It may be difficult to identify the snake. DON'T bother - IDENTIFY THE VENOM. An accurate diagnosis can be made on clinical signs and symptoms.

### Venom Categories

<table>
<thead>
<tr>
<th>Neurotoxic</th>
<th>Cytotoxic</th>
<th>Haemotoxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Cobra</td>
<td>Gaboon Viper</td>
<td>Boomslang</td>
</tr>
<tr>
<td>Black Necked Spitting Cobra</td>
<td>Mozambique Spitting Cobra (Mfezi)</td>
<td>(covered by MVA*)</td>
</tr>
<tr>
<td>Rinkals (all covered by PVA*)</td>
<td>Night Adder</td>
<td>(covered by MVA*)</td>
</tr>
<tr>
<td>Berg Adder (No antivenom)</td>
<td>Stiletto Snake</td>
<td>(No antivenom)</td>
</tr>
<tr>
<td>Black Mamba</td>
<td>Rattlesnake Group</td>
<td></td>
</tr>
<tr>
<td>Green Mamba</td>
<td>- Rattlesnakes</td>
<td></td>
</tr>
<tr>
<td>Egyptian Cobra</td>
<td>- Cottonmouth</td>
<td></td>
</tr>
<tr>
<td>Forest Cobra</td>
<td>- Copperhead</td>
<td></td>
</tr>
<tr>
<td>(all covered by PVA*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coral Snake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(No antivenom)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* PVA = SAIMR Ployvalent Antiserum  
MVA = Monovalent Boomslang Antiserum

Snake Handlers who get bitten can usually accurately identify the offending snake. There are numerous South African snakes that cause minor symptoms of envenomation, are not lethal and for which antivenom is not necessary. (Skaapstekers, Night adders, Horned Adders) 95% of Western Cape envenomations are Puff Adder or Cape Cobra.

### Use a Standard ATLS approach: ABCDE
Assess - Intervene - Reassess: Assessment and Management occur in tandem

**DMIST Handover from Ambulance**
- TRIAGE patient using SATS
- Measure and Record Vital Signs
- Fingerprick Haemoglobin

**Examination**
Primary: Assess ABCs then Secondary Head-to-toe Examination
- Airway - may be unable to clear secretions and exhibit hypersalivation
- Breathing may be compromised by respiratory muscle weakness
- Assess for shock and signs of unusual bleeding (haematuria/oozing from wound)
- Neurological examination and cranial nerves
- Neurovascular status of limb, swelling and dermal necrosis

**Take a SAMPLE History**
- Signs and Symptoms: Cytotoxic; Neurotoxic; Haemotoxic
- Allergies
- Medications
- Past Medical History
- Last Meal
- Events: Geographic area. Type of snake. Associated trauma

1. Has envenomation occurred?
2. Are there clinical symptoms consistent with one of the three main types of envenomation in the Western Cape?
   - **Neurotoxic**
     - Weakness - Paraesthesia - Ptosis
     - Paralysis
     - Respiratory Failure (May be delayed onset)
   - **Cytotoxic**
     - Severe pain, Bruising and Swelling at bite site
     - Extends to regional lymph nodes
   - **Haemotoxic**
     - Bleeding from wound site; Ecchymoses
     - Haematuria
     - DIC
     - Renal failure
3. Is there an antivenom to cover this clinical picture?
4. Are the symptoms severe enough to warrant antivenom?

**Investigations**
- Depend on the clinical scenario: Hb, Plt, CK, Renal Function, DIC screen

SNAKEBITE Management

Stabilise ABC's

FIRST AID
- Immobilise the body part
- Pressure dressings are controversial
- DO NOT apply a tourniquet
- DO NOT incise the wound
- DO NOT administer antivenom outside the hospital setting

Eye envenomation: Copious irrigation with water

Has envenomation occurred?

NO
- No marks on skin
- AND
- asymptomatic for an hour post-bite

Discharge
- Advise to return if symptoms develop

Suspected but not obvious
- Envenomation: Marks on Skin
- BUT
- Asymptomatic

Admit overnight
- Observe
- Elevate limb
- If no progressions of symptoms:
- Discharge the next day

YES
- Bite Marks
- AND/OR
- Symptomatic

Is envenomation severe enough to warrant antiserum?

No

Yes

Insert an IV line
- Doctor to administer antivenom personally. No test dose or pretreatment needed
- BUT
- WATCH FOR ANAPHYLAXIS (Itching; Wheezing; Urticaria; Perioral anaesthesia)
- If any of these occur: STOP the injection
- Give: 0.3 mg IM Adrenaline; 200 mg IV Hydrocortisone; 25 mg IV Phenergan

Which type of envenomation does the clinical scenario fit?

Neurotoxic

Cytotoxic

Haemotoxic

ADMINISTER POLYVALENT ANTISERUM (10ml vials)
- 40-80 mls (4-8 vials)
- Slow IV injection
- Titrate to symptoms
- Assess for improvement every 30 minutes
- Give ADEQUATE DOSE (Especially with Puff Adder bites)

Medical/ICU Referral

ADMINISTER MONOVALENT ANTIVENOM (10mls vials)
- Start at 40 mls
- Monitor haematological parameters
- Repeat dose if needed

Surgical Referral

Medical Referral

IMPORTANT NUMBERS

SOUTH AFRICAN ANTIVENOM UNIT (SAVP)
011 386 6016
FOR CLINICAL ADVICE CALL
TBH POISON CENTRE
021 931 6129

Drafted 2010; review Jan 2013. ref: Rosens Emergency Medicine 7th ed. Tintinallis 4th ed. Consultation Mr Philip Cohen Western Cape Division of Emergency Medicine