

Letter to the Editor

Recreational fishing eye injuries and eye protection

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doi: 10.1111/aos.12732

Editor,

Internationally, recreational fishing is one of the most popular sporting activities and people of all ages participate. The use of sharp hooks and heavy weights (in the form of sinkers or lures) projected at high speed represents a hazard to the eyes. The United States Eye Injury Register (USEIR) reported fishing as second only to baseball in sporting-related eye injuries in the United States. In the period from 1998 to 2004, fishing-related eye injuries represented 19.54% of all sports-related eye injuries and 28.2% of the open-globe injuries reported to the USEIR (Alfaro et al. 2005). We are concerned that few individuals are aware of the importance of wearing adequate eye protection whilst fishing.

Injuries and fatalities associated with commercial fishing are widely reported, but there is a relative paucity of literature relating to injuries from recreational fishing. We conducted a literature search of papers published from 1980 to 2014 relating to eye injuries incurred during recreational fishing. Twenty-eight reports involving 39 recreational fishing-related eye injuries (mean age 32.97 years) were identified with a male to female ratio of 9:1. The mechanisms of injury included being struck by a hook (29) or a sinker (7) with one instance each of being struck by a fish pick, fishing rod and fishing spear, with a range of open- and closed-globe injuries occur-

Table 1. Summary of recreational fishing-related eye injuries from the USEIR 1998–2004 (Alfaro et al. 2005).

Mechanism of injury	Hook (%)	Fishing weight (%)	Lure (%)	Fishing poles (%)	Total (%)
Open globe	18 (51.4)	10 (28.6)	3 (8.6)	–	31 (34)
Closed globe	5 (8.2)	39 (63.9)	11 (18.0)	5 (8.2)	60 (66)

ring as a result. Fish hooks were associated with open-globe injuries whereas fishing weights were associated with closed-globe injuries and, less frequently, intracranial penetration (see Table 1).

Wearing wrap-around eye protection whilst fishing is recommended (Raynor 1982). Some authors have proposed that spectacles may have a protective effect (Finlay 2014); however, regular spectacles can present a potential secondary hazard because of the possibility of a shattered lens (if hit at speed by fish hooks and weights) causing ocular injury (Sinclair et al. 2006). Bystanders should also be encouraged to wear eye protection. In addition, healthcare providers removing fish hooks from eyes or other areas of a patient's body should wear appropriate eye protection to avoid inadvertent self-injury.

The adverse effects of ultraviolet (UV) light on the eye are well known, and UV protection should be incorporated into fishing-related eye protection. Water is highly reflective and the use of tinted lenses, such as a category 3 as defined by the Australian/New Zealand Standard, AS/NZS 1067 (Sunglasses and fashion spectacles), special purpose as defined by American National Standards Institute, ANSI Z80.3 (Nonprescription Sunglasses and Fashion Eyewear Requirements) or category 3 or 4 for International Organization for Standardization, ISO 12312-1 (Eye and face protection-Sunglasses and related eyewear-Part 1: Sunglasses for general use), for UV and glare protection during the day provides adequate UV protection whilst fishing. Polarized lenses provide the added benefit of reducing glare and helping the wearer see beyond the surface of the water.

It is important to understand the potential methods for fish hook removal in the ophthalmic operating room and the additional damage that

can result from unsafe removal. Four methods of hook removal are described in the literature: advance and cut, retrograde, strong yank and needle cover methods. Advance and cut was the preferred method identified (Hung & Smerdon 1984; Knox et al. 2004).

Recreational fishing is known to be an ocular hazard. Immobilizing the hook until appropriate treatment is available helps prevent further damage to the patient's eyes. The use of eye protection with lateral coverage, impact and UV protection will protect fisherman from these hazards. Educating fishing participants and observers about the dangers of hooks, sinkers and lures being released under tension, and therefore at high speed, should be a priority.

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