

## One-year health outcomes of survivors after alcohol-related major trauma

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**Introduction:** While alcohol is known to increase the risk of injury, there is limited knowledge on the outcomes of patients with alcohol-related injuries. This study uses data from the Victorian State Trauma Registry to examine the relationship between acute pre-injury alcohol use and health outcomes at one-year post-injury.

**Method:** This study included all major trauma patients aged  $\geq 18$  years in Victoria who (1) presented to hospital between January 1 2018 and 31 December 2020; (2) survived to discharge; and (3) had blood alcohol concentration (BAC) data available. One-year post-injury outcomes included return to work and the EQ-5D scale, which measures problems related to mobility, self-care, usual activities, pain and anxiety. Data were examined using logistic regression analyses adjusted for confounders including age, sex, socioeconomic status and injury severity.

**Results:** Of the 4,084 included patients, 1,212 (29.7%) had a BAC  $>0$  and 980 (24.0%) had a BAC  $\geq 0.05\text{g}/100\text{mL}$ . Having a BAC  $>0$  was not significantly associated with any of the measured health outcomes ( $p > 0.05$ ). Having a BAC  $\geq 0.05\text{g}/100\text{mL}$  showed no association with return to work or anxiety but was associated with lower odds of problems related to mobility (adjusted odds ratio (aOR)=0.74, 95% confidence interval (CI)=0.58-0.94), self-care (aOR=0.70, 95%CI=0.55-0.88), usual activities (aOR=0.71, 95%CI=0.57-0.89), and pain (aOR=0.78, 95%CI=0.61-0.99).

**Discussions and Conclusions:** Blood alcohol detections were not associated with poorer post-discharge outcomes for major trauma patients. The physiological effects of alcohol may artificially increase the injury severity scores of major trauma patients, resulting in paradoxically better outcomes for intoxicated patients.

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