



Centre for Disease Control

November 2012

Chironex fleckeri (Box jellyfish)

DO NOT ENTER THE SEA AND MOST IMPORTANTLY DO NOT LET CHILDREN ENTER THE SEA DURING THE STINGER SEASON - OCTOBER TO MAY

'Chironex fleckeri', also known as the major Box Jellyfish has the most rapidly acting venom known to science and is capable of killing a person in under 5 minutes.

Season

The official 'stinger' season for the Northern Territory is from 1 October until 1 June. However stings have been recorded in all months of the year.

Distribution

Chironex fleckeri inhabit the shallow waters of the northern Australian coast, and are more numerous after local rain and in calm seas, especially near river and creek outlets and around boat ramps.

Appearance

The bell of *Chironex fleckeri* is a rounded box shape with the bottom missing, with four fleshy appendages, one at each corner, from which tentacles trail.

The jellyfish is difficult to see in the water because the bell is colourless, and although the outermost tentacles are sometimes purple near their base the others are white or dull yellow.

An adult jellyfish may have 40 or more tentacles, each of which may be up to 2 metres or more in length long. Visible baby Box Jellyfish have bodies 2-5cm in diameter, while the larger mature specimens can often be 20cm across or even larger.

Envenomation

The tentacles contain millions of 'nematocysts' which store and can inject venom. A sting occurs when the tentacles contact the bare skin causing these

nematocysts to inject millions of little doses of venom into a large area of tissue, which allows very rapid absorption. The venom is fired into the skin within 3 milliseconds of being triggered – 10 times faster than the inflation of an airbag in a car crash.

Signs and symptoms

The venom has cardiotoxic (attacks the heart) and highly dermatonecrotic (destroys skin) components.

A sting causes immediate severe localized pain. Within minutes white welts appear where the tentacle contact occurred, followed by red whip-like lines which may later blister. Subsequent skin death may lead to permanent scarring.

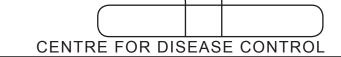
In up to 60% of cases an itchy bumpy rash can occur days later at the initial site. This 'delayed reaction' can be intensely itchy. The rash usually resolves within 10 days although it may occasionally persist for weeks. Symptomatic relief can be gained by antihistamine use and topical steroids used if the skin is not broken.

A massive dose of venom can cause cardiac dysfunction, resulting in loss of consciousness and cardiac arrest and death within 5 minutes of being stung.

Children are at greater risk of severe, life threatening envenomation because of their smaller body mass.

Injury and deaths

Around 40 people present to Top End hospitals or health clinics each stinger season with an injury attributed to a jellyfish sting.



Chironex fleckeri has been responsible for at least 64 deaths since first reported in 1883. The last recorded Chironex fleckeri death in Australia was in a 6 year old boy from a remote NT Aboriginal community in November 2007.

The last 14 stinger deaths in the NT have all been children.

Prevention

The best prevention is to stay out of the water especially during the stinger season.

If entering the water wear protective clothing. Any clothing, even if very thin, will provide protection as long as there are no gaps or exposed skin. The more skin that is covered, the greater the protection.

Treatment

Immediate first aid is vital and cardiopulmonary resuscitation may be needed.

- Remove the patient from the water and restrain if necessary
- Call for help (dial 000 or get a surf life saver or life guard to help you)
- Assess the patient and commence CPR as necessary
- Liberally douse the stung area with vinegar to neutralize invisible stinging organelles – do not wash with fresh water
- If vinegar is unavailable, pick off any remnants of the tentacles (the skin of the pads of the fingers and palm is thicker so any stinging will usually be minor) and rinse sting well with salt water (not freshwater)
- Seek urgent medical assistance with rapid transport to hospital. Antivenom may be required in severe stings.

For more information contact the Centre for Disease Control in your region

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Tennant Creek 8962 4603

or

www.nt.gov.au/health/cdc