



# Bites and Stings For MO





# COMMON ANIMAL BITES IN INDIA

## DOMESTIC

- Cats
- Rats

## PERIDOMESTIC

- Cows
- Buffaloes
- Sheep
- Goats
- Pigs
- Donkeys
- Horses
- Camels



# WILD ANIMAL BITES IN INDIA



## WILD

- Foxes & Jackals
- Monkeys
- Mongoose
- Bears

## RARELY REPORTED

- Bats
- Rodents
- Birds
- Squirrel

**\*\* ALL WILD ANIMAL BITES ARE CONSIDERED AS CATEGORY III EXPOSURES.**





© Merial

**RABID SHEEP: HEAD-BUTTING**



**RABID HORSE**

Courtesy of Dr. M. F. Aubert, France

Courtesy of Dr. P. Kitching, England

**RABID CAT**

**RABID GOAT**





# MODE OF TRANSMISSION

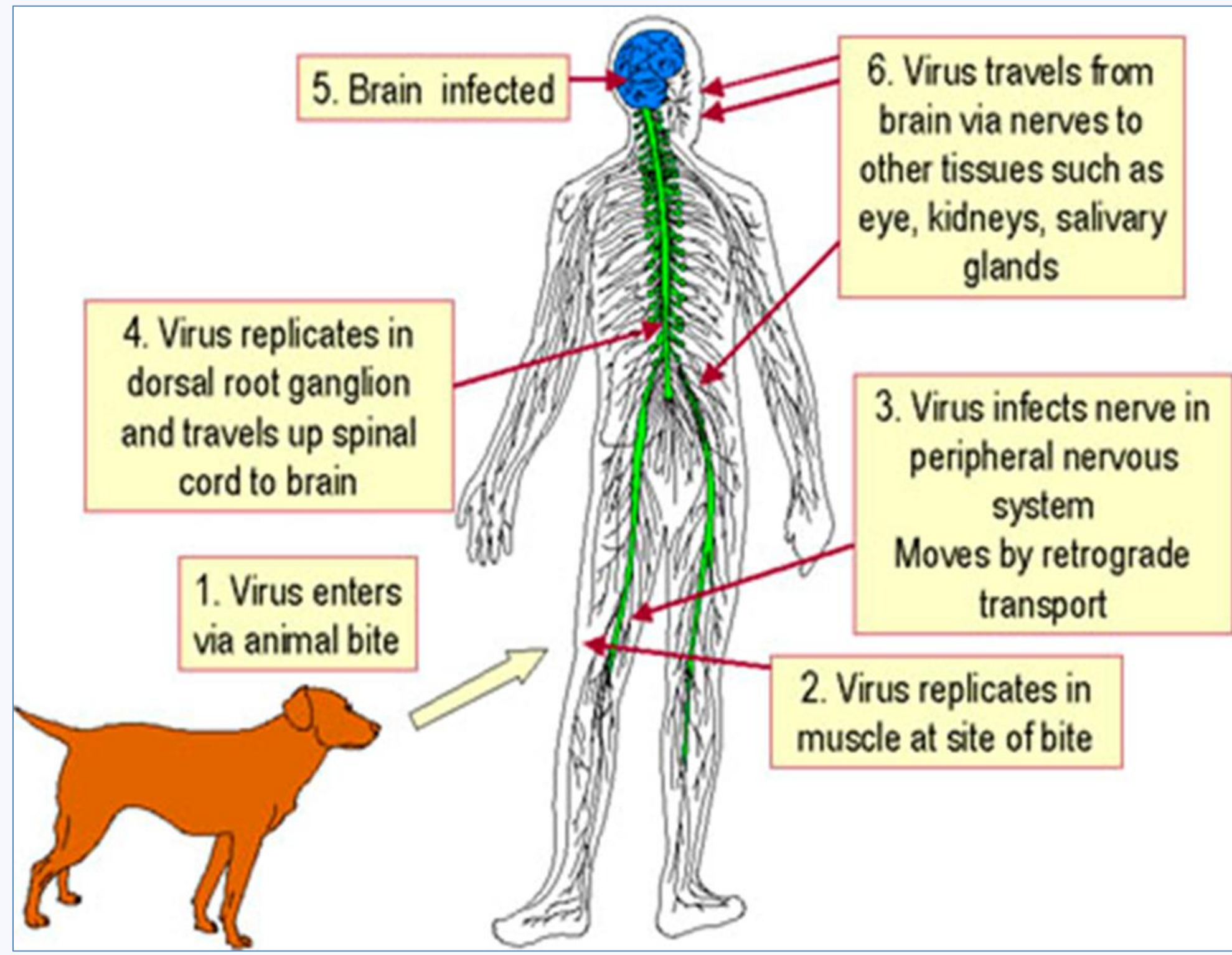
## COMMON

- Bites from infected animals
- Licks on Broken Skin/Mucous Membranes
- Scratches

## RARE

- Inhalation
- Organ transplantation
- Ingestion
- Sexual

# PATHOGENESIS OF RABIES

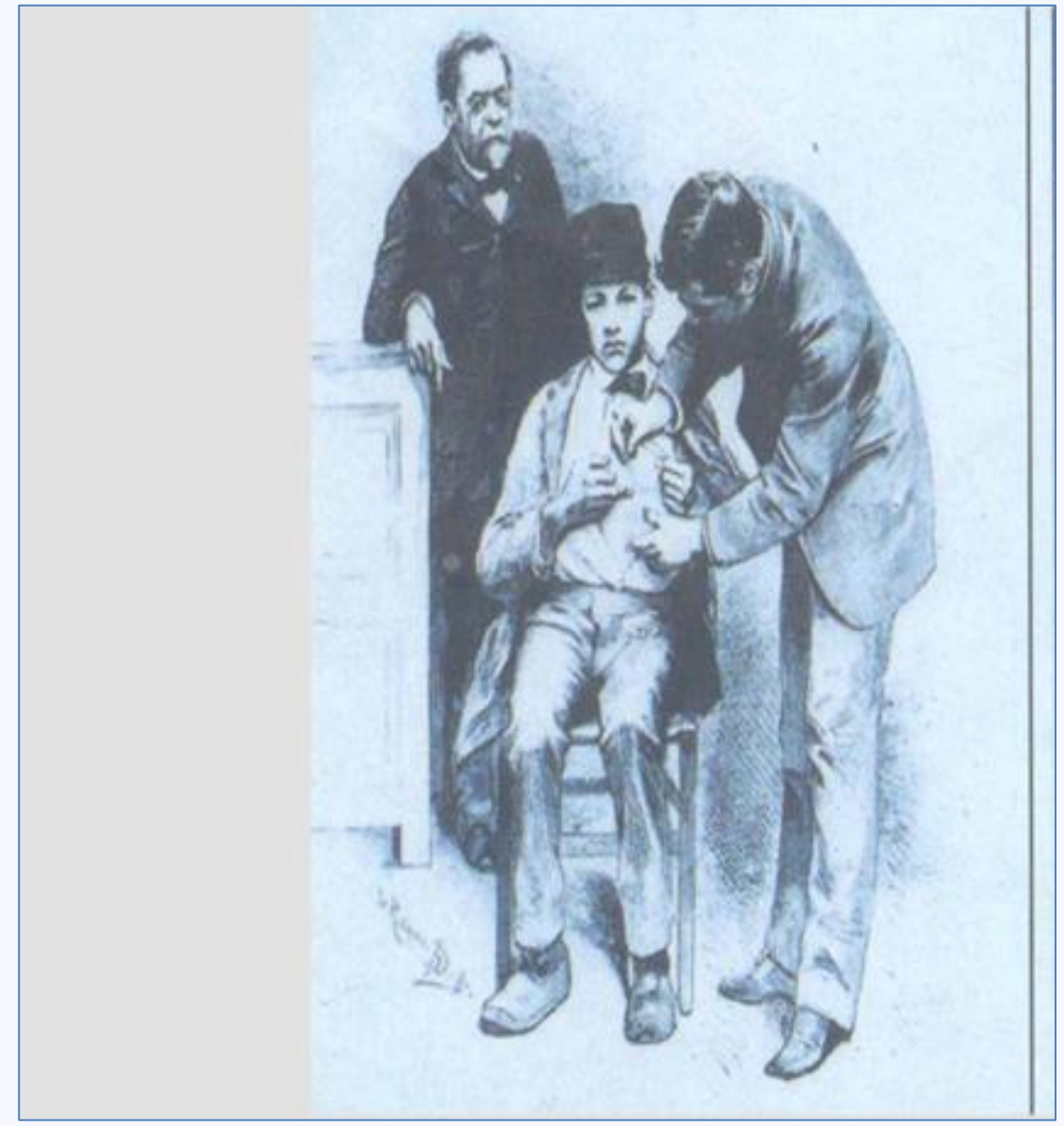






# ANIMAL BITE MANAGEMENT

**Medical  
Emergency**





# WOUND MANAGEMENT- DOs

- Mechanical
  - Wash the wound with running tap water
- Chemical
  - Wash the wound with soap and water
  - Apply disinfectants
- Biological
  - Infiltrate Immunoglobulins in the depth and around the wound in category-III exposures



**Suturing only if required (1-2 loose sutures) and only after administration of RIGs.**





# APPLICATION OF ANTISEPTICS

- Povidone-iodine
- Alcohol
- Chloroxylenol (Dettol)
- Chlorhexidine gluconate
- Cetrимide solution (savlon)





# WOUND MANAGEMENT- DON'Ts

- Do not touch the wound with bare hands
- Do not apply irritants like soil, chilies, chalk, betel leaves, Cow Dung, etc.
- Suturing
- Cauterise







# CATEGORY I -NO EXPOSURE

## Type of contact

- Touching or feeding of animals
- Licks on intact skin

## Recommended PEP

- None if reliable case history is available



# CATEGORY II-MINOR EXPOSURE

## Type of contact

- Nibbling of uncovered skin
- Minor scratches or abrasions without bleeding

## Recommended PEP

- Wound management
- Anti Rabies Vaccine



# CATEGORY III-SEVERE EXPOSURE

## Type of contact

- Single or multiple transdermal bites or scratches
- Licks on broken skin
- Contamination of mucous membrane with saliva i.e. licks

## Recommended PEP

- Wound management
- Rabies immunoglobulin
- Anti Rabies Vaccine



# SERIOUS EXPOSURES

- Bites on the Head, Face, Hands, Genitalia
- Multiple bites
- Extensive lacerations
- Bites by:
  - proven rabid animals
  - animals not available for observation
  - more than one animal
  - wild animals



**Transdermal injury on the back**



**Lacerations on the scalp**



**Extensive lacerated bites on the face**



**Bites on the face of a child**







## Multiple bites on the face of a child



## Bite on the face in an adult



## Multiple bites by many dogs





# SEVERE LACERATION CAUSED BY DOG BITE



Extensive laceration of the foot



Bite on the genitalia







# APPROACH TO POST-EXPOSURE PROPHYLAXIS

- Management of animal bite wound
- Passive Immunization: Rabies Immunoglobulin (RIG)
- Active Immunization - Anti-Rabies Vaccines (ARV)





# INFILTRATION OF RIG IN WOUNDS

- Inject RIGs into all wounds (anatomically feasible).
- If RIGs are insufficient (by volume) dilute them with sterile normal saline (up to equal volume).
- Presently available preparations are very safe. However, the equine serum must be administered with full precautions.







# RIG INFILTRATION





# INTRADERMAL ARV





# INTRA DERMAL REGIMENS FOR POST EXPOSURE TREATMENT

- Approved by the WHO.
- Cost effective.
- Viable alternative to replace Nerve Tissue Vaccine in India.
- Studies in India confirm safety and efficacy.
- Approved by DCGI for use in India.







# UPDATED THAI RED CROSS SCHEDULE(2-2-2-0-2)

## Dose

- 0.1ml/ID Site
- injection of 0.1ml of reconstituted vaccine per ID site and on two such ID sites

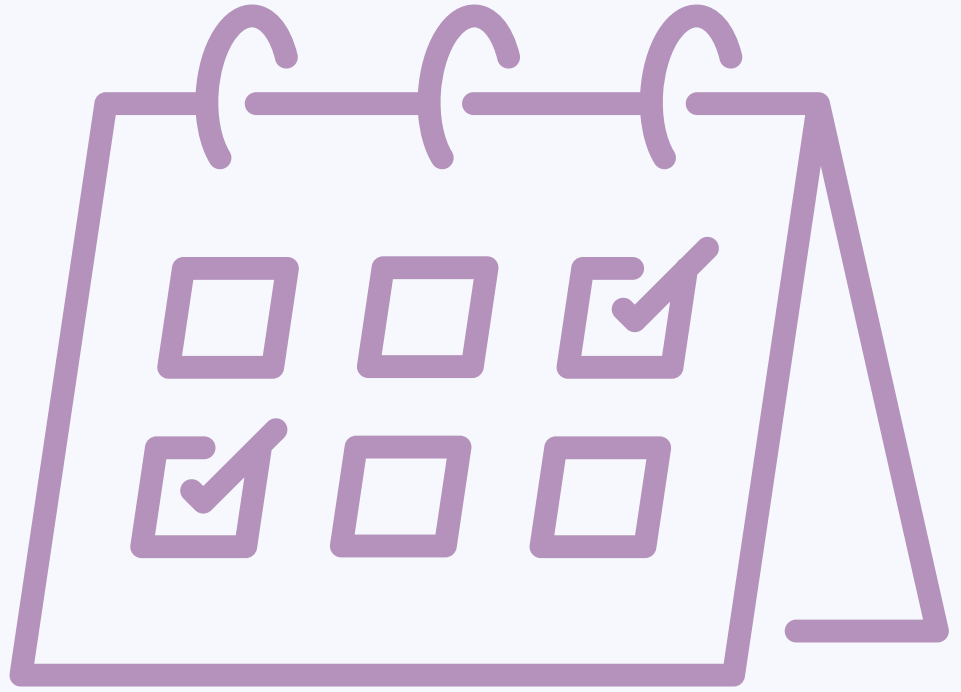


## Site

- Upper arm over each Deltoid area, an inch above the insertion of deltoid muscle



# SCHEDULE (2-2-2-0-2)



**Day 0**

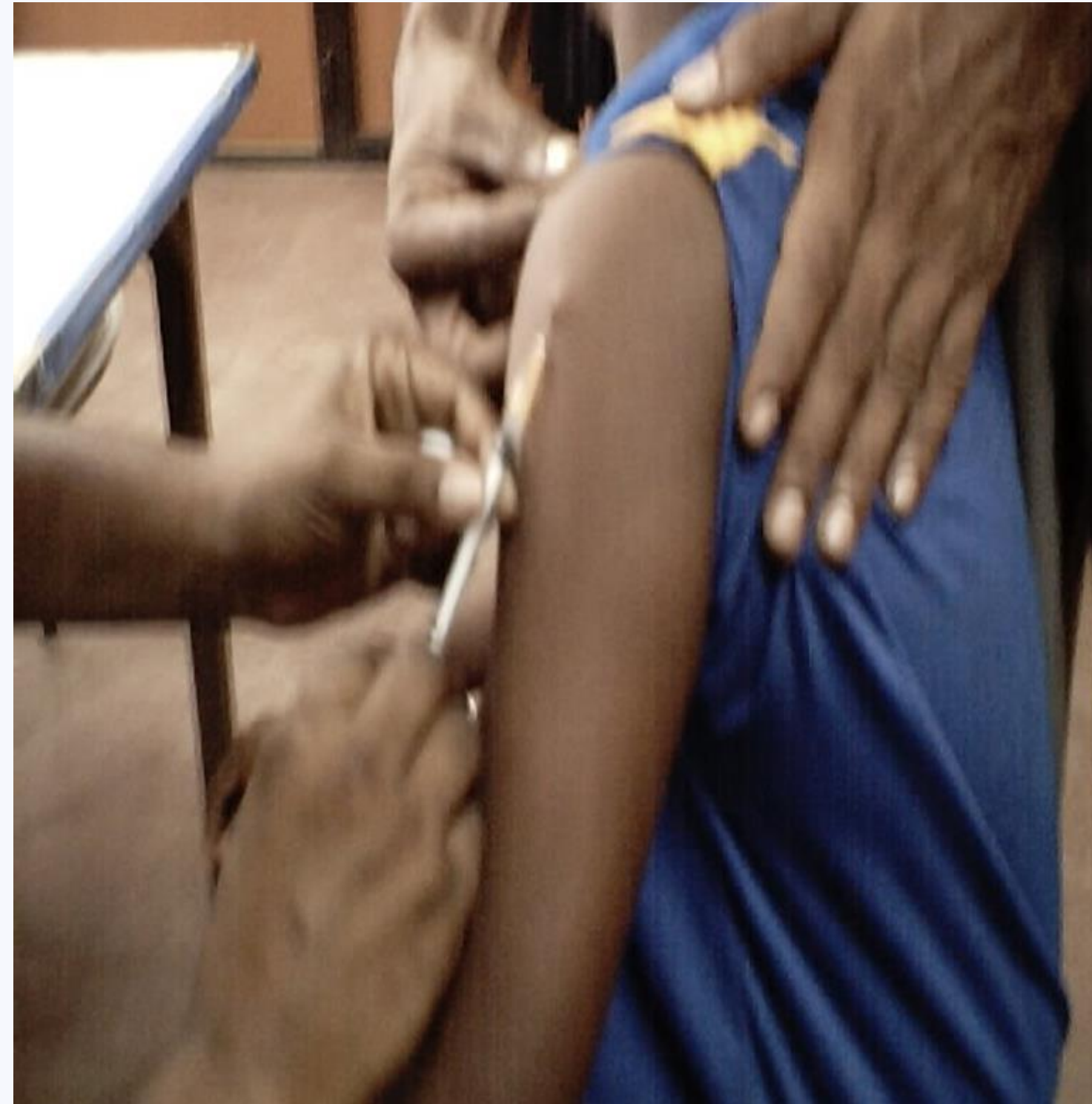
**Day 3**

**Day 7**

**Day 28**



# INTRA DERMAL ADMINISTRATION OF ARV







**Correct technique  
for ID injection**



# GENERAL GUIDELINES FOR IDRV



- Must be administered by trained staff
- Reconstituted vaccine should be used as soon as possible or at least within 6-8 hours
- Vaccine when given intra-dermally should raise a visible and palpable bleb in the skin
- In the event that the dose is given inadvertently given subcutaneously or intramuscularly or in the event of spillage, a new dose should be given intradermally at a nearby site
- Animal bite victims on chloroquine therapy should be given ARV by IM route







# INTRAMUSCULAR ARV





# ESSEN REGIMEN (INTRA-MUSCULAR)

- Day 0: 1st dose
- Day 3: 2nd dose
- Day 7: 3rd dose
- Day 14: 4th dose
- Day 28: 5th dose
- Day 90: 6th dose (optional)







# POINTS TO REMEMBER

- Day 0 (D0) - Day of 1st dose of vaccine given, not the day of the bite
- All modern Tissue Culture Vaccines (TCVs) are equally effective and safe
- Never inject the vaccines into the gluteal region.
- Interchange of vaccines acceptable in special circumstances but not to be done routinely
- Reconstituted vaccine to be used immediately within 6 hours
- Vaccine dosage is the same for all age groups

# MEDICAL ADVICE TO VACCINEES



- No dietary restriction.
- No restriction on physical exercise.
- Avoid immune suppressants (Steroids, anti-malarial) if possible.
- Best to avoid consumption of alcohol during the course of treatment.
- Complete the course of vaccination.
- Address and contact details should be collected from every client and followed up
- Client should be informed that Inj. Tetanus toxoid should not be counted as an ARV dose





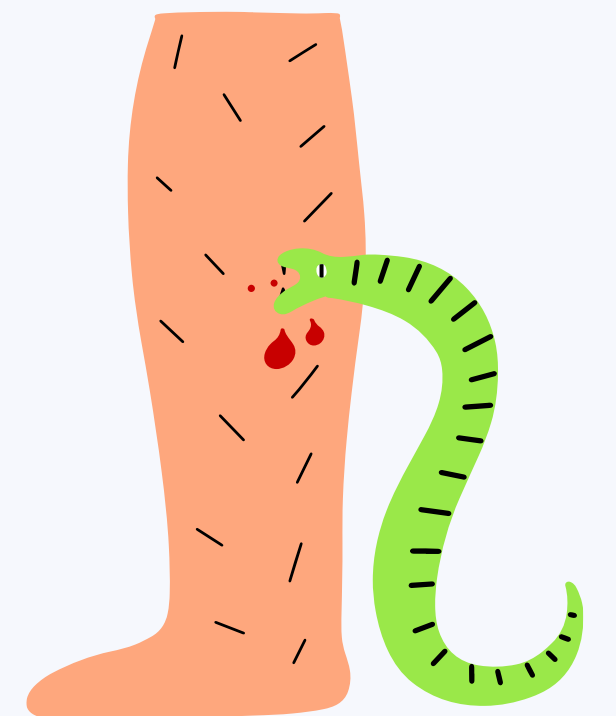


# SNAKE BITE MANAGEMENT



# BASIC FACTS ON SNAKE BITES

- All snake bites are not poisonous.
- Only 30 – 40 % are poisonous (Big Four).
- Dry bite is also Possible
- Most of the victims are anxious and they need re-assurance.
- Don't threaten the snakes.
- Don't touch the so called dead snakes.
- Don't kill the snakes. (as per law it is punishable)
- Never ignore any snake bites.





# MAJOR POISONOUS SNAKES IN INDIA



## Tamil Nadu Snakes of Medical Importance



**Spectacled Cobra**



**Common Krait**



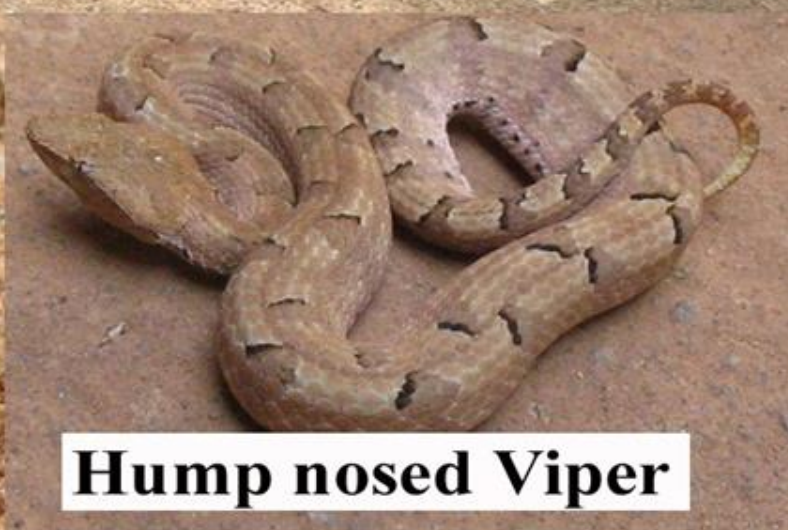
**King Cobra**



**Russell's Viper**



**Saw Scaled Viper**



**Hump nosed Viper**











# DOS IN A SNAKE BITE

## FIRST AID FOR SNAKEBITE

Do it **R·I·G·H·T**

### **R**EASSURE

- 70% of bites are from non-venomous snakes
- Only 50% of bites from venomous snakes envenomate, the rest are dry bites

### **I**MMOBILISE

- As if for a broken limb with a cloth and/or splint
- NO tight bandages
- NO washing, cutting or sucking bite site

### **G**ET TO **H**OSPITAL

- Without delay
- NO traditional treatments

### **T**ELL TALE **S**IGNS

- Mark rate of swelling
- Note onset time of symptoms & tell the doctor





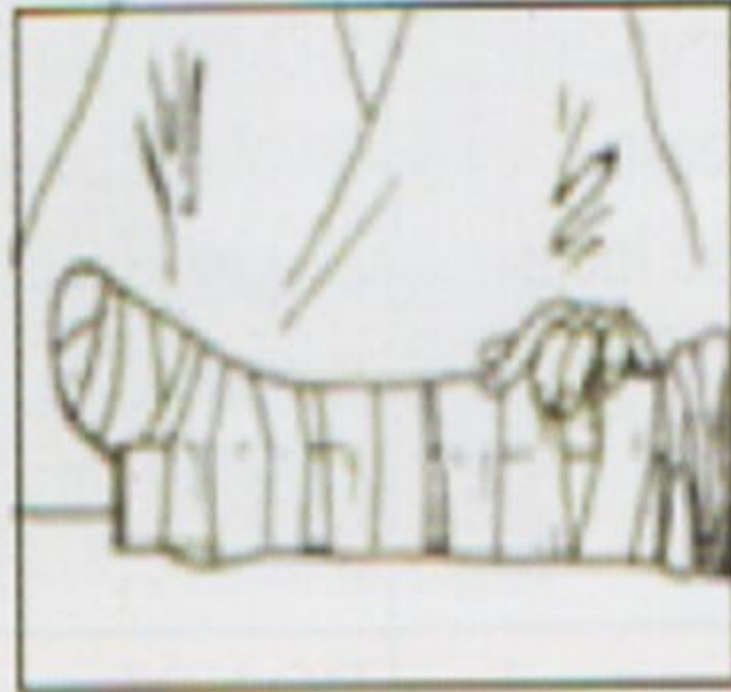
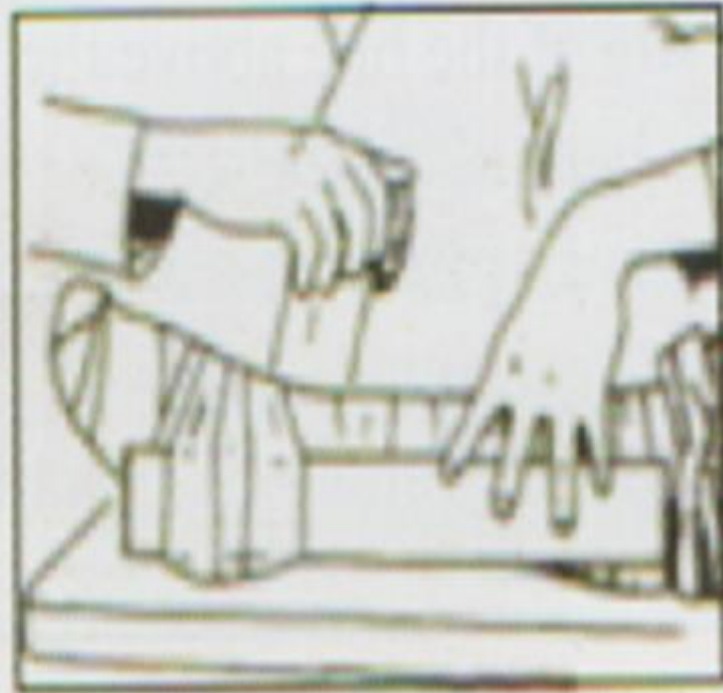


# DON'TS IN A SNAKE BITE

- Tourniquets
- Cutting and Suction
- Washing the wound
- Native treatment
- Avoid Traditional healers







Pressure immobilization method recommended for neurotoxic snakes







# SIGNS & SYMPTOMS OF SNAKEBITE

## NEUROTOXIC

Cobra



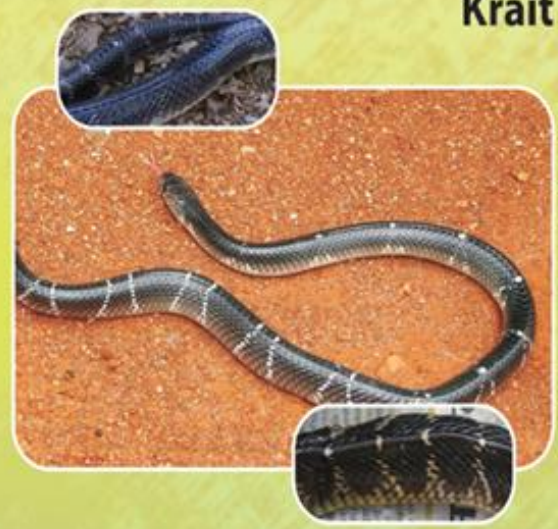
### SYMPTOMS

- Local pain & swelling (Cobra only)
- Heavy eyelids & weak neck
- Difficulty in swallowing & speaking
- Stomach pain (Krait only)
- Numbness of lips & tongue

### SIGNS

- Venom attacks nervous system causing descending paralysis
- Respiratory failure

Krait



## HAEMOTOXIC

Russells Viper



### SYMPTOMS

- Local pain
- Bleeding & swelling
- Bruising & bleeding away from bite site

### SIGNS

- Venom attacks blood system causing uncontrollable bleeding from the area of snakebite
- Epistaxis
- Conjunctival Haemorrhage
- Internal bleeding
- Shock

Sawscaled Viper



Hump-nosed Pit Viper



Designway 9884317157





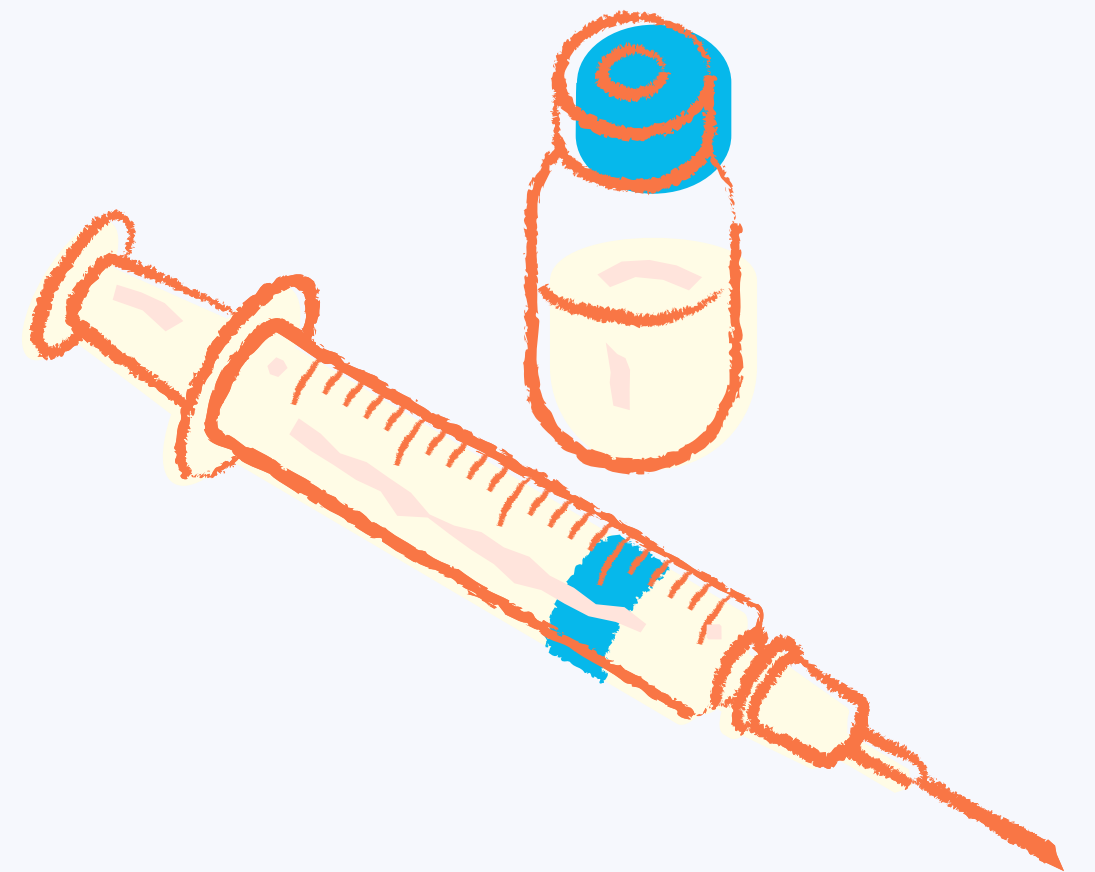






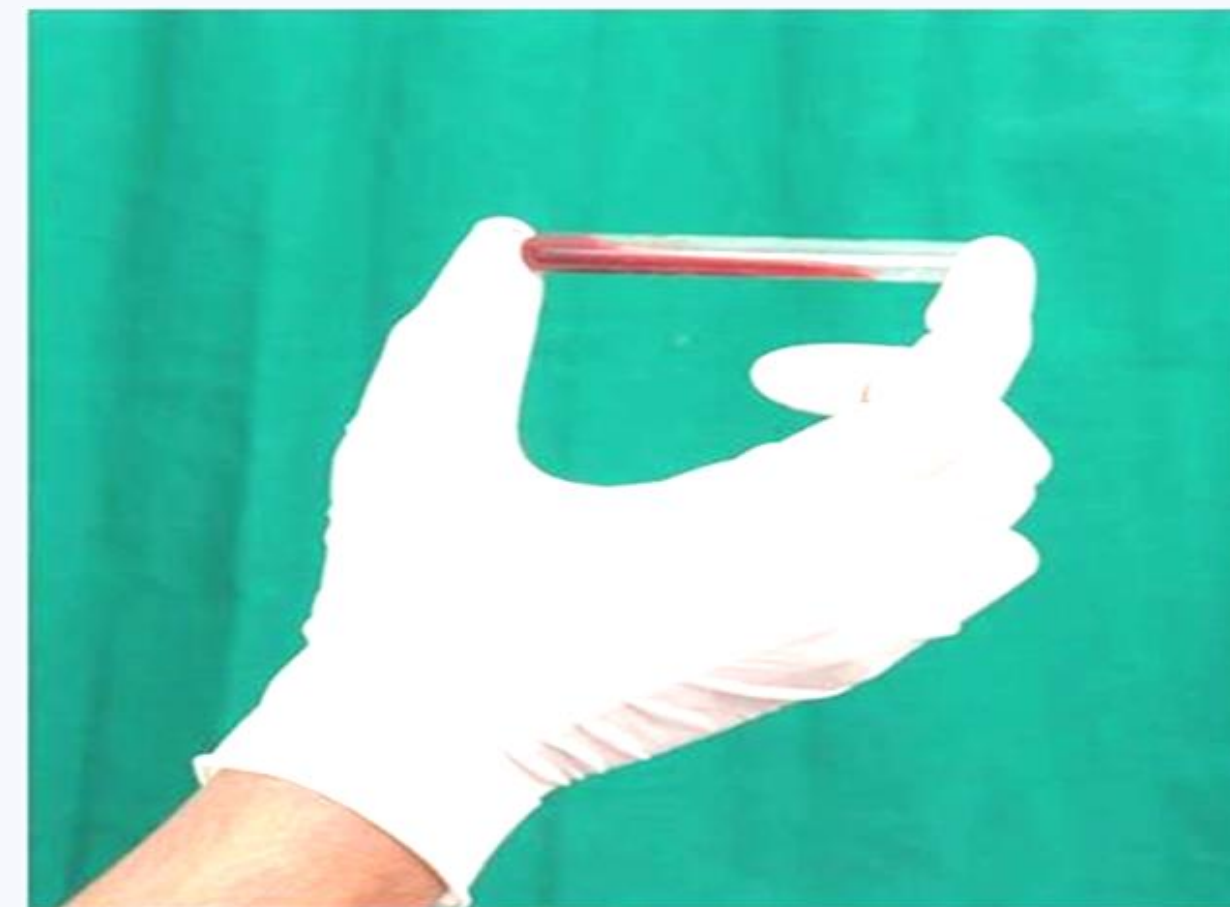
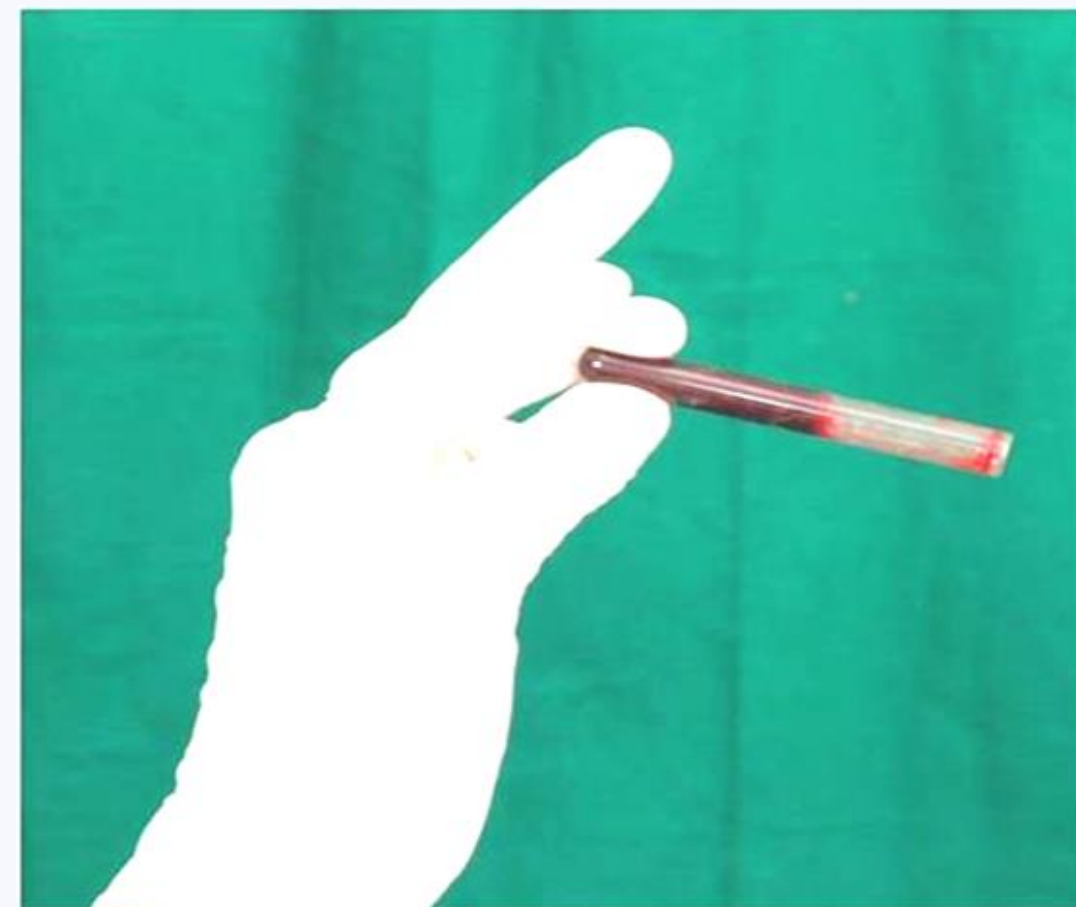
# RESPONSE TO INJ. NEOSTIGMINE

- Inj. Atropine 0.6mg followed by
- Inj. Neostigmine 1.5mg to be given IV stat
- Improvement in neurological weakness indicates cobra bite.





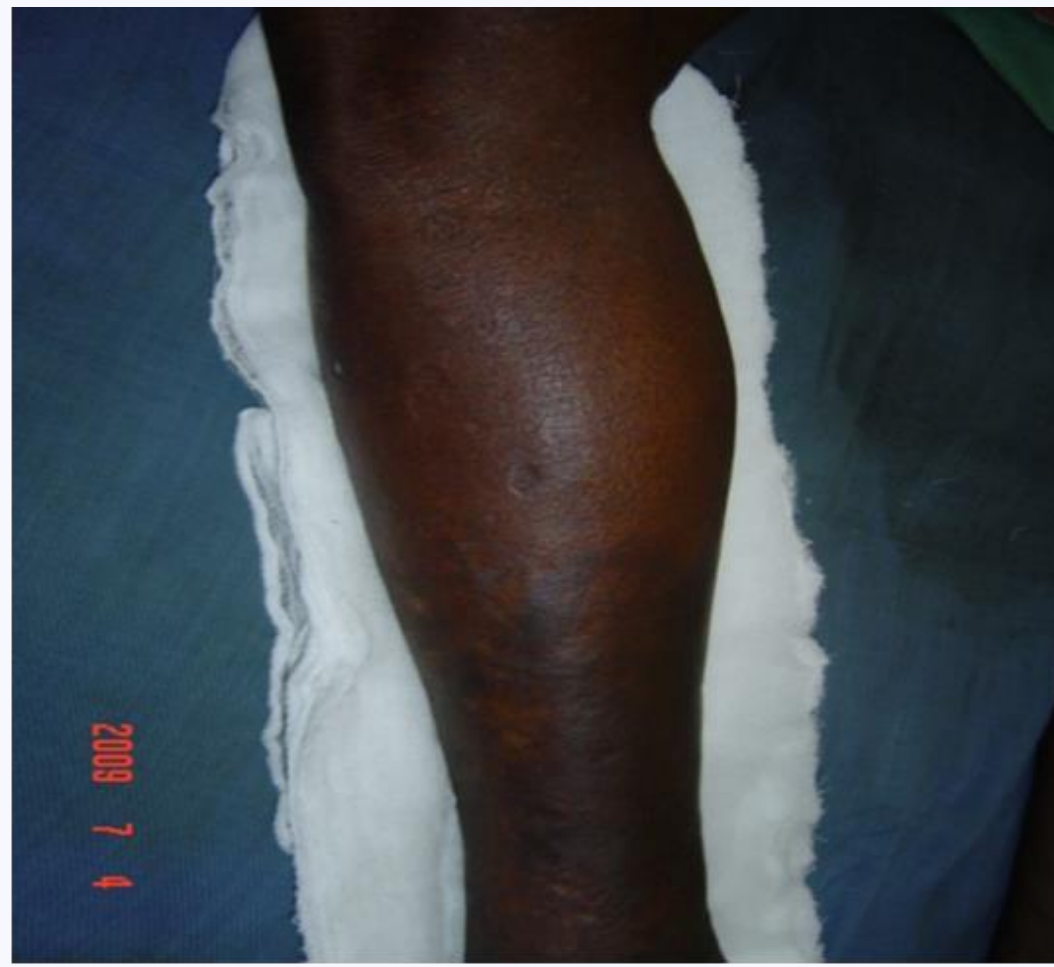
# 20 MIN WBCT



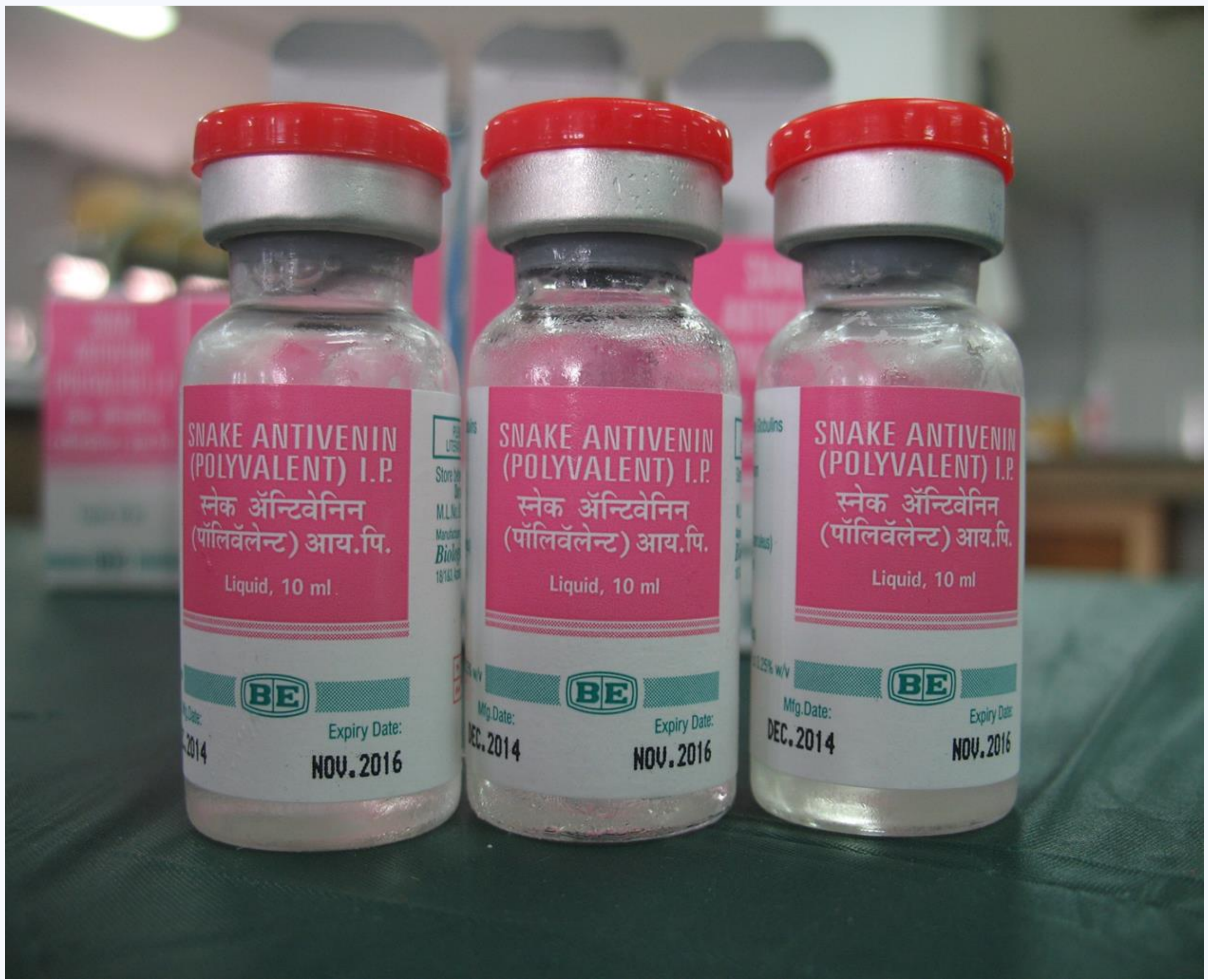




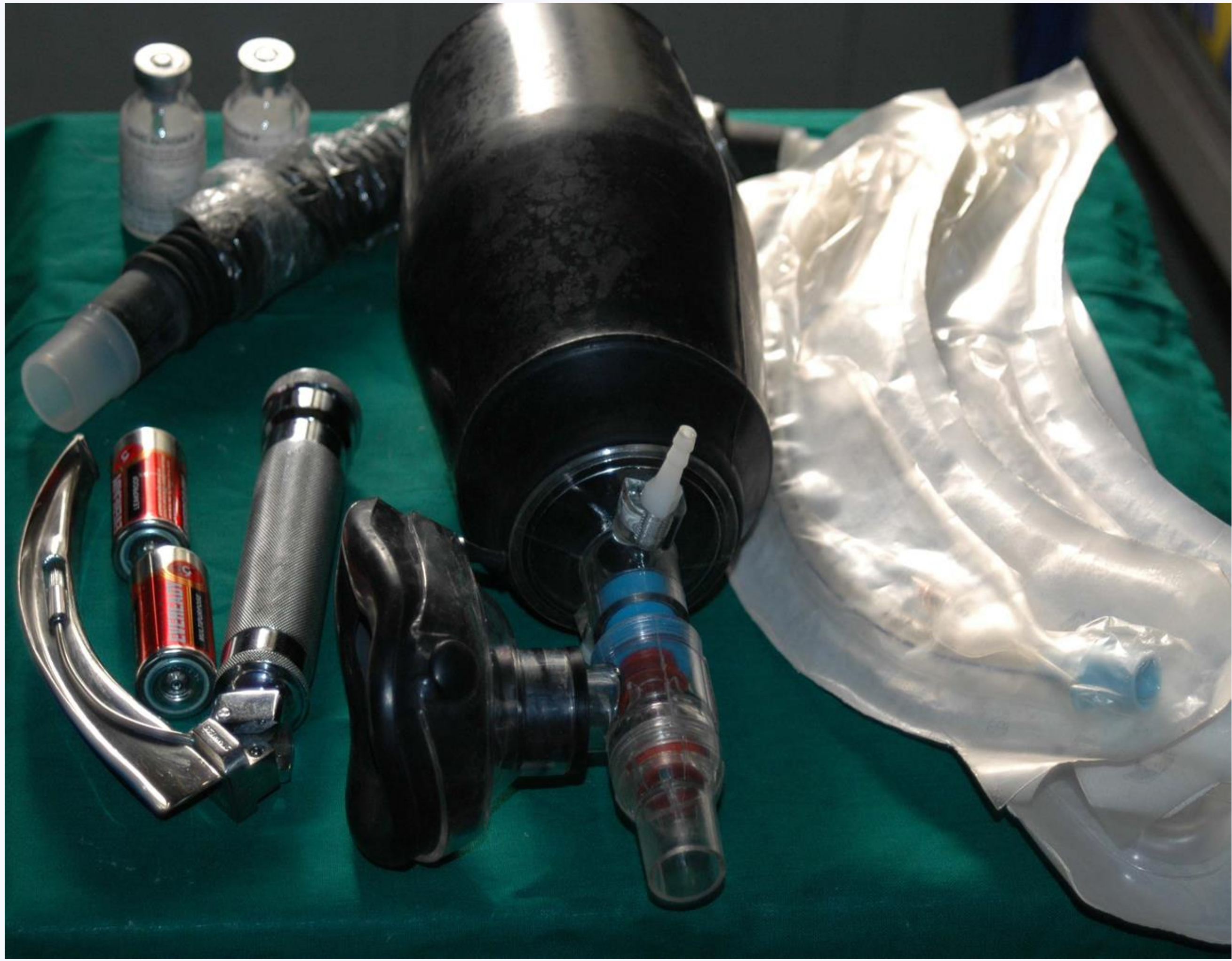


















# PREVENTION OF SNAKE BITE



**Avoid walking barefooted, wear chappals**



**Use a torch while walking in the night**



**Use a stick while walking in the field**



**Keep animal feed and rubbish away from your house.**



**Try to avoid sleeping on the ground.**



**Keep plants away from your doors and windows**





# SCORPION STING MANAGEMENT











# Priapism



# Salivation







# Prazpress

Short acting must be used



Sustained acting should be avoided





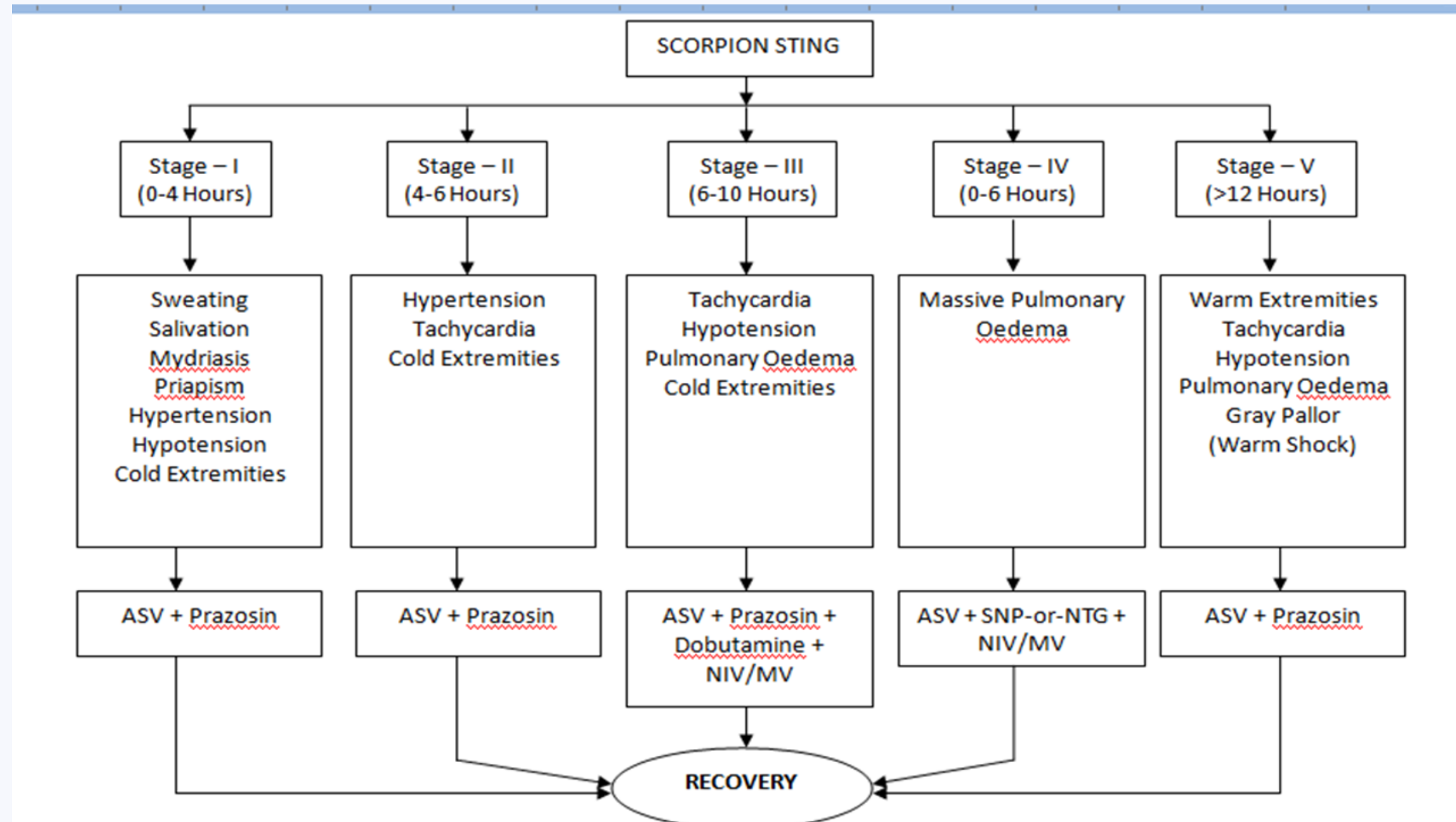
# SCORPION ANTIVENOMROLE?







# MANAGEMENT OF SCORPION STING



ASV: Antiscorpion Venom; SNP: Sodium Nitroprusside; NTG: Nitroglycerine;  
NIV: Non-Invasive Ventilator; MV: Mechanical Ventilator





**HONEY BEE**



**BUMBLE BEE**



**YELLOW JACKET**



**HORNET**











# CLINICAL FEATURES

- Common-oedema, erythema, urticaria, pain
- Generalized reaction rare due to IgE mediated
- Anaphylaxis can occur.
- Rarely toxin-mediated-
  - Rhabdomyolysis,
  - Hemolysis,
  - A.R.F.
  - Hepatic damage,
  - CVS abnor.
  - Neuro deficit.
  - DIC can occur
- Treatment – Symptomatic and Supportive Care.





# TO CONCLUDE

**Animal Bite Management is Medical Emergency**







# CASE SCENARIO - 1

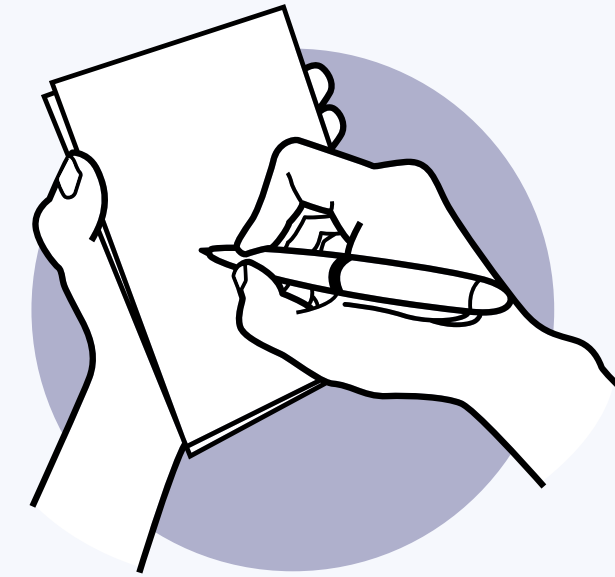
- A 25-year-old man while coming back from the factory had a? Bite with pain in his leg while walking in the field at 4.00 PM.
- He was not sure of the nature of the bite and reported himself to the PHC at 6.00 PM
- How will proceed further?





## Take-Home Message

- RIGHT
- He needs to be observed for early symptoms and signs of envenomation for at least 24 hrs.
- If he shows either Neurotoxic or Hemotoxic features, 1st dose of ASV (10 vials) can be started and completed before being referred.





# CASE SCENARIO - 2

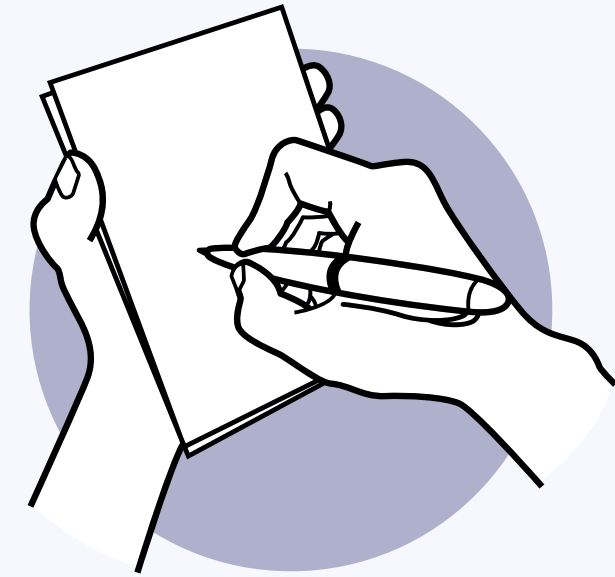
- A 50-year-old male while sleeping on the floor at his home was bitten by a snake at 2.00 AM.
- His family members killed the snake and brought it to the PHC along with the patient.
- On arrival at 5.00 AM patient is conscious but drowsy, bilateral ptosis +, RR – 10/min., and cyanosed.
- How will proceed further?





## Take-Home Message

- ABC
- Ensure either ET ventilation or AMBU BAG ventilation till he reaches the higher center.
- Inj. Neostigmine can be given after one dose of Inj. Atropine
- Start the first dose of ASV and complete it before referral.



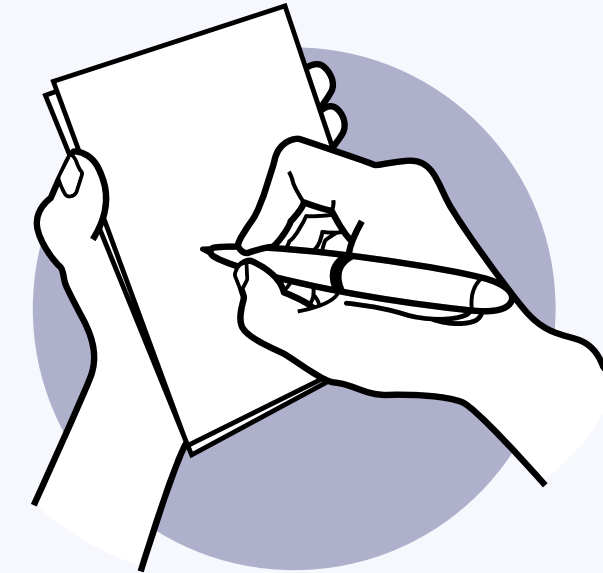




## CASE SCENARIO - 3

- A 70-year-old lady has come to the PHC with the h/o Scorpion Sting and severe pain in the left index finger.
- How will proceed further to manage?





## Take-Home Message

- ABC
- Tab. Prazosin 30mic/kg provided systolic BP of more than 90mm of Hg and hydration is adequate.
- If BP is <90mm Hg, adequately hydrate if there are signs of dehydration and give Tab. Prazosin once the BP improves.
- Avoid Inj. Dexamethasone





## CASE SCENARIO - 4

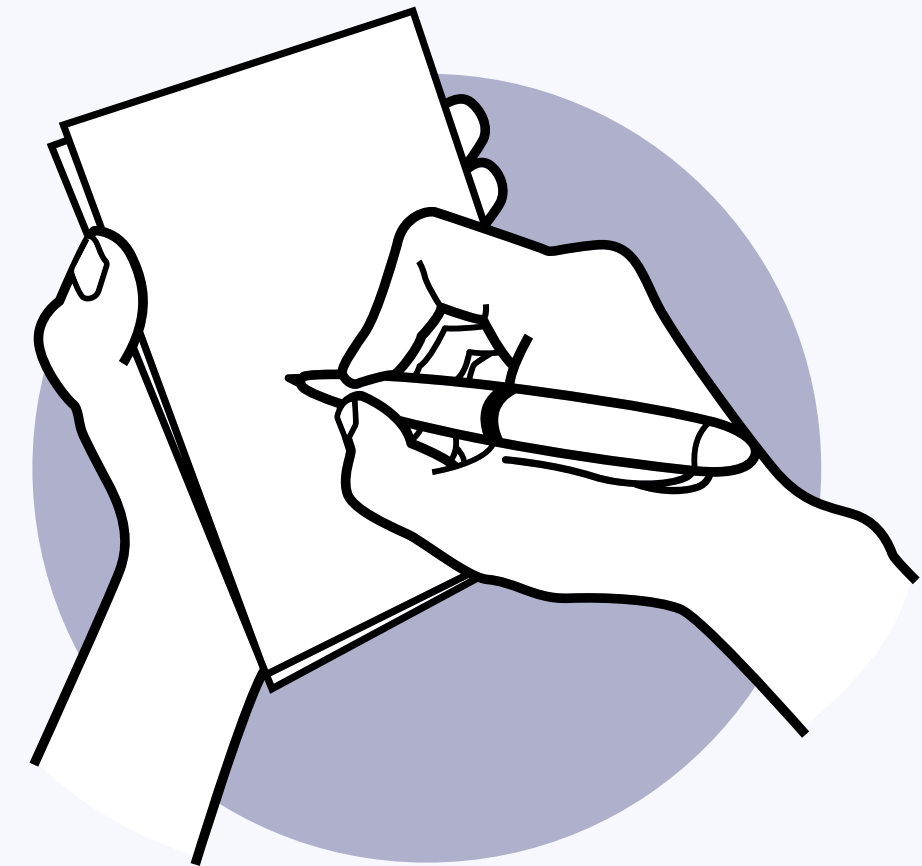
- A 10-year-old boy while playing with the neighbours' pet dog had a scratch on the right hand with bleeding.
- How will you proceed to manage this boy?





## Take-Home Message

- Thorough wound washing
- Categorization
- Immunoglobulin
- ARV
- Follow-up







# Thank You

