PNGAus Partnership

PNG SNAKEBITE PARTNERSHIP

PAPUA NEW GUINEA St John AMBULANCE

Snakebite Reporting System AND Antivenom Distribution & Supply Chain and Basic snakebite management

Andrew Maru

The PNG Snakebite Partnership

- **NDoH**
- **UPNG**
- **CSL** with a donation of 600 vials AVs annually to PNG/NDoH
- **PNG- AUS PARTNERSHIP**
- **ST JOHN AMBULANCE PNG** in-country partner to implement AV distribution and snakebite reporting form system for health care facilities.


PNG
SNAKEBITE
PARTNERSHIP

Objectives

- Identify signs of snakebites
- Correctly assess and diagnose a snakebite.
- Fill out a snakebite examination form accurately safely administer antivenoms and ensure correct storage of antivenoms.
- Manage reactions and anaphylaxis with proper first aid techniques.
- Indentify different types of snakes.

Early signs and symptoms

- Headache.
- Abdominal pain, nausea and/or vomiting.
- Back pain.
- Inguinal or axillary node pain.
- Palpitations.
- Blurred vision and/or slurred speech.
- General weakness or inability to stand, sit or walk.

Clinical signs of Envenomation

Bleeding

Persistent bleeding from wounds/ grazes or IV sites

Bleeding from gums, vomiting blood (haematemesis)

Muscle Weakness

Large muscle weakness

Shallow breathing or respiratory distress

Oxygen saturation <92%

Neurological Symptoms

Drooping eyelids (ptosis)

Eye muscle paralysis (ophthalmoplegia)

Double vision

Difficulty sticking out tongue/ slurred speech

Difficulty opening the mouth more than 2cm

Difficulty swallowing

Lymphatic and Abdominal Symptoms

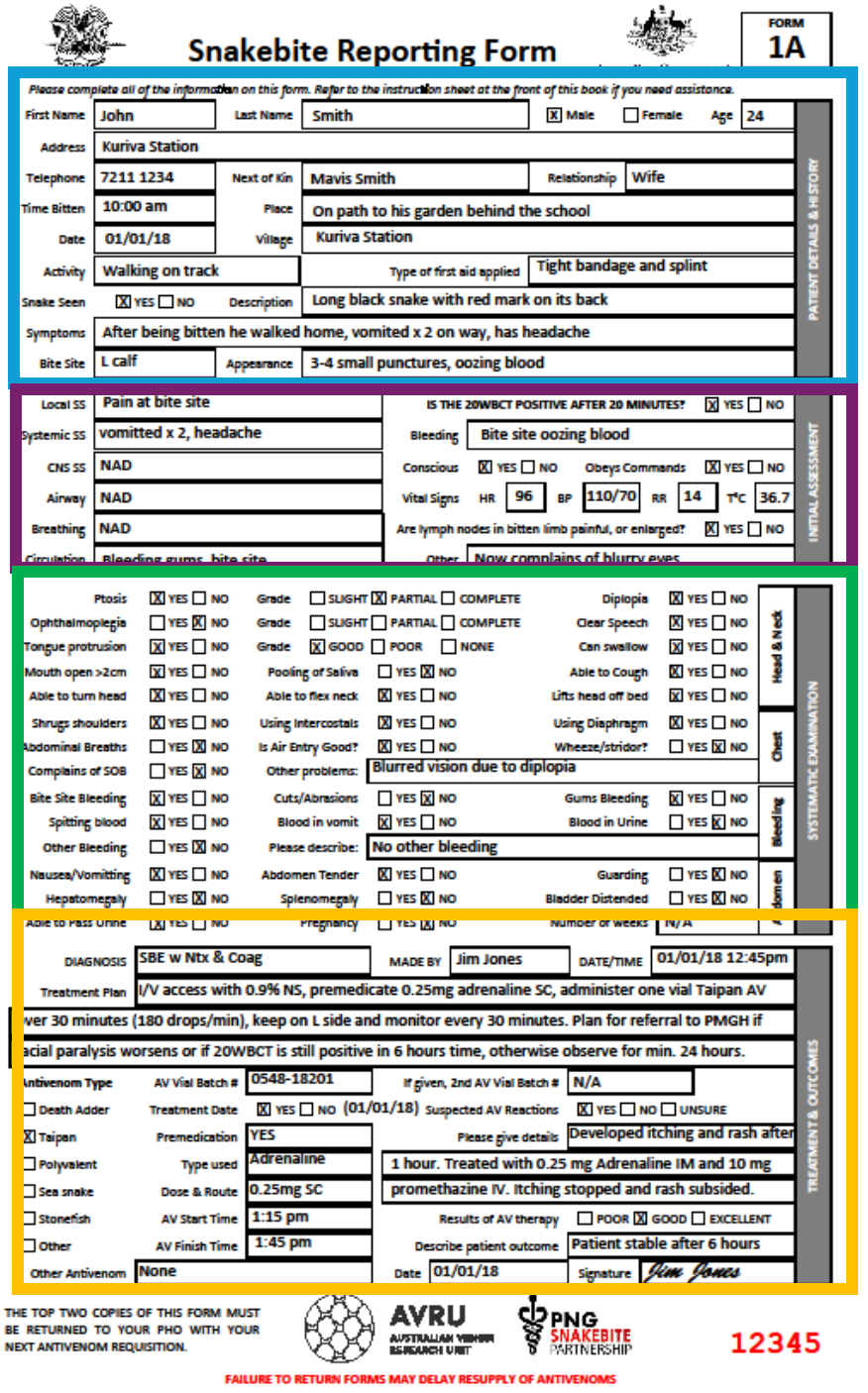
Tender and enlarged lymph nodes in the groin or armpit

Abdominal tenderness

Vomiting

Snakebite Reporting Form system

- The form MUST be completed:
  - <u>Suspected snakebite (important for data collection)</u>
  - Snakebite envenomation patients
- Four sections:
  - Patient Details & History
  - Initial Assessment
  - Systematic Examination
  - Treatment & Outcome



Snakebite Reporting Form — FORM 1A

Please complete all of the information on this form. Refer to the instruction sheet at the front of this book if you need assistance.

PATIENT DETAILS & HISTORY

First Name	John	Last Name	Smith	☒ Male ☐ Female	Age 24
Address	Kuriva Station				
Telephone	7211 1234	Next of Kin	Mavis Smith	Relationship	Wife
Time Bitten	10:00 am	Place	On path to his garden behind the school		
Date	01/01/18	Village	Kuriva Station		
Activity	Walking on track	Type of first aid applied	Tight bandage and splint		
Snake Seen	☒ YES ☐ NO	Description	Long black snake with red mark on its back		
Symptoms	After being bitten he walked home, vomited x 2 on way, has headache				
Bite Site	L calf	Appearance	3-4 small punctures, oozing blood		

INITIAL ASSESSMENT

Local SS	Pain at bite site	IS THE 20WBCT POSITIVE AFTER 20 MINUTES?	☒ YES ☐ NO
Systemic SS	vomitted x 2, headache	Bleeding	Bite site oozing blood
CNS SS	NAD	Conscious	☒ YES ☐ NO — Obeys Commands ☒ YES ☐ NO
Airway	NAD	Vital Signs	HR 96 — BP 110/70 — RR 14 — T°C 36.7
Breathing	NAD	Are lymph nodes in bitten limb painful, or enlarged?	☒ YES ☐ NO
Circulation	Bleeding gums, bite site	Other	Now complains of blurry eyes

SYSTEMATIC EXAMINATION

Head & Neck					
Ptosis	☒ YES ☐ NO	Grade	☐ SLIGHT ☒ PARTIAL ☐ COMPLETE	Diplopia	☒ YES ☐ NO
Ophthalmoplegia	☐ YES ☒ NO	Grade	☐ SLIGHT ☐ PARTIAL ☐ COMPLETE	Clear Speech	☒ YES ☐ NO
Tongue protrusion	☒ YES ☐ NO	Grade	☒ GOOD ☐ POOR ☐ NONE	Can swallow	☒ YES ☐ NO
Mouth open >2cm	☒ YES ☐ NO	Pooling of Saliva	☐ YES ☒ NO	Able to Cough	☒ YES ☐ NO
Able to turn head	☒ YES ☐ NO	Able to flex neck	☒ YES ☐ NO	Lifts head off bed	☒ YES ☐ NO
Chest					
Shrugs shoulders	☒ YES ☐ NO	Using Intercostals	☒ YES ☐ NO	Using Diaphragm	☒ YES ☐ NO
Abdominal Breaths	☐ YES ☒ NO	Is Air Entry Good?	☒ YES ☐ NO	Wheeze/stridor?	☐ YES ☒ NO
Complains of SOB	☐ YES ☒ NO	Other problems:	Blurred vision due to diplopia		
Bleeding					
Bite Site Bleeding	☒ YES ☐ NO	Cuts/Abrasions	☐ YES ☒ NO	Gums Bleeding	☒ YES ☐ NO
Spitting blood	☒ YES ☐ NO	Blood in vomit	☒ YES ☐ NO	Blood in Urine	☐ YES ☒ NO
Other Bleeding	☐ YES ☒ NO	Please describe:	No other bleeding		
Abdomen					
Nausea/Vomiting	☒ YES ☐ NO	Abdomen Tender	☒ YES ☐ NO	Guarding	☐ YES ☒ NO
Hepatomegaly	☐ YES ☒ NO	Splenomegaly	☐ YES ☒ NO	Bladder Distended	☐ YES ☒ NO
Able to Pass Urine	☒ YES ☐ NO	Pregnancy	☐ YES ☒ NO	Number of weeks	N/A

TREATMENT & OUTCOMES

DIAGNOSIS	SBE w Ntx & Coag	MADE BY Jim Jones	DATE/TIME 01/01/18 12:45pm
Treatment Plan	I/V access with 0.9% NS, premedicate 0.25mg adrenaline SC, administer one vial Taipan AV		
	ver 30 minutes (180 drops/min), keep on L side and monitor every 30 minutes. Plan for referral to PMGH if		
	acial paralysis worsens or if 20WBCT is still positive in 6 hours time, otherwise observe for min. 24 hours.		

Antivenom Type	AV Vial Batch #	0548-18201	If given, 2nd AV Vial Batch #	N/A	
☐ Death Adder	Treatment Date	☒ YES ☐ NO (01/01/18)	Suspected AV Reactions	☒ YES ☐ NO ☐ UNSURE	
☒ Taipan	Premedication	YES	Please give details	Developed itching and rash after	
☐ Polyvalent	Type used	Adrenaline		1 hour. Treated with 0.25 mg Adrenaline IM and 10 mg	
☐ Sea snake	Dose & Route	0.25mg SC		promethazine IV. Itching stopped and rash subsided.	
☐ Stonefish	AV Start Time	1:15 pm	Results of AV therapy	☐ POOR ☒ GOOD ☐ EXCELLENT	
☐ Other	AV Finish Time	1:45 pm	Describe patient outcome	Patient stable after 6 hours	
Other Antivenom	None		Date	01/01/18	Signature Jim Jones

THE TOP TWO COPIES OF THIS FORM MUST BE RETURNED TO YOUR PHO WITH YOUR NEXT ANTIVENOM REQUISITION.

AVRU AUSTRALIAN VENOM RESEARCH UNIT — PNG SNAKEBITE PARTNERSHIP

12345

FAILURE TO RETURN FORMS MAY DELAY RESUPPLY OF ANTIVENOMS

Snakebite reporting form: **Patient Details & History**

DEPARTMENT OF HEALTH

Snakebite Reporting Form

Australian Government

FORM 1A

Please complete all of the information on this form. Refer to the instruction sheet at the front of this book if you need assistance.

PATIENT DETAILS & HISTORY

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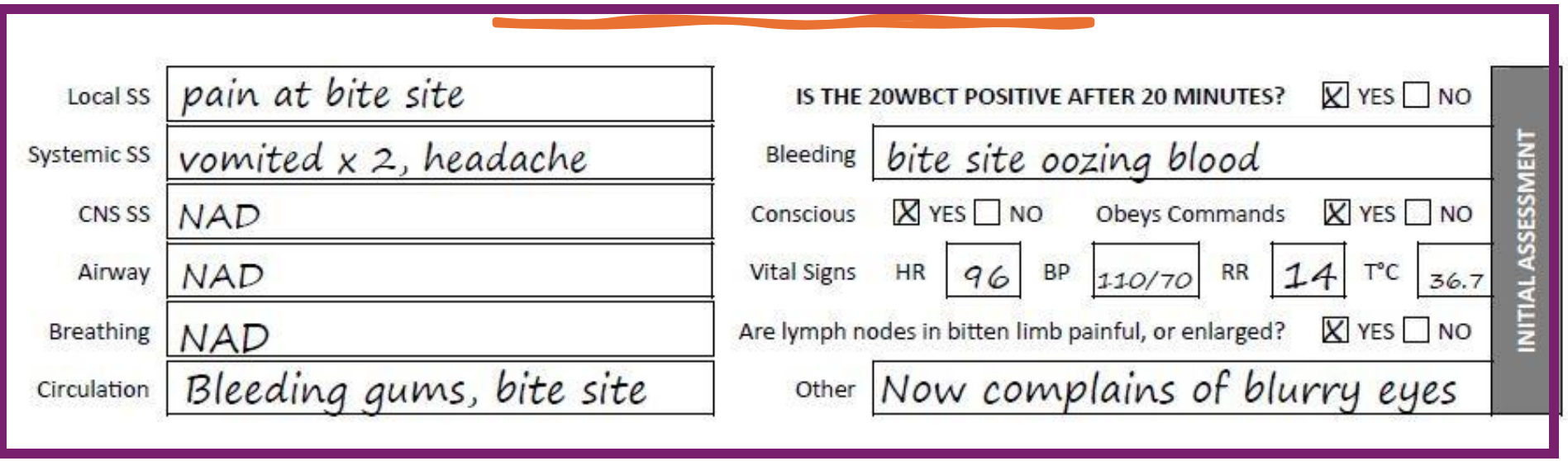
Symptoms	After being bitten he walked home, vomited x 2 on way, has headache				
Bite Site	L calf	Appearance	3-4 small punctures, oozing blood		

Snakebite reporting form: **Initial Assessment**



INITIAL ASSESSMENT

Local SS	pain at bite site
Systemic SS	vomited x 2, headache
CNS SS	NAD
Airway	NAD
Breathing	NAD
Circulation	Bleeding gums, bite site

IS THE 20WBCT POSITIVE AFTER 20 MINUTES? ☒ YES ☐ NO

Bleeding: bite site oozing blood

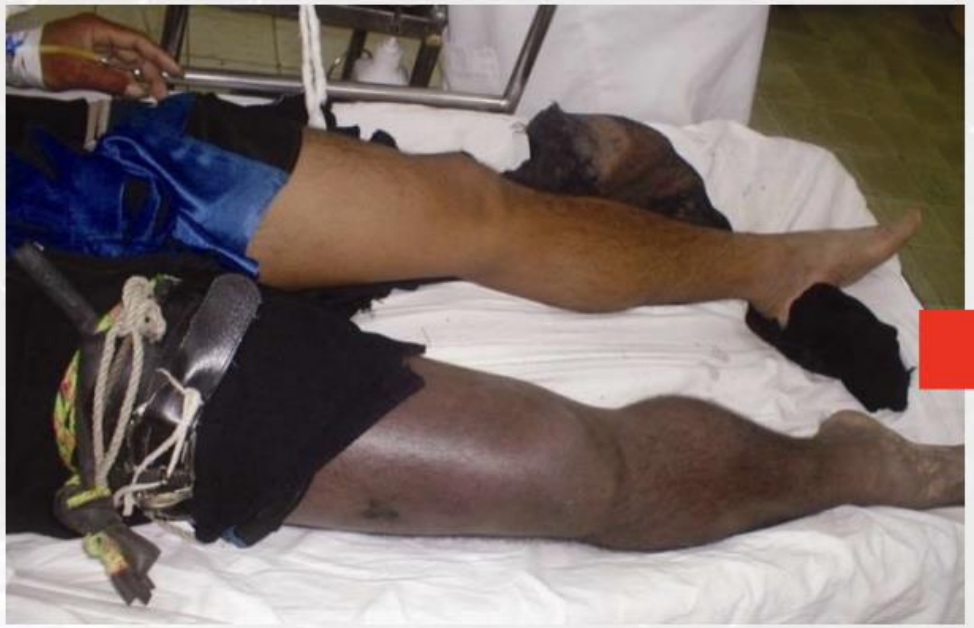
Conscious ☒ YES ☐ NO Obeys Commands ☒ YES ☐ NO

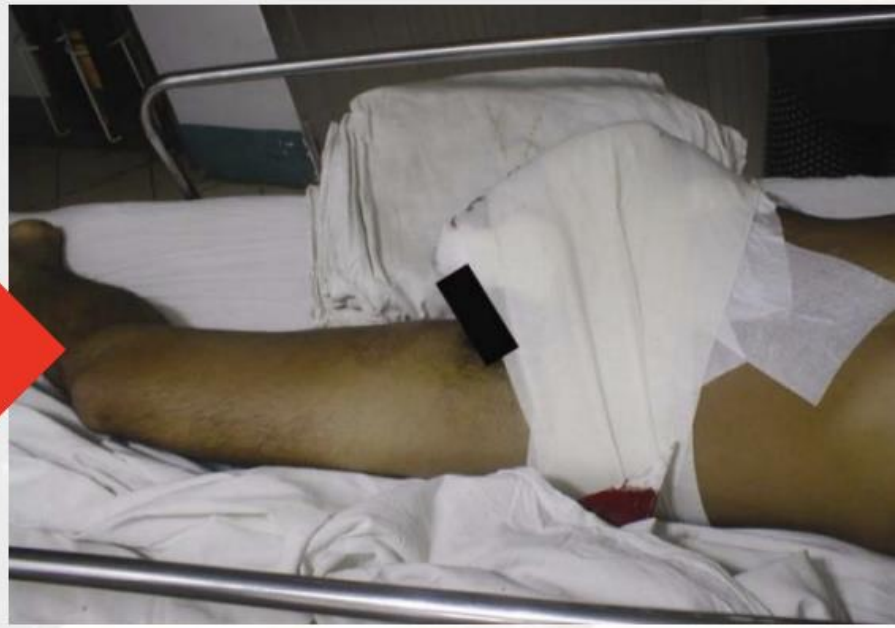
Vital Signs HR 96 BP 110/70 RR 14 T°C 36.7

Are lymph nodes in bitten limb painful, or enlarged? ☒ YES ☐ NO

Other: Now complains of blurry eyes

The snakebite form has been designed to prompt you to systematically look for signs and symptoms to help you diagnose a snakebite envenomation





Consequences of the application of multiple tight tourniquets used as first aid after the bite of non-venomous snake – tourniquets are dangerous, ineffective and excruciatingly painful…

Tourniquets are damaging to patients

Snakebite reporting form: **Systematic Examination**

SYSTEMATIC EXAMINATION

Head & Neck

Ptosis	☒ YES ☐ NO	Grade	☐ SLIGHT ☒ PARTIAL ☐ COMPLETE	Diplopia	☒ YES ☐ NO
Ophthalmoplegia	☐ YES ☒ NO	Grade	☐ SLIGHT ☐ PARTIAL ☐ COMPLETE	Clear Speech	☒ YES ☐ NO
Tongue protrusion	☒ YES ☐ NO	Grade	☒ GOOD ☐ POOR ☐ NONE	Can swallow	☒ YES ☐ NO
Mouth open >2cm	☒ YES ☐ NO	Pooling of Saliva	☐ YES ☒ NO	Able to Cough	☒ YES ☐ NO
Able to turn head	☒ YES ☐ NO	Able to flex neck	☒ YES ☐ NO	Lifts head off bed	☒ YES ☐ NO

Chest

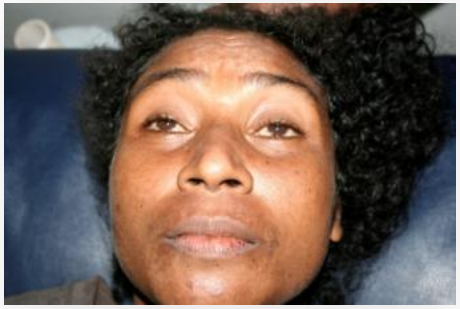
Shrugs shoulders	☒ YES ☐ NO	Using Intercostals	☒ YES ☐ NO	Using Diaphragm	☒ YES ☐ NO
Abdominal Breaths	☐ YES ☒ NO	Is Air Entry Good?	☒ YES ☐ NO	Wheeze/stridor?	☐ YES ☒ NO
Complains of SOB	☐ YES ☒ NO	Other problems:	Blurred vision due to diplopia		

Bleeding

Bite Site Bleeding	☒ YES ☐ NO	Cuts/Abrasions	☐ YES ☒ NO	Gums Bleeding	☒ YES ☐ NO
Spitting blood	☒ YES ☐ NO	Blood in vomit	☒ YES ☐ NO	Blood in Urine	☐ YES ☒ NO
Other Bleeding	☐ YES ☒ NO	Please describe:	No other bleeding		

Abdomen

Nausea/Vomitting	☒ YES ☐ NO	Abdomen Tender	☒ YES ☐ NO	Guarding	☐ YES ☒ NO
Hepatomegaly	☐ YES ☒ NO	Splenomegaly	☐ YES ☒ NO	Bladder Distended	☐ YES ☒ NO
Able to Pass Urine	☒ YES ☐ NO	Pregnancy	☐ YES ☒ NO	Number of weeks	N/A



Ptosis

Bleeding from gums

Snakebite reporting form: **Treatment & Outcomes**

TREATMENT & OUTCOMES

DIAGNOSIS: SBE w Ntx & Coag | MADE BY: Jim Jones | DATE/TIME: 01/01/18 12:45pm

Treatment Plan: IV access with 0.9% NS, premedicate 0.25 mg adrenaline SC, administer one vial Taipan AV over 30 minutes (180 drops/min), keep on L side and monitor every 30 minutes. Plan for referral to PMGH if facial paralysis worsens or if 20WBCT is still positive in 6 hours time, otherwise observe for min. 24 hours.

Antivenom Type

- ☐ Death Adder
- ☒ Taipan
- ☐ Polyvalent
- ☐ Sea snake
- ☐ Stonefish
- ☐ Other

AV Vial Batch #: 0548-18201

If given, 2nd AV Vial Batch #: N/A

Treatment Date: ☒ YES ☐ NO (01/01/18)

Suspected AV Reactions: ☒ YES ☐ NO ☐ UNSURE

Premedication: YES

Please give details: developed itching and rash after 1 hour. Treated with 0.25 mg adrenaline IM and 10 mg promethazine IV.. Itching stopped and rash subsided.

Type used: Adrenaline

Dose & Route: 0.25mg SC

AV Start Time: 1:15 pm

AV Finish Time: 1:45 pm

Results of AV therapy: ☐ POOR ☒ GOOD ☐ EXCELLENT

Describe patient outcome: Patient stable after 6 hours

Other Antivenom: None

Date: 01/01/18

Signature: Jim Jones

THE TOP TWO COPIES OF THIS FORM MUST BE RETURNED TO YOUR PHO WITH YOUR NEXT ANTIVENOM REQUISITION.

AVRU
AUSTRALIAN VENOM RESEARCH UNIT

PNG SNAKEBITE PARTNERSHIP

12345

FAILURE TO RETURN FORMS MAY DELAY RESUPPLY OF ANTIVENOMS

Specific Treatment

1. Establish IV access early and maintain adequate hydration.
2. Perform whole blood clotting time.
3. If evidence of envenoming exists do not delay antivenom administration.
4. Pre-Medicate with subcutaneous adrenaline
5. Single vial of appropriate antivenom in total volume of 100 mL (via burette) over 30 min.
6. Monitor vital signs and watch closely for adverse reaction and be ready to stop AV and treat reaction.
7. Continue regular observations.
8. Consider need from referral if patient unresponsive to AV or deterioration present

Supportive Treatment

- Supplemental oxygen if required
- Patient positioning
- Airway precautions -suction
- IV Fluids
- Urine retention is a common problem, an IDC is needed for most patients.
- Ongoing monitoring, vitals every 30 mins
- Patient must be kept 24 hours after AV before being discharged home
- Prophylaxis tetanus

One vial is usually enough

Seek clinical advise prior second administration,

- Consider need for refferal if patient is unresponsive to initial dose

Give the antivenom time to work:

- Factor replacement by normal synthesis takes 6-9 hours (longer if there is liver impairment)
- Repeat 20WBCT (or labs) after 6 hours

Is more antivenom needed?

- + 20WBCT and no clinical bleeding – NO
- + 20WBCT and clinical bleeding – PERHAPS
- Neurotoxicity after taipan bite – NO

Carbon Copies of SR Form

4 Carbon copies of Snakebite Reporting Form

White – CCTC Copy

Yellow – Referral Copy

Pink – Health Data Statistics @ NDoH, Waigani Copy

Blue – Hospital copy

Distribution & Supply chain AVs

- Initial distribution and delivery today
- Liaise with ED SIC and Chief Pharmacist for ordering and return of reporting forms
- Re-order when Pharmacy Department have minimum of 2 vials AVs in fridge
- MSIV must be sent with white copies of snakebite reporting form

NO WHITE COPIES NO ANTIVENOM

Whole blood clotting time

Use penicillin bottles for 20 WBCT.
Only put 10 drops of bloods from syringe into bottle.
Give a little swirl and leave for 20 minutes in flat surface/desk.
Turn upright (90 degrees) after 20 minutes to check result.

Positive
(blood does not clot)

Negative
(blood clots after 20mins)

Is this negative or positive ?

20 WBCT

BD Vacutainers does give false positive & false negative results.

DO NOT USE THESE

FOR NEGATIVE WBCT

For use in hospitals only

Conduct 20WBCT (20-min whole blood clotting test)

↓

20WBCT negative (blood clots at 20 mins)?

↓

Yes → Proceed with further diagnosis

↓

Assess Neurological Signs (Ptosis, Neurotoxicity) ← No

↓ Yes

Administer Neostigmine (2.5 mg IV) and Atropine (0.3 mg IV)

Response after 1 minute

Ptosis improves, mouth opens wider

↓

Death Adder Bite

Administer Death Adder AV

Ptosis persists, neurotoxicity remains

↓

Possible Taipan Bite

Administer Taipan AV

Note: Refer to pediatric guidelines for children

Preparing the Antivenom

- Check the vial to ensure it is not expired and the contents are clear pale yellow and don't appear cloudy or discoloured.
- Dilute the antivenom in a compatible diluent, such as Hartmann's Solution or 0.9% w/v sodium chloride. Do not give straight
- <u>THE RECOMMENDED DILUTION RATIO IS ONE VIAL OF ANTIVENOM WITH ADDED DILUENT TO MAKE A TOTAL VOLUME OF 100ML IN A BURETTE OR FLASK.</u>
- Use the diluted antivenom immediately, as it contains no antimicrobial preservative.

SNAKEBITE ANTIVENOM

HOW TO ADMINISTER ANTIVENOM

INSTRUCTIONS RELEVANT FOR DEATH ADDER, POLYVALENT, & TAIPAN ANTIVENOMS

1. CONFIRM NEED FOR ANTIVENOM

Check for symptoms & signs of systemic envenoming.
Check for neurotoxicity and perform a 20WBCT.
Keep patient nil by mouth following admission.

2. PREPARE SUPPLIES & ESTABLISH GOOD IV ACCESS

- 1 vial of antivenom
- 1 burette
- Saline
- Adrenaline

3. DILUTE ANTIVENOM

With Burette: Draw 1 vial of antivenom into burette and add saline to make total volume up to 100-150mls.
Without Burette: Drain saline bag until 150mls remains. Inject 1 vial of antivenom into bag and mix gently.
NOTE: Adults and children should both receive a full vial.

4. SET UP IV INFUSION

Prime the line to remove air and prepare and connect the IV line.

5. GIVE PREMEDICATIONS

For Adult patients, administer 0.25mg of adrenaline via subcutaneous (sc) injection at least 5 minutes before starting the Antivenom.
Check paediatric guidelines for adrenaline dosages for child patients.
NOTE: Keep adrenaline on-hand in case of anaphylaxis

6. ADMINISTER THE ANTIVENOM SLOWLY

Run the AV slowly over 30 minutes.

7. MONITOR THE PATIENT

Observe the patient closely for allergic reaction or anaphylaxis. Stop AV if anaphylaxis signs appear and treat the reaction.

8. PROVIDE ONGOING CARE

Patient must remain in inpatient care for a minimum of 24 hours after antivenom is given. Remember to actively assess and manage airways.
Patient should remain nil by mouth for ~24 hours or until their swallowing reflex is strong returns to avoid asphyxiation.

9. DELAYED SERUM SICKNESS

Advise the patient about the risk of delayed serum sickness.

***NOTE:** ENVENOMED PATIENTS SHOULD BE NIL BY MOUTH FOR ~24 HOURS TO REDUCE RISK OF ASPHYXIATION. AIRWAYS SHOULD BE ACTIVELY MANAGED THROUGHOUT ADMISSION PARTICULARLY DURING PATIENT TRANSFERS.*

PNG SNAKEBITE PARTNERSHIP

Things to Remember when Administering

Administer the diluted antivenom slowly by intravenous infusion over 30 minutes.

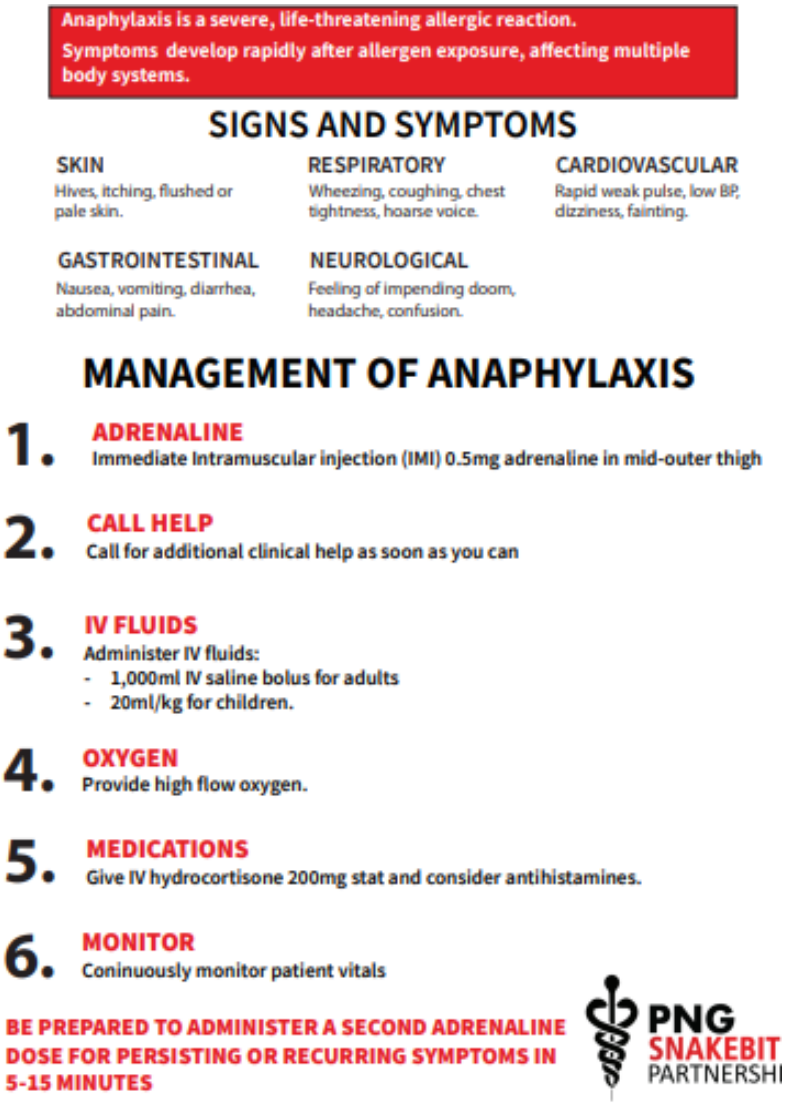
Do not give the antivenom via the intramuscular route.

The administration should take place in a setting where resuscitation facilities are immediately available, such as a resuscitation trolley or airway equipment, due to the risk of anaphylactic reactions.

The standard initial dose is the contents of one vial (12,000 units), which is the same for both adults and children. In cases of severe coagulopathy repeat dosing may be considered after 4 hours.

ALWAYS SEEK SPECIALIST ADVICE BEFORE ADMINISTERING REPEAT DOSES OF AV.

Monitor for Anaphylaxis



Anaphylaxis is a severe, life-threatening allergic reaction.

Symptoms develop rapidly after allergen exposure, affecting multiple body systems.

SIGNS AND SYMPTOMS

SKIN
Hives, itching, flushed or pale skin.

RESPIRATORY
Wheezing, coughing, chest tightness, hoarse voice.

CARDIOVASCULAR
Rapid weak pulse, low BP, dizziness, fainting.

GASTROINTESTINAL
Nausea, vomiting, diarrhea, abdominal pain.

NEUROLOGICAL
Feeling of impending doom, headache, confusion.

MANAGEMENT OF ANAPHYLAXIS

1. **ADRENALINE**
   Immediate Intramuscular injection (IMI) 0.5mg adrenaline in mid-outer thigh

2. **CALL HELP**
   Call for additional clinical help as soon as you can

3. **IV FLUIDS**
   Administer IV fluids:
   - 1,000ml IV saline bolus for adults
   - 20ml/kg for children.

4. **OXYGEN**
   Provide high flow oxygen.

5. **MEDICATIONS**
   Give IV hydrocortisone 200mg stat and consider antihistamines.

6. **MONITOR**
   Coninuously monitor patient vitals

BE PREPARED TO ADMINISTER A SECOND ADRENALINE DOSE FOR PERSISTING OR RECURRING SYMPTOMS IN 5-15 MINUTES

PNG SNAKEBIT PARTNERSHI

Serum Sickness

- Serum sickness may occur 4 to 14 days following the administration of antivenom.

- Symptoms include fever
- Rash
- Joint and muscle pain,
- Headache,
- Nausea and vomiting.

Seek clinical support if required or if clinical concerns

AV Storage

- Antivenmon must be stored at a between 2-8 degrees
- Must have back up
- Must be kept in secure location (ie lock on fridge or door)
- Must have person responsible for it and do weekly checks
- Please notify snakebite team asap if cold chain issues

Airway management

FOR TAIPAN NEUROTOXICITY, THE RESPOSNE TO ANTIVENOM IS DELAYED DUE TO DAMAGE OCCURING FROM THE VENOM

CLOSE ATTENTION TO AIRWAY PATENCY AND PROTECTION IS ESSENTIAL.

DIFFICULTY SWALLOWING, REDUCED COUGH REFLEX, AND EXCESSIVE ORAL SECRETIONS ARE A VERY CLEAR WARNING.

TIMING AND TYPE OF INTERVENTION DEPENDS ON THE CLINICAL ENVIRONMENT.

GOOD AIRWAY MANAGEMENT SAVES LIVES.

Common causes of death

In hospitals deaths are due to failures in the clinical management of patients:

- Inattention to airway management leading to aspiration pneumonia and other airway problems
- Failure to monitor fluid balance
- Lack of basic drugs and equipment
- Medical malpractice and negligence

In rural practice most deaths are due to:

- Lack of antivenom
- Airway obstruction at HC or during transfer
- Delayed presentation
- No clinicians during transport to referral facility

Other complications

Microangiopathic haemolytic anaemia.

- Thrombocytopenia
- Anaemia

Renal impairment.

- Adequate hydration essential
- Need to respond to oliguria without delay

Pneumonias, septic shock

- Aspiration-induced pneumonias
- Hypostatic

Electrolyte irregularities

- Potential cardiotoxicity

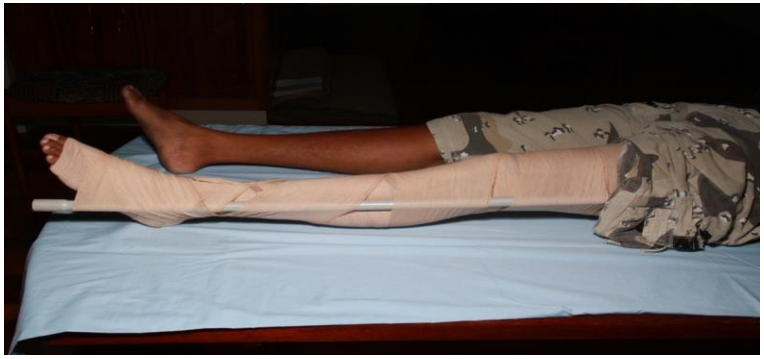
Points to remember

They may not be able to speak, open their eyes, or move their bodies, but they are OFTEN conscious and can hear everything you say!

Provide reassurance to the patient and their family- be open realistic and honest.

Explain what you are going to do to them BEFORE you do it.

First Aid treatment – Demo



Apply firm and even pressure whilst wrapping the entire limb. Remember to keep fingers or toes uncovered to check the circulation.

Ensure rings & clothing removed

Clinicians – Slowly remove the PIB over 20 minutes when giving the AV

Be prepared for snakebite

- Having a protocol in place that is known to all personnel.
- Stocking adequate appropriate antivenom.
- Have an organised emergency room.
- If you are going to seek advice from an external consultant, have their details in a place where anyone can find them.
- **Plan early:** If evacuation is necessary you should organise it early

Which snake is venomous?

Papuan Taipan

90% of all bites in Central and NCD are Taipan bites

Death adder


Manus I.
Kavieng
New Ireland
Bismarck Sea
Wewak
Rabaul
Madang
Mount Hagen
Kimbe
New Britain
Mendi
Huon Peninsula
Lae
Bougainville
Kerema
Popondetta
Daru
Torres Strait
Port Moresby
Alotau
Misima I.

Papuan Blacksnake

Very few reported bites due to nature of snake

Small-Eyed Snake

Little overlap with Taipans

Brown snake


Manus I.
Kavieng
New Ireland
Bismarck Sea
Rabaul
Madang
Mount Hagen
Mendi
Kimbe
New Britain
Huon Peninsula
Bougainville
Lae
Goroka
Kerema
Popondetta
Daru
Port Moresby
Strait
Alotau
Misima I.

Challenges

Logistics in delivering antivenoms to remote locations.

Trained personnel leaving the health centres and new staff moving in.

Filling out the snakebite reporting forms. Incomplete forms hinders accurate data collection.

Vaccine fridges, cold chain issues.

Lack of monitoring and support from PHAS, Hospitals. We need you to report to us on where we can supply antivenoms.

Follow up of patients and outcome data.

Prevention is key

- 70% of all snakebites in PNG could be prevented if people wore closed to shoes

Footwear is
the best prevention even if only worn during high risk activies- cutting grass, working in the garden, walking at night

- Teach children to be aware of snakes

Successful snakebite management

- Excellent outcomes can be achieved in even the most basic care environments.
- Snakebites can treated in remote locations by nurse practitioners.
- Medical evacuation should not need to be an automatic process if managed properly.
- Intensive care admission is avoidable with early administration of AV.
- Training, education and appropriate basic resources are the basic requirements.

If in doubt

Call your local senior clinician or

Andrew Maru 70729785 - *Don’t wait until it's too late*

Find up to date information: - search PNG snakebite partnership

”Education is the most powerful tool you can use to change the world.” Nelson Mandela