28. Bites (Animal, Human, Snakes)

Animal Bites

If rabies is a concern, **scrub the wound with soap and water**, then rinse. The use of antibiotics in patients with **animal bites** is **controversial,** and some studies have shown **little benefit.** However, pre-emptive early antimicrobial therapy for **3–5 days** is recommended for patients who;

- are immunocompromised;
- are asplenic;
- have advanced liver disease;
- have pre-existing or resultant oedema of the affected area;
- have moderate to severe injuries, especially to the hand or face; or
- have injuries that may have penetrated the periosteum or joint capsule

ALL Human bites should receive;

- **prophylactic antibiotics**
- **consider post-exposure prophylaxis for HIV within 72hrs**. The **risk** associated with bite injuries has **not been quantified.** The victim is usually at low risk **unless the biter's saliva is contaminated with blood.** The risk is greater to the biter if blood is drawn from the victim's wound because of exposure to mucous membranes.
- **Hepatitis B vaccine** preferably ≤ 24 hours if not previously immunized

Treatment:

DO NOT SUTURE ANIMAL AND HUMAN BITES. The above wounds should be irrigated copiously, dressed, left open to drain, and examined daily to detect signs of infection. During the first few days after injury, elevation of the injured body part, especially if swollen, accelerates healing. This should be accomplished using a passive method (a sling for outpatients or a tubular stockinet and an intravenous pole for inpatients). **ALL infected wounds should be treated.** If no signs of infection, delayed primary closure may be done **72 hours after the injury**.

Antibiotics

Amoxicillin/Clavulanate 1gm BD x 5-7 days

In Penicillin Allergic Patients:

Clindamycin 300 mg PO QID/600 mg IV TDS **OR** Azithromycin 500mg PO OD for 3 days

PLUS

Tetanus Toxoid 0.5mg IM

Previous doses of Adsorbed Tetanus Toxoid	Clean and minor wounds		All other wounds	
	Tetanus toxoid	TIG	Tetanus toxoid	TIG
< 3 doses or unknown	Yes	No	Yes	Yes
≥ 3 doses	Only if last dose given ≥10 yrs ago	No	Only if last dose given ≥5 yrs ago	No

Rabies Prophylaxis

Rabies Prophylaxis	Pre-EP	No Pre-EP
Immunoglobulin (Wound Site)	None	Human Ig - 20U/Kg **OR** Equine Ig - 40U/Kg
Vaccine (1 mL) (Deltoid or AL thigh)	Day 0, 3	Day 0, 3, 7, 14

Patients bitten by **healthy appearing domestic animals may delay rabies post exposure prophylaxis** if the animal is **quarantined**. These animals should be **observed for 10 days**, and if they show **no sign of infection** during the observation period they may be released, and the **patient does not need to be vaccinated**. Signs of infection in an animal include excessive salivation, aggression, paralysis, daytime activity in nocturnal animals, and impaired movement. If the animal shows any signs of infection, the patient should start the vaccination schedule and continue until the animal has been tested at an approved facility.

SNAKE BITES

(BIO-KEN SNAKE FARM, +254 42-32303 or +254 733 290 324 for information on correct antivenom. http://www.bio-ken.com/)

Syndrome	Painful progressive swelling	Progressive weakness	Bleeding
Important snakes	African puff adder, Eastern Gabon viper, Rhinoceros Horned Viper, Red Carpet Viper, Black-necked Spitting Cobra, Red Spitting Cobra	Eastern Green Mamba, Eastern Jameson's Mamba, Black Mamba, Egyptian Cobra, Forest Cobra	Coastal Boomslang
Clinical Picture	**Mild:** slow progressive painful swelling **Severe:** rapidly progressive swelling and severe pain, ecchymosis, blisters, severe tissue necrosis, abscess formation, pseudo- and true compartment syndrome, nausea and vomiting, hypotension, bleeding tendency, shock, rhabdomyolysis, renal failure	Ptosis, diplopia, dilated pupils, difficulties in swallowing, salivation, progressive difficulty breathing, hypoxia	Bleeding from puncture sites, Minor lacerations, development of disseminated intravascular coagulopathy over time
Management	– Establish IV access – Give analgesia – Position the limb at the level of the heart – Give IV fluid for shock and renal failure – Treat local complication appropriately	– Establish IV access – Monitor oxygenation and ventilation closely (HDU) – Intubation and mechanical ventilation may be necessary	– Establish IV access – Give blood/blood component therapy if indicated – Heparin, antifibrinolytics, thrombolytics are of **no value** and may be dangerous
Indications for Antivenom **Antivenom is NOT indicated if the patient is asymptomatic**	**Polyvalent antivenom** – Swelling progressive at **≥15cm/hr** – Swelling to a **knee or elbow** from a foot or hand bite **within 4 hours** – Swelling of a **whole limb** by **8 hours** – Swelling threatening the airway – An associated coagulopathy – Unexplained dyspnoea – Consider antivenom if snake is unknown but envenomation is severe.	**Polyvalent antivenom** – **Triad** of (either) 1. paraesthesia, 2. excessive salivation/metallic taste and sweating 3. dyspnoea in the absence of painful progressive swelling (mambas) – **Paresis** in the presence of **significant swelling (non-spitting cobras)**	**Monovalent antivenom** – Active bleeding – Non-clotting blood in a clean test tube **after 20 minutes** – Laboratory evidence of coagulopathy

Administration of Antivenom:

- Dilute the antivenom in normal saline (**no more than 20 ml per 500mL bag**). Give it by intravenous infusion diluted in a drip **over 30 mins**, or by slow bolus injection at **1-2mL/min**. Remember not to have the drip running direct into the wounded limb which is already in danger from the pressure of swelling and should be kept elevated and well protected.
- Remember to have adrenaline (1:1,000) at the bedside in case of anaphylaxis. If the patient has known allergies (asthma etc.), draw up the adrenaline (0.3 - 0.5 ml for adults and 0.1 - 0.3 for children) and have antihistamine available in case allergic symptoms are overwhelming. Antihistamine is **NOT recommended as routine treatment** for snake-bite.
- Monitor breathing and other vital signs continuously.
- **DO NOT** infiltrate the bite area with antivenom.