



Great Barrier  
Reef Foundation



# Marine Bites and Stings Guide



# Our magnificent marine wildlife

*We share the ocean with some incredible marine wildlife, and it's important to remember that these animals don't intentionally hurt us.*

*Their defence mechanisms are what protect them from predators.*

---



## Jellyfish

All jellyfish are cousins of corals. They are united by distinct parts of their life-cycle and in having specialised stinging cells.

A group of jellyfish is called a smack, swarm or bloom.

## Blue-ringed octopus

The blue-ringed octopus is tiny – at most the size of a golf ball – yet it is one of the most venomous animals in the ocean.

When disturbed, the octopus will flash around 60 iridescent blue rings as a warning. But if the threat doesn't recede, it can deliver a bite with enough neurotoxin to kill a human.

Like all octopus, the blue-ringed has special skin cells called chromatophores that have pigment inside them. These cells help the octopus to change colour, camouflage and even signal greetings and warnings.



## Cone snail

When on the hunt for worms and fish (or feeling threatened) cone snails release a harpoon-like barbed dart from their snout, which is a modified tooth. The dart is coated in a complex and powerful venom which is used to immobilise their prey.

Like all gastropods, cone snails have a large muscular 'foot' that they use to get around.

## Sea urchin

The sea urchin is a close cousin of starfish and sea cucumbers, which are all part of a special group of marine invertebrates called echinoderms meaning 'spiny skinned'. Nestled amongst their spikey toxin-tipped armor are thousands of suctioning tube feet that they use to 'walk' along the ocean floor.

Their spines aren't the only sharp thing about them – sea urchins are also armed with razor-like self-sharpening teeth.







## Identifying the bite or sting

IF THE PATIENT SHOWS:	SUSPECT:	WHAT TO DO:
<ul style="list-style-type: none"> <li>Pain at sting site</li> <li>Tentacles stuck to the skin</li> <li>Rash or blistering</li> </ul>	<b>Bluebottle or sea anemone</b>	<ol style="list-style-type: none"> <li>In the tropics use vinegar</li> <li>If outside the tropics, rinse the area well with sea water, then use hot water or ice for the pain</li> </ol>
<ul style="list-style-type: none"> <li>Immediate intense pain</li> <li>Ladder-track tentacle marks</li> <li>Tentacles stuck to the skin</li> <li>Irregular heart beat</li> <li>Cardiac arrest</li> </ul>	<b>Box jellyfish</b>	<ol style="list-style-type: none"> <li>Call triple zero (000) for an ambulance</li> <li>Use vinegar</li> <li>Be prepared to give CPR</li> </ol>
<ul style="list-style-type: none"> <li>Very small or unnoticeable sting site</li> <li>Little or no immediate pain but within 5-40 minutes, dramatic signs and symptoms including; severe muscle, back or abdominal pain</li> <li>Nausea and vomiting</li> <li>Profuse sweating</li> <li>A distressing feeling of impending doom</li> </ul>	<b>Irukandji jellyfish</b>	<ol style="list-style-type: none"> <li>Call triple zero (000) for an ambulance</li> <li>Use vinegar</li> <li>Be prepared to give CPR</li> </ol>
<ul style="list-style-type: none"> <li>Local pain Laceration or puncture</li> </ul>	<b>Coral</b>	<ol style="list-style-type: none"> <li>Control bleeding</li> <li>Use hot water</li> <li>Seek medical aid</li> </ol>
<ul style="list-style-type: none"> <li>A bite site that may not be painful – a spot of blood on the skin might be the only sign</li> <li>Tingling around the mouth</li> <li>Mild muscle weakness</li> <li>Breathing difficulties</li> <li>Progressive paralysis</li> </ul>	<b>Blue-ringed octopus</b>	<ol style="list-style-type: none"> <li>Call triple zero (000) for an ambulance</li> <li>Use pressure bandaging and immobilisation</li> <li>Be prepared to give CPR</li> </ol>
<ul style="list-style-type: none"> <li>Pain at the sting site</li> <li>Breathing difficulties</li> <li>Progressive paralysis</li> </ul>	<b>Cone shell</b>	<ol style="list-style-type: none"> <li>Call triple zero (000) for an ambulance</li> <li>Use pressure bandaging and immobilisation</li> <li>Be prepared to give CPR</li> </ol>
<ul style="list-style-type: none"> <li>Local pain</li> <li>Laceration or puncture</li> <li>Embedded spine</li> </ul>	<b>Stone fish or sea urchin</b>	<ol style="list-style-type: none"> <li>Use hot water</li> <li>Remove embedded spines</li> <li>Seek medical aid</li> </ol>



## DRSABCD Action Plan



### Danger

Check for danger and ensure the area is safe for yourself, bystanders and the patient.



### Response

Check for a response: ask name and squeeze shoulders. **NO RESPONSE?** Send for help. **RESPONSE?** Make comfortable; monitor breathing and response; manage severe bleeding and then other injuries.



### Send for help

Call Triple Zero (000) for an ambulance or ask a bystander to make the call. Stay on the line. [If you are alone with the patient and you have to leave to call for help, first turn the patient into the recovery position before leaving.]



### Airway

Open the patient's mouth and check for foreign material. **FOREIGN MATERIAL?** Roll the patient onto their side and clear the airway. **NO FOREIGN MATERIAL?** Leave the patient in the position found, and open the airway by tilting the head back with a chin lift.



### Breathing

Check for breathing Look, listen and feel for 10 seconds. **NOT NORMAL BREATHING?** Ensure an ambulance has been called and start CPR. **NORMAL BREATHING?** Place in the recovery position and monitor breathing.



### CPR

Start CPR: 30 chest compressions followed by 2 breaths. Continue CPR until help arrives, the patient starts breathing, or you are physically unable to continue.

### Defibrillate

Apply a defibrillator as soon as possible and follow the voice prompts.

In a medical emergency call **Triple Zero (000)**

### DRSABCD

Danger ▶ Response ▶ Send for help ▶ Airway ▶ Breathing ▶ CPR ▶ Defibrillation



## Jellyfish sting

### SIGNS AND SYMPTOMS

Pain at sting site  
Red mark or tentacle  
Rash or blistering

### The stings of jellyfish can be life-threatening.

Their venom can cause intense pain, which can cause drowning if the patient is still in the water, as well as a range of other acute and chronic symptoms.

Preventing being stung is the safest approach. Swim at patrolled beaches that monitor the presence of jellyfish, and do not enter the water when beaches are closed.

Wearing a full-body lycra suit can provide extra protection during stinger season in tropical waters (generally November to March).

### The two most serious jellyfish stings are from the:

#### Box jellyfish

These jellyfish (including the Jimble) have a large, virtually transparent, square body with numerous tentacles coming from each of the four corners. Box jellyfish live in tropical and subtropical waters of northern Australia, though have occasionally been found further south.

#### Irukandji jellyfish

There are several species (including the Morbakka) that have a translucent box-shaped body less than 1 centimetre long, with four tentacles up to about 1 metre long. Always consider the possibility of Irukandji stinging if swimmers experience severe pain.

Irukandji jellyfish live in tropical and subtropical waters (northern Australia), but there are infrequent reports of Irukandji-like stings in temperate waters (as far south as Melbourne).



### Additional symptoms:

- Immediate intense pain
- Ladder-track tentacle mark
- Tentacles stuck to the skin
- Irregular heart beat Cardiac arrest



Stung area can be very small or not noticeable with little or no immediate pain. Within 5–40 minutes, dramatic signs and symptoms develop, including:

- severe muscle, back or abdominal pain
- nausea and vomiting
- profuse sweating
- a distressing feeling of impending doom.

These symptoms are sometimes called '**Irukandji syndrome**'.



## Box or irukandji jellyfish sting

### What to do:

#### WARNING

**DO NOT** use fresh or hot water on known or suspected Box jellyfish or Irukandji stings, whether in or outside the tropics.

- 1 Follow DRSABCD.
- 2 Call triple zero (000) for an ambulance.
- 3 Lie the patient down and ask them to keep still.
- 4 Reassure the patient.
- 5 Flood the entire stung area with vinegar for at least 30 seconds to neutralise stinging cells and prevent further stinging. **DO NOT** wash with fresh water.
- 6 If vinegar is not available, pick off any tentacles on the skin (with gloves, if available) or flick them off with a stick. Wash the stung area well with sea water (not fresh water) to remove microscopic stinging cells adhering to the skin.
- 7 Use a cold pack to relieve pain. **DO NOT** apply hot water.
- 8 If possible, mark the location of the sting site (if known) on the skin with a pen, or photograph the site.
- 9 Remain with the patient until medical aid arrives.
- 10 Be prepared to give CPR.







# Bluebottle jellyfish or sea anemone sting

## What to do:

- 1 Follow DRSABCD.
- 2 Pick off any tentacles on the skin. Wash the stung area well with sea water (not fresh water) to remove microscopic stinging cells adhering to the skin.
- 3 Place the stung area in hot water (help patient under a hot shower, place a stung hand or foot in hot water, or pour hot water over the stung area) for 20 minutes. The water should be as hot as you can bear.
- 4 Remove briefly before re-immersing.
- 5 Continue this cycle if pain persists, but no longer than 2 hours.
- 6 If pain is not relieved by heat, or if hot water is not available, apply a cold pack to relieve pain.





## Blue-ringed octopus bite

### SIGNS AND SYMPTOMS

The bite may not be painful – a spot of blood on the skin may be the only sign  
Tingling around the mouth  
Mild muscle weakness  
Breathing difficulties  
Progressive paralysis

The blue-ringed octopus is a small octopus (4–6 centimetres across) that lives in Australian tidal pools and on reefs in both tropical and non-tropical waters.

Blue-ringed octopuses often hide in shells, bottles, cans, or other nooks and crannies. When provoked, they flash vivid blue and gold rings on the body and tentacles.

Bites usually occur when the octopus is removed from the water and is in contact with exposed skin.



## Cone shell sting

### SIGNS AND SYMPTOMS

Pain at the sting site  
Breathing difficulties  
Progressive paralysis

Cone shells are found mostly in tropical waters and warmer temperate sea floors and reefs. Several of the many species of cone shells are venomous to humans. Some species, particularly the venomous ones, may grow to 10 centimetres long. Most have distinctive colours and patterns on their shells, which make the shells attractive to collectors and children.

A person may be stung when the shell is picked up or handled. A venom barb is fired from the pointed end of the shell. Live specimens of cone shells should not be handled. Fortunately, cone shell stings are rare.







# Blue-ringed octopus bite or cone shell sting

## What to do:

### Pressure bandaging and immobilisation

- 1 Follow DRSABCD.
- 2 Call triple zero (000) for an ambulance.
- 3 Lie the patient down and ask them to keep still.
- 4 Reassure the patient.
- 5 If on a limb, apply an elasticised roller bandage (10–15 centimetres wide) over the bite site as soon as possible.
- 6 Then apply a further elasticised roller bandage (10–15 centimetres wide), starting just above the fingers or toes and moving upwards on the bitten limb as far as can be reached. Use clothing or other material if an elasticised roller bandage is not available.
- 7 Apply the bandage as tightly as possible to the limb. You should be unable to easily slide a finger between the bandage and the skin.
- 8 Immobilise the bandaged limb using splints.
- 9 Keep the patient lying down and completely still (immobilised).
- 10 Write down the time of the bite and when the bandage was applied. If possible, mark the location of the bite site (if known) on the bandage, or photograph the site.
- 11 Stay with the patient until medical aid arrives.



Image © Gary Cranitch



## Stone fish or sea urchin sting

### SIGNS AND SYMPTOMS

Local pain  
Laceration or puncture  
Embedded spine

Fish with venomous spines in Australian waters include stonefish (or scorpion; found in tropical marine waters). Stonefish are often camouflaged and most commonly cause injuries when they are stepped on.

Sea urchins are found in any marine waters and some species have venomous spines. Injuries can occur if these creatures are handled or trodden on.

Protective footwear should always be worn when walking on rocky, muddy, or coral-encrusted reefs or intertidal regions; and especially when paddling through water weeds.



## Coral injury

### SIGNS AND SYMPTOMS

Local pain  
Laceration or puncture

Coral injuries commonly occur while snorkelling or diving on reefs or while walking in tidal lagoons.







# Stone fish, sea urchin sting or coral injury

## What to do:

- 1 Follow DRSABCD.
- 2 Reassure the patient.
- 3 Remove any obvious spines. Clean any visible foreign material from the wound.
- 4 Control any bleeding with direct pressure on or around the stung point.
- 5 Ensure bleeding has stopped before placing the stung part in hot water (help the patient under a hot shower, place a stung hand or foot in hot water, or pour hot water over the stung area) for 20 minutes.
- 6 Make sure the water is as hot as you can tolerate, but no hotter.
- 7 Remove briefly before re-immersing. Continue this cycle if pain persists, but no longer than 2 hours.
- 8 Seek medical aid.



Image © Gary Cranitch





Great Barrier  
Reef Foundation

Level 6, 88 Tribune Street, South Brisbane QLD 4101  
GPO Box 1362, Brisbane QLD 4001 Australia  
[barrierreef.org](http://barrierreef.org)