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### **“Are Cervical CT Scans Necessary in All Intoxicated Trauma Patients: A Retrospective Evaluation of Predictors for C-Spine Injuries”**

Current screening guidelines for intoxicated trauma patients favor the routine use of cervical-spine (c-spine) CT scans. The objective of this study was to identify parameters that predispose intoxicated trauma patients to c-spine injuries in order to refine diagnostic imaging utilization. A retrospective chart review of intoxicated adult trauma patients involved in motor vehicle collisions presenting to a Level I trauma center from March 2020-September 2021 was performed. Baseline demographics, protective devices, and Injury Severity Score (ISS) were assessed in patients with c-spine fractures or nerve root damage, diagnosed by clinical examination and imaging, compared to patients without injuries. Univariate and multivariate analyses were performed. Of 485 patients, 8% (N=40) had c-spine injuries. Patients between the ages of 45-64 years ( $p=0.007$ ) or with an ISS between 16-49 ( $p\leq 0.03$ ) were most likely to have c-spine injuries. While airbag deployment was similar between groups ( $p=0.7$ ), the use of seatbelts or all three protective devices was associated with no injuries ( $p=0.01$ ). On multivariate analysis, ISS (OR 1.07, 95% CI 1.04-1.10,  $p<0.001$ ) and age (OR 1.04, 95% CI 1.01 to 1.06,  $p=0.003$ ) were the greatest predictors of injuries. Intoxicated trauma patients were most at-risk for c-spine injuries if they were between the ages of 45-64 years or had an ISS between 16-49. This study suggests further analysis of these associations to refine c-spine imaging guidelines for intoxicated patients after motor vehicle trauma.