

## SNAKES \_ Black Mamba and Spitting Cobra

### Introduction

- Although more than half of the 151 species of snake found in South Africa have fangs and could technically be classified as venomous, only 16 species carry venom which is considered potent enough to be life-threatening.
- These include the boomslang, vine snakes, coral shield cobra, **six species of cobra (spitting cobra)**, the rinkhals, the green and **black mambas**, the puff adder, the gaboon adder and the berg adder.

### Types of Venom

- **Proteolytic venom** - consists of proteolytic enzymes found in all venomous snakes that cause the degradation of tissue structures, specifically at the site of the envenomation. E.g. Rattlesnakes and vipers
- **Neurotoxic venom** - attacks the central nervous system, causing muscle paralysis, damage to the brain, and loss of consciousness. E.g. Cobras and Mambas.
- **Haematotoxic venom** - the venom breaks down cells and tissue around the injection site, leading to tremendous pain. Results of this venom in humans include cardiovascular failure, loss of an affected limb, and massive internal bleeding. E.g. Boomslang.
- **Cytotoxic venom** - attacks the body cells or tissues, this bite is extremely painful, with much swelling and marked symptoms of shock. E.g. Puff Adders
- **Myotoxic venom** - attacks the muscles and can lead to death from kidney and heart failure. e.g. sea snakes

## Black Mamba (Neurotoxic venom)



- One of Africa's most dangerous snakes.
- It's aggressive when cornered and will not hesitate to strike.
- It can reach speeds of up to 20 km/ph.
- It's the largest venomous snake in Africa with adults reaching an average of 8 feet in length (2.5m).
- Black Mamba's are not black at all, but brown/olive skinned. Their mouths are inky black which they show when threatened.
- If a Black Mamba encounters prey it can strike up to 12 times, each time delivering enough neuro and cardio-toxic venom to kill a dozen men within 1 hour.
- Without anti-venom, the mortality rate is 100%



## Mozambique Spitting Cobra (Neurotoxic venom)



- In color the snake is slate to olive grey, olive or tawny brown above, with some or all scales black-edging.
- It is considered one of the most dangerous snakes in Africa, second only to the Mamba.
- Like the Rinkhals, it can spit its venom. Its bite causes severe local tissue destruction (similar to that of the puffadder). Venom to the eyes can also cause impaired vision or blindness.
- This snake is a nervous and highly strung snake.
- When confronted at close quarters this snake can rear up to as much as two-thirds of its length, spread its long narrow hood and will readily "spit" in defence, usually from a reared-up position.

## Green Mamba (Neurotoxic venom)



- Is a venomous snake related to the highly dangerous Black Mamba.
- The Green Mamba is less aggressive and smaller than the Black Mamba, they average around 6 feet.
- The Green Mamba's venom is also significantly less toxic, however a single bite could certainly be fatal to a human.
- Green mambas are highly arboreal and almost never touch the ground.
- They are generally found in south-eastern Africa.
- Like their name, Green Mambas are a lovely grass green color, but yellow when born.

## Cape Cobra (Neurotoxic venom)



- Has a powerful venom and is one of the deadliest snakes in Southern Africa.
- They grow to an average of around 4 feet.
- They are particularly dangerous because they tend to be nervous and aggressive.
- Without treatment, the mortality rate in humans is 60% and death normally occurs 2-5 hours after being bitten.
- Some are yellow, some copper/mahogany and some are purplish/black.
- They hunt for rodents and can climb trees to raid weaver bird colonies.
- Common throughout dry regions in Southern Africa.

## Puff Adder (Cytotoxic venom)



- Considered to be Africa's deadliest snake because it is responsible for the most human fatalities.
- Puff Adders reach an average length of around 1 meter, and they're solidly built with a wide girth.
- Color patterns vary depending on where they live, their habitats extend throughout Africa except for dense rain forests and deserts.
- The Puff Adder has large fangs and its venom is powerful enough to kill a grown man with a single bite.
- Puff Adders rely on camouflage for protection and lie still if approached. Because of this, people tend to step on them and get bitten.
- Many fatalities occur because bites are not treated correctly, leading to infection and gangrene.

## Boomslang (Haematotoxic venom)



- An extraordinarily dangerous snake found in sub-Saharan Africa.
- Human fatalities are rare, since this snake is very timid, but spectacular.
- It's venom is haematotoxic, which means that it affects the body's natural blood clotting mechanism resulting in the bleeding of the internal organs.
- Sometimes it can take as long as 24 hours before the symptoms of the venom can be felt or seen. Once it gets to work however, a person can bleed to death from every orifice.
- The Boomslang is a tree-dwelling snake (Boomslang means "tree snake" in Afrikaans).
- Females are brown, and males are light green with black highlights.
- The Boomslang reaches an average length of 5 feet. Its fangs are at the back of its head.

## Rinkhals (Neurotoxic and partially Cytotoxic venom)



- An extraordinarily dangerous snake found in sub-Saharan Africa.
- The Rinkhals has eclectic tastes. Its main prey is toads, but it also eats small mammals, reptiles and other amphibians.
- Like several other snakes, the Rinkhals is also known for its ability to play dead.
- The Rinkhal only hunts at night because it is hiding from the sun during the day.
- When distressed the Rinkhals spreads its hood, showing its distinctive striped neck.
- The Rinkhals is a spitting snake, and can spray its venom (which is neurotoxic) up to 2.5m.
- It is also known to fake death by rolling onto its back with its mouth agape.

## General Safety Rules

- When noticing a snake, keep away from it - Stand at a safe distance – at least 5m: some snakes can reach a length exceeding 2m.
- Contact the emergency services OR police OR local snake expert/catcher.
- Do not try to catch the snake!
- Do not try to contain a snake in a corner – it will become aggressive!
- Keep doors closed to prevent it from entering.
- Be careful where you place your hands when moving objects, such as tree trunks, rocks, or equipment around.
- Always lift slabs of rock and other flat objects AWAY from you.

# Snake Bite Treatment

## What to DO

- ✓ Do loosen the clothing, pressure the patient, and keep him calm and quiet.
- ✓ Contact the emergency services immediately.
- ✓ Do dress the wound with a bandage and keep it cool (in the shade). This will stop your blood vessels dilating and decrease the blood flow in that area.
- ✓ Do watch the patient carefully, if he loses consciousness.
- ✓ Be prepared to administer CPR if necessary.
- ✓ Get the victim to a hospital as soon as possible.

## What NOT to do:

- Do not panic and run around as this will increase the blood circulation and transport the venom quicker around the body.
- Do not make a tourniquet (this means to tie a cloth tightly around the arm or leg) as this will destroy the tissue of the arm or leg below it and it might have to be amputated later, as well as concentrate the venom (if it was a venomous bite) in the area and kill that body part off quicker.
- Do not cut and try to suck out the venom as we see them do in cowboy movies, as the venom will still get absorbed into your blood stream through your gums and cheeks.
- Do not use anti-snakebite serum if you are not trained to administer it.
- Do not give the victim anything to eat or drink especially alcohol.

## Emergency Contact Details

### Doctors in Pongola

- Dr. PM Smith : 034 413 2135
- Dr. MJ Erasmus : 034 413 1409

### Hospitals

- Itshelejuba Hospital : 034 413 4000
- Bethesda Hospital, Ubombo : 035 595 3100
- Bayside Hospital, Richards Bay : 035 780 6111

### Snake catcher/specialist

- Philip Van Wyk : 072 976 6002