

**SNAKE BITES :**

⇒ Families of venomous snakes :

(i) Calamariidae -

- 78% of all snake species in the world.

- Eg : Mountain racer

Parrot snake

Rat snake

Wandering garter snake.

(ii) Atractaspididae -

- Eg : Burrowing or mole vipers

False vipers.

side-stalling snakes

(iii) Elapidae -

- Eg : Cobras

Kraits

Coral snakes

Mambas

(iv) Viperidae -

- It has two sub-families :

(a) True vipers - Vipers and adders

(b) Pit vipers - Rattle snakes and

Asian pit vipers.

(v) Hydrophiidae -

- This family comprises of sea snake

- Eg : Common krait

Russell's viper

Saw-scaled viper

Common cobra

Gray's viper

Mock viper

Bamboo snake



⇒ Clinical effects of venoms:

(i) Colubrid bite -

- Generally localised effects seen.
- Pain
- Oedema
- Erythema
- Ecchymosis
- Numbness.
- Excessive salivation with metallic taste.

(ii) Elapid bite -

- Pain & swelling are generally less intense (2 to 3 hours)
- Serous sanguinous ooze at the bite site with mild pain, tenderness and blistering.
- Vomiting
- Ptosis
- External ophthalmoplegia
- Hyperacusis
- Paraesthesiae around the mouth.
- Vertigo
- Skin discoloration followed by necrosis of s/c tissue.
- Cranial nerve palsy.
- Disorders with platelet coagulation and coagulation-fibrinolysis system may occur.

(iii) Viperid bites -

- Manifestations develop rapidly, usually within 1/2 hour.
- Swelling around the bite site & then spreads quickly to involve the whole limb.
- Blisters appear in about 12 hrs.
- Extensive necrosis of skin, s/c tissue and muscles may occur (10 to 15% cases.)
- Hemostatic abnormalities.
- Hematuria
- Gingival bleeding
- Ecchymoses
- Intracranial and sub-conjunctival hemorrhages.
- Hypotn
- Cardiotoxicity
- Generalised flaccid paralysis after envenomation.

(iv) Hydrophid bites -

- Myalgia with stiffness and tender muscles.
- Myoglobinemia
- Myoglobinuria
- Trismus
- Flaccid paralysis
- Passive stretching of muscles is painful
- Hyperkalemia
- Dysphoresis



⇒ Treatment:

First aid is the provision of initial care for an illness or injury.

(i) Immobilisation -

Since exertion can cause systemic absorption of venom, there is a universal consensus that the person should be put at rest and the bitten extremity should be immobilised using a splint or sling.

→ Sutherland wrap

→ local compression pads.  
(Monash method).

(ii) Beverages -

Use of stimulating beverages such as coffee is inadvisable & ineffective. In some cases, it can provoke vomiting, the tendency of which is present in early hours following a bite.

Alcohol should never be administered as it increases the absorption of venom.

(iii) Cryotherapy -

Local cooling in the areas of bite can decrease the absorption of venom.

Today, this is condemned due to serious risk of necrosis leading to gangrene.

(iv) Electric shock -

If antivenom is not available, this method is used.

Electric shock (25kV, 1mA) is applied to the site directly by an insulated probe for a couple of seconds and repeated 4 to 5 times at 5 to 10 second intervals.

There are two methods for Anti-venom administration:

- IV injection - 2ml/minute

IV infusion - 5 to 10 ml of isotonic fluid/kg body weight.

First aid

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Transport to hospital, rapid clinical assessment and resuscitation

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Antivenom treatment

Initial dose - 8 to 10 vials (Max 25)

Common Krait

Russell's viper

Indian cobra

100ml - saw scaled.

super - 50ml

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Neurotoxic envenoming

0.6mg ← Atropine and Neostigmine → 0.02mg/kg

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Hypotension and shock

Dopamine.

(0.5 to 5 mcg/kg/min)



⇒ complications:

(i) Local -

- Pain
- Swelling
- Vision damage or corneal ulceration
- compartment syndrome
- Necrosis
- Gangrene
- Infection
- Limb loss
- Chronic ulceration.

(ii) Systemic -

CARDIAC COMPLICATIONS:

- T-wave changes / ST depression
- Myocardial infarction due to vasospasm or coronary artery thrombosis
- cardiac rhythm disturbance
- AV block
- HypoTN

NEUROLOGICAL COMPLICATIONS:

- Stroke
- Paralysis
- Ptosis
- Convulsions
- Ophthalmoplegia
- Delayed sensory neuropathy