

First aid for snake bites in Australia or New Guinea

The Australian Resuscitation Council (ARC) recommends the use of pressure immobilization bandaging (PIB) as current best practice for snake bite first aid after snake bites in Australia. This method is also appropriate in Papua New Guinea and Indonesian Papua Province.

Pressure Immobilization Bandaging (PIB) First Aid

There are two components that must be satisfied – pressure over the bitten limb and focal plus general immobilization. This involves the application of:

1. A broad (minimum 7.5 cm wide) elastic bandage to the entire bitten limb at a very firm pressure of at least 40 mmHg for an arm and 55 mmHg for a leg. AVRU recommends Setopress™ High Compression Bandages as these bandages relax very little with prolonged application.
2. Splints to effectively immobilize the entire limb, in combination with laying the patient down and completely still to minimize any movement.

Any movement of the limb quickly results in venom absorption and must be prevented; therefore first aid must be an immediate priority after a snake bite.

The **DRS ABCD** action plan (<http://www.stjohnambulace.com.au>) should be followed. Look for **D**anger, check for **R**esponse, **S**end for help then check and clear the **A**irway, check for, and sustain **B**reathing, if necessary start **C**PR and apply a **D**efibrillator if indicated. DRS ABCD is vital, especially if the person has collapsed and is unresponsive.

Move away from the area where the bite occurred (if necessary), lie the patient down and keep them calm. Do not clean or wash the wound. Do not use

tourniquets, or cut the wounds or the bitten limb. Do not allow the patient to walk. We recommend that in the case of bites to a lower extremity, splinting of both legs (in the same way as used for fractures or suspected pelvic injuries) should be carried out to completely immobilize the lower half of the body.

In rare cases a person may be bitten on the body, face or neck. In these cases direct pressure should be applied over the bite site with a pressure pad made from cloth (a hand towel, t-shirt or any material will do), and held firmly in place until medical attention can be obtained.

Always seek medical attention after a snake bite.

Many patients present to hospital with PIB bandages that are too loose. The current evidence base suggests a minimum pressure of 55 mmHg for bites to the legs, and 40 mmHg for bites to hands or arms. This is at least as firm as a bandage for a sprained ankle needs to be. Once the bandage is applied the limb should be immobilized with splints and movement avoided. The bandage is not to be removed until hospital care with resuscitation facilities is available.

NEVER use arterial tourniquets, suction devices or use sharp object to cut the wound and surrounding area.

First aiders or medical personnel should monitor vital signs very closely, keeping a written record of the time and circumstances of the bite and of all symptoms or signs that occur prior to arrival at the medical facility. The patient should be promptly moved to hospital but avoiding any movement of the limb. The limb should be monitored for signs of poor circulation and bleeding.

Application of Pressure-Immobilization Bandaging (PIB) to the legs



Move the victim away from the snake. Calm and reassure them. Jewelry such as toe rings and ankle bracelets should be removed before the bandage is applied. Regardless of where on the limb the bite has occurred, commence bandaging from just above the toes (leave these uncovered so that blood flow to the nail beds can be monitored).



Bandages applied to the legs need to be bandaged very firmly to achieve a minimum pressure of at least 55 mmHg (but no more than 70 mmHg), so that lymphatic transport can be effectively occluded. This requires practice, as a bandage that is too loose will not be effective, and one that is too tight can cause damage to the limb tissues.



If clothing can be easily pushed out of the way, do so, and continue bandaging right to the groin. Otherwise cut clothing away with safety scissors, or simply bandage over the top of the clothing. Extend the bandage to cover the entire limb using the same tension to maintain an even pressure. Use more than one bandage if necessary.



Splint the limb. Use a rigid splint and bind it well to the limb so that the knee and ankle cannot be bent or flexed. It may be useful to splint both legs together so that the entire lower half of the body is immobilized.



This photo shows a fully bandaged and splinted leg. The person must then be kept as still as possible on a stretcher or a backboard. They should not be allowed to walk or stand.

**DIAL
000**
Ask for Ambulance

Application of Pressure-Immobilization Bandaging (PIB) to the arms



Regardless of where on the limb the bite has occurred, commence bandaging from just above the fingertips (leave these uncovered so that blood flow to the nail beds can be monitored). Remove rings, watches and bracelets before applying the bandage. If clothing can be easily pushed out of the way, do so, and continue bandaging right to the armpit. Otherwise cut clothing away, or simply bandage over the top of the clothing.



Bandages applied to the arms need to be bandaged very firmly to achieve a minimum pressure of at least 40 mmHg (but no more than 70 mmHg), so that lymphatic transport can be effectively occluded. This requires practice, as a bandage that is too loose will not be effective, and one that is too tight can cause damage to the limb may result in serious disability.



Photograph showing use of splint to immobilise the limb. Use a rigid splint and bind it well to the limb so that the elbow and wrist cannot be bent or flexed. It is useful to also strap the limb to the torso (at the waist) so that the limb cannot be moved away from the side of the body. We do not recommend that the arm be bent at the elbow and placed in a sling since this can create a tourniquet effect at the elbow.

First aid for bites to the head, neck or torso

In the event that someone is bitten on the head, neck or torso, emergency assistance should be sought immediately. Dial 000 as soon as possible and ask for the ambulance service. Keep the person completely still and use a cloth pad (a handkerchief, folded t-shirt or other material will do) to apply firm pressure over the bitten area constantly until advised otherwise by the emergency responders. Do not restrict chest movement or air entry.

Things you should never do after snake bite

- ✗ **NEVER** try to catch, chase or kill the snake, as this may lead to another bite.
- ✗ **NEVER** give alcohol, tea, stimulants, food or medications without medical advice.
- ✗ **NEVER** wash the wound, apply hot or cold packs, cut the wound, use ligatures or tourniquets, apply electric shocks, and do not suck the wound or use suction from any device.
- ✗ **NEVER** allow the patient to walk or run after a snake bite.
- ✗ **NEVER** remove or loosen the pressure immobilisation bandages unless advised to do so by medical personnel.
- ✗ **NEVER** ignore the urgency of obtaining medical assistance in favour of reliance on traditional medicines or home remedies.

Things you should do after snake bite

- ✓ **DRS ABCD** should always be followed when a snake bite is suspected after a bite by either a land-dwelling snake or a sea snake in Australia or New Guinea. Be aware of the potential for sudden onset of dizziness and possible collapse and loss of consciousness. If the patient does become unconscious lay them on their left side in the recovery position and take steps to protect their airway and breathing. If a person stops breathing or is pulseless then DRS ABCD is vital and can be life-saving, and everyone should learn this approach as part of your overall first aid preparedness strategy. The St John Ambulance of Australia website (<http://www.stjohnambulance.com.au>) has specific resources about DRS ABCD and other first aid skills.
- ✓ **RETREAT** to a safe distance away from the snake, if necessary.
- ✓ **CALM** the patient, lay them down and keep them still. The recovery position is the best way to help protect their airway and breathing while you wait for ambulance or medical assistance. Protect them from the elements (rain, sunshine, cold, etc.).
- ✓ **REMOVE** rings, bracelets and any constrictive objects from the bitten limb, so that if swelling occurs these do not cause an increased risk of serious harm due to restricted blood flow.
- ✓ **REMAIN** with the person who has been bitten at all times until help arrives. If you have no choice but to leave them in order to seek help, return as quickly as possible. Avoiding situations where this may be necessary after any accident is better.
- ✓ **MARK** the site of the bite by using a pen to circle the area of the bandages over the bite site.

ALWAYS SEEK MEDICAL ATTENTION AFTER A SNAKE BITE.