**CAP health & wellness** HSO Briefing: SNAKEBITES

**Purpose:**

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| (U) **Bottom Line:**   * Risk to populations**: very low** **| low** | **moderate** | **high** * Most snake bites are avoidable * Most snake bites are survivable |

**Overview:**

In the United States there are many species of snakes. Most are NOT venomous.

Of the venomous snakes native to the US, most are pit vipers.

Pit Vipers

Rattlesnakes

Copperheads

Water Moccasins

Coral Snakes

**How do we tell the difference between venomous and non-venomous snakes?**

* Non-venomous snakes have an oval shaped head and a round pupil (dark spot on eye)
* There are multiple rows of teeth found in non-venomous snakes
* The scales behind the anal opening on the underside of the snake consists of split scales
* Pit vipers have a triangular or arrowhead shaped head
* Pit vipers have an elliptical pupil, and a pit or hole between the eye and the nostril
* Pit vipers have two fangs
* The scales in pit vipers are single
* The bite can be characterized by the pattern of teeth in the bite wound. You cannot exclude a venomous snake bite if only one fang wound is present.

**Where do we find snakes?**

Snakes are ambush hunters, remaining coiled and out of site until prey are within striking range for the most part. Common places to encounter snakes are in a woodpile, along a log, in a recess in a rocky area, or in the water.

Therefore, snakes can be avoided by:

Not placing hands and feet blindly under rocks and logs, watching where we put our feet, and avoiding places where snakes sun themselves.

**What is the incidence of snakebites in the US?**

* Between 1991 and 2001 there were roughly 7,000 - 8,000 pit viper bites annually with 5.2 fatalities annually
* Between 1999 and 2007 there were 7.2 fatalities per year
* As these are voluntary reports to poison control centers, therefore bites are likely under-reported.

**Who gets bitten?**

Majority are white males 25-34 years of age

* + Intentionally interfering (trying to catch or kill) with the snake
  + Impairment with drugs and alcohol is common.
  + Most wounds are on the upper extremities
  + Accidental bites mostly occur in the foot and ankle

**What factors determine severity of the bite wound?**

* Dry bite
  + No venom injected
  + 25% of bites
* Venom is injected
  + Size and age of snake
  + When was the snake's last meal
    - A snake expends venom when it kills
  + Emotional state of snake
    - Scared snakes may bite “harder”
  + Young snakes have less control over their venom, may inject more than an adult
  + Threat perceived by the snake
  + Size and age of victim
    - Venom effect is in part weight related like medications

**Signs and symptoms of venomous snake bite**

* More than 100 components of venom
  + Hematologic components attack blood cells
  + Neurologic components attack the nervous system
* Extreme variability geographically between same species of snakes and their prey
* Impossible to accurately predict effect of a snake’s venom on an injured person due to the variability in components and dose of venom injected
  + Severe pain at site of bite
  + Redness and swelling
  + Bruising
  + Puncture wound
  + Numbness and tingling
  + Nausea or vomiting
  + Breathing difficulty
  + Rapid heartbeat
  + Vision disturbances

**Treatment of snakebite**

There is no definitive field treatment of a snakebite that will alter the outcome of the injury

* Don't let victim be bitten again
  + Move the patient away from the snake
  + Don't attempt to kill or capture the snake
* Prevent rescuers from being bitten
* Lay the patient down
* Place the bitten extremity at the level of the heart
  + Above the heart encourages more rapid absorption of the venom
  + Below the heart may increase swelling
* Calm and reassure patient
  + You are armed with knowledge that snakebites are RARELY fatal
* Treat the wound
  + Soap and water
  + Sterile dressing
* Remove tight clothing and jewelry as the extremity will swell
* Apply a splint
* Evacuate the patient on a stretcher
  + Slows the spread of venom
* Call 911

**Things NOT to do**

* Molest the snake
* Apply a tourniquet or other constricting band
* Use a suction device from a snake bite kit
  + Leave your snake bite kit at home!
* Make cuts at the bite wound (kitchen table surgery)
* Suck out the venom with your mouth
* Apply ice to wound
* Give the patient any form of alcohol

**If the snake is dead**

* Do NOT touch the head or you may be bitten!
  + Dead snakes may still bite
* Take the body of the snake to the hospital

***Recommendations:***

* Do not disturb any snakes you may encounter in the field
* Give them a wide berth
* Provide effective first aid care to anyone bitten by a snake
* Promptly seek medical attention for the injured person
* Armed with the knowledge imparted by this lecture you can effectively reassure the victim and treat his injuries

**Questions**: **Contact your Region/Wing/Unit Health Services Officer or**

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