



Clinical Practice Guidelines: Toxicology and toxinology/Envenomation – Marine

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| Date | September, 2024 |
| Purpose | To ensure a consistent approach to patients who have been exposed to a marine envenomation. |
| Scope | Applies to Queensland Ambulance Service (QAS) clinical staff. |
| Health care setting | Pre-hospital assessment and treatment. |
| Population | Applies to all ages unless stated otherwise. |
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| Author | Clinical Quality & Patient Safety Unit, QAS |
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Envenomation – Marine

September, 2024

Marine envenomation can result from stings due to superficial contact or penetrating injuries from spiny marine creatures.

Stings:

- Box jellyfish
- Irukandji
- Blue bottle and minor Jellyfish
- Blue ringed octopus

Penetrating injuries:

- Venomous fish
- Stingray
- Sea urchin

Clinical features



Box jellyfish:^[1-3]

- Severe localised pain
- Adherent tentacles and associated lesions
- Cardiovascular collapse can occur, typically within 20 to 30 minutes of a sting which can be life threatening if ACLS is not instituted

Irukandji:^[4-6]

- The sting initially appears to be minor with delayed onset of pain
- The sting is associated with a release of endogenous catecholamines leading to sympathomimetic toxicity
- Onset of systemic symptoms appear approximately 30 minutes following a sting with generalised pain, agitation, vomiting and diaphoresis
- ECG changes can occur, which reflect myocardial injury

Clinical features (cont.)



Blue bottle and minor jellyfish:^[7-9]

- Immediate localised pain lasting 1–2 hours with associated linear eruptions
- Mild systemic features – nausea, vomiting, malaise – occur uncommonly

Blue-ringed octopus:^[7-9]

- Saliva contains tetrodotoxin which is injected with a bite
- Most bites occur when the octopus is handled
- Causes rapid onset of generalised paralysis requiring ventilation

Penetrating injuries:^[10-14]

- Venomous fish have venomous spines which penetrate the skin and injects a painful venom into the wound. Localised oedema is common
- Larger animals, like sting-rays, can cause significant penetrating trauma

Additional information

- The effectiveness of Box Jellyfish antivenom has not been proven. Its administration should not detract from good resuscitation.
- The QAS supplies Medsupply Instant Heat Packs for the treatment of penetrating marine envenomation injuries when hot water isn't readily available.

MEDSUPPLY INSTANT HEAT PACK INSTRUCTIONS



1. Inspect the structural integrity of the packaging ensuring there are no leaks or signs of damage.



2. Hold the heat pack upright by the top seam and allow the contents to fall to the bottom of the bag.



3. Hold the heat pack with two hands and locate the inner fluid bubble.



4. Firmly squeeze the bag from each side to rupture the inner bubble and commence the heating process.

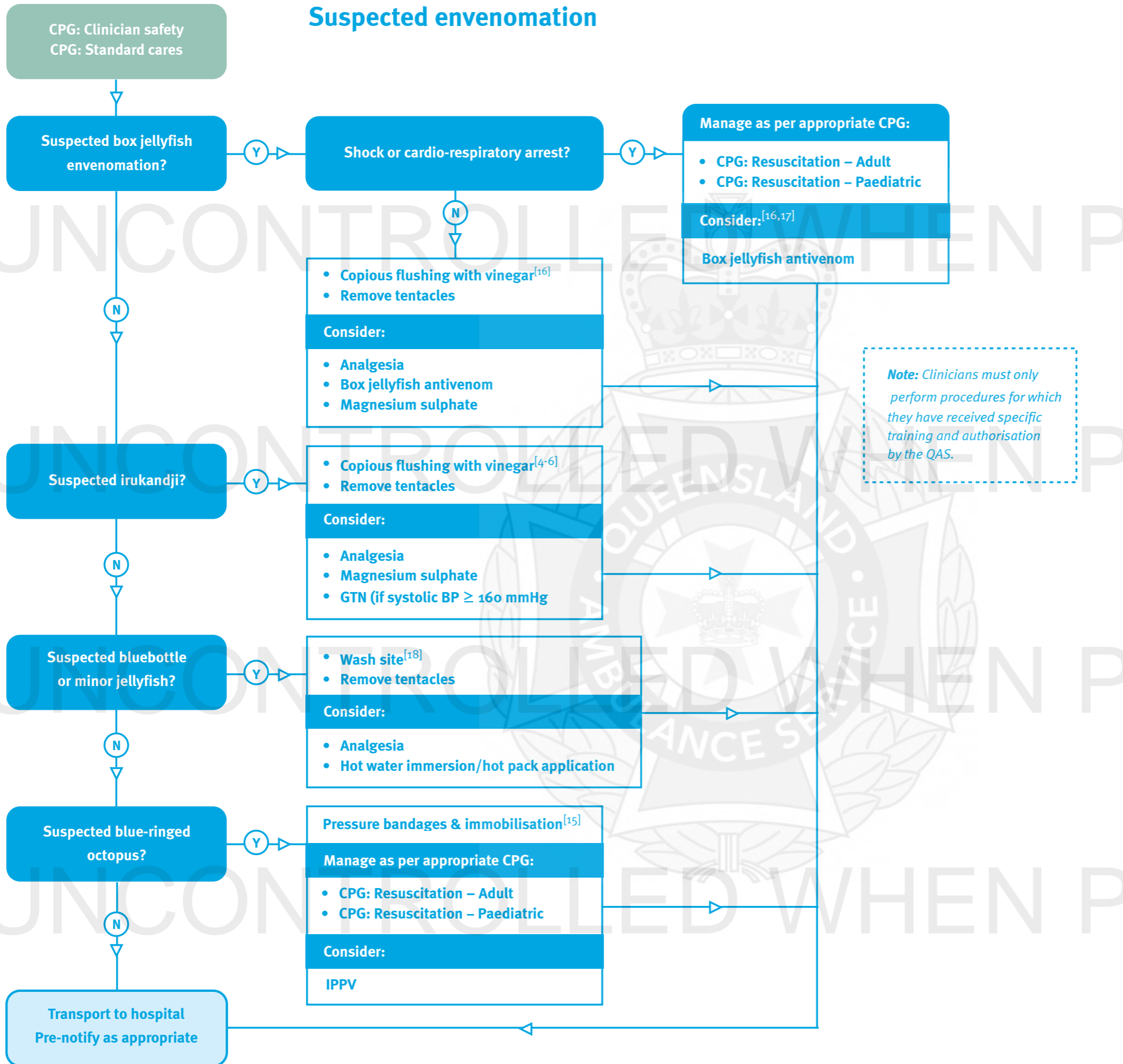


5. Gently massage the contents to distribute the heat evenly.

6. Apply directly to the patient's skin.
7. Regularly monitor the patient's skin for evidence of over exposure.
8. On arrival at the health facility, ambulance clinicians must ensure that the responsibility for ongoing monitoring of the patient's skin response is handed over to hospital staff.

NOTE: Whenever possible, hot water should be used in preference to a heat pack, due to its greater heating and analgesic efficacy.

Suspected envenomation



Penetrating marine injury

