VENOMOUS SNAKES OF SOUTH AMERICA

Snakebite First Aid

- Stay calm.
- Move victim and onlookers away from the snake.
- Help the victim lie down. Reassure and calm the victim.
- Remove constricting items such as jewelry, watches, rings, and shoes to allow for swelling.
- Immobilize the injured part of body and place in a comfortable position.
- Record the appearance and progress of the symptoms.
- Take the victim to the nearest medical facility as soon as possible.
- If you can do so safely, note what the snake looks like and without destroying the head, try to kill the snake. Ensure the snake is dead and then scoop it into a hard container with a stick or similar item and bring the container to the medical facility.

Venomous snakebites cannot be treated in the field. Do not waste valuable time trying. Seek medical attention right away. Properly equipped medical facilities can effectively treat venomous snakebites. Antivenins are available to treat the symptoms of snakebite from most of the South American pitvipers and coralsnakes. There are no specific antivenins for seasnakes or colubrid snakes.

Coralsnakes and Seasnakes

Behavior:
- Coralsnakes are active at night, on overcast days, and after it rains.
- If threatened, coralsnakes will flatten their bodies and snap back and forth while alternately hiding then swinging their heads side to side and coiling and waving their tails.
- Coralsnakes are often found where humans live.
- Seasnakes are helpless on land, and cannot crawl.
- Seasnakes are sometimes stranded close to shore.
- Coralsnakes and seasnakes are not aggressive, but will bite if handled or stepped on.

Habitats: Decaying logs; streams and wetlands; ravines and rocky crevices; leaf litter; forested hillsides and river valleys; and Pacific Ocean shoreline (seasnakes only).

Identification and Appearance
- Coralsnakes are 1 to 3 feet long; seasnakes can reach over 3⅓ feet in length.
- Coralsnakes and seasnakes have narrow, indistinct heads and small eyes with round pupils.
- Coralsnakes have short, blunt tails for moving through leaf litter and around rocks.
- Many coralsnakes have color patterns made up of complete rings of yellow or white, black, and usually red.
- Not all coralsnakes are brightly colored.
- Many nonvenomous snakes closely resemble coralsnakes in coloration.
- Seasnakes have black or dark brown backs and dark yellow bellies; tails are whitish with black bars or spots.
- The body of a seasnake is thin for swimming, and the tail is shaped like an oar.

Bushmasters and Hognosed Pitvipers

Behavior:
- Active mainly at night.
- Hognosed pitvipers are not aggressive but will bite quickly if threatened or disturbed.
- Hognosed pitvipers are responsible for ⅓ of all snakebites in Colombia and Ecuador.
- When agitated, bushmasters produce a warning sound by shaking tail tip against foliage.
- Bushmasters are not frequently encountered, but rainforest development has increased snakebite fatalities.

Habitats: Lowland and rainforests; rocky hillsides in arid areas (hognosed pitvipers only); cool moist forests (bushmasters only); and forested highlands.

Identification and Appearance
- Hognosed pitvipers and bushmasters have broad, wedge-shaped heads.
- Bushmasters are the largest of all South American venomous snakes and can reach 12 feet in length.
- Bushmasters are light tan with brown to black diamond-shaped patterns.
- Bushmasters have a slightly flattened body, with bumpy scales and a ridge of hard, sharp scales running down the center of back. Their short tail ends in a bony spur.
- Hognosed pitvipers have an upturned snout and average 1½ to 2 feet in length.
- Hognosed pitvipers are brownish-gray to black in color with a pale line down the middle of the back that divides a series of black, angular blotches.

Colubrid Snakes

Behavior:
- Active both day and night.
- Some species live in trees; others are ground-dwellers.
- When alarmed, false water cobras raise their bodies and flatten their necks, much like when a cobra "hoods up".

Habitats: Thorny scrublands; lowland forests; cut-over forests; farms and villages; and mountainous drylands.

Identification and Appearance
- Average length of 1 - 3 feet.
- Most have slender bodies, oval-shaped heads and cylindrical, pointed tails.
- Scales underneath are as broad as the belly.
- Round eye pupils.
- False coralsnakes mimic the coloration of coralsnakes.
- Falsevipers have a basic green, brown, or gray background color, with or without lengthwise stripes.
- False water cobras can reach 6½ feet in length; variable, olive green or golden brown background color with irregular dark colored crossbands and spots.

Neotropical Rattlesnakes

Behavior:
- Most active at night; on the move at sunset and sunrise.
- Sit-and-wait predators: remain coiled next to a regularly used animal path, and wait silently for prey to come within striking distance.
- Tail rattle is shaken vigorously to warn off intruders.
- Common in areas with abundant rodents; often found near farms and villages.

Habitats: Grasslands; rocky outcrops and ravines; villages and farms; and thorny scrublands.

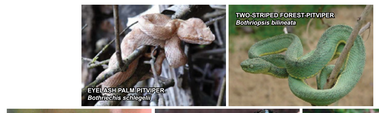
Identification and Appearance
- Stout bodies and flattened, triangular heads.
- Can reach almost 6 feet in length.
- Jointed rattle at the tip of the tail.
- Brown or olive background color with darker, light-edged diamond-shaped markings down the back.
- Stripes on the neck; white or cream-colored belly.

Palm- and Forest-Pitvipers, Toadheaded Pitvipers, and Lanceheads

Behavior:
- Most active at night; on the move at sunset.
- Terciopelos and common lancehead snakes often enter houses in search of rodents.
- Many species strike quickly if stepped on or threatened.
- Most snakebites are inflicted on the legs of farmers, plantation workers, herdsmen, and hunters.
- Development in jungle areas has increased the number of snakebites.
- Found in all countries, except Chile, at elevations up to 13,000 feet.

Habitats: Farms and villages; cacao, banana, palm plantations; rainforests, streams and wetlands.

Identification and Appearance
- Broad, flat, triangular head that is distinct from the narrow neck.
- Cylindrical body with a short to medium-length tail.
- Pit organs (heat-detecting sensors) on each side of the head between the nostril and eye.
- Small to moderate-size eyes with vertically elliptical pupils.
- A pair of folding fangs in the upper jaw in the front of the mouth.
- Ground-dwelling species range from 3 to 6 ½ feet in length; some tree-dwellers are only 1½ feet long.
- The color of ground-dwelling snakes is variable: from gray to olive, brown, or reddish, with dark triangles edged with light scales; many have yellow throats and a dark streak from the eye to the mouth.
- The color of tree-dwelling species, including eyelash Palm-Pitvipers and two-striped forest pitvipers, varies between golden-yellow, green, olive-green, brown, grayish-brown, often with blotches or cross bands in various colors.
- Eyelash Palm-Pitvipers have spine-like scales above their eyes.

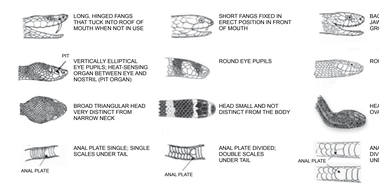


Venomous Snake Identification

PITVIPERS: NEOTROPICAL RATTLESNAKES, BUSHMASTERS, HOGNOSED PITVIPERS, PALM- AND FOREST-PITVIPERS, LANCEHEADS, AND TOADHEADED PITVIPERS.

ELAPIDS: CORALSNAKES AND SEASNAKES

COLUBRIDS: FALSE WATER COBRAS, FALSE CORALSNAKES, *PHILODRYAS spp.* AND *TACHYMENIS spp.*



Snakebite Prevention

- Venomous snakes are found throughout South America. Assume that any snake you encounter is venomous. Leave snakes alone. Many people are bitten because they try to kill a snake or get a closer look at it.
- As tactical situations permit, avoid high risk snake habitats. Locate bivouacs away from piles of brush, rocks, or other debris. Swim only at approved beaches.
- Get rid of things that attract snakes. Remove wood piles, rock piles, construction debris, dumps, dense undergrowth, and similar shelter for snakes. Store supplies elevated off the ground. Practice good sanitation. Control rodents.
- Practice "SNAKE-SMART" behavior. Shake out bedding and clothes before use. Sleep off the ground, if possible. Wear thick leather boots for the best foot protection. Shake out bedding, clothes, and shoes before use. Avoid walking alone. Keep to clear paths.
- Be alert in areas where snakes may be hiding or sunning. Don't reach or place parts of body in places you cannot see into directly, especially high grass or among rocks. Keep hands off of rock ledges. Never sit on or step over large rocks or logs without first checking to see what is on the other side.
- In the unit compound, keep doors, windows, and vents closed whenever possible. Block holes in foundations, crawl spaces, ceilings, and roofs.
- Do not pick up a "dead" snake; it may only be injured, stunned or playing dead. Even a recently killed snake can bite by reflex action.

Snake Venoms and Their Effects

SNAKE VENOMS are complex mixtures of many toxins and enzymes. Snakes use their venom to subdue and digest their prey. The effects of a snakebite can range from a simple puncture wound to death. The severity and types of symptoms depend on the species of snake and how much venom is injected. It is possible to be bitten by a venomous snake and not be poisoned, since the snake does not always inject venom.

CORALSNAKES AND SEASNAKES
- Coralsnakes and seasnakes have neurotoxic venom which affects the brain and nerves.
- Their venom can interfere with the heart and can paralyze the lungs.
- The venom is delivered by small front fangs, often using a chewing motion.
- Coralsnakes have small fangs; they can only bite fingers or loose folds of skin.
- Bites from coralsnakes and seasnakes are not very painful and there is little swelling or discoloration.
- Symptoms of a serious bite include blurred vision, drooping eyelids, slurred speech, drowsiness, nausea, increased salivation and sweating. These symptoms may not appear until 1-7 hours after a bite.
- Difficulty in breathing, paralysis, convulsions, and coma can develop if the bite is not treated promptly.
- Death from seasnake bites is unusual since only small amounts of venom are injected.

BUSHMASTERS AND HOGNOSED PITVIPERS
- Bushmasters and hognosed pitvipers have hemotoxic venom – it attacks blood cells and also destroys both muscles and blood vessels.
- Bushmaster venom is relatively weak but is produced in great quantities and can kill by causing internal bleeding.
- Bushmasters are extremely dangerous due to the large amount of venom injected deeply by long fangs.
- Fatalities from hognosed pitvipers are rare, but serious bites cause tissue death around bite site and swelling extending beyond the bitten limb.

COLUBRID SNAKES
- Colubrid snakes have hemotoxic venom. The venom attacks blood cells and destroys muscles and blood vessels; venom produces itching, pain, redness, swelling at bite site, and sometimes headache and nausea.
- Colubrid snakes cannot deliver as much venom as quickly as the front-fanged pitvipers.
- Colubrids use the last few teeth in the back of the upper jaw to deliver venom. Victims suffer serious injury only after a snake is allowed to chew for some time.
- Bites from false coralsnakes and false water cobras, *Philodyas spp.* and *Tachymenis spp.* snakes have caused serious injuries and a few deaths.

NEOTROPICAL RATTLESNAKES
- All South American rattlesnakes have potentially lethal neurotoxic and hemotoxic venom.
- The rattlesnakes of South America have venoms that contain a higher percentage of neurotoxins compared to North and Central American rattlesnakes.
- Snakes living closest to the equator have venom with the highest percentage of neurotoxins. Relatively painless bites can result in blindness, paralysis, and respiratory failure.
- The venom of other rattlesnakes can cause blistering, bleeding, and destruction of tissue around the bite wound.
- Death can occur from internal bleeding and/or muscle paralysis.
- Rattlesnakes are responsible for the majority of snakebite fatalities in Brazil.

PALM- AND FOREST-PITVIPERS, TOADHEADED PITVIPERS, AND LANCEHEADS
- Mild to lethal hemotoxic venom – destroys blood cells and skin tissues and causes internal bleeding.
- Intense pain immediately after venom is injected.
- Other symptoms can include weakness, rapid pulse, nausea, shortness of breath, vomiting, and shock.
- Death of skin, cartilage, and muscle tissues can occur around the bite site.
- Bites from the largest land-dwelling species, such as urutu, jararaca, jararacussu, terciopelo, and common lancehead snakes cause many deaths due to quantity and potency of venom.
- Venoms of smaller species, including Neuweid's and Pampas lanceheads, two-striped forest-pitvipers, and eyelash palm-pitvipers are not considered highly dangerous, but deaths do occur.

Snake Distribution Checklist

Coralsnakes and Seasnakes	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	ECUADOR	FRENCH GUIANA	GUYANA	PARAGUAY	PERU	SURINAME	URUGUAY	VENEZUELA
Leptomicrurus collaris			X				X	X			X		X
Leptomicrurus narducci		X	X		X	X				X			
Leptomicrurus renjifoi					X								
Leptomicrurus scutiventris			X		X	X				X			
Micrurus albicinctus			X		X								
Micrurus altirostris			X									X	
Micrurus ancoralis					X	X							
Micrurus annellatus		X	X		X	X				X			
Micrurus averyi			X					X			X		
Micrurus baliocoryphus	X		X						X				
Micrurus biocularis						X				X			
Micrurus brasiliensis			X										
Micrurus catamayensis						X							
Micrurus circinalis													X
Micrurus clarki					X								
Micrurus corallinus	X		X						X			X	
Micrurus decoratus			X										
Micrurus diana		X											
Micrurus dissoleucus					X								X
Micrurus dumerilii					X	X							X
Micrurus filiformis			X		X	X				X			
Micrurus frontalis			X						X				
Micrurus hemprichii		X	X		X	X	X	X		X	X		X
Micrurus ibiboboca			X				X				X		
Micrurus isozonus			X		X								X
Micrurus langsdorffi			X		X	X				X			
Micrurus lemniscatus	X	X	X		X	X	X	X	X	X	X		X
Micrurus margaritiferus										X			
Micrurus medemi					X								
Micrurus mendesia													X
Micrurus mertensi						X				X			
Micrurus mipartitus					X	X				X			X
Micrurus multiscutatus					X								
Micrurus nigrocinctus					X								
Micrurus oligoanellatus					X								
Micrurus ornatissimus			X		X	X				X			
Micrurus paraensis			X										
Micrurus peruvianus						X				X			
Micrurus pebenai						X							
Micrurus psyches			X				X	X			X		X
Micrurus putumayensis			X		X					X			
Micrurus pyrrhocryptus	X	X	X						X				
Micrurus remotus					X								X
Micrurus sangilensis					X								
Micrurus semiparis		X											
Micrurus spixii		X	X		X	X				X			X
Micrurus spurrelli					X								
Micrurus steindachneri						X				X			
Micrurus surinamensis		X	X		X	X	X	X		X	X		X
Micrurus tschudii						X				X			
Pelamis platurus						X				X			

Bushmasters and Hognosed Pitvipers	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	ECUADOR	FRENCH GUIANA	GUYANA	PARAGUAY	PERU	SURINAME	URUGUAY	VENEZUELA
Lachesis acrochordus					X	X							
Lachesis muta		X	X		X	X	X	X		X	X		X
Porthidium arcosae						X							
Porthidium lansbergii													X
Porthidium nasutum					X	X							

Colubrid Snakes	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	ECUADOR	FRENCH GUIANA	GUYANA	PARAGUAY	PERU	SURINAME	URUGUAY	VENEZUELA
Elapomorphus lemniscatus	X	X											
Elapomorphus tricolor	X	X											
Hydrodynastes gigas	X	X	X				X		X				
Philodryas aestivus	X	X	X		X				X	X		X	X
Philodryas chamissonis				X									
Philodryas olfersii		X	X			X				X			
Philodryas patagoniensis	X	X	X						X			X	
Tachymenis attenuata	X	X		X						X			
Tachymenis chilensis	X	X		X						X			
Tachymenis peruvianus	X	X		X						X			

Neotropical Rattlesnakes	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	ECUADOR	FRENCH GUIANA	GUYANA	PARAGUAY	PERU	SURINAME	URUGUAY	VENEZUELA
Crotalus durissus cascavella			X										
Crotalus durissus collilineatus			X										
Crotalus durissus cumanensis					X			X					X
Crotalus durissus dryinus			X					X			X		
Crotalus durissus durissus			X				X	X			X		
Crotalus durissus marguritensis			X										
Crotalus durissus marcelae													X
Crotalus durissus ruruima			X					X					X
Crotalus durissus terrificus	X	X	X						X	X		X	
Crotalus durissus trigonicus			X					X					
Crotalus durissus vegrandis													X

Palm- and Forest-Pitvipers, Toadheaded Pitvipers, and Lanceheads	ARGENTINA	BOLIVIA	BRAZIL	CHILE	COLOMBIA	ECUADOR	FRENCH GUIANA	GUYANA	PARAGUAY	PERU	SURINAME	URUGUAY	VENEZUELA
Bothriechis schlegelii					X	X				X			X
Bothriopsis bilineata		X	X		X	X	X	X		X	X		X
Bothriopsis chloromelas										X			
Bothriopsis medusa													X
Bothriopsis oligolepis		X								X			
Bothriopsis pulchra					X	X				X			
Bothriopsis taeniata		X	X		X	X	X	X		X	X		X
Bothrocophias campbelli						X							
Bothrocophias colombianus					X								
Bothrocophias hyoprora		X	X		X	X				X			
Bothrocophias microphthalmus		X	X		X	X				X			
Bothrocophias myersi					X								
Bothrops alcatraz			X										
Bothrops alternatus	X		X						X			X	
Bothrops ammodytoides	X												
Bothrops andianus		X								X			
Bothrops asper					X	X							X
Bothrops atrox		X	X		X	X	X	X		X	X		X
Bothrops barnetti										X			
Bothrops brazili		X	X		X	X	X	X		X	X		X
Bothrops cotara	X		X										
Bothrops diporus	X		X						X				
Bothrops erythromelas			X										
Bothrops fonsecai			X										
Bothrops insularis			X										
Bothrops itapetiningae			X										
Bothrops jararaca	X		X						X				
Bothrops jararacussu	X	X	X						X				
Bothrops jonathani		X											
Bothrops leucurus			X										
Bothrops lojanus						X							
Bothrops lutzi			X										
Bothrops marajoensis			X										
Bothrops matogrossensis	X	X	X						X				
Bothrops moojeni		X	X						X				
Bothrops muricianus			X										
Bothrops neuwiedi			X										
Bothrops osbornei						X				X			
Bothrops pauloalvesi			X						X				
Bothrops pictus										X			
Bothrops pirajai			X										
Bothrops pubescens	X		X									X	
Bothrops punctatus					X	X							
Bothrops sanctaecrucis		X											
Bothrops venezuelensis													X

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