

Marine bites and stings

Extract from the as-yet unpublished 5th Edition

The medical aspects of this chapter have been sourced from the Federal Government HealthDirect website <http://www.healthdirect.gov.au/sea-creature-stings> and Therapeutic Guidelines: toxicology and wilderness. Version 2, June 2012 ISBN 978-0-9808253-2-9 .

Once you have finished reading this section you will realise why it is important to complete a First Aid course.

1. SEA SNAKES AND LAND SNAKES

There are more than 50 species of venomous sea snakes (family Hydrophiidae). Sea snakes are rarely aggressive and are slow to strike, but some possess potentially lethal venom, and may cause paralysis. Sea snakes eat fish and sometimes bask on the surface in large groups. Some lay eggs on land, but others bear their young alive at sea. Most are about 1-1.2m long, but may grow to 2.5m. They are mainly found in northern waters.

Some land snakes can be extremely aggressive and their venom equally dangerous. Note that some land snakes can swim.

Symptoms

Usually muscle pain, which develops within hours of the bite and can become severe. Also nausea, vomiting and malaise.

Treatment

First aid includes washing the wound and compression bandage. Systemic envenomation requires evacuation to hospital and antivenin.

2. BLUE-RINGED OCTOPUS

The blue-ringed octopus occurs along most of the coast and is highly poisonous. Several species of blue-ringed octopi occur around Australia, but bites are very rare. They only occur when the octopus is disturbed or handled. Shell collectors sometimes pick one up when it is hiding inside a shell.

Symptoms

The bite is often painless, followed by numbness and tingling. Generalised paralysis may follow.

Treatment

Apply a pressure immobilisation bandage and keep the person calm. The important point here is to maintain ventilation by mouth to mouth resuscitation until professional help arrives. Paralysis may last hours or days; the victim will require evacuation to hospital.

3. STONEFISH, BULLROUT OR CAT FISH

Stonefish (*Synanceja*) are found around the top two-thirds of the Western Australian coast. They inhabit shallow waters and are sluggish, bottom-dwelling fish. They live among rocks, coral, in mud flats and estuaries. They rest on the bottom, blending almost exactly with their surroundings. Difficult to see, they can, when stepped on, inject quantities of venom through their dorsal-fin spines.

Symptoms

Immediate severe (sometimes unbearable) pain that lasts for up to an hour, though with minimal other effects.

Treatment

Any pieces of spine should be removed. For pain relief immerse the affected area in water as hot as patient can tolerate (45°C) until resolution of pain, or for at least 90 minutes. The temperature must be tested with an unaffected limb first. Painkillers can also be used to treat the pain.

4. CONE SHELLS

Some cone shells (*Conus*) can inject a paralysing toxin by means of a dart; a few of the larger species have a fatal sting.

Symptoms

Paralysis

Treatment

Remove any foreign matter from wound. Clean wound. Apply a pressure immobilisation bandage and keep the person calm and as still as possible. Provide emergency care including cardiopulmonary resuscitation (CPR) if needed.

5. JELLYFISH

Jellyfish stings and injuries from other venomous sea creatures can cause symptoms ranging from transient local discomfort to life-threatening cardiovascular collapse. There is much confusing information about the first aid for jellyfish stings, and numerous remedies are suggested with little evidence.

In all cases the sting site can be washed with sea water (not fresh water) and the tentacles removed; use tweezers or tongs, NOT bare fingers or hands. Hot water immersion has been shown to reduce the pain for bluebottle stings. Hot water may reduce the pain in other jellyfish stings, but this has not been tested. **DO NOT** rub sand or pour soft drink over any jellyfish sting, or urinate on the stung area.

Use of vinegar

For major box jellyfish stings (mainly *Chironex fleckeri*) vinegar should be applied liberally as soon as available. The benefit of vinegar for other types of jellyfish stings is unclear and may increase local pain. However, if you are in tropical waters and you can't clearly identify the cause of the jellyfish sting, then treat the sting with vinegar in case it is a major box jellyfish, and seek medical assistance just to be safe.

5.1. Major box jellyfish stings (*Chironex Fleckeri*)

The major box jellyfish is the most dangerous jellyfish in Australia and occurs along the north coast of WA as far south as Geraldton, usually from November to March.

Symptoms

Severe local pain. In rare cases severe envenoming may occur with a metre or more of tentacle, when cardiovascular collapse and death may occur within 30 minutes.

Treatment:

Keep the person calm.

May need immediate cardiopulmonary resuscitation. Wash with sea water (NOT fresh) and remove tentacles and stings; use tweezers or tongs, NOT bare fingers or hands. Pour vinegar over the tentacles on the person's skin to deactivate the sting. Never substitute vinegar with methylated spirits or alcohol because they will make the sting worse. Strong analgesia, including morphine may be required. Nearly all cases should be evacuated to a major hospital.

5.2. Irukandji syndrome

Caused by the stings of the jellyfish *Carukia barnesi*. It occurs mainly in the northern areas of Australia.

Symptoms

Delayed severe generalised pain, which usually takes 6 to 12 hours to resolve. Nausea and vomiting, anxiety and agitation. May be cardiac involvement.

Treatment

Manage the pain, which may require morphine. Probably requires evacuation to advanced medical care.

Blue Bottles (Portuguese Man-of-War)

Although they are most common in the northwest wet season (typically November – April), they can be present at other times. In one reported case, part of a tentacle was sucked up through a deck wash pump to hose down the hot crew. The vast majority are successfully treated with first aid on beaches and only rarely present to hospital.

Symptoms

Severe local pain, red rash, nausea, vomiting and myalgia in severe cases.

Treatment

Wash with salt water (NOT fresh). Remove any tentacles; use tweezers or tongs, NOT bare fingers or hands. Immerse in hot water (45°C) for 20 minutes - the temperature must be tested with an unaffected limb first. If you can't access hot water, apply an ice pack or cold water to the affected area. Vinegar is no longer recommended. Seek medical attention if the person develops further symptoms such as abdominal pain, nausea and vomiting, or if there is continuing pain, itchiness or blistering at the site.

5.3. Minor jellyfish stings (stingers)

Usually found south of Geraldton i.e. non-tropical waters.

Symptoms

Pain and redness.

Treatment

Wash any remaining tentacles off the skin with seawater or pick them off the skin; use tweezers or tongs, NOT bare fingers or hands. Apply a cold pack to the affected area for about 10 minutes or until the pain is relieved. Seek further medical attention if the person's condition gets worse.