

First aid for bites and stings

Australia is home to some of the most venomous creatures in the world. Snakes, spiders, jellyfish and molluscs, such as the blue ringed octopus and cone snail, can all inflict a sting or bite that may cause significant illness and occasionally, death.



Snakes

Australian venomous snakes include taipans, death adders, tiger, black, brown, mulga and copperhead as well as many sea snakes. In warmer weather, the land-based snakes are out of hibernation and basking in the sun. Just in time to be found by holidaymakers.

Most Australian snakes are defensive by nature and will usually sense your approach and move out of the way. Most don't approach humans unless disturbed, however, some, such as the brown snake, are fast, fierce and easily angered.

If someone is bitten by a snake, follow these rules.

- ▶ DO apply a broad pressure bandage firmly to the limb, particularly over the bite site, and immobilise with a splint (pressure-immobilisation first aid — see the instructions at the end of this article). This is to stop the spread of venom into the lymphatic system.
- ▶ DO get the victim to a hospital or medical centre, preferably by an ambulance that has resuscitation facilities and antivenom for snakebites. It is better to keep the bitten person still and bring transport to them rather than for them to move.
- ▶ DO NOT cut the bitten area.
- ▶ DO NOT use a tourniquet.
- ▶ DO NOT wash or suck the bite. Traces of venom are needed for use with venom identification kits.
- ▶ DO NOT remove the bandage — this will result in spread of the venom through the system.
- ▶ If the bite is not on a limb, APPLY firm direct pressure on the bite site if possible. Do not restrict breathing or chest movement, and do not apply firm pressure to the neck or head.

Spiders

Only 2 Australian spiders, the red back and the funnel web, pose a threat to human life. Medical treatment is usually not required for white tailed spider bites, although ice packs may relieve acute pain. Clinical experience appears to be limited with mouse spider bites, but funnel web spider antivenom could be useful in severe cases.

Some common house and garden spiders deliver bites but usually very little damage occurs. However, medical advice should be sought if there is concern. If it can be done safely, it is reasonable to try to capture and save the spider for identification purposes, even if it has been squashed.

If someone is bitten by a funnel web spider, follow these rules.

- ▶ DO apply a broad pressure bandage to the limb immediately, particularly over the bite site, and immobilise with a splint.
- ▶ DO get the victim to a hospital or medical centre, preferably by an ambulance that has resuscitation facilities and antivenom for funnel web spider bites.
- ▶ DO NOT remove the bandage — this will result in spread of the venom through the system.

The bite of a red back spider is immediately painful. If someone is bitten by a red back spider, follow these rules.

- ▶ DO apply an ice pack to lessen the pain (the pressure-immobilisation technique is not used in this case as the venom acts slowly and any attempts to stop its movement tends to increase local pain, which may become excruciating).
- ▶ DO get the victim to a hospital or medical centre, preferably by an ambulance that has resuscitation facilities and antivenom for red back spider bites.

Marine bites and stings

The coastline of Australia, particularly the tropics, holds some perils for the unwary. Box jellyfish or sea wasp, bluebottles, stonefish, stingrays, blue ringed octopus and cone snails are just some of the 'nasties' to watch out for.

Box jellyfish or sea wasp

Domestic vinegar should be poured liberally over any adhering tentacles to inactivate the stinging cells (nematocysts) as soon as possible. Never try to substitute methylated spirit or alcohol, which will cause the nematocysts to discharge and worsen the sting.

The Australian Resuscitation Council's 2010 Guidelines on Jellyfish Stings do not recommend the use of pressure immobilisation bandages for jellyfish stings.

First aid should be basic life support, dousing the affected area with vinegar if it's available, preventing the victim from making any unnecessary movements, and getting the victim to hospital rapidly, preferably by ambulance.

Antivenom is available, and is recommended for all but minor stings.

Note: The use of vinegar for jellyfish stings is to prevent the firing of undischarged stinging cells and the injection of more venom. Vinegar will not decrease pain or lessen the effects of the venom.

Bluebottle or Portuguese man o'war

First aid consists of removal of the tentacles, preferably with forceps. Vinegar is NOT recommended, and some painkillers may be required. Rinse the sting area with sea water.

The stung area should be placed in hot water (no hotter than the rescuer can comfortably tolerate) for 20 minutes.

If pain is not relieved by heat or hot water is not available, stings may respond to ice packs and anaesthetic creams or lotions.

For persistent or generalised pain, or if the sting area is large or involves sensitive areas, call an ambulance and seek assistance from a lifeguard if available.

Stonefish and other stinging fish

First aid consists of immersing the affected area in hot water — do not bandage or try to restrict movement of the toxin. Heat breaks down the venom. Try putting an unaffected part of your body in the hot water first to make sure you are not burning yourself. You may need hospital treatment for the relief of pain and/or to be given stonefish antivenom.

Blue ringed octopus

Blue ringed octopuses secrete a nerve toxin in their saliva. Their bite is usually painless, but the person bitten will feel numb around the mouth, tongue, face and neck and will feel tight in the chest and may have difficulty breathing. Respiratory failure occurs eventually which leads to death if the person is not resuscitated. Most of the time, the victim is aware, but unable to move or respond.

Pressure immobilisation, using a broad pressure bandage over the site is recommended. Medical help is needed as fast as possible, and the person should be transported to the nearest hospital, preferably in an ambulance. Prolonged artificial respiration, even mechanical ventilation, may be required until the effects of the venom wear off. There is no antivenom available.

Cone shell/snail

Living in shallow reef waters, these conical shells contain a snail which kills its prey with venom. The venom of the cone snail is injected by small teeth which look like harpoons. The venom causes prolonged weakness of muscles, including the muscles of respiration and disturbance of vision, speech and hearing. Pain, numbness and swelling occur commonly. If untreated, high levels of venom could cause death in a short time.

Pressure immobilisation, using a broad pressure bandage to the limb, particularly over the site, is recommended. Prolonged artificial respiration, even mechanical ventilation, may be required. At this stage, there is no antivenom available for cone shell stings. A tetanus injection may also be needed in case the wound is contaminated.

Paralysis tick

The Australian paralysis tick secretes a nerve toxin in its saliva. The symptoms of those affected progress from local irritation at the site of the tick and tiredness to muscle weakness, unsteadiness on the feet, double vision and difficulty in swallowing or breathing. Occasionally, there are allergic reactions.

The tick may not be noticed until a search is instigated for it. It should be removed by grabbing hold of the tick as close to the skin as possible using a pair of fine-tipped tweezers. Gently pull the tick straight out (without twisting), being careful to remove the whole tick.

Main considerations are not to squeeze or cut the tick, as this will cause it to inject more venom, and also not to leave its head in the skin. If parts of the tick are left behind, they may become infected and require medical attention.

Once the tick has been removed, clean the area with an antiseptic or soap and water.

Avoid using methylated spirits, kerosene or other chemicals — this may cause the tick to inject more toxins.

If serious symptoms develop, use the pressure immobilisation technique.

Information on pressure immobilisation first aid

Pressure immobilisation first aid for venomous bites and stings was developed in Australia in the 1970s by Professor Struan Sutherland, who was head of immunology research at the Commonwealth Serum Laboratories (CSL). Venom is spread via the lymph system, so applying a bandage (as tightly as you would strap a sprained ankle) slows the movement of venom from the bite site into the lymphatic system. Immobilisation — with a splint, e.g. a piece of wood/timber to the limb — also slows lymphatic drainage.

This gives the bitten person more time to reach hospital and medical care, although obviously the situation is still a grave emergency.

Research with snake venom has shown that very little venom reaches the bloodstream if firm pressure is applied over the bitten area and the limb is immobilised. It is currently recommended for most life-threatening venomous bites and stings in which the venom travels by the lymph system, for example, funnel web spider bites, snakebites and blue ringed octopus and cone snail envenomations.

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