

## REVIEW ARTICLE

# Recreational and Commercial Catfishing Injuries: A Review of the Literature

Courtney R.J. Kaar, MD; Albert K. Nakanishi, MD, MPH

*From the Saint Louis University School of Medicine, St. Louis, MO (Drs Kaar and Nakanishi); and SSM Health Cardinal Glennon Children's Hospital, St. Louis, MO (Dr Nakanishi).*

Catfish injuries are increasingly common from the recreational activities of hobbyists, fishermen, and “noodling” enthusiasts as well as in the commercial catfish industry, most commonly in Brazil. Injuries can range from mild skin abrasions to life-threatening infections and tissue damage requiring urgent treatment. Most injuries and subsequent morbidity associated with catfish encounters involve the dorsal and pectoral fins. These injuries are most often lacerations involving the upper extremities. Deep, penetrating catfish spine injuries can lead to serious injuries, including arterial and nerve lacerations. Catfish venom is released when a spine is torn. The venom may cause reactions that include erythema, edema, local hemorrhage, tissue necrosis, and muscle contractions. When “finned” by a catfish, the fish’s spine may separate from the fish, which can cause a foreign body embedment. Some injuries are not thought to be severe enough at the time of injury to require medical care, although symptoms may arise years later. In this literature review of catfishing injuries, references were obtained through a PubMed search of the following terms: catfish injuries, fishing, envenomation, spine, and aquatic infection. Articles were chosen for citation based on pertinence to the topic of catfishing.

*Keywords:* catfish, fish spine, envenomation, aquatic infection

## Introduction

Over 1000 species of catfish exist in the world at the present time. They are found in all types of bodies of water and on every continent except Antarctica. Catfish have been farmed as food for centuries in Africa, Asia, Europe, and more recently in South and North America.<sup>1</sup> Injuries from catfish are increasingly common both in the commercial catfish industry and in recreational activities. Injuries can range from mild skin abrasions to life-threatening infections with tissue damage requiring urgent treatment. Despite this, the literature comprises only small case series with no consensus on a standardized treatment algorithm. We recently reported a case of catfish-related injury in a teenager “noodling” for a catfish,<sup>2</sup> and now report a more extensive review of catfish-related injuries in North and South America.

## Injuries

Catfish species (class: Osteichthyes; subclass: Siluroidea) can live in both freshwater and saltwater; some prefer inhabiting caves or living underground.<sup>1,3</sup> Catfish have the unique feature of long whiskerlike barbels located on their mouth that, contrary to common belief, provide sensory function and are harmless.<sup>4</sup> Virtually all catfish have spines on their dorsal and pectoral fins; these fins can become erect and swordlike when a fish feels threatened (Figures 1 and 2). Most injuries and subsequent morbidity associated with catfish encounters involve these dorsal and pectoral fins. Injuries from these spines can vary in their characteristics and severity depending on the specific catfish species. Examples of injuries include puncture wounds, lacerations, and even envenomation. Unusual injuries do occur. Very small catfish from the Amazon (Candiru) are known to be attracted to urine. They can enter and lodge in the human urethra, resulting in significant discomfort and necessitating surgical removal.<sup>5</sup> The most commonly reported injuries are to the hands.<sup>6-11</sup> Lacerations to the proximal upper extremities and lower extremities are less common.<sup>11-14</sup>

Corresponding Author: Albert K. Nakanishi, MD, MPH, Saint Louis University School of Medicine, 1465 S. Grand Blvd, St. Louis, MO 63104; e-mail: nakanimk@slu.edu.

Submitted for publication December 2016.

Accepted for publication July 2017.

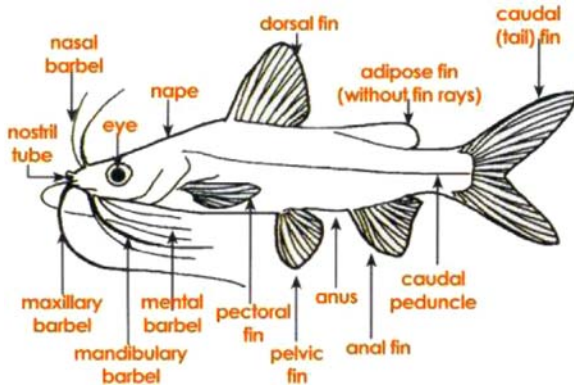


Figure 1. Catfish anatomy.

Noodling, a type of fishing that involves only the fisherman's hands, started as a folk tradition in the southern states.<sup>15</sup> Other names for this practice include hand fishing, cat fisting, grabbling, graveling, hogging, cat-daddling, dogging, gurgling, tickling, and stumping. Noodling is legal in the following states: Alabama, Arkansas, Georgia, Illinois, Kentucky, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, and Wisconsin. In states where it is illegal, one may be fined up to \$1000 and be sentenced to one year in jail if caught.<sup>16</sup> During spawning season, early May through late July, catfish lay eggs in a protected area, and the male fish stays to fan the eggs. These areas are often blind underwater enclosures such as holes, hollow logs, or rocky crevices.<sup>8</sup> When noodling, the fisherman extends a hand into a crevice and grabs hold of the fish through its mouth. When the catfish bites the noodler's hand, he or she then can bring it to the surface. Catfish spin and thrash as a natural reaction to being trapped and, depending on the size of the catfish, can exert a fair amount of blunt force trauma.<sup>1</sup> Flathead catfish have villiform teeth on their upper and lower jaws and also erect their dorsal and pectoral spines, leading to multiple injuries (Figures 2 and 3).

In 2001, "Okie Noodling," a documentary about a catfish noodling championship in Oklahoma, was released. A television series (*Hillbilly Handfishin'*) later aired on Animal Planet from August 2011 to August 2012. Multiple companies that offer professional noodling experiences exist in southern states like Alabama,



Figure 2. Channel catfish.

Oklahoma, and Kentucky. Websites too numerous to count offer stories and advice on hand fishing, and YouTube offers thousands of videos of people of all age groups practicing the ancient art of noodling. As with all activities involving the potential for personal harm, caution must be exercised to avoid injuries when noodling. Multiple case reports have been published of injuries that occurred while fishing for catfish. These reports have analyzed the commonality, cause, and location of injuries in addition to the socioeconomic consequences of injuries.<sup>2,4,6,8-14,17-22</sup>

The increase in commercial catfish farms has resulted in another source of catfish injuries, which occur when manually removing catfish from the nets used for harvesting. Studies show that injuries seen in professional fishermen are common in Brazil.<sup>12,23,24</sup> Proper handling of smaller catfish involves grabbing the fish behind the pectoral fins, keeping the dorsal spine covered with the palm of the hand, and grabbing the gill plate in larger catfish.<sup>8</sup> A study of professional fishermen injured by *Pseudoplatystoma*, a South American genus of catfish, in 2 towns in the Pantanal region of Brazil, determined that the most common cause of injury was carelessness or negligence of fishermen handling the fish. Unnecessary lower extremity exposure from not wearing protective boots also led to injuries.<sup>6</sup> A study from Brazil showed that, of professional fisherman injured by a catfish, over half of injuries were recurrent in nature. As much as 40% of fisherman missed time from work after an injury, ranging up to 1 week of absence.<sup>6</sup> In the cases reported, pain, erythema, and edema are the most common reasons patients seek medical care.<sup>4,8-11,13,14,17-22,24</sup>

Deep, penetrating catfish spine injuries can lead to serious neurovascular injuries. A case report has described a radial artery laceration.<sup>19</sup> When an arterial injury occurs, it is important to apply direct pressure or a tourniquet above the injury to minimize blood loss. At presentation to an emergency department, broad-spectrum antibiotics should be started to cover both gram-positive and gram-negative bacteria (Figure 1).<sup>10,19</sup> The injury should be formally irrigated and debrided in the operating room by either a vascular surgeon or plastic surgeon adept at vascular repair. Serial washouts and debridements may be necessary to achieve a culture-negative wound and to fully define the complete zone of injury. Close observation with serial examinations of the extremity postoperatively is necessary to ensure the integrity of the vascular repair and viability of the distal extremity. In the case of a radial or ulnar artery laceration, the relative contributions of the radial and ulnar arteries to the superficial and deep palmar arches can be variable. Understanding the patient's specific anatomy and arterial contributions to hand perfusion is important.

Download English Version:

<https://daneshyari.com/en/article/8558028>

Download Persian Version:

<https://daneshyari.com/article/8558028>

[Daneshyari.com](https://daneshyari.com)