

Penetrating eye injuries in South African children: aetiology and visual outcome

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PURPOSE: To assess the aetiology, prognosis, and visual outcome of penetrating eye injuries in South African children. **METHODS:** In all, 100 consecutive patients, aged 16 years and under, with penetrating ocular injuries undergoing surgery between January 2001 and November 2002 were prospectively evaluated. **RESULTS:** Most children (66%) were injured during play. In all, 55% of penetrating eye injuries occurred at home, and all injuries to children under the age of 6 years occurred there. Most injuries occurred in the absence of a caregiver (85%). Sticks, wire, and glass caused half of all injuries (48%). The most common mechanism of injury was impact with a sharp object (46%). Only 25% of injured presented to the hospital within 24 hours of injury; the more severe the sustained injury and the younger the patient, the earlier was attendance at the clinic. Most patients (71%) regained best-corrected visual acuity (Snellen equivalent) of 20/200 or better, and 51% regained 20/40 or better. Patient age and delay of presentation were not of prognostic value. Indicators of poor visual outcome were identified as wound size greater than 11 mm in length, mixed comeoscleral type wounding, and involvement of the lens and posterior segment in the injury. **CONCLUSIONS:** Penetrating eye injuries in African children, reviewed here, generally occur when children are at play in a domestic setting. Effective prevention should stress parental awareness, careful supervision, greater home safety, safe toys, and avoidance of hazardous games.

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Effectiveness of community health workers for promoting use of safety eyewear by Latino farm workers

Forst L, Lacey S, Chen HY, Jimenez R, Bauer S, Skinner S, Alvarado R, Nickels L, Zanoni J, Petrea R, Conroy L.

BACKGROUND: To evaluate The Community Health Worker "promotor de salud" (CHW) model is evaluated as a tool for reducing eye injuries in Latino farm workers. **METHODS:** In 2001, 786 workers on 34 farms were divided into three intervention blocks: (A) CHWs provided protective eyewear and training to farm workers; (B) CHWs provided eyewear but no training to farm workers; (C) eyewear was distributed to farm workers with no CHW present and no training. **RESULTS:** Pre- and post-intervention questionnaires demonstrated greater self-reported use of eyewear in all blocks after the intervention ($P < 0.0001$), with Block A showing the greatest change compared to B ($P < 0.0001$) and C ($P = 0.03$); this was supported by field observations. Block A showed the greatest improvement in knowledge on questions related to training content. **CONCLUSION:** CHWs were an effective tool to train farm workers in eye health and safety, improving the use of personal protective equipment and knowledge.

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Ocular trauma in a rural south Indian population: the Aravind Comprehensive Eye Survey

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PURPOSE: To determine the rate of ocular trauma in a rural population of southern India and its impact on vision impairment and blindness. **METHODS:** A population-based cross-sectional study of 5,150 persons 40 years or older in a randomly chosen rural population of three districts of southern India. Prospective information on trauma, type and agent of injury, setting of injury, and details of

treatment sought for the last episode was recorded with questionnaires after face-to-face interviews. All interviewed subjects underwent a comprehensive ocular examination, including vision estimations, slit-lamp biomicroscopy examinations, and dilated posterior segment examinations. **RESULTS:** We elicited a history of ocular trauma in either eye from 229 (4.5%) persons, including 21 (0.4%) persons with bilateral ocular trauma. Blunt injuries ($n = 124$; 54.9%) were the major cause for trauma reported in this population. The most common setting where the ocular trauma occurred was during agricultural labour ($n = 107$; 46.9%). Nearly three quarters ($n = 170$; 74.2%) of those reporting ocular trauma sought treatment from an eye specialist ($n = 104$; 57.8%) and one fifth ($n = 37$; 20.6%) from a traditional healer. The age-adjusted (adjusted to the population estimates for India for the year 2000) prevalence for blindness in any eye caused by trauma was 0.8% (95% confidence interval [CI], 0.4-1.1). The odds ratios (OR) for trauma were higher for males (OR, 2.2; 95% CI, 1.6-3.0) and labourers (OR, 1.7; 95% CI, 1.2-2.4) and lower for literates (OR, 0.7; 95% CI, 0.5-0.9). Seeking treatment from a traditional eye healer for trauma was not associated with vision impairment (OR, 1.0; 95% CI, 0.3-3.2) or with blindness (OR, 3.4; 95% CI, 0.2-56.5). **CONCLUSIONS:** Eye care programs may need to consider ocular trauma as a priority in this population, because the lifetime prevalence of ocular trauma is higher than that reported for glaucoma, age-related macular degeneration, or diabetic retinopathy from this population. Simple measures such as education regarding the use of protective eyewear could possibly significantly decrease this preventable cause of visual disability.

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The epidemiology of ocular trauma in rural Nepal

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AIMS: To estimate the incidence of ocular injury in rural Nepal and identify details about these injuries that predict poor visual outcome. **METHODS:** Reports of ocular trauma were collected from 1995 through 2000 from patients presenting to the only eye care clinic in Sarlahi district, Nepal. Patients were given a standard free eye examination and interviewed about the context of their injury. Follow up examination was performed 2-4 months after the initial injury. **RESULTS:** 525 cases of incident ocular injury were reported, with a mean age of 28 years. Using census data, the incidence was 0.65 per 1,000 males per year, and 0.38 per 1,000 females per year. The most common types of injury were lacerating and blunt, with the majority occurring at home or in the fields. Upon presentation to the clinic, 26.4% of patients had a best-corrected visual acuity worse than 20/60 in the injured eye, while 9.6% had visual acuity worse than 20/400. 82% were examined at follow up: 11.2% of patients had visual acuity worse than 20/60 and 4.6% had vision worse than 20/400. A poor visual outcome was associated with increased age, care sought at a site other than the eye clinic, and severe injury. 3% of patients were referred for further care at an eye hospital at the initial visit; 7% had sought additional care in the interim between visits, with this subset representing a more severe spectrum of injuries. **CONCLUSIONS:** The detrimental effects of delayed care or care outside of the specialty eye clinic may reflect geographic or economic barriers to care. For optimal visual outcomes, patients who are injured in a rural setting should recognise the injury and seek early care at a specialty eye care facility. Findings from our study suggest that trained non-ophthalmologists may be able to clinically manage many eye injuries encountered in a rural setting in the "developing" world, reducing the demand for acute services of ophthalmologists in remote locations of this highly agricultural country.

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