 3, 6 months (OR 2.1; 95% CI 1.06-4.26, p=0.03, OR 4.8; 95% CI 2.23-10.22, p < 0.01, OR 7.7; 95% CI 1.66-35.31, p < 0.01), respectively.

**Conclusion:** Our study confirms that multi-faceted perioperative smoking cessation interventions more effectively increase both long-term and short-term abstinence compared to brief advice. Nonetheless, the quit rate in the brief advice group was still higher (29.2%) than the spontaneous unassisted quit rate of 4-7% in the general population.4

**References:**


