

The Influence of Alcohol on Geriatric Trauma: Adding Insult to Injury

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Advancement in healthcare systems and resultant increase in life expectancy has led to a significant rise in geriatric population (1). Geriatric trauma patients, because of preexisting comorbidities, frailty and age-related physiological and anatomical changes present unique challenges in emergency care (2,3).

Age related physiological changes, like impaired hearing, diminished vision, slower reflexes, poorer balance, impaired motor and cognitive function, in addition to decreased muscle mass, bone density and joint flexibility make them prone for increased severity of traumatic injury (4,5).

The most common mechanism of injury in patients aged ≥ 65 is the ground-level fall followed by road traffic accident. A significant percent of ground-level falls patients will sustain a fracture, and one fourth of these patients will have polytrauma (6,7).

In geriatric patients, alcohol metabolism and its effects differ significantly from younger populations. Reduced liver function, changes in body composition, and polypharmacy amplify alcohol's physiological impact. Even moderate blood alcohol levels may lead to heightened impairment in balance, reaction time, and cognitive function, increasing the risk of trauma such as falls or vehicular accidents (8,9). Older adults may be more susceptible to the effects of alcohol on certain measures of driving performance. Alcohol's effects on decision-making and motor coordination heighten the likelihood of high-energy trauma in scenarios like motor vehicle collisions, which carry severe implications for older adults (10). Alcohol consumption in geriatric age group is associated with increased mortality and length of hospital stay (11).

For emergency departments, the interplay between alcohol positivity and geriatric trauma necessitates targeted protocols. Screening for alcohol use should be standard in all trauma evaluations, with particular attention to older patients. Thorough understanding of geriatric physiology is essential for their appropriate management. Blood alcohol concentration testing, alongside cognitive and neurological assessments, can guide the identification of injuries that may be underreported or clinically silent.

Keeping a lower threshold for an aggressive approach of management in view of limited physiological reserve in these patients holds the key. Focussing on Frailty rather than absolute age may be more fruitful. Inclusion of Clinical Frailty scale in trauma pathways to aid patient management may result in improved outcome (12,13). Management strategies should also incorporate the potential for alcohol-related complications, such as withdrawal symptoms or interactions with medications commonly used in trauma care. Multidisciplinary collaboration-integrating emergency physicians, geriatricians, and social workers-can ensure comprehensive care that addresses both immediate injuries and underlying substance use patterns.

The current body of literature underscores the need for more robust research into the intersection of alcohol positivity and geriatric trauma. Prospective studies can clarify alcohol's impact on injury patterns, severity, and recovery trajectories. In conclusion, the evaluation of alcohol positivity in geriatric trauma represents a pivotal area of study with significant clinical implications. By deepening our understanding of this dynamic, we can enhance



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emergency care delivery, mitigate risks, and improve outcomes for one of the most vulnerable segments of the population.

References

1. Halaweish I, Alam HB. Changing demographics of the American population. *Surg Clin North Am*. 2015;95:1-10.
2. Bonne S, Schuerer DJ. Trauma in the older adult: epidemiology and evolving geriatric trauma principles. *Clin Geriatr Med*. 2013;29:137-50.
3. Wilson MS, Konda SR, Seymour RB, Karunakar MA; Carolinas Trauma Network Research Group. Early predictors of mortality in geriatric patients with trauma. *J Orthop Trauma*. 2016;30:e299-304.
4. Min L, Burruss S, Morley E, Mody L, Hiatt JR, Cryer H, Ha JK, Tillou A. A simple clinical risk nomogram to predict mortality-associated geriatric complications in severely injured geriatric patients. *J Trauma Acute Care Surg*. 2013;74:1125-32.
5. Grabo DJ, Braslow BM, Schwab CW. Current therapy of trauma and surgical critical care. In: Asensio JA, Trunkey D, editors. 2nd edition. Elsevier; 2016.
6. Labib N, Nouh T, Winocour S, et al. Severely injured geriatric population: morbidity, mortality, and risk factors. *J Trauma*. 2011;71:1908-14.
7. Spaniolas K, Cheng JD, Gestring ML, et al. Ground level falls are associated with significant mortality in elderly patients. *J Trauma*. 2010;69:821-5.
8. Meier P, Seitz HK. Age, alcohol metabolism and liver disease. *Curr Opin Clin Nutr Metab Care*. 2008;11:21-6.
9. Yuan K, Haddad Y, Law R, Shakya I, Haileyesus T, Navon L, et al. Emergency department visits for alcohol-associated falls among older adults in the United States, 2011 to 2020. *Ann Emerg Med*. 2023;82:666-77.
10. Sklar AL, Boissoneault J, Fillmore MT. Interactions between age and moderate alcohol effects on simulated driving performance. *Psychopharmacology* 2014;231:557-66.
11. Wasfie T, White H, Casey T, Hella J, Barber K, Shapiro B. The impact of alcohol level on elderly trauma patients presenting to the emergency department. *Am Surg*. 2023;89:3226-28.
12. Carter B, Short R, Bouamra O, Parry F, Shipway D, Thompson J, et al. A national study of 23 major trauma centres to investigate the effect of frailty on clinical outcomes in older people admitted with serious injury in England (FITR 1): A multicentre observational study. *Lancet Healthy Longev*. 2022;3:e540-e548.
13. Joseph B, Pandit V, Zangbar B, et al. Superiority of frailty over age in predicting outcomes among geriatric trauma patients: a prospective analysis. *JAMA Surg*. 2014;149:766-72.