



Bluebottle and pacific man-o-war stings: topical heat

Intervention

Application of topical heat maintained at 45°C by hot water immersion*, which in comparison to the application of ice packs, improves clinically important local pain and radiating pain.

* if hot water immersion is unavailable, hot water or heat packs could be considered although their benefits and risks are not yet established.

Indication

There are around 10,000 cases of bluebottle stings on the east coast of Australia each year.

Pain due to stings from bluebottles (*Physalia utriculus*) (Figure 1) and the more rare Pacific man-o-war (*Physalia physalis*).

Bluebottles are not true jellyfish but a colony of individual organisms.

Bluebottle stings are most common in non-tropical areas. Note that Australian box jellyfish (*Chironex fleckeri*) and jellyfish causing Irukandji syndrome (carybeids – single-tentacled, box jellyfish) are only present in tropical regions.



Figure 1 *Physalia utriculus*

Precautions

A major sting causing any breathing difficulties prompts calling Triple 000 and requesting an ambulance.

Commonly used treatments for jellyfish stings may cause discharging of the bluebottle nematocysts and worsen pain.

- Do not apply alcohol
- Do not apply vinegar (46% acetic acid)
- Do not rub the area with a towel or with sand etc.

Adverse Effects

Heat treatment is safe if applied sensibly and accurately.

Common

Some people are unable to tolerate the temperatures recommended.

Infrequent

There is one recorded case of thermal burn.



Availability

To be effective, hot water/heat needs to be applied rapidly after a sting. Methods of application include:

- Immersion of the affected body part in water maintained at 45°C for 20 minutes
- Basin/bath filled with hot water (checked with a thermometer)
- Hot shower (advantage of being able to vary the temperature, but it is often difficult to know the exact temperature)
- Heat packs.

As hot water immersion, especially with maintained temperatures, is seldom available at beachside locations, self-heating heat packs may be the most convenient method, although they have not been proven to be effective or safe.

Consider heat packs with the capacity to reach 45°C for seaside first aid kits. 'Medi' heat packs are claimed to heat up to 54°C, and to be reusable. They cost between \$12 and \$45.

Several other heat packs are available but not all may reach 45°C and some may also exceed this.

Description

Before applying heat:

- Remove any tentacles that remain stuck to the skin. This can be done with tweezers or by fingers (finger pads are thick and no sting is received, however stings can be transferred from the fingers to other areas of skin)
- Wash the site of the sting with seawater (note that freshwater can cause the discharge of any nematocysts (stinging cells) that remain on the skin).

To apply heat:

- Apply water or heat pack at 45°C for 20 minutes, or until pain resolves.



Figure 2 Sting from *Physalia ultriculus*



Tips and Challenges

A sting from a bluebottle causes an immediate sharp pain and acute inflammatory skin reaction, which has a linear appearance (Figure 2) or multiple lines if *Physalia physalis* is involved.

The intense skin pain can last from minutes to many hours, and is usually also felt in the lymph glands draining the region. The sting can also cause systemic signs such as nausea, vomiting and general feeling of malaise. There may also be a subsequent dull ache in the joints.

Although topical heat may be effective for Hawaiian box jellyfish, there are no studies suggesting it is effective for Australian box jellyfish (*C. fleckeri*), or for preventing Irukandji syndrome, which may follow stings by *Carukia barnesi* and other similar carybdeids.

Grading

NHMRC Level 2 evidence.

References

Loten C, Stokes B, Worsley D, Seymour JE, Jiang S, Isbister GK. A randomised controlled trial of hot water (45°C) immersion versus ice packs for pain relief in bluebottle stings. *Med J Aust* 2006;184:329–33

Tibballs J. Australian venomous jellyfish, envenomation syndrome, toxins and therapy. *Toxicon* 2006;48:830–59

Australian Resuscitation Council. Guideline 9.4.5: Envenomation – Jellyfish stings. 2010. Available at resus.org.au.

Consumer Resources

Consumers can watch Dr Andrew Rochford testing the best way to treat bluebottle stings.

The NSW Ambulance service has a bluebottle fact sheet.

Jellyfish intervention

The RACGP gratefully acknowledge the contribution of Associate Professor James Tibballs and Associate Professor Peter Fenner in the development of this intervention.