

***This article is a precis by Steve Chadwick
taken with permission from a longer text by Johan Marais
To concentrate on our Western cape***

First Aid for Snakebite – Tourniquets and Pressure Bandages

" First-aid: most of the familiar methods for first-aid treatment of snakebite, both western and "traditional/herbal", have been found to result in more harm than good and should be firmly discouraged"

*With the rise of social media, the endless old wives' tales, myths, and general bad advice on the topic has progressed these into believable advice,
The most important thing to do in the event of a snakebite is to get the patient to the closest medical facility urgently and safely. The first choice is always the closest hospital that has a trauma unit, but this is not always possible*

At the [African Snakebite Institute](#), we are inundated with calls and emails asking what hospitals carry antivenom. Nobody knows, as a hospital may obtain antivenom today, use it tonight and never replace it. But that is not the big issue. When someone is bitten by a highly venomous snake, the biggest danger is that the person may die from a lack of oxygen. In Black Mamba or Cape Cobra bites, the victim may have trouble with breathing well within an hour. Mouth-to-mouth resuscitation could well be lifesaving. (Steve note - usually veterinary clinics carry antivenom as curious dogs regularly get bitten).

Well over 90% of all serious snakebites in our area are from snakes with potent cytotoxic venom – [Puff Adder](#), [Rhombic Night Adder](#) and the [Stiletto Snake](#) being the main culprits. In such bites there is very little that the first aider can do, as cytotoxic venom causes severe pain and swelling that spreads slowly and may result in blistering and tissue damage. Such a patient needs to be taken to a medical facility, as the early administration of antivenom, if required, will reduce the extent of tissue damage. Bear in mind that only one out of ten snakebite patients that are hospitalised require and receive antivenom.

[Boomslang](#) bites are rare and their venom affects the blood clotting mechanism. In a known boomslang bite, do not apply any bandages and get the patient to a medical facility.

If you are dealing with a snakebite with immediate pain and swelling, loosen tight clothing, remove rings and bracelets and avoid all bandages. While transporting the patient you can slightly elevate the affected limb – just above the heart. It has little effect on the outcome of such a bite but will bring pain relief.

The life-threatening bites are from snakes with predominantly neurotoxic venom, and in the Cape the main culprit is the [Cape Cobra](#). Other cobras like the [Snouted Cobra](#) and [Forest Cobra](#) have neurotoxins in their venom, but usually have their fair share of cytotoxins as well and the onset of symptoms is not that dramatic.

Very soon after a bite from a Cape Cobra, patients often mention numbness of the lips, a metallic taste in the mouth, difficulty with swallowing, nausea and excessive sweating. As they become progressively weaker, ptosis (droopy eye lids), dilated pupils and difficulty swallowing may be seen. The breathing becomes heavier and heavier until the patient stops breathing.

Pressure Pad

In a **confirmed Cape Cobra** bite on a limb one can immediately put a pressure pad on the bite or just above it towards the heart. Such a pad could consist of a piece of cotton wool and should be bandaged as tightly as one would a sprained ankle. Such a pressure pad may trap the venom in that area and delay the rate at which it spreads and does damage. Experiments on pressure pads have been done for more than 40 years and with good results.

Pressure Immobilisation

The initial idea of pressure bandages for neurotoxic envenomation came about in the late 70s when Dr. Sutherland from Australia experimented with pressure bandages. His hypothesis was that initially, most of the venom is absorbed through the lymphatic system, and by putting pressure on lymphatics, he demonstrated that venom absorption and subsequent symptoms were delayed. Pressure immobilisation is now used throughout the world.

The biggest problem with pressure immobilisation is that a specific pressure is required for such bandages to have any effect – around 50 – 70 mmHg – and achieving that pressure is no easy task. Having said that, we now have [bandages](#) with rectangles printed on them, and when the bandage is stretched so that the rectangles become squares, and applied so, the correct amount of pressure is achieved. The pressure then averages around 60 mmHg. One always starts wrapping the bandage on the site of the bite and then the limb is wrapped towards the heart. Once applied, the patient must be kept as still as possible as muscle movement stimulates the lymphatics. (Steve note - currently these bandages are out of stock 😞, a crepe bandage will do).



[Pressure bandages](#) **should not** be applied in cases of cytotoxic or haemotoxic envenomation. Once applied, leave the bandage in place until the patient reaches a medical centre.

Arterial Tourniquets

Arterial tourniquets can be extremely dangerous and are not recommended for snakebite. Sadly, most rural people immediately apply a tourniquet after a snakebite using a belt, shoelace, clothing or even fence wire, and in many cases such tourniquets do a great deal of damage. Patients have lost limbs and others have died because of tourniquets.

There is definite evidence that incorrectly applied and managed tourniquets are dangerous, especially in cases of local necrosis where a tourniquet may result in the confining of venom locally.

Assist-breathing

Snakebite victims that die soon after a bite, do so as a result of a lack of breathing. It is of utmost importance to assist-breathe such patient,

Pocket Masks



A simple one-way pocket mask to assist breathe a patient.

This simple and inexpensive device seals well over the mouth and nose of an adult and if inverted can also be used on an infant. It has a one-way valve to protect the rescue breather from ingesting bodily fluids and in adults you will give one breath every six seconds.

