



Snakes Bite

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Snake bite



Snake Bites

- **Poisonous snake bites are medical emergencies and require immediate attention.**
- **The bite of a snake can cause severe local tissue damage and often requires follow-up care.**
- **The right anti-venom can save a person's life.**
- **Even though most snakes are not poisonous, avoid picking up or playing with any snake unless you have been properly trained.**

Symptoms

- Rattlesnake bites are immediately painful and signs and symptoms such as those listed below usually begin immediately:
- **body as a whole**
 - swelling
 - pain at site of bite
 - weakness
 - paralysis
 - tingling
 - numbness
 - thirst
 - tiredness
 - shock



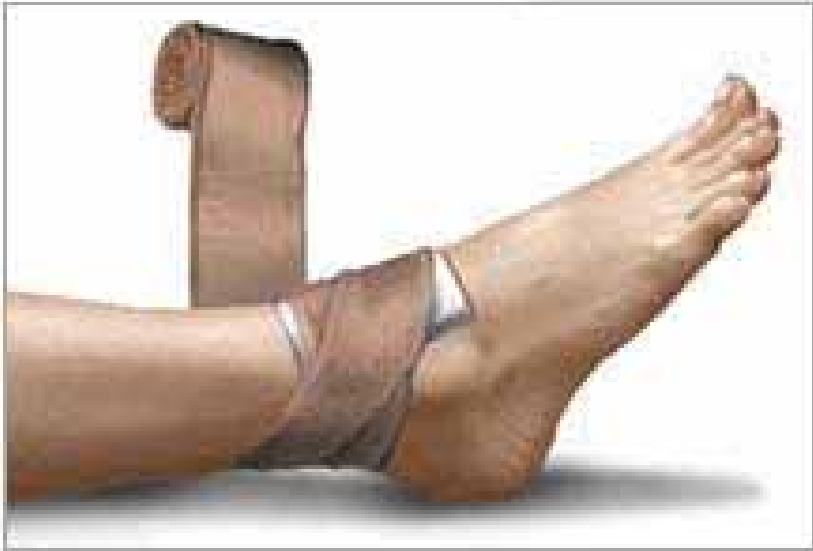


Symptoms

- **respiratory**
 - difficulty breathing
- **eyes, ears, nose, and throat**
 - blurred vision
 - eye lid drooping
- **skin**
 - destruction of tissue
 - discoloration of skin
- **gastrointestinal**
 - nausea, vomiting
- **heart and blood vessels**
 - bleeding
 - low blood pressure
 - weak pulse
 - rapid pulse







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Home Treatment

- **If within 40 minutes of an emergency room: Remove any restrictive clothing, rings, and watches. Have the patient rest. Keep the patient warm. Get the patient to the emergency room as soon as possible.**
- **If farther than 40 minutes from an emergency room, see the injuries document on snake bite for information.**

Before Calling Emergency

- **Determine the following information:**
 - the patient's age, weight, and condition
 - identification of the snake if possible
 - the time bitten
 - the location on the body of the bite



The Coach Whip snake is a non-venomous (not poisonous) snake.

Poisonous vs Non Poisonous1

- The Coach Whip snake is a non-venomous (not poisonous) snake.
- It is very important to know the differences between poisonous and non-poisonous snakes. The differences are listed below.
- *Venomous snakes have triangular heads, elliptical pupils, and upper jaws with fangs.*
- *They also have belly plates that extend all the way across their bodies to their blunt or rounded tails.*
- A number of venomous and non-venomous snakes live in our area.

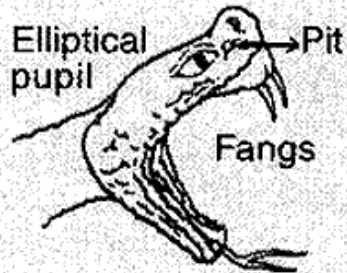
Poisonous vs Non Poisonous2

- Venomous snakes include the prairie, western diamondback, rock, Mojave, ridgenose and massasauga rattlesnakes and the coral snake.
- *Non-venomous snakes have rounded heads, rounded pupils, sharp teeth and no fangs.*
- *Their belly plates are in two sections to their sharp, pointed tails.*
- *Non-venomous snakes include the bull or gopher snake, seven species of garter snake, hognose snake, western coach whip snake, desert king snake, New Mexico milk snake, water snake, and corn snake.*

Poisonous Snake



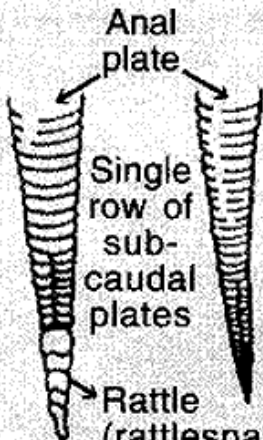
Triangle-shaped head



Elliptical pupil

Pit

Fangs



Anal plate

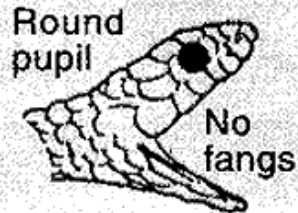
Single row of sub-caudal plates

Rattle (rattlesnake)

Non-Poisonous Snake

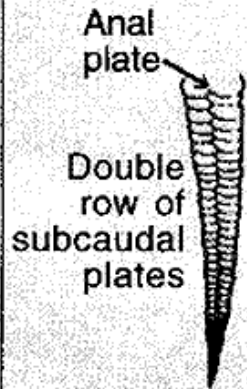


Rounded head



Round pupil

No fangs



Anal plate

Double row of subcaudal plates

MORPHOLOGY OF A VENOMOUS SNAKE



Poison Control, or a Local Emergency Number

- A call is probably not necessary unless summoning an emergency vehicle, as the patient should be seen in an emergency room to determine if the bite contains any poison.
- Some snake bites are from nonpoisonous snakes, but 20-30% of the bites from poisonous snakes do not actually inject poison into the wound site and can therefore be treated as a puncture wound.



This is the Saunders Snake bite Kit that is documented on page 32 of FM 21-11-"First Aid For Soldiers", April 7, 1943.



Poisonous snakes were native to many of the Pacific Islands occupied by the Marines during WWII. A snake bite kit might be carried by a corpsman.

Equip

Pack your safety first.



Contains quality components and written instructions for the management of Australian snake bites.

Snake Bite Kit



KOM
Snake Compress
Sterile
1.8m x 1.8m
100% Cotton

↑ ↑ PEEL HERE TO OPEN ↓ ↓
WHITE GAUZE SWABS
3 Pack
7.5cm x 7.5cm x 3
STERILE
GAMMA RADIATED
Sterilized by
Gammacell 220
Manufactured and
sealed in Australia
100% Cotton Gauze
GAMMA RADIATED
100% Cotton Gauze
GAMMA RADIATED
100% Cotton Gauze
GAMMA RADIATED
100% Cotton Gauze



What to Expect at the Emergency Room

- **Some or all of the following procedures may be performed:**
 - **Make an evaluation to determine if poison was injected into the wound site**
 - **Give antivenom if necessary**
 - **Give antitetanus shot if needed**
 - **Treat the symptoms**



Snake Antivenom

Louis Pasteur

- Venomous snake bites may be treated with **Antivenom**.
- Snake *antivenins* are a man-made biological product called *anti-ophidic serum*.
- Antivenin serum treatments are based on the vaccine process developed by Louis Pasteur, the famous French microbiologist & chemist.

Pasteurization

- He is credited with many notable scientific achievements in the field of chemistry and was perhaps one of the greatest scientists of the 19th century to study "germ warfare".
- The study of microorganisms contaminating milk and fermenting beverages by Louis Pasteur led to the process we know today as pasteurization which involves heating these liquids to kill bacteria & molds.
- Louis Pasteur was the first scientist to bring us the rabies vaccine which is still used to fight that dreaded disease to this day through a series of therapeutic inoculations.



Louis Pasteur

Milking a Snake

- Snake Antivenom is effective on most snake bite victims, but only if administered within an extremely narrow window of opportunity.
- Scientists obtain venom from live snake specimens - sometimes called "milking a snake" usually with the snake striking cloth placed over covered glass jars.
- Every drop of venom retrieved through this forced bite process is precious in procuring Antivenins for poisonous snake species.

Hypersensitive

- This snake venom is then injected in small amounts into mammals such as horses, sheep, or rabbits. These animals have an immune response whereby antibodies against the venom are generated naturally. The Antivenom is then harvested from the blood of the animal, purified and stored to treat future envenomation for snake bite victims.
- Antivenins are normally administered to the victim as soon as possible following a snake bite attack - usually within 4-5 hours. Since the advent of Antivenom, many snake bites which were almost always fatal have become only fatal rarely if it can be administered to the victim in a timely manner. Even though the antivenins are purified by multiple processes, they may contain other serum proteins and some individuals may have an extreme hypersensitive reaction to the injection and are only administered with exercising caution.

Monovalent and Polyvalent

- Snake bites are often times on an individual's extremities (hands and feet) where there is little muscle tissue to absorb the venom injected in the bite. Normally antivenins are stored in freeze-dried ampules and injected into muscular areas for absorption. Some antivenin is only effective in liquid form and must be stored by a method called "cold chain" storage.
- Antivenins effective against only one given species are classified as "Monovalent" whereby antivenins effective against a broad range of species are classified as "Polyvalent". For instance, there is not a specific Antivenom developed for an Australian Copperhead bite strike so emergency medical providers are advised to use either Tiger Snake Antivenom or a polyvalent one.
- The first snake Antivenom was discovered in 1895 by Albert Calmette against the deadly Indian Naja Snake, better known as the Cobra. Since that time and through the beginning of the 19th century antivenins were also formulated for many venomous arachnids (spiders), scorpions and the Amphibia class of animals which includes poisonous frogs and toads.

Expectations (prognosis)

- **Expectations (prognosis)**
- **If treatment is obtained soon enough, only a small percentage of those bitten by a poisonous snake die.**