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Mapping the Epidemiology of Perioperative Driving Safety and Behavior

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Each year, over 6 million motor vehicle crashes (MVCs) occur in the US, causing 3.1 million injuries and 37,000 deaths. MVCs represent a leading cause of death due to unintentional injury in the US. The risk of experiencing an MVC increases with exposure to centrally-acting medications that affect attention and arousal. Over 50 million surgical procedures take place in the US each year, and anesthetic medications administered for these procedures, including sedative-hypnotics, analgesics, and volatile anesthetics, have demonstrated short- and long-term impacts on both attention and arousal. As the ability to drive is associated with independence and well-being, understanding the magnitude and duration of any effects of anesthetic exposures on driving risk is critical to formulating effective strategies to ensure the overall safety of anesthetic care. Despite this, few quantitative data now exist to characterize the epidemiology of MVCs after surgery and anesthesia. The aim of my project is to quantify the incidence, risk, and predictors of adverse driving outcomes after common surgery. I seek to both prevent patients from driving too soon after surgery when potential injury may occur and to avoid unwarranted delays in the return to driving after surgery, which may adversely impact patients' independence and quality of life and impose unnecessary cost burdens.