Snake Rescue Manual: Guidelines on Snake Rescue, Snakebite Management, and Community Education for Snake Conservation

Authors: Soham Mukherjee

Submitted: 29. October 2022
Published: 9. January 2023
Volume: 10
Issue: 1

Affiliation: Life Science Education Trust, Bengaluru, India; NAJA India, Ahmedabad

Languages: English
Keywords: Reptiles, Snakes, Rescue, Conservation, Ecology, Environment, Safety, Education, Guide, Manual
Categories: News and Views, Life Sciences
DOI: 10.17160/josha.10.1.855

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Human-Snake conflict (HSC) is a complex and pervasive problem that occurs wherever snakes and people share the same habitat. Lack of information, ignorance by the masses and absence of snakebite prevention measures results in around 2100 annual deaths in Gujarat while the national mortality figure is as high as 58,000. While the need to improve the quality of anti-venom serum and post bite clinical management is high priority, prevention of bites can play a vital role in bringing down the mortality rates. Snakes and people often need to be rescued from certain situations especially when the former comes near people's houses and backyards, especially in rural areas. Since snake capture is a specialised activity and is often potentially dangerous in case of venomous snakes, it requires systematic training and experience. Proper knowledge to administer the right first aid can very well save a limb and even a life. Individuals who are interested in this issue need to be well trained in all relevant aspects. This manual is

JOSHA
Journal of Science, Humanities and Arts

February 2023 Volume 10, Issue 1

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Soham Mukherjee
soham.naja@gmail.com
Life Science Education Trust, Bengaluru, India; NAJA India, Ahmedabad

Abstract

Human-Snake conflict (HSC) is a complex and pervasive problem that occurs wherever snakes and people share the same habitat. Lack of information, ignorance by the masses and absence of snakebite prevention measures results in around 2100 annual deaths in Gujarat while the national mortality figure is as high as 58,000. While the need to improve the quality of anti-venom serum and post bite clinical management is high priority, prevention of bites can play a vital role in bringing down the mortality rates. Snakes and people often need to be rescued from certain situations especially when the former comes near people's houses and backyards, especially in rural areas. Since snake capture is a specialised activity and is often potentially dangerous in case of venomous snakes, it requires systematic training and experience. Proper knowledge to administer the right first aid can very well save a limb and even a life. Individuals who are interested in this issue need to be well trained in all relevant aspects. This manual is intended for experienced snake handlers, not for beginners.

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Why rescue snakes?

Snakes are not restricted to forested areas; their highly adaptive nature allows them to continue survival in the constantly changing environment. We do influence these changes a lot, be it creating farmlands around the villages or urbanisation. Most snakes lose out to these changes as they need certain special conditions to survive, but there are some species that do very well in and around human habitation. As long as there is a decent prey-base available, species like spectacled cobras, Russell's vipers, common kraits, rat snakes, wolf snakes, chequered keelbacks, etc. thrive amongst us.



The so-called snake-human conflict arises as we unknowingly encroach various habitats that host snake populations and don't emphasise on adjusting our way of living in the presence of potentially dangerous animals (in case of venomous snakes). Lack of information, ignorance by the masses and unnecessary fear (Coelho et al., 2019) creates the need to rescue snakes. Most rescues are carried out to save the snakes from immediate threats i.e. scared humans who will kill the 'nuisance' snake if not removed from their property (Nonga & Haruna, 2015) and to ensure its survival, though the initial distress call is the result of human safety concerns.

Since snake capture is a specialised activity and is often potentially dangerous in case of venomous snakes (Mirtschin et al., 2017). Unfortunately, this creates a heroism factor - the driving factor for several snake rescuers!

Wildlife (Protection) Act 1972

It is important to understand the law before undertaking any activity involving wildlife native to India. All Indian fauna is protected under the Wildlife (Protection) Act, 1972. None of the native snake species can be collected, rescued, kept, treated, transported or exported without the permission of the relevant Forest Department (WPA, 1972). Wild fauna is protected under different schedules wherein Schedule I is given the highest level of protection.

The snake species protected under Schedule I are as follows:

Pythons (Genus Python) *P. m. molurus, P. m. bivittatus, P. reticulatus*
Indian egg-eating snake *Elachistodon westermanni*
The *P. molurus* ssp. (Rock Pythons) is now found in restricted areas but is in safe numbers in its range. The *P. reticulatus* (Reticulated Python) is only found in the Nicobars where it is uncommon (Whitaker & Captain, 2004). The *Elachistodon westermanni* (Indian Egg-Eating Snake) was only known from a few specimens and was not seen since the early 1900s until its rediscovery in Maharashtra (Captain et al., 2005), and subsequent reports its presence in Gujarat, Madhya Pradesh, Rajasthan, Karnataka, etc. (Kalki & Gowda, 2021).

Schedule II offers second highest protection. The species covered under this schedule are as follows:

Indian rat snake *Ptyas mucosa*
Olive keelback water snake *Atretium schistosum*
Cobras (Genus Naja) *N. naja, N. kaouthia, N. oxiana, N. sagittifera*
Russell's viper *Dabioa russellii*
Checkered keelback *Xenochrophis piscator*
Dog-faced water snake *Cerberus rhynchops*
King cobra *Ophiophagus hannah*

O. Hannah and *N. sagittifera* are protected because of their rarity. Rest of the species are common but were given protection to control the snakeskin trade. Offenders involving Schedules I & II are punishable by 1 to 6 years in jail and a fine.

The rest of the species are protected under Schedule IV and offenders are punishable by fine up to Rs.25,000/- and / or imprisonment for up to 3 years. Individual snake rescuers must make sure to have the necessary permits from their respective forest departments.

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Most common rescue scenarios

The rescue scenarios vary from underground storerooms to restaurant kitchens on the 6th floor. Most common scenarios are presented below:

RURAL AREAS	
Farmlands & plantations	Accidentally threatening snakes while working in fields, especially in harvest season
Firewood and grain storage	Chances of close encounters increase while trying to access stored firewood and grains
Village houses	A house with high rodent activity, multiple openings and enough shelter can be very attractive to snakes
Walking barefoot	Bare feet are most prone to snakebites
No torch after dark	Camouflage makes it difficult to spot snakes in daylight, almost impossible in dark

URBAN AREAS	
Encroachment	Building houses in snake habitats will always lead to con- flicts, both for snakes and us
Parks	Adaptive nature of snakes helps them survive in these small habitat pockets
Backyard gardens	These gardens often seem to be the only resort in the con- crete jungle
Storages	Storerooms, junk and scrap materials are good shelters for snakes
Solid waste mismanagement	Garbage dumps and open bins attract rodents, a preferred prey item for many snakes

A lot of conflict can be avoided using simple things like not walking barefoot, not walking in or putting hand in vegetated areas and using a torch at night!

Role of a Snake Rescuer

- To save the snake from immediate threat.
- To ensure its survival after release.
- To be safe themselves.
- To consider the welfare during the process of rescue, handling, transport, and release.
- To ensure the safety of the people around.
- Education: disseminating correct information and trying to blast the myths associated with snakes whenever on a rescue.
- Suggest ways to minimise contact with snakes around their properties.

The first reaction to a 'snake call' is to quickly go and take the snake out of the dangerous situation. For years we have been catching snakes from one place and releasing them far away from 'human' habitation. One thing that we have been missing out is that the actual habitat is the place from where the snake is captured! We unknowingly translocate the snakes, giving them a slow death (Cornelis et al., 2021). This has now been confirmed through several radio telemetry studies around the world (Barve et al., 2013; Reinert & Rupert Jr, 1999; Wolfe et al., 2018). With so many recent updates in snake research and conservation initiatives, rescuers should start adapting to strategies that are best for snake's welfare. Rescuers should now change from traditional practices to science that will actually benefit the snakes, the people, and the ecosystems they share.

Identification

Identification of common Indian snakes while on a rescue call can be done by using a suitable com- bination of the following factors:

Overall appearance, head shape, colouration, features of the scales, and behaviour.

PHOTO	IDENTIFICATION FEATURES	BEHAVIOUR
Spectacled cobra 	Spread of hood and hissing when threatened Spectacled marking behind hood (sometimes absent) Smooth oval shaped scales Black round pupils Slender body	Active by day and night Often hides in tight places for shelter Do not hesitate to climb Young ones (up to 3ft. long) are more active than adults Mostly found where rodents are available
Common krait 	Jet black (shiny) body with thin white bands; underside is white White bands on body start after 1/3rd body Rounded head shape with small eyes and black pupils	Active by night Climbs in to tiled and asbestos sheet roofs Hides easily in crevices in walls Actively seeks dry areas during rains Climbs shrubs easily Very often will take shelter in backyard junk
Russell's viper 	Dark diamond-shaped chain pattern on back Triangular head Stout body Hisses when cornered Keeled scales	Mostly active by night Very agile; resists with heavy thrashing around to escape Prefers to hide in heavy under- growth, leaf litter and tall grass Strikes unpredictably while cap- turing
Rat snake 	Slender, long snakes Blackish upright line-marking present on lips Round black pupil with goldenish border Various colour forms; sometimes chequered	Active by day Strays in to backyard gardens looking for food Climbs high structures easily Puffs up throat and growls when threatened

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Common identification mistakes

Our mind is prone to mistakes, especially in an excited state. We sometimes tend to miss out on very obvious factors. Below are some of the instances wherein mistakes are made - some of these have proved to be fatal:

Extremely similar looking species. People have been bitten by venomous species while attempting to handle the snakes thinking they were non-venomous snakes. Some have sadly been fatal mistakes.

Venomous species	Similar looking non-venomous species
Spectacled cobra	Rat snake, Banded racer
Common krait	Common wolf snake
Russell's viper	Common sand boa, Indian rock python
Saw-scaled viper	Common cat snake, Russell's kukri snake

When only a small part of the snake is visible.

When the snake is covered in mud or other material. When lighting is poor.
When a rescuer attempts handling in an intoxicated state.

When a rescuer attempts handling right after coming in from bright sunlight. Take a minute to let your eyes adjust to the light before you start handling!

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Common cat snake (Boiga trigonata)


Saw-scaled viper (Echis carinatus)

Snake rescue kit

It is important to be prepared for any eventuality. Make sure you have your kit ready at all times. A kit must have the following:

- ✓ Snake hook / snake stick
- ✓ At least two snake bags (cotton, dark colored)
- ✓ Bagger system
- ✓ Torch
- ✓ Crepe bandages (4-5 rolls of more than 5 cms. wide)
- ✓ Mobile phone
- ✓ Aerated plastic box with lockable clip-on lid (for venomous snakes)
- ✓ Towel (wet towel should be wrapped around the plastic box when transporting in summers)

A snake rescue operation is a challenging exercise that involves capturing a snake while managing people, emotions and adrenaline. It is therefore advisable to have a well-trained assistant to help keep the situation calm. Of the calls being routed through an organisation, the concerned group must keep at least two kits ready at all times.

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Safety instructions to the caller

On receiving a rescue call, the rescuer must ask the following questions: Is the snake still there?
Where is it?

Ask for a brief description of the snake pertaining to its colouration and approximate length.

The following instructions should be given to the caller:

Do not go anywhere near the snake or try to catch it, move it or kill it. Do not allow people to gather around the snake.
Keep an eye on the snake until the rescuer gets there.

Inform the rescuer if the snake escapes before the rescuer arrives.

Safe capture using snake hooks and bagger

When handling any live animal, it is always important to keep two safety issues in mind: first is the safety of the handler, and second is the safety and welfare of the animal itself.

	If the snake is moving, best is to place the hook ahead of it and let it crawl over till around mid-body. Start lifting the later part of the body towards you as the snake is passing on. Make sure you do not reach down to the ground (sitting); this will put you in danger if the snake turns back and strikes. Best is to bend while standing and bringing the tail towards you with the hook. The aim is to gently grab the tail.
	Once the tail is in hand, you must have a gentle but firm grip. An important thing to remember is to neither hold the tail from the tip nor allow it to take a grip on your hand. It should be well placed so that you are in control all the time. Holding from the tip can injure the snake and allowing the tail to grip compromises on safety as the snake can climb back and you may not be able to let go if you are not in control.

	The hand holding the tail should stay away from the body. The hook should quickly be placed under the body close to anterior 1/3rd. This gives the snake support and keeps the head away from you. If there is a need to reposition, do not wait. Safety should be your priority. Once the snake is under the handler's control, the bagging system should be opened and laid flat on ground. Snake should then be directed towards the 'hole'.
	If the snake does not go in readily, the handler should communicate with the bagger regarding the positioning of the bagging system. Once the snake is going in, the bagging system should be lifted. Make sure the hook does not go in at any time. The snake can take support of the hook and come up from inside the bag.
	The tail should be dropped in from at least a foot and a half above the bagging system. At no point of time should the hand go inside the bag. Care should be taken to avoid any contact with the bag, either by the handler or the bagger. The handler has to make sure that the tail has gone in completely. Snakes like cobras and krait have a tendency to climb out with tail support.
	The bagging system frame should be twisted in a way that the opening of the bag is completely closed. Make sure the bag is touching the ground during this process. The weight of the snake, while the bag is touching the ground, will avoid the bag from moving. The aim is to only twist the opening. Tying the opening with a rope must be done with great care. You can use weight on the snake stick as a barrier when the bag is laid on the ground. Keep the snake stick diagonally behind the point you want to tie the rope. All this should be done while the bag opening is still twisted. Once the snake is secured in the bag, the bag can be removed from the frame.

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Handling tips for venomous and non-venomous snakes

Repeating again: When handling any live animal, it is always important to keep two safety issues in mind: first is the safety of the handler, and second is the safety and welfare of the animal itself. Great care is needed when handling / restraining snakes, as they can be easily injured, and some species can easily be traumatised.
While handling snakes, it is important to ensure that they are comfortable. Just because a non-venomous snake does not pose a serious threat, one cannot afford to be casual while handling. Some snakes are highly responsive to movement. Others do not respond so obviously. As a snake handler, it is crucial when considering a snake's comfort to take in aspects of its behaviours and natural history. For example, is it slender and arboreal or stocky and terrestrial? The young of any species tend to be more reactive than the adults of that species so take extra care when handling. Remember, a snake will see you as a predator.

Be calm.

Keep the snake comfortable and supported.

No sudden movements (including those made by onlookers).

Handling does not mean '***by hand***'! Professional tools such as snake hooks, bagging systems, securable hide boxes and restraint tubes are of great help. Very often venomous snakes can be efficiently secured without even touching them by hand.

Good safe handling techniques will protect both the handler and the snake from unnecessary risk and stress. Pinning and grabbing a snake behind the head should generally be avoided whenever possible because of the health risk to the animal. Vipers in particular have very fragile necks and weak supporting muscles and are at high risk of injuring themselves when forcibly restrained.

Safe transportation

Once the snake is captured and put inside the box, it should be carefully lifted to the vehicle as it is still subject to injuries due to insensitive handling. While transporting a snake, it is preferable to use a vehicle that has enough storage space. Once the snake is secure, the driver should make sure that there are minimum shocks while travelling. The rescuer must also keep in mind the atmospheric temperature while transporting. As snakes are ectothermic, extreme heat can cause death (Gangloff & Telemeco, 2018). It is important to keep the snake cool. This could be easily achieved by wrapping a wet towel or cloth around the box. In a situation like this, make sure that the ventilation holes are on top of the box. If the snake is being transported on a two-wheeler, do not keep it in the storage space as it tends to heat up.

Release protocol

It is now established that translocated snakes have very little chance of survival (Cornelis et al., 2021). Recent studies have shown that snakes build a very strong relation with the physical environment that they grow up in. They know where to go for water, a safe and humid place to shed skin, different prey items as per season, thermoregulation, etc. They use these resources very regularly (Barve et al., 2013). When an adult snake that is used to a certain place is translocated to another area, it is unable to understand anything and gets into a mode of getting back to its known home-range. Snakes don't have good homing instincts and hence randomly start roaming around. In this mode their brain gets wired to only go back to their home-range and if they are translocated far away, it becomes impossible for them to do so (Pittman et al., 2014). Many end up dying of starvation, getting killed by predators and getting into conflicts with humans (Corbit & Hayes, 2022). The other issue with relocation is that the place chosen for their release is usually chosen because it looks right and balanced (Shine & Koenig, 2001). When these snakes are released (sometimes more than a hundred every week) it creates a constant pressure on the existing ecosystem (Vyas, 2013). Releasing so many external predators is never good for any ecosystem. Also, there is a greater risk of introducing harmful pathogens that can spread diseases to the existing wild population.

Harmless snakes like rat snakes, chequered keelbacks, wolf snakes, boas, etc. should be encouraged to stay back if they are found in gardens, houses with big backyards, open ground, etc. since they pose no threat. If these snakes are caught from inside the house, they can simply be left outside if the owners can be

convinced about the complete harmlessness. If the callers do not agree, the snakes may be released in favourable plots as close as possible to the site of capture.

Venomous snakes can be very tricky. Majority of people will not agree to release the snakes back. Release sites need to be identified from where the snakes can move back eventually. Yes, rescuing snake snakes from these places will be an on-going activity and that is why it is important to train local people so that they do not have to depend on 'specialised' rescuers.
Please remember, translocation will more likely kill a rescued snake and will harm the ecosystem and is thus discouraged henceforth.

Data collection (non-invasive)

One of the biggest contributions to science can be the data gathered during snake rescues. Scientists spend months, sometimes years collecting accurate baseline data for various research works. Snake rescuers can help in a big way, especially with distribution and abundance data of the local snake species. A simple format can be easily used to do the same. A standard format used by snake rescuers around the country is provided below. It only takes 2 minutes to fill each rescue data and can then be contributed to relevant scientists and organisations. Remember most snake rescuers will not fol- low this, but now is your chance to stand out!

Standard data sheet for snake rescue:

Species	Date and time	Climatic condition	Estimated age / size	Habitat / microhabitat	PIN code of rescue site	PIN code of release site	Distance from rescue to release

Even if you are unable to maintain your data in the above format, we encourage you to develop a format that you are comfortable with. Data maintenance is of great importance for any scientific analysis. It also helps you to measure your contribution towards the conservation of snakes.

Safety tips for handler

Before handling reptiles, it is necessary to accumulate as much information as possible on the behavioural biology of the species. No matter how tame they may seem to be, snakes are still wild animals. As such, they may not react the way we expect they would. Handling stress is an area that is often overlooked or even ignored. In fact, being physically picked up and/or restrained may be extremely stressful to snakes. For this reason, it evokes the same physiological and behavioural responses as threats from a natural predator.

Snakes should always be approached in a calm, deliberate and gentle manner. Wearing shoes and denim trousers is always advised to minimise chances of a snakebite.

When you are 'tailing' the snake, make sure you are not holding from the tip of the tail as it can be extremely painful for snakes and the tip can break of some heavy bodied active species like chequered keelback *(Fowlea piscator)* and sometimes common krait *(B caeruleus)* especially when they are trying to wiggle out. Rough handling and injury to snakes increases chances of a snakebite.

Safety tips for residents

One of the most sought advice by the residents of and around the rescue site is 'how to stop snakes from coming in?'. Well, there is no way of stopping snakes from coming into their premises, but there are a few things that can be done to minimise the encounters. This must be told very clearly to them as it is best to sensitise them and prepare them to be able to deal with the situation.



Here are a few safety tips that you can suggest to residents living in high snake density areas:

– Manage your solid waste management - the biggest source of prey items like rodents, insects, and frogs/toads. This constant food supply attracts snakes.

- Do not walk around barefoot outside your side, especially in areas with leaf litter and dry grass. Take great care when clearing vegetation, raking dry leaves in your garden. Avoid using hands directly.
- Use a torch/flashlight at night. Manage your storerooms and backyard properly. Keep it free of junk and scrap materials - a good shelter for snakes.

If you see a snake, do nothing. Let it go. Do not try to pick it up or kill it. If a snake has entered your premises, call trained snake rescuers.

Snakebites in India

India's first exhaustive study on annual snakebite deaths has revealed the annual death figures to be as high as 46,000 while the total number of annual snakebites are estimated to be around 14 lacs (bite to death ratio 64:1) (Mohapatra et al., 2011). The estimated total national snakebite deaths constitute about 5% of all injury deaths and nearly 0.5% of all deaths in India. It is more than 30-fold higher than the number declared from earlier official hospital returns. Recently, the annual snakebite mortality rate has been estimated to be around 58,000 (Suraweera et al., 2020). The underreporting of snake bite deaths has several possible causes. Most importantly, it is well known that many patients are treated and die outside health facilities – especially in rural areas.

Despite the intensity of the issue, snakebite has been ignored in our country. It has only recently been declared a neglected disease. In addition to the mortality, the damage caused by snakebite in the country is compounded by the morbidity through loss of limbs or life functions, causing huge social and economic stress on victims and their families.

The high human population density, combined with the nature of work and activity in much of rural India (agriculture and physical work) brings people in contact with venomous snakes on a regular basis. The only possible avenue of mitigation here is education. We need to constantly remind people about snakebite prevention, proper first aid and treatment so that we can reduce this number drastically.

In March 2014, a State Level Task Force for Snakebite Management was constituted by the Government of Gujarat to frame clinical treatment guidelines, improve quality of treatment in case of snakebite, upgrade treatment protocols to incorporate in Standard Treatment Guidelines and prepare literature focusing on prevention measures through community education.

Snakebite management

The fundamentals of first aid

Prior to the patient's arrival at a dispensary or hospital, initial care is administered immediately or shortly after the bite. It can be administered by the victim or by anyone present and able. Unfortunately, the majority of traditional, common, accessible, and inexpensive first-aid methods have proven to be ineffective or even harmful. These include making local incisions or pricks/punctures at the site of the bite or in the bitten limb, attempting to suction the venom out of the wound, using (black) snake stones, tying tight bands (tourniquets) around the limb, administering electric shock, topical instillation or application of chemicals, herbs, or ice packs, and electric shock. People in the area may have a great deal of faith in traditional (herbal) treatments, but they must not be permitted to delay medical treatment or cause harm (WHO, 2016).

- Attempt to delay venom absorption in the body.
- Save the patient's life and avoid complications before he or she can receive medical care.
- Handle any distressing or dangerous early envenoming symptoms.
- Arrange for the patient's transportation to a location where they can receive medical care.
- Most importantly, aim to cause no harm.

Conventionally tight (arterial) tourniquets and pressure bandages are not recommended. These needed to be wrapped tightly around the upper portion of the limb in order to obstruct the peripheral pulse. This procedure can be very painful and dangerous if the tourniquet or bandage is left on for an extended period of time (more than 40 minutes), as the limb may suffer from ischaemia. Many gangrenous limbs often leading to amputation have been caused by tourniquets.

If the victim however arrives with them in place, wait to release them until the patient is receiving hospital care, resuscitation equipment is available, and ASVS treatment has begun.

Snakebite First Aid

It's important to remember that snakes don't bite on the spur of the moment. They are typically coerced into biting. The good news is that snakes must conserve their

venom because it has evolved as a mechanism for subduing prey. The majority of snakebites occur when the snake is unintentionally provoked or threatened.

If you find yourself in a snakebite situation, following simple protocol and remaining calm could save the victim's limb or even life.

Firstly, **Things NOT to Do**:

- Do not suck out venom
- Do not make incision to bleed out venom
- Do not go to traditional healers or anything similar
- Do not try out home remedies
- Do not apply tourniquets
- Do not apply ice
- Do not clean out the bitten part
- Do not try to catch/kill the snake

All the above activities either **do not work** or are **extremely dangerous** to perform. In fact, they will do more harm than good.

Following is what you should do:

- Make sure the victim and others are at a safe distance away from the snake; do not attempt to capture the snake, get the victim and others away from the snake.
- Try to memorise the snake's appearance (from a safe distance).
- Remove watches / rings / other jewellery from the bitten part; swelling sets in rapidly after bite and any such objects can obstruct blood flow resulting in dangerous tissue damage.
- Keep the victim calm and reassured, do not panic, as trivial as it may sound, it makes every- thing from the victim's ability to deal with the situation to your ability to make decisions better.
- Try to immobilise the bitten limb; do not make the victim run and avoid making him/her walk if possible. Any movement or muscular contraction promotes venom absorption into the bloodstream and lymphatics. Avoid interfering with the bite wound in any way (including making cuts, rubbing, vigorous cleaning, massaging, or applying herbs or chemicals), as this could increase venom absorption, or worsen the local bleeding.
- Do not waste any time and arrange for a quick transport to the nearest hospital treating snakebite cases, as safely and comfortably as possible

- If possible, note the time of bite and progression of symptoms
- Describe the snake and the whole incident to the attending doctor

If your neighbourhood has a high density of snakes, it is advisable to prepare a snakebite protocol (plan of action in case of an emergency) best suited to you. This can simply be important to contact people and numbers who should be informed first, name / address of nearest hospital treating snakebites, best mode of transport and related details, name / contact no. of doctor, etc. Make sure all family members and friends understand their role in an emergency.

Spectacled cobra *Naja naja*

Common krait *Bungarus caeruleus*

Russell's viper *Daboia russelii*

Saw-scaled viper *Echis carinatus*

The above 4 species account for most snakebite deaths in India. Please be extra careful if you are around these.

In case of a snakebite, call **108*** from your phone. The emergency response service will immediately dispatch an ambulance with trained paramedics.

Prevention is always better than cure:

- Education: Know your local snakes, know the sort of places where they like to live and hide, at what times of year, at what times of day/night or in what kinds of weather they are most likely to be active.
- Be especially vigilant about snake bites after rains, during flooding, at harvest time and at night.
- Try to wear proper shoes or boots and long trousers, especially when walking in the dark or in undergrowth. Always check footwear before wearing them!
- Use a torch / lamp when walking at night.
- Avoid snakes as far as possible, including snakes performing for snake charmers. Never handle, threaten or attack a snake and never intentionally trap or corner a snake in an enclosed space.

In the house:

- Keep no livestock in the house, especially chickens, as snakes may come to hunt them. Food should be stored in rat-proof containers. Check houses for snakes on a regular basis and, if possible, avoid house construction that allows snakes to hide.
- Avoid sleeping on the ground if at all possible. If you must sleep on the ground, use a mosquito net that is tightly tucked beneath your mattress or sleeping mat.

In the yard:

- Try not to provide hiding places for snakes. Clear termite mounds, heaps of rubbish, building materials etc. from near the house.
- Do not have tree branches touching the house. Keep grass short or clear the ground around your house and clear low bushes in the vicinity so that snakes cannot hide close to the house.
- Keep your granary away from the house; it may attract rodents that snakes will hunt.
- Take great care when clearing vegetation, raking dry leaves outdoors.
- Use a light (torch or lamp) when you walk outside the house or visit the latrine at night.

In the rural areas:

- It is extremely dangerous to collect firewood at night. Avoid doing this at night.
- Watch where you walk, especially when walking in the dark or in undergrowth. Do not go bare- foot.
- Step on rocks or logs rather than straight over them; snakes may be lurking alongside.
- Avoid handling dead snakes, or snakes that appear to be dead. They can still inject venom!
- Keep young children away from areas known to be snake infested.
- Be cautious during the rainy season, as many snakebites occur during ploughing, planting, and harvesting.
- If you see a snake, do nothing; let it go. Do not try to pick it up or kill it. Snakes prefer not to confront large animals such as humans so give them the chance to slither away.

Community education – an important role of a snake rescuer

A rescuer in action captivates onlookers with his or her skills and technique. As a result, they are in a powerful position that can be used to instil positive feelings toward snakes. The rescuer hence should be well-informed before taking on the role of conservationist. A few points that can be used as part of rescue education:

- Biology of the snake with emphasis on harmlessness in case of non-venomous snakes.
- Importance in nature and direct relevance to us humans giving the example of rodents' impact
  on agricultural produce.
- Tips on how to minimise snake encounters.
- Tips on snakebite management and precautionary measures.
- Clarifying common myths.
- Issues regarding translocation.

Snake rescuers should also take on additional responsibilities as educators, expanding their efforts to include schools, housing colonies, societies, office buildings, and so on. Every six months, at least one major educational programme should be organised. These programmes should be designed to educate as well as sensitise people. The only way forward is for the masses to be educated.

Acknowledgements

I would like to thank The Gerry Martin Project (Hunsur, Karnataka) and Voluntary Nature Conservancy (Vallabh Vidyanagar, Gujarat) for their support and assistance in organising various hands-on workshops and sharing valuable experiences during the first draft of this document. I thank the Government of Gujarat's Department of Health and Family Welfare for forming a State Level Task Force on Snakebite Management and publishing the state's first Standard Treatment Guidelines and Preventive Measures for Snakebites.

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JOSHA
Journal of Science, Humanities and Arts
February 2023 Volume 10, Issue 1

About the Author

Soham Mukherjee is a herpetologist and wildlife biologist who specialises in crocodiles and venomous snakes. He has worked as a full-time wildlife rehabilitator with a wide range of taxa, including reptiles, mammals, birds, and arachnids. He has worked on endangered species conservation management projects both in-situ and ex-situ. He is particularly interested in conservation breeding, behaviour and cognition, enrichment in captivity, and human-wildlife interactions. He has extensive experience in snakebite and human-crocodile conflict mitigation, and is a member of the IUCN-SSC Crocodile Specialist Group, Viper Specialist Group, and Snake Specialist Group. He currently works as a specialist consultant for zoos and conservation centres.