

Familiar Faces: The Prevalence of Recidivism in Trauma Patients*Juliann C. Koleszar, BS; Heather A. Vallier, MD;**MetroHealth Medical Center, Cleveland, Ohio, USA*

Purpose: Treatment expenses related to trauma approach \$500 billion per year in the US. High recidivism rates of trauma patients have been reported at some trauma centers, contributing to the financial burden as well as other social costs. The purpose of this study was to determine the prevalence of trauma recidivism among patients with operative musculoskeletal trauma and to identify associated patient and injury characteristics. We hypothesized that substance abuse and mental illness would be associated with recidivism.

Methods: We identified 880 patients, treated surgically for high-energy fractures of the pelvis, spine, and/or femur between 2007 and 2011 at an urban Level I trauma center. Records were assessed through the end of 2012 to identify recidivist patients. Recidivism was defined as presentation to the trauma center for new, unrelated injury, and a recurrent recidivist was a repeat patient who returned for treatment another time for an additional injury.

Results: 164 patients returned during the period of study for new injury, a recidivism rate of 18.6%. 28.8% of recidivists were admitted on a secondary trauma visit, and 34.8% of recidivists returned due to the same mechanism of injury as their initial trauma admission. Recidivists were more likely to be between the ages of 18 and 40, with mean age 37.2 years, versus 40.1 ($P = 0.02$). Recidivists were 80% male, and were more likely to be unmarried (76.2% vs. 67.2%, $P = 0.03$) and unemployed (40.4% vs. 19.6%, $P < 0.0001$). Recidivists were also more likely to be uninsured (33.5% vs. 17.9%, $P < 0.0001$) or to have Medicaid coverage (33.5% vs. 12.2%, $P < 0.0001$). Substance use among repeat patients was significantly higher than non-repeat patients, as recidivists were more likely to have ingested alcohol (47.2% vs. 32.0%, $P = 0.0001$) or be intoxicated (32.4% vs. 21.2%, $P < 0.0001$) when presenting to the hospital, and be tobacco (66.2% vs. 50.3, $P < 0.001$) or recreational drug users (59.1% vs. 43.1%, $P < 0.0001$) at baseline. Documented mental illness was also significantly higher in recidivists (28.1% vs. 20.0%, $P = 0.03$).

Conclusion: Trauma recidivism is common among an urban trauma population, with a prevalence of 19% among patients treated surgically for fractures of the femur, pelvis, or spine. We identified several factors associated with recidivism including: age, marital status, employment status, insurance coverage, and also substance use. Recidivists were twice as likely to be uninsured. The influence of alcohol at the time of injury for repeat patients, as well as the prevalence of tobacco, alcohol, and recreational drug use for both repeat and non-repeat patients, present opportunities for intervention in the hope of diminishing the incidence of trauma, especially for patients with multiple recurrences and persistent risky behaviors. Substantial opportunity exists for injury prevention, which should not only reduce morbidity but also should decrease health-care expenses.