**CAP health & wellness** HSO Briefing: MARINE INJURIES

 **Purpose:**

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| (U) **Bottom Line:*** Risk to populations**: very low** **| low** | **moderate** | **high**
* **Injuries in the marine environment are often under treated due to a lack of information regarding effective treatment and risk of infection**
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**Overview:**

This presentation will cover the injuries and risks associated with interactions with the following marine hazards:

* Jellyfish
* Portuguese Man O' War
* Stingrays
* Oysters
* Lion Fish
* Vibrio vulnificans Infections
* Fish Hook Removal

Sharks are commonly the source of many people's anxiety. In reality, shark attacks are rare and generate public attention far out of proportion to the risk. As with plane crashes, shark bites generate national news coverage. We won't be covering shark bites in this presentation.

**Jellyfish**

* With over 2,000 species, jellyfish are commonly found in all ocean waters from the tropics to the arctic.
* Jellyfish range in size from the size of a thimble to those 8 feet in diameter with 200 foot-long tentacles.
* The moon jellyfish is most commonly encountered in the coastal waters of the US.
* The tentacles of the jellyfish are armed with thousands of nematocysts which fire a stinging thread into whatever it contacts
* Contact with the tentacles of most jellyfish only causes moderate stinging pain that is not dangerous to humans
* Contact may result in a painful residual rash

**Treatment of jellyfish stings**

* The tentacles detached from a jellyfish can still sting so they must be removed
* DO NOT attempt to wash the tentacles with fresh water
	+ This will result in further activation of the stinging cells (nematocysts)
* DO NOT rub tentacles with sand, towel, or any other object
	+ This will result in further activation of the stinging cells (nematocysts)
* Rinse the tentacles off the body with sea water
* White household vinegar application by directly pouring on the skin is an effective way to remove the tentacles and deactivate the nematocysts

**Portuguese Man O' War**

* Not a jellyfish but a grouping of four colonies that work together
* Tentacles range from 30 to 140 feet in length
* Infrequently are blown ashore on the beach
* Avoid contact with tentacles of beached Man o' War's
* Treat stings in the same manner as jellyfish stings

**Stingrays**

* Stingrays frequently are encountered in shallow coastal water where they often lie on the bottom of the sea floor
* The coloration of the dorsal surface makes visually detecting the animal on the sea floor quite difficult
* The risk of a stingray is the dorsal spine in the tail
* The dorsal spine contains a venom gland
* When threatened, the ray whips the tail stabbing the spine into what it views to be the threat
* The spine can break off and remain embedded in the foot or ankle of the swimmer unlucky enough to step on a stingray

**Treatment of stingray injuries**

* The venom injected into the wound by the spine causes intense pain despite causing a small wound
* First aid treatment of the sting is immersion of the injured part in hot water, taking care not to burn the patient.
	+ Continue soaking the wound until the extremity can be removed from the water with no increase in pain
* Professional medical care is required due to the need for meticulous cleaning of the wound and administration of appropriate antibiotics

**Lionfish**

* Lionfish are an invasive species native to the Indo-Pacific Ocean
* They are slowly displacing threatened native reef fish as there are no natural predators feeding on lionfish
* They are frequently found in coastal waters of the Gulf of Mexico, Caribbean, and Atlantic
* The risk to people lies in the 18 venomous spines found in the dorsal, pelvic, and anal fins of the fish
* Fishermen catching lionfish must exercise caution in removing these tasty fish from their hook and handling their catch
* **Treatment of lionfish stings**
	+ Prompt immersion in hot water will deactivate the venom and will result in significant pain relief
	+ It is recommended that professional medical attention be obtained to avoid infection

**Oysters**

* Oysters are only a threat to the unwary wader
* Oysters are found in shallow water beds and are frequently exposed by low tides
* Unfortunately for swimmers, the shells are rather sharp and can cause rather significant laceration to the feet
* Prompt professional medical attention to these injuries as they are frequently contaminated with dirt, sand, and debris
* Treatment usually results in the prescription of prophylactic antibiotics to prevent infection
* Consumption of raw shellfish, such as oysters, should be avoided by those with compromised immune system to avoid potentially severe infections

**Vibrio vulnificans Infections**

* Vibrio vulnificans is a gram-negative bacteria found in brackish water and coastal shallows
* The bacterial infection that can result from seemingly minor lacerations and abrasions can be quite severe and frequently life-threatening with a potential 25% mortality rate
* A severe gastroenteritis can occur with nausea, vomiting, and diarrhea following the ingestion of raw, contaminated seafood
* In those with a compromised immune system, such as with diabetes, cancer, and HIV, there is a potential for a very severe infection with a potential 50% mortality rate associated with eating contaminated, raw seafood.
* Those warnings on restaurant menus are there for a reason!!
* It is for that reason that infections arising following exposure to seawater must be attended immediately by a healthcare professional

**Fishhook Removal**

Fishermen and "innocent bystanders" are often hooked with an errant fishhook. There are two common methods to remove hooks applicable to self or buddy care

* **Push Through and Cut Off Method**
	+ In this case, the hook is pushed and rotated through the skin until the point exits
	+ When the hook can be seen it can be grasped by pliers and cut off
	+ The hook is then withdrawn

**String Method**

* + The line to the eye of the hook is cut
	+ A strong leader line is looped in the bend of the hook
	+ Push the eye of the hook down gently to the skin
	+ Jerk firmly on the leader line directly in the direction of the shank of the hook
	+ There will be ONE and ONLY ONE opportunity to get the hook out using this method
	+ In reality, this method is MUCH less painful than the Push Through method but requires knowledge about how to accomplish this successfully.

**Recommendations:**

* Common injuries in the marine environment are generally not serious
* Open wounds that occur in or are exposed to seawater should be treated by a medical professional due to the risk of infection
* Jellyfish stings are treated with vinegar and should not be exposed to fresh water initially
* Stingray wounds must be evaluated by a medical professional

**Questions**: **Contact your Region/Wing/Unit Health Services Officer or**

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