



AUSTRALIAN RESUSCITATION COUNCIL

GUIDELINE 9.4.1

ENVENOMATION - AUSTRALIAN SNAKE BITE

INTRODUCTION

Many of the snakes found in Australia are capable of lethal bites to humans. These include Taipans, Brown snakes, Tiger snakes, Death Adders, Black snakes, Copperhead snakes, Rough Scaled snakes and many Sea snakes.¹

Snakes produce venom in modified salivary glands and the venom is forced out under pressure through paired fangs in the upper jaw. Snake venoms are complex mixtures of many toxic substances which can cause a range of effects in human victims. The life-threatening early effect in Australian snake bite is neurotoxic muscle paralysis, which kills by causing breathing failure.

Other significant effects include:

- bleeding due to coagulation failure
- muscle damage causing kidney failure

RECOGNITION

The bite may be painless and without visible marks. Other symptoms and signs may include:

- paired fang marks, but often only a single mark or a scratch mark may be present (localised redness and bruising are uncommon in Australian snake bite)
- headache
- nausea and vomiting
- occasionally, initial collapse or confusion followed by partial or complete recovery
- abdominal pain
- blurred or double vision, or drooping eyelids
- difficulty in speaking, swallowing or breathing
- swollen tender glands in the groin or axilla of the **bitten** limb
- limb weakness or paralysis
- respiratory weakness or respiratory arrest.

Note:

Life-threatening effects may not be seen for hours. However when massive envenomation occurs, especially in children, symptoms and signs may appear within minutes.

MANAGEMENT

The rescuer should:

- keep the victim at rest, reassured and under constant observation
- commence resuscitation if necessary, following the Australian Resuscitation Council and New Zealand Resuscitation Council Basic Life Support Flowchart (Guideline 8)
- apply the Pressure Immobilisation Technique (Guideline 9.4.8)
- transport the victim to a medical facility, preferably by ambulance

Note:

- DO NOT cut or incise the bite
- DO NOT use an arterial tourniquet
- DO NOT wash or suck the bite

Snake identification

Identification of venomous snakes can be made from venom present on clothing or the skin using a Venom Detection Kit. For this reason do not wash or suck the bite or discard clothing. **It is not recommended to kill the snake for purposes of identification**, because medical services do not rely on visual identification of the snake species.

Antivenom is available for all venomous Australian snake bites.

REFERENCES

1. Sutherland SK, Tibballs J. *Australian Animal Toxins*. Melbourne: Oxford University Press 2001.

FURTHER READING

- ARC Guideline 8 Cardiopulmonary Resuscitation
ARC Guideline 9.4.8 Envenomation - Pressure Immobilisation Technique

RATIONALE FOR PRESSURE IMMOBILISATION

Most snake venom reaches the blood stream via the lymphatic system. Research has shown that very little venom reaches the circulation, even after several hours, if the Pressure Immobilisation Technique is applied immediately and maintained.