# Fish Hook Eye Injury: A Report of Three Cases

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**Abstract:**

Fishing is a popular rural recreational activity. Penetrating fish hook eye injuries are luckily rare. These injuries are normally created by fish hook pointed tip or prongs which penetrating the ocular tissues. We report a three pediatric cases of penetrating fish hook injury to the eyelid and globe. We explained here a successful surgical technique of hook removal. When hook was embedded in ocular tissue, its management should be careful. A detail examination of eye structures must be done post operatively.

Cases and observations:

Case 1: A 7 years old male child from Jaleshwar district suffered a penetrating fishhook injury in right upper eyelid. Extraction was performed under local anesthesia using backout method with good satisfactory outcome.

Case 2: A 11 years old female patient came with left eye upper eyelid margin embedded with barbed fish hook. We removed a hook with cut it out method with good post-operative cosmesis.

Case 3: A 10 years old male child came to emergency room with embedded fish hook obliquely in his right eye superior temporal conjunctival fornix area (adnexa). We removed that hook with advance and cut technique under local anesthesia.

**Conclusion:** Fish hook eye injury is an ocular emergency. Immediate treatment is required for such cases. In our case series we removed fish hook by three different techniques with no visual morbidity. The visual status for such eye injury is related with different parameters like shape, size, anatomical site as well as different technique of hook removal.

**Keywords:** Adnexa**,** Eye injury, Eyelid, Fish hook, Penetrating, Trauma

**Introduction:** Ocular injury is common etiology of visual morbidity and blindness in the working age group peoples. **[1]** According to United States Eye Injury Register (USEIR) there was two common sports related injury were recorded in 2005. One is associated with baseball (22 %) and other with fishing (20 %). **[2]** Mostly worldwide fishing is commonly use as a profession and is accountable for a remarkably usual form of accidental trauma**.[3]** There are very few case reports and literatures regarding childhood fish hook penetrating eye injury**.[4]** Here we report a three different cases of childhood fish hook trauma.

**Case 1:** A 7-year-old male child presented with complaints of right eye upper eyelid swelling, redness and pain for 6 hours. The hook was inserted accidently while playing with his friends after fishing in a pond. On examination, he had pointed sharp fish hook embedded in right upper eyelid area with point tenderness. He had visual acuity 6/6 in both eyes according to Snellen's visual acuity chart. Slit lamp bio microscopy of both eyes shows normal anterior segment and normal fundus examination. Removal of the hook was done under local anesthesia using backout method with good result.

**Case 2:** A 11-year-old girl brought by his father to emergency room with chief complain of left upper eyelid pain, erythema and swelling. She had fish hook eye trauma while fishing with her father in the river. Her father tried to remove hook by pooling backward multiple times but failed to remove that hook. Her father cut off that nylon string in home. She visited to emergency room after 8 hours of injury. On examination vision was 6/9 in both eyes on Snellen's chart. Slit lamp bio microscopy examination shows normal anterior and posterior segment. We extracted a hook under local block with cut it out method.

**Case 3:** A 10-year-old child came to causality with barbed rusted fish hook inserted obliquely in his right eye supero temporal conjunctival fornix or adnexal area with redness and swelling. The hook was embedded while fighting with his friend after fishing in small pond. The child was visited to hospital with his parents after 10 hours of injury. On detail examination vision was 6/12 in his right eye and 6/6 in his left eye. Extraocular

movements were full and free in all cardinal gaze. There was no history of diplopia, vomiting, loss of consciousness and ocular perforation. Cornea, pupil, anterior chamber, iris details, lens and fundus examination of both eyes were normal. We removed barbed hook with advance and cut technique under local anesthesia.

Explanation: Case 1: Figure 1A photograph showing right upper eyelid embedded metallic fish hook. Photograph 1 C showing first day post-operative presentation with good cosmesis. Case 2: Figure 2A and 2C photograph showing right upper eyelid marginal embedded fish hook. Picture 2E shows barbed fish hook with cut string end. Photograph 2F was first day post-operative result with mild left eye upper eyelid swelling.

**Figure 1 (Case 1)**

**1 A**

**1 B**

**1 C**

**Figure 2 (Case 2)**

**2 A** **2 B** **2 C**



**2 D** **2 E** **2 F**

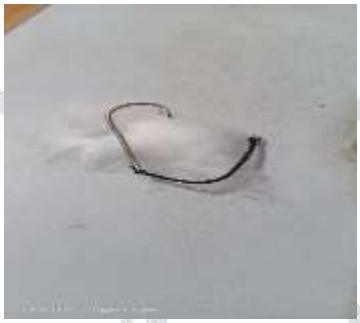
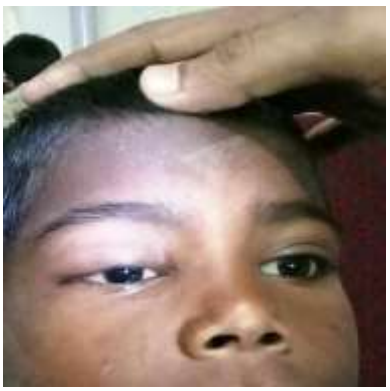




**Figure 3 (Case 3)**

**3 A** **3 B**


**3 C** **3 D** **3 E**





Case 3 : Picture 3A showing initial presentation to the emmergency room. Photgraph 3 B shows on examination a fish hook was submerge in right eye superotemporal conjunctival fornix or adnexa area. On 3C we observed a sharp pointed barbed non rusted fish hook. Photograph 3D and 3E taken on first post operative day with good cosmetic result with minimal tissue injury.

All patients in our case series we started systemic antibiotic ampicillin and cloxacillin (250 mg) four times a day for five days. We gave intramuscular tetanus vaccine (0.5 ml) in all patient with systemic NSAIDs (Paracetamol and Ibuprofen) for four days. We advise to maintain local wound hygiene with Chloramphenicol and Polymyxin B ointment.

**Discussion:** Fishing is a hobby, occupation and time off pursuit in different parts of the world. Fish hook trauma is common but eye injury is uncommon. Sometimes it causes a permanent destructive irreversible visual morbidity. Grade or severity of injury depends on types and size of fish hook. The hook is divided into eye, shank, bend (neck) and pointed end with barb**.[5]** After removal of hook, we examine that it is single or multiple. Size of hook, with or without barbed, location and number of barbs. Gammons M et al in 2001 explain best removal technique of fish hook according to morphology of hook that it is single or multiple, barbed or non-barbed, position of the barbs**.[6]** Srinivasan S et al, in 2001 have been described different fish hook removal methods in his article like snatch technique, needle cover technique, retrograde or backout method, advance - cut technique and cut it out technique. **[5][7]** In our case one we used simple backout method. This technique is mostly helpful for barbless hook where it refers to backing the hook out through entrance wound. In our case two we used a cut it out technique. We made a small incision with scalpel blade at the entry area of wound then slide the blade along the hook up to point of the fish hook after this the hook is simply backed out. Kamath et al in 2001 **[8]** have been explained cut it out technique in his literature case report. He explained an unusual case of a 44-year-old male with fish hook submerged in his left upper eyelid associated with several maggots worn as teaser. In our case three we used a advance and cut technique for fish hook removal. The shank of the hook is cached strongly and good surgical incision is placed to allow a traumatic delivery of the point and the barb. A sterile wire lancer instrument is used to divide or bisect the hook at the junction between the barb and bend after which the barbless hook is easily removed using backout method.

**Conclusion:** In summary, it tells that fish hook eye injury is an ocular emergency. Urgent management is required in such cases. In our case series we manage hook removal by three different technique with no visual morbidity and no risk of general anesthesia. This case series decorate the risk of fish-hook eye trauma mostly in pediatric age group and highlight the need for improving public education on safety precautions on use and disposal of old rusted hooks. It also highlights how we can successfully remove the hook in out-patient department even in a preschool patient if the child is cooperative avoiding the need for general anesthesia. Lastly, decision on the technique for removal should be made after careful evaluation and the technique may then bet hen modified to decrease tissue damage

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