

Australian Snake Bites

In Australia there are about 3,000 snake bites per year, of which 200 to 500 receive anti-venom; on average one or two will prove fatal. About half the deaths are due to bites from the brown snake; the rest mostly from tiger snake, Taipan and Death Adder. Some deaths are sudden, however in fact it is uncommon to die within four hours of a snake bite.

In 1906, the untreated death rates were as high as 40% to 50% for death adder and Tiger snake bites! Improved supportive treatment and the availability of effective anti venomous has reduced this considerably.

Following are 7 of the most commonly found venomous Australian snakes –

1. Eastern Brown snake (*Pseudonaja textilis*)

Also known as: Common Brown snake

Found: throughout the eastern half of mainland Australia

Fast-moving, aggressive and known for their bad temper, eastern brown snake, together with other browns, are responsible for more deaths every year in Australia than any other group of snakes. Not only is their venom ranked as the second most toxic of any land snake in the world (based on tests on mice), they thrive in populated areas, particularly on farms in rural areas with mice.

If disturbed, the eastern brown raises its body off the ground, winding into an “S” shape, mouth gaping open and ready to strike. Its venom caused progressive paralysis and stops the blood from clotting, which may take any doses of anti-venom to reverse. Victims may collapse within a few minutes.

2. Western Brown snake (*Pseudonaja nuchalis*)

Also known as: Gwardar

Found: widespread over most of mainland Australia – absent only from the wetter fringes of eastern Australia and south-western Australia.

Said to be less aggressive than its eastern cousin, the western brown snake is still highly dangerous and part of the group of snakes that causes the most fatalities in Australia. Western browns tend to be fast moving and nervous in temperament. When disturbed, they will run for cover, striking quickly if cornered, then making a quick getaway.

Though their venom is not as toxic as the eastern browns, they deliver three times as much. Bites are usually painless and difficult to see due to the small fang marks. Victims will experience headache, nausea, abdominal pain, severe coagulopathy (blood clotting disorder) and sometimes kidney damage.

3. Mainland Tiger snake (*Notechis scutatus*)

Also known as: Common Tiger snake

Found: along the south-eastern coast of Australia from New South Wales and Victoria to Tasmania and the far corner of South Australia.

Mainland Tiger snakes are responsible for the second-highest number of bites in Australia, as they inhabit highly populated areas along the east coast, including some metropolitan areas of Melbourne. They are attracted to farms and outer suburban houses, where they hunt mice nocturnally and can easily be trodden on by unsuspecting victims in the darkness.

Bites are fatal if untreated, causing pain in the feet and neck, tingling, numbness and sweating, followed by breathing difficulties and paralysis. The venom also damages the blood and muscles, leading to renal failure.

Adult snakes are usually (but not always) banded, with ragged stripes varying in colour from pale yellow to black along a solid, muscular body that can grow to 2m. When threatened, they flatten their necks and strike low to the ground.

4. Inland Taipan (*Oxyuranus microlepidotus*)

Also known as: Fierce snake of small-Scaled snake

Found: in cracks and crevices in dry rocky plains where the Queensland, South Australia, New South Wales and Northern Territory borders converge.

Reclusive and rare, the inland Taipan hides out in its remote, rocky habitat. This snake only make the top 10 because of its highly toxic venom, considered to be the most potent of any land snake in the world; it has the potential to kill an adult human within 45 minutes.

Hunting in the confined space of the burrows of the long-haired rat, the Inland Taipan uses its potent venom to finish off prey quickly, injecting more than 40,000 times the amount needed to kill a 200g rat. The prey has little chance of fighting back.

Only a handful of people (all snake handlers) have been bitten by this species. Each survived with first aid and hospitalization.

5. Coastal Taipan (*Oxyuranus scutellatus*)

Also known as: Eastern Taipan

Found: in an arc along the east coast from northern New South Wales to Brisbane and Northern Western Australia. They are fond of sugarcane fields.

Coastal Taipans are equipped with the longest fangs of any Australian snake (13mm), and have the third most toxic venom of any land snakes.

Extremely nervous and alert, they put up a ferocious defence when surprised or cornered, ‘freezing’ before hurling their light-weight body forward to inflict several lightning-fast snapping bites. However, they are not usually confrontational and would much rather escape any threat.

Before the introduction of a specialised anti-venom in 1956, Taipan bites were nearly always fatal and caused many human

deaths. The venom affects the nervous system and the blood, with nausea, convulsions, internal bleeding, destruction of the muscles and kidney damage. In severe cases, death can occur in just 30 minutes.

6. Mukga snake (*Pseudechis australis*)

Also known as: King Brown snake

Found: throughout Australia, except Victoria, Tasmania and the most southern parts of Western Australia – the widest distribution of any Australian snake

The Mulga is the heaviest venomous snake in Australia and has the largest-recorded venom output of any in the world – delivering 150mg in one bite; the average Tiger snake only produces 10-40mg when milked.

Their temperament seems to vary with locality. Southern Mulga's are reported to be shy and quiet, whereas northern specimens are much more agitated if disturbed – when they throw their heads from side to side and hiss loudly. Mulga's bite savagely, even hanging on and chewing as they inject massive amounts of highly toxic venom, which destroys blood cells and affects the muscles and nerves. Though commonly known as a king brown snake, the Mulga is actually a member of the black snake genus *Pseudechis*, and black snake anti-venom is needed to treat a bite.

7. Common Death Adder (*Acanthophis antarcticus*)

Also known as: Southern Death Adder

Found: in eastern Australia (except the far north and south), southern South Australia and Western Australia

The common Death Adder is an ambush predator that sits motionless, concealed in leaf litter, sand or gravel, twitching the worm-like lure on the end of its tail to attract prey.

Unlike other snakes that flee from approaching humans crashing through the undergrowth, common death adders are more likely to sit tight and risk being stepped on, making them more dangerous to the unwary bush walker. They are said to be reluctant to bite unless actually touched.

About half of death adder bites proved fatal before the introduction of anti-venom contains a type of neurotoxin which causes loss of motor and sensory function, including respiration, resulting in paralysis and death.

Signs and Symptoms

The bite site is usually painless. It may have classical paired fang marks, but this is not the most common picture. Often there are just a few lacerations or scratches, and sometimes these may be painless or go unnoticed. Bruising, bleeding, and local swelling may be present, but significant local tissue destruction is uncommon in Australia.

Regional lymphadenopathy may be marked, even with non-venomous snake bites, and is not by itself an indication for the administration of anti-venom. It may contribute to abdominal pain in children.

The usual sequence of systemic symptom development goes something like this:

(<1hr) Headache (an important symptom), irritability, photophobia, nausea, vomiting, diarrhea, confusion; coagulation abnormalities; occasionally sudden hypo-tension with loss of consciousness.

(1-3 hrs) Cranial nerve paralysis (ptosis, diplopia, dysphagia etc), abdominal pain, haemoglobinuria, hypertension, tachycardia, haemorrhage.

(>3 hrs) Limb and respiratory muscle paralysis leading to respiratory failure, peripheral circulatory failure with pallor and cyanosis, myoglobinuria, eventually death.

This sequence of events is highly variable. Brown snake bites, even apparently trivial ones, have been associated with acute deterioration over a five minute period leading to death. This may occur as soon as 30 minutes to an hour after the original bite.

Acute, severe cardiac depression may be the mechanism for sudden death.

Paralysis, when it occurs, usually commences with cranial nerves, then skeletal muscle, then the muscles of respiration. In small children or with highly venomous snake bites it may happen much more quickly.

Major bleeding disturbances are, as mentioned before, rare with Australian snakes, although the development of coagulopathies and a DIC-like picture are relatively common. Thrombocytopaenia and haemolysis may occur. Watch for haematuria, haemoptysis, haematemesis, low bowel haemorrhage, menorrhagia or haemoglobinuria, and remember that about 20% of patients who die after a snake bite have cerebral haemorrhages.

Muscle destruction from myolytic toxins is not uncommon and may not be associated with muscle tenderness; it may lead to renal failure and should be specifically looked for, because early treatment with anti-venom will reduce its severity.

Snake bite should always be considered in any case of unexpected confusion or loss of consciousness following outdoor activities in snake country. In Australia, snake venoms alone cause coagulopathy, so if present you can rule out other forms of envenomation.

Prognosis depends on the type of snake and the quantity of venom injected. An angry snake and multiple bites is associated with greater venom volumes.

First Aid for Snake Bites:

Do NOT wash the area of the bite or try to suck out the venom!

It is extremely important to retain traces of venom for use with venom identification kits.

Do NOT incise or cut the bite, or apply a high tourniquet!