

Aquatic Hazards

Hazard Categories

- Bites
- Barbs and Venoms
- Toxins
- Infectious agents
- Contamination
- Biological contaminants
- Chemical contaminants
- Radiological contaminants

Coelenterates (Jellyfish, sea anemones, fire coral...)

- Nematocysts
 - Vinegar ↓nematocyst discharge
- Box jellyfish/sea wasps
 - Multiple interlacing whiplash lines in beaded/ladder pattern -> wheal -> necrosis/ulceration ~7-10d
 - Excruciating pain
 - Death can be within 10mins, likely survival after 1st hr
 - HTN, then hypo/hypertensive oscillations, VF, resp distress, apnea, edema, cyanosis, paralysis
 - Tx
 - Vinegar, remove tentacles asap
 - IV morphine, IV steroids, anxiolytics, antivenom
- Irukandji syndrome
 - Can follow negligible sting from variety of jellyfish
 - Stinging -> papules, dyshidrotic, severe abdo pain, muscle cramps, hypertonicity, ↑HR, ↑BP, resp distress
- Sea Bather's eruptions
 - Thimble jellyfish larvae "sea lice" when nematocysts trapped under bathing suit/wetsuit discharge
 - Painful, erythematous, pruritic rash under dive suit
 - If freq exposure, can dev allergies to toxin
 - Tx = topical steroids, avoid trigger

Stings/Spines/Bites

- General Tx: immerse in hot water
 - Up to 45°C, including N skin (as control)
- Stingray
 - Spine physical damage, envenomation
 - Tx
 - Supine, elevate limb, wash away venom
 - Gently remove spine
 - Hot water bath
 - Inject local anesthetic into wound
 - Monitor for 2° complications
- Sea Urchins
 - Spine causes physical damage, Ach-like venom
 - Tx
 - Remove spines vertically
 - Hot water bath
 - Local anaesthetic
- Stonefish
 - Myotoxin – blocks conduction skeletal/cardiac/involuntary muscles, releases Ach
 - Immediate excruciating pain, edema, swelling, hot with numb centre & extremely tender surrounding
 - Cardiorespiratory collapse
 - Tx
 - Elevation, local anaesthetic, hot water bath
 - Antivenom if persistent pain
 - Debride necrotic tissue
- Sea Snake
 - 4 bite marks, venom blocks Ach
 - Euphoria, restless, thirst, dry throat, N/V, myalgias -> weakness -> paralysis (similar to Guillain-Barre), myoglobinuria
 - Tx
 - Pressure immobilization, antivenom (prophylactic epi/antihistamine), +/- ARF