



Chironex fleckeri **(Box Jellyfish)**

'*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. Although it is only one of many species of box jellyfish, it has become infamous causing more than 60 deaths in Australia over the last 100 years.

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.

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 meters long. Body size varies according to the level of maturity. Visible baby Box Jellyfish have bodies 2-5cm in diameter, while the larger mature specimens are up to 20 cm across.

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

Envenomation

A sting occurs when the tentacles contact the bare skin causing stinging cells called nematocysts to fire into the body. Millions of these nematocysts are present in the tentacles of the jellyfish. Thus the amount of venom injected is divided into millions of little doses deposited over a large area of tissue, allowing very rapid absorption. The stinging cells of a *Chironex fleckeri* fire venom 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.

On being stung the victim will experience immediate severe localized pain often associated with vigorous attempts to remove the tentacles (this may make it worse as more nematocysts will be discharged).

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.

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.

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 November 2007 when a 6-year-old boy from a remote NT Aboriginal community died with confirmed *Chironex fleckeri* envenomation. The previous death was in January 2006 in a 7-year-old girl in far North Queensland.

The last 11 stinger deaths in the NT have all been children.

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

Treatment

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

1. Remove the patient from the water and restrain if necessary
2. Call for help (dial 000 or get a surf life saver or life guard to help you)
3. Assess the patient and commence CPR as necessary
4. Liberally douse the stung area with vinegar

to neutralize invisible stinging cells – do not wash with fresh water

5. If vinegar is unavailable, pick off any remnants of the tentacles (this is not harmful to the rescuer as the pads of the fingers and palm are usually too thick for the stinging cells to penetrate) and rinse sting well with salt water (not freshwater)
6. Seek urgent medical assistance with rapid transport to hospital. Antivenom may be required in severe stings.

For more information contact your nearest Centre for Disease Control.

Darwin	8922 8044
Katherine	8973 9049
Nhulunbuy	8987 0359
Tennant Creek	8962 4259
Alice Springs	8951 7549

Further CDC fact sheets available at:
http://www.nt.gov.au/health/cdc/fact_sheets/fact.shtml