



# Cataract, Refractive Error, and Spectacle Dependence As Risk Factors for Ocular and Orbital Trauma Following Mechanical Falls, a Retrospective Analysis at a Level One Trauma Center

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# Disclosures

- \* The view(s) expressed herein are those of the author(s) and do not reflect the official policy or position of Brooke Army Medical Center, the U.S. Army Medical Department, the U.S. Army Office of the Surgeon General, the Department of the Air Force, the Department of the Army or the Department of Defense or the U.S. Government
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# Introduction

- \* Mechanical falls are associated with a spectrum of ocular and orbital injury, presenting unique challenges in management for the ophthalmologist.
- \* This study aims to quantify the rates of cataract, refractive error, and spectacle dependence as risk factors for mechanical falls resulting in orbital and ocular injury.

# Methods

- \* Retrospective analysis
- \* 72 cases of mechanical falls resulting in orbital and/or ocular injury
- \* From August 2015 to October 2016 at Brooke Army Medical Center, a level one trauma center.
- \* Rates of cataract, refractive error, and spectacle/bifocal dependence were assessed.

# Methods

- \* Associated risk factors to include dementia, alcohol use, osteoarthritis, and history of cerebrovascular accident were also evaluated as possible confounding variables.
- \* Comparisons were made to evaluate for significant differences in the presence of risk factors and associated ocular and orbital injury.

# Demographics

Age	Mean	Range
Total	65	18-92
Male	66	18-91
Female	64	24-88
Gender	n	Percent (%)
Male	42	65
Female	23	35

# Results

- \* 34 NSC (47%)
- \* 16 (22%) CSC
- \* 47 Refractive error (65%)
  - \* 25 (35%) Spectacle dependent
  - \* 21 (29%) Bifocals
  - \* 24 Pseudophakia
    - \* 20 (83%) with residual refractive error
- \* Coexistent ocular pathology
  - \* ARMD, Fuch's endothelial dystrophy, Glaucoma

# Limitations

- \* Generalizability
- \* Relatively low 'n'
- \* Inter-tester variability of evaluations
- \* No BAT for NSC/CSC
- \* Clinical correlation of refractive error



# Discussion/Conclusion

- \* Ocular and orbital injury following mechanical falls is common, with numerous contributing factors.
- \* This analysis demonstrates high rates of cataract, refractive error, and spectacle dependence in patients with orbital and ocular injury following mechanical falls.
- \* Addressing visual impairment decreases the risk of injury secondary to falls.

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