

Stingray Injuries



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Objectives

- Review the epidemiology of stingray injuries
- Discuss how to manage typical symptoms of stingray injuries
- Review secondary infections following a stingray injury

Stingrays in the Sonoran Desert?

- Several different stingrays live in the Gulf of California
 - Cortez Stingray
 - Longtail Stingray
 - Pacific Round Stingray
 - Cortez Round Stingray
- Among the most abundant is the Pacific Round Stingray
- Very commonly seen on sandy beaches and coasts

Stingray Injury Stats

- Around 1,000-2,000 reports per year in the US
- In one case series, 80% of victims were male
 - Average age of 28
- Fatalities very rare at only 1-2 per year in the US
- Majority of stings have low morbidity
- Lower extremities are the most typical site of injury

Typical Case



How to Manage

- Stingray venom is typically heat labile
- Submerge wound in hot water
 - 104-114°F ideally
- Pain may additionally be managed by NSAIDs, opioids
 - Though hot water immersion often was sufficient in some reviews
- “If the victim defecates, he is not a man. If he doesn’t, it wasn’t a stingray”

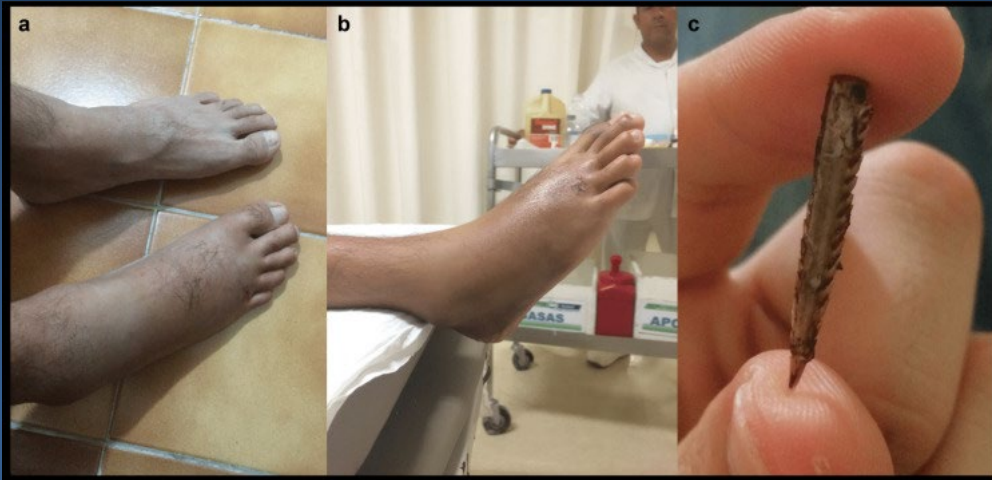


Wounds

- Irrigation and evaluation of wound
- Can consider plain films if concerned about foreign bodies
 - Stingray barb fragments can be radioopaque
 - However, spine fragments are cartilaginous and can be missed
 - In one case series, imaging obtained in 57% of patients
 - Foreign bodies only found in 2/119 situations
- Surgery/debridement may be necessary in some cases



Risk of Tissue Necrosis



The Venom

- Varies depending on species, maturity level of animal
- Venom tends to have:
 - 5-nucleotidase
 - Phosphodiesterase
 - Serotonin
- Higher risk of necrosis in freshwater stingrays

How to Avoid



When to Send to the Hospital

- Ongoing bleeding
- Signs of systemic toxicity
 - NVD
 - Hypotension
 - Seizures
 - Arrhythmias
 - Excessive sweating
- Pain failing to significantly improve
- Head, chest, neck, or deeply penetrating wounds

More Severe Injuries

- Fatalities traditionally come from the wounds and not venom
- Immediate hospitalization and surgical management as needed
 - Recommend obtaining an EKG and cardiac workup if appropriate
- Do not remove barbs from the head, neck, or chest on the scene

Secondary Infections

- Consider tetanus wound prophylaxis
 - Cases have been reported following stingray injury
- Much debate about if/when to administer antibiotic prophylaxis
 - Many experts recommend avoiding unless the wound is deep
- Variability between case series regarding antibiotic benefit
- For deep wounds, recommend covering for:
 - *Vibrio*
 - *Staphylococcus*
 - *Streptococcus*

Conclusion

- Many typical US exposures can be quickly and easily managed
- Emphasis on keeping wound clean and managing pain
- Do not remove barbs in the field for head/neck/chest wounds
- Shuffle feet along while wading through the ocean

Questions?

