

Clinical Science

# Impact of smoking on perioperative outcomes after major surgery



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## KEYWORDS:

Smoking;  
Surgery;  
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## Abstract

**BACKGROUND:** To investigate the impact of smoking on perioperative outcomes in patients undergoing one of the 16 major cardiovascular, orthopedic, or oncologic surgical procedures.

**METHODS:** We relied on the American College of Surgeons National Surgical Quality Improvement Program database (2005 to 2011). Procedure-specific multivariable logistic regression models assessed the association between smoking status (non, former, or current smokers) and risk of 30-day morbidity and mortality.

**RESULTS:** Overall, 141,802 patients were identified. A total of 12.5%, 14.6%, and 14.9% of non, former, and current smokers, respectively, experienced at least one complication ( $P < .001$ ). In multivariable models, current smokers had higher odds of overall, pulmonary, wound, and septic/shock complications following most cardiovascular and oncologic surgeries compared with nonsmokers. The odds of experiencing such adverse outcomes were significantly lower in former smokers compared with current smokers, but still higher compared with nonsmokers.

**CONCLUSIONS:** The effect of smoking on perioperative outcomes is procedure dependent. Current and, even though mitigated, former smoking negatively influence outcomes following cardiovascular or

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