

# North American Snakebite Registry

## Data Collection

### Snake information:

Type of Snake:  Native  Non-Native (Genus and species \_\_\_\_\_)

If Native:  Copperheads  Cottonmouths  Rattlesnakes  Coral  Unknown If Rattlesnake-

Common Name and Species of Rattlesnake:

- |  |  |
|--|--|
| <input type="checkbox"/> Unknown Species   | <input type="checkbox"/> Arizona Black rattlesnake (Crotalus Cerberus)             |
| <input type="checkbox"/> Black-tailed rattlesnake (Crotalus molossus)              | <input type="checkbox"/> Coronado Island rattlesnake (Crotalus oreganus calaginis) |
| <input type="checkbox"/> Eastern Diamondback rattlesnake (Crotalus adamanteus)     | <input type="checkbox"/> Grand Canyon rattlesnake (Crotalus oreganus abyssus)      |
| <input type="checkbox"/> Great Basin rattlesnake (Crotalus lutosus)                | <input type="checkbox"/> Massasauga rattlesnake (sistrurus catenatus)              |
| <input type="checkbox"/> Midget Faded rattlesnake (Crotalus oreganus concolor)     | <input type="checkbox"/> Mojave rattlesnake (Crotalus scutulatus)                  |
| <input type="checkbox"/> Northern Pacific rattlesnake (Crotalus oreganus oreganus) | <input type="checkbox"/> Pigmy rattlesnake (Sistrurus miliarius)                   |
| <input type="checkbox"/> Prairie rattlesnake (Crotalus viridis)                    | <input type="checkbox"/> Red diamond rattlesnake (Crotalus ruber)                  |
| <input type="checkbox"/> Ridgenose rattlesnake (Crotalus willardi)                 | <input type="checkbox"/> Rock rattlesnake (Crotalus Lepidus)                       |
| <input type="checkbox"/> Sidewinder (Crotalus cerastes)                            | <input type="checkbox"/> Southern Pacific rattlesnake (Crotalus oreganus helleri)  |
| <input type="checkbox"/> Speckled rattlesnake (Crotalus mitchellii)                | <input type="checkbox"/> Tiger rattlesnake (Crotalus tigris)                       |
| <input type="checkbox"/> Timber rattlesnake (Crotalus horridus)                    | <input type="checkbox"/> Twin-spotted rattlesnake (Crotalus pricei)                |
| <input type="checkbox"/> Western Diamondback rattlesnake (Crotalus atrox)          | <input type="checkbox"/> Western rattlesnake (Crotalus oreganus) If Coral-         |

Common Name and Species of Coral Snake:

- |  |  |
|--|--|
| <input type="checkbox"/> Unknown Species                         | <input type="checkbox"/> Arizona coral snake (Micruroides euryzanthus) |
| <input type="checkbox"/> Eastern coral snake ( Micrurus fulvius) | <input type="checkbox"/> Texas coral snake (Micrurus tener)            |

Snake Domain:  Wild  Captive

### Patient Information

#### Past Medical History

None  Asthma  Coronary Artery Disease  Diabetes Mellitus  Eczema  Hypertension  Peripheral Vascular Disease

Allergies:  Yes  No

If Yes, please specify: \_\_\_\_\_

PMH- Other, please specify: \_\_\_\_\_

#### Habits (in the past thirty days):

Tobacco  Yes  No

Alcohol  Yes  No

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-Heavy (Avg. > 2 drinks/day man, >1 drink/ day woman):  Yes  No

-Check yes if history or evidence of ethanol use 4 hours prior to the bite:  Yes

Recreational Drugs:  None  Illicit Opioids  Prescription Opioids  Amphetamines  Cocaine  THC

Other illicit drug use, please specify: \_\_\_\_\_

### Medications:

Cardiac  Diabetic  Antiplatelet (e.g. aspirin, clopidogrel)  Anticoagulants (e.g. warfarin, oral DTI or factor X agents)  Steroids  
 Other If Other, please specify: \_\_\_\_\_

Check Yes if patient had a previous snakebite:  Yes Number of Previous Snakebites : \_\_\_\_\_ Number of Previous Snakebites-Antivenom: \_\_\_\_\_

### Bite Location:

Location:  Upper Extremity:  Finger  Hand  Forearm  Upper arm

Lower Extremity:  Toe  Foot  Ankle  Lower Leg  Thigh

Face or Neck  Groin or Torso

If LE bite, was patient wearing shoes?  Yes  No  Don't know

Specify type of footwear \_\_\_\_\_

Was snake interaction intentional? (patient saw the snake and could have avoided it if he/she decided to do so):  Yes  No

Was exposure Occupational?  Yes  No  Don't know

Specify occupation: \_\_\_\_\_

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### Clinical Signs: (INITIAL TREATMENT PHASE / HOSPITALIZATION)

Select clinical signs that occurred at any point due to the envenomation:

Swelling :  Localized to bite site  Extending beyond one major joint (wrist/ ankle/elbow/knee)  Extending beyond two major joints

Ecchymosis:  Contiguous with the bite site  Not contiguous to the bite site (separate area)

Erythema:  Contiguous with the bite site  Not contiguous to the bite site  Lymphangitic streaks

Emesis:  < 1hour after time of bite and before receiving opioids  1-2 hour after bite and before opioids  < 2hr after bite and after opioids  
 >2 hr after bite and before opioids  > 2hr after bite and after opioids

Diarrhea :  < 1hr after bite  1-2 hr after bite  >2 hr after bite

Hypotension:  Resolved with intravenous fluid resuscitation  Resolved with vasopressors  unresolved (patient died)

tachycardia  Yes  No

Angioedema:  Prior to antivenom  After antivenom

Bleeding:  Yes  No if yes:

Nuisance- epistaxis/gingival/oozing from skin punctures  Major- GI/retroperitoneal/intracranial

AND

bleeding at presentation  onset after presentation but prior to initial control  onset after control but prior to hospital discharge

Necrosis:  Yes  No

If yes  Hemorrhagic bullae  Necrotic tissue underlying bullae  Myonecrosis

Concern for compartment syndrome :  Yes (enter ICP \_\_\_\_\_)  No

Neurotoxicity:  Perioral paresthesias  Extremity paresthesias  Fasciculations or myokymia  Objective weakness

Respiratory failure due to progressive respiratory weakness and paralysis  Respiratory failure due to severe fasciculations

Other- Enter additional clinical signs information: \_\_\_\_\_

### Diagnostics:

Platelet Count:  Done  Not Done

If Done: Prior to antivenom: \_\_\_\_\_ (K/mm<sup>3</sup>) Nadir during initial treatment: \_\_\_\_\_ (K/mm<sup>3</sup>) At discharge from hospital: \_\_\_\_\_ (K/mm<sup>3</sup>)

Fibrinogen:  Done  Not Done

If Done: Prior to antivenom: \_\_\_\_\_ (mg/dL) Nadir during initial treatment: \_\_\_\_\_ (mg/dL) At discharge from hospital: \_\_\_\_\_ (mg/dL)

Prothrombin Time:  Done  Not Done

If Done: Prior to antivenom: \_\_\_\_\_ (seconds) Peak during initial treatment: \_\_\_\_\_ (seconds) At discharge from hospital: \_\_\_\_\_ (seconds)

Creatine phosphokinase (CPK):  Done  Not Done If Done: Peak: \_\_\_\_\_ (IU/L)

FDP or D Dimer or fibrin monomer measured:  Yes  No

If yes, indicate number of hours post-bite \_\_\_\_\_

More than one FDP/D Dimer/fibrin monomer measured?  Yes  No

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If yes,  at least one elevated  all normal

Were one or more FDP/D Dimer/fibrin monomers elevated:  Yes  No

Was ultrasound performed?  Yes  No

If Yes,

Compared to non-bitten extremity, is there US evidence that deep muscle groups are affected?  Yes  No

Is edema seen on US which is not evident externally?  Yes  No

Is necrosis seen on US which is not evident externally?  Yes  No

Is blistering seen on US which is not evident externally?  Yes  No

Are the tendons or nerves surrounded by fluid?  Yes  No

Was doppler evaluation done?  Yes  No

If Yes, please specify Doppler evaluation results \_\_\_\_\_

Other noted lab information:

### Treatment:

Time from bite to presentation to healthcare facility in hours \_\_\_\_\_

How was progression of envenomation judged? (Can select multiple items)

- Ask patient/family how pain/swelling are doing
- Clinical judgment without objective measurement
- Monitoring of leading edge of swelling
- Sequential measurements of extremity circumference
- Snakebite Severity Score calculations
- Laboratory studies

Field therapy performed:  Yes  No  Other

If Yes- Treatment Performed (can select multiple items):

- Antibiotics
- Immobilization
- Pressure immobilization bandage
- Tourniquet
- Incision
- Suction/Sawyer Device
- Ice

Initial ED therapy prior to medical toxicology involvement :  Yes  No  Other

If yes- Treatment Performed (can select multiple items):

- Antibiotics
- Immobilization
- Pressure immobilization bandage
- Tourniquet
- Incision
- Suction/Sawyer Device
- Ice

Other treatment- Please specify: \_\_\_\_\_

Intravenous fluid resuscitation:  Yes  No

Vasopressors:  Yes  No      If Yes-Vasopressor Treatment:  Treatment of hypotension       Treatment of allergic reaction

Elevation of extremity:  Yes  No

Antivenom:  Yes  No      If Yes- Time from bite to antivenom in hours: \_\_\_\_\_

If Yes- Antivenom Treatment (can select multiple items) :  Crofab  Fab2 antivenom/Anavip  Other \_\_\_\_\_

Prophylactic treatment for adverse reaction?  Yes  No

If Yes- Prophylactic Treatment (can select multiple items) :  Epinephrine  Steroids  Antihistamine

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Adverse reaction to antivenom:  Yes  No

If Yes- Type of adverse reaction?:

Rash  Hypotension  Angioedema  
 Bronchospasm Other adverse reaction? Please explain: \_\_\_\_\_

AND what treatment provided?

Antivenom stopped  Corticosteroids  antihistamines  epinephrine  albuterol  No treatment

Vials of antivenom given \_\_\_\_\_ (please specify # of antivenom vials)

Initial number of vials: \_\_\_\_\_ Additional number of vials for control, if any: \_\_\_\_\_ Number of vials for maintenance, if any: \_\_\_\_\_

Additional number of vials, if any: \_\_\_\_\_ Total number of vials given: \_\_\_\_\_

Blood products:  Yes  No If Yes- Blood products:

Number of Units- PRBCs: \_\_\_\_\_ Number of Units- Platelets: \_\_\_\_\_ Number of Units- FFP: \_\_\_\_\_ Number of Units- Cryoprecipitate: \_\_\_\_\_

Number of Units- rFVIIa: \_\_\_\_\_

Other blood products: \_\_\_\_\_

Antihistamines:  Yes  No

Opioids:  Yes  No

Antiemetics:  Yes  No If yes- Antiemetics (can select multiple items):  Prophylactic

Treatment of nausea prior to opioid administration  Treatment of nausea after opioid administration

Antibiotics:  Yes  No If Yes- Antibiotics:  Prophylactic  $\geq 1$  dose  Empiric for erythema or suspected cellulitis

Treatment of confirmed infection

Procedures:  Yes  No If Yes- Procedures Choice:  Debridement bullae :  Digit  Extremity

Dermotomy  Fasciotomy  Other

Intubation-Mechanical Ventilation:  Yes  No

Other treatment- Please specify:

### After Initial Hospitalization Closure

Total time in hospital:  < 24 hrs  25-48 hrs  49-72 hrs  Other (specify number of days) \_\_\_\_\_

Total time in ICU:  Never  < 24 hrs  25-48 hrs  49-72 hrs  Other (specify number of days) \_\_\_\_\_

### Outpatient Follow Up information: (After Initial Hospital Admission)

#### Follow up #1:

Method of follow up  Direct patient evaluation  Spoke with patient on telephone  Other (please specify)

Days since last antivenom \_\_\_\_\_

Laboratory studies checked  Yes  No

If Yes: Plt count \_\_\_\_\_ Fib level \_\_\_\_\_ PT \_\_\_\_\_

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Specify Wound / tissue necrosis  not present  improved  stable  extending

Late bleeding occurrence  occurred  did not occur  did not assess for late bleeding

If occurred:  nuisance  major  bleeding into extremity with >3g/dL Hgb drop

Nuisance:  epistaxis  gingival  oozing from punctures  other\_\_\_\_

Major:  GI  retroperitoneal  intracranial  other\_\_\_\_

Was patient treated for late bleeding?  yes  no

If yes:  antivenom (dose\_\_\_\_\_)  blood products (specify\_\_\_\_\_)  other \_\_\_\_\_

Evidence of serum sickness?  yes  no

If yes:

Serum sickness symptoms:  Rash  Wheezing  Myalgias  Fever  Other\_\_\_\_\_

Serum sickness treatment:  No treatment  Steroids  Antihistamines  Other\_\_\_\_\_

**Is this the final follow up?**  Yes  No

If yes: Final follow up days since bite\_\_\_\_

Did the patient die?  Yes  No

Did patient experience hematologic recurrence? \*Not assessed,  Yes,  No

If yes:  late thrombocytopenia (plt<120 K/mm3)  late coagulopathy (PT>15 sec)  late hypofibrinogenemia (fib<170 mg/dL)

Did patient have residual functional deficit suspected to be permanent?  Yes  No  Unknown

Is data entry complete for this case?  Yes  No

### **Follow up #2:**

Method of follow up  Direct patient evaluation  Spoke with patient on telephone  Other (please specify)

Days since last antivenom \_\_\_\_\_

Laboratory studies checked Yes No

If Yes: Plt count \_\_\_\_\_ Fib level \_\_\_\_\_ PT \_\_\_\_\_

Specify Wound / tissue necrosis  not present  improved  stable  extending

Late bleeding occurrence  occurred  did not occur  did not assess for late bleeding

If occurred:  nuisance  major  bleeding into extremity with >3g/dL Hgb drop

Nuisance:  epistaxis  gingival  oozing from punctures  other\_\_\_\_

Major:  GI  retroperitoneal  intracranial  other\_\_\_\_

Was patient treated for late bleeding?  yes  no

If yes:  antivenom (dose\_\_\_\_\_)  blood products (specify\_\_\_\_\_)  other \_\_\_\_\_

Evidence of serum sickness?  yes  no

If yes:

Serum sickness symptoms:  Rash  Wheezing  Myalgias  Fever  Other\_\_\_\_\_

Serum sickness treatment:  No treatment  Steroids  Antihistamines  Other\_\_\_\_\_

**Is this the final follow up?**  Yes  No

If yes: Final follow up days since bite\_\_\_\_

Did the patient die?  Yes  No

Did patient experience hematologic recurrence? \*Not assessed,  Yes,  No

If yes:  late thrombocytopenia (plt<120 K/mm3)  late coagulopathy (PT>15 sec)  late hypofibrinogenemia (fib<170 mg/dL)

Did patient have residual functional deficit suspected to be permanent?  Yes  No  Unknown

Is data entry complete for this case?  Yes  No

### **Follow up #3:**

Method of follow up  Direct patient evaluation  Spoke with patient on telephone  Other (please specify)

Days since last antivenom \_\_\_\_\_

Laboratory studies checked Yes No

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## Data Collection

If Yes: Plt count \_\_\_\_ Fib level \_\_\_\_ PT \_\_\_\_

Specify Wound / tissue necrosis  not present  improved  stable  extending

Late bleeding occurrence  occurred  did not occur  did not assess for late bleeding

If occurred:  nuisance  major  bleeding into extremity with >3g/dL Hgb drop

Nuisance:  epistaxis  gingival  oozing from punctures  other \_\_\_\_

Major:  GI  retroperitoneal  intracranial  other \_\_\_\_

Was patient treated for late bleeding?  yes  no

If yes:  antivenom (dose\_\_\_\_\_)  blood products (specify\_\_\_\_\_)  other \_\_\_\_

Evidence of serum sickness?  yes  no

If yes:

Serum sickness symptoms:  Rash  Wheezing  Myalgias  Fever  Other \_\_\_\_\_

Serum sickness treatment:  No treatment  Steroids  Antihistamines  Other \_\_\_\_\_

Is this the final follow up?  Yes  No

If yes: Final follow up days since bite \_\_\_\_

Did the patient die?  Yes  No

Did patient experience hematologic recurrence? \*Not assessed,  Yes,  No

If yes:  late thrombocytopenia (plt<120 K/mm3)  late coagulopathy (PT>15 sec)  late hypofibrinogenemia (fib<170 mg/dL)

Did patient have residual functional deficit suspected to be permanent?  Yes  No  Unknown

Is data entry complete for this case?  Yes  No

**Additional important or summary information:** [comment box]

**Additional follow up visits comments:** [comment box]

**Final Outcome** enter final outcome information

Did the patient die?  Yes  No

At final follow up was residual functional deficit present?  Yes  No

If yes,  loss of mobility in digit  loss of mobility in hand or foot  loss of mobility in knee or elbow

Final follow up days since bite \_\_\_\_\_

At final follow up was there permanent tissue loss?  Yes  No

If yes,  loss of tissue requiring skin graft  amputation of digit  other

**Any other unique or important information if any, or a brief summary of the case (optional)** Enter additional case information

Any other unique or important case information (optional): [comment box]

Please specify the name(s) of the treating toxicologist(s) \_\_\_\_\_

Case completed? \*Yes \*no