Pit Viper Bites: Rattlesnakes (*Crotalus* and *Sistrurus* spp.), Cottonmouth Water Moccasins (*Agkistrodon piscivorus*), and Copperheads (*Agkistrodon contortrix*)

- Stabilize airway, breathing, and circulation.
- Institute monitoring (vital signs, cardiac rhythm, and oxygen saturation).
- Establish two large-bore IV lines.
  - If patient is hypotensive, administer normal saline bolus (20–40 mL/kg IV).
- Take thorough history and perform complete physical examination.
- Identify offending snake (if possible).
- Measure and record circumference of bitten extremity every 15 min until swelling has stabilized. Can take measurements every 1 h once stabilized.
- Order laboratory studies (CBC, blood type and cross-matching, metabolic panel, PT/INR/PTT, fibrinogen level, FDP, CK, urinalysis).
  - If normal, repeat CBC and coagulation studies every 4 h until it is clear that no systemic envenomation has occurred.
  - If abnormal, repeat every 6 h after antivenom administration until swelling has stabilized (see below).
- Determine severity of envenomation.
  - None: fang marks only ("dry" bite)
  - Mild: local findings only (e.g., pain, ecchymosis, nonprogressive swelling)
  - Moderate: swelling that is clearly progressing, systemic symptoms or signs, and/or laboratory abnormalities
  - Severe: neurologic dysfunction, respiratory distress, and/or cardiovascular instability/shock
- Contact regional poison control center.
- Locate and administer antivenom as indicated: Crotalidae Polyvalent Immune Fab (CroFab®) (Ovine) (BTG International Inc., West Conshohocken, PA) or Crotalidae Immune F(ab')2 (Anavip®) (Equine) (Instituto Bioclon S.A de C.V., Tlalpan CDMX, Mexico).
  - Starting dose:
    - Based on severity of envenomation
      - None or mild: none
      - Moderate: CroFab® (4–6 vials), Anavip® (10 vials)
      - Severe: CroFab® (6 vials), Anavip® (10 vials)
    - Dilute reconstituted vials in 250 mL of normal saline.
    - Infuse IV over 1 h (with medical provider in close attendance).
      - Start at rate of 25–50 mL/h for first 10 min.
      - If there is no allergic reaction, increase rate to 250 mL/h.
  - If there is an acute reaction to antivenom:
    - Stop infusion.
    - Treat with standard doses of epinephrine (IM or IV; latter route only in setting of severe hypotension), antihistamines (IV), and glucocorticoids (IV).
    - When reaction is controlled, restart antivenom as soon as possible (at rate of 5–10 mL/h; titrate up as tolerated).
  - Monitor clinical status over 1 h.
    - Stabilized or improved: Admit to hospital.
    - Progressing or unimproved: Repeat starting dose. Continue this pattern until patient's condition is stabilized or improved. Admit to ICU if possible.
- Blood products are rarely needed; if required, they should be given only after antivenom administration.
- Provide tetanus immunization as needed.
- Prophylactic antibiotics are unnecessary unless prehospital care included incision or mouth suction.
- Pain management: Administer acetaminophen and/or opioids as needed; avoid salicylates and nonsteroidal anti-inflammatory agents.
- Admit patient to hospital. (If there is no evidence of envenomation, monitor for 8–12 h before discharge.)
  - Give additional antivenom: CroFab® (2 vials every 6 h for 3 additional doses), Anavip® (4 vials for recurrent coagulopathy).
  - Monitor for evidence of rising intracompartmental pressures (see text).
  - Provide wound care (see text).
  - Start physical therapy (see text).
- At discharge, warn patient of possible recurrent coagulopathy and symptoms/signs of serum sickness. Schedule repeat laboratory testing to monitor for recurrent coagulopathy.

Coral Snake Bites: Eastern coral snake (*Micrurus fulvius*), Texas coral snake (*Micrurus tener*), and Sonoran coral snake (*Micruroides euryxanthus*)

- Stabilize airway, breathing, and circulation.
- Institute monitoring (vital signs, cardiac rhythm, and oxygen saturation).
- Establish two large-bore IV lines and initiate normal saline infusion.
- Take thorough history and perform complete physical examination.
- Identify offending snake (if possible).
- Laboratory studies are unlikely to be helpful.
- Contact regional poison control center.
- Locate and administer antivenom as indicated: Antivenin (*Micrurus fulvius*) (Equine) (commonly referred to as North American Coral Snake Antivenin; Pfizer Inc., Philadelphia, PA).[b]
  - Refer to antivenom package insert.
  - Dilute 3–5 reconstituted vials in 250–500 mL of normal saline.
  - Infuse IV over 1 h (with medical provider in close attendance).
  - If signs of envenomation progress despite initial dosing, repeat starting dose; up to 10 vials total may be required.