

**UNDERSTANDING  
THE  
MISUNDERSTOOD  
(SNAKE BITE)**




## FOREWORD



Each year many people are affected by snake bites around the world resulting in deaths or permanent disabilities of people. In Odisha, snake bite being one among the State specific disasters accounts for more deaths surpassing casualties due to cyclone, floods, etc.

Snakebite particularly affects the poorest members of the society mainly the agricultural workers (including working children aged 10–14 years). People living in poorly constructed homes face the highest risk and often have limited access to education and health care. The myths associated with snake bite prevailing in rural areas are one of the major reasons for the increase in deaths and disabilities due to snake bite. Possessing knowledge about basic first-aid measures and how to respond in snake bite situations can bring a significant difference. Utkal University being one of the pioneer educational University, has taken a small initiative to educate the students on snake bite through this illustrative book. I am grateful to the team of Snake Helpline for their support and guidance in developing this book.

I hope through this book, we will be able to educate the targeted readers.

  
**Prof. Sabita Acharya,**  
**Vice Chancellor,**  
**Utkal University**

## **FOREWORD**



**Snakes are the most misunderstood animals in the world. In India the snakes are associated with myths & mythology. However, due to the blind beliefs & wrong practices prevailing in Indian society, snakebite does take a ride in the country. Because of this, India tops the list in the entire world in the snakebite death per year.**

**This booklet is a good initiative by Utkal University to make pupils aware about snake bite.**

**I believe this booklet will help the targeted readers in up to a great extent. However, such a booklet in Odia will help more for the cause especially in the rural areas of the state.**

A handwritten signature in black ink, appearing to read 'Subhendu Mallik', written on a white rectangular background.

**Subhendu Mallik**

**General Secretary, Snake Helpline  
Honorary Wildlife Warden, Khordha**

**Dt. 15.11.2021**

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Published by: RUSA, Utkal University

Front cover image by: wallpapercave.com

Printed by:

**This book would not have been successful without the help of:**

1. <https://disk.yandex.ru/a/vXKOxRNs3WiYnn/5b0f0fe588920a293a264180>
2. <https://www.pincliptart.com/maxpin/iRmRmwR/>
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5. <https://www.toonytool.com/>
6. <https://www.clipartmax.com/>
7. <https://lovepik.com/>
8. [www.snakehelpline.com](http://www.snakehelpline.com)



Hi!


I am Aarti. I am a social worker. I love to interact with people and help them in their day-to-day life. These days there has been a rise in snake bite cases in our village. What about the place you live in? Do you find a rise in snake bite cases in the place you live in?

Snake bite is a matter of concern but the thing that is more alarming is the number of deaths due to snake bite. Whenever there is a snake bite incident, instead of taking the victim immediately to the hospital, people try several methods to cure the victim. By the time they feel the need of medical treatment, the victim would be already dead.

Today it was a fine morning until I went to the market and came across one such incidence of snake bite. I wish I could have got to know about it earlier so that things would have been different.

Come let us see how the incidence took place.





Dear Students  
have you ever  
encountered a  
SNAKE?

Ma'am today  
morning I  
found a huge  
snake in our  
farm land...

Yes Ma'am. In  
fact, my sister  
was bitten by a  
snake...

Ma'am I have  
seen a tiny  
snake. It was  
hiding in our  
kitchen.







## SOME FACTS ABOUT SNAKE BITE

Snake bite envenoming is a potentially life-threatening disease that typically results from the injection of a mixture of different toxins ("venom") following the bite of a venomous snake.

As per the reports of WHO, about 5.4 million snake bites occur each year worldwide, of this, 1.8-2.7 million develop clinical illness and 81 000 to 138 000 die from complications.

International Snake bite Awareness Day is observed on 19th September to emphasize on awareness and actions needed to tackle the burden of snake bite.

According to Union Ministry of Health and Family Welfare, West Bengal has the highest number of snake bite deaths in the country in the year 2018.

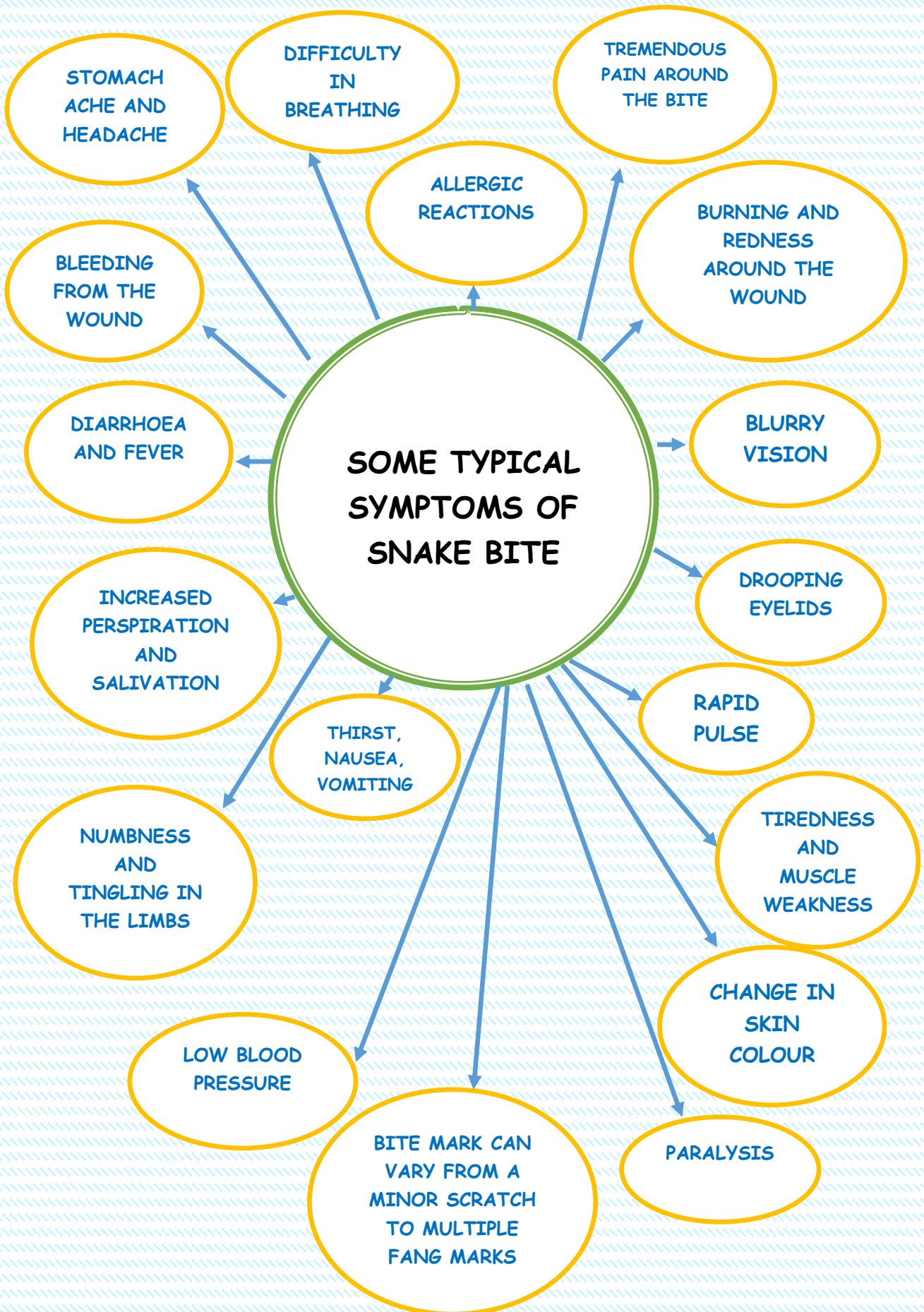
In India, around 90% of snake bites are caused by the 'BIG 4' among the crawlers - Common krait, Indian cobra, Russell's viper, Saw scaled viper.

According to statistics of Odisha government between 2016 and 2019 snake bite deaths alone accounted for 2,217 lives surpassing casualties due to cyclones, floods, lightning, fire accidents and boat tragedies.

In Odisha maximum number of deaths due to snake bite is found in Mayurbhanj district.

- Sources: 1. <https://www.who.int/news-room/fact-sheets/detail/snakebite-envenoming>  
2. <https://www.who.int/india/health-topics/snakebite>  
3. <https://www.hindustantimes.com/india-news/snake-bites-kill-more-people-than-cyclones-in-odisha-experts-tell-you-why/story-TgzA7HfdKmhhlVGAZbjqfJ.html>  
4. <https://www.newindianexpress.com/states/odisha/2019/aug/18/hiss-of-death-odisha-faces-new-disaster-2020409.html>  
5. <https://timesofindia.indiatimes.com/city/amaravati/snakebite-deaths-2nd-highest-in-ap/articleshow/72312979.cms>  
6. <https://www.georgeinstitute.org.in/events/seminar-on-international-snakebite-awareness-day-need-for-transdisciplinary-systems-thinking>





Sources: 1. <https://www.apollohospitals.com/patient-care/health-and-lifestyle/diseases-and-conditions/snake-bites/>

2. <https://snakehelpline.com/snake-bite/symptoms/>



## HOW TO PREVENT SNAKE BITE?



1. Keep your surroundings clean. Do not let the trees and branches touch your walls and windows.
2. Keep your home free from rats, frogs, etc.
3. Stay alert while working in crop field and farms.
4. While going outside during night do not forget to carry torch-light and a stick.
5. Avoid places where snakes may live. These places include tall grass or bush, rocky areas, fallen logs, swamps, marshes and deep holes in the ground.
6. Watch where you step and where you sit when outdoors.
7. Do not sleep on the floor. Sleep on beds or cots.
8. Do not ever attempt to catch a snake.
9. Use nets in windows and poultry farms.

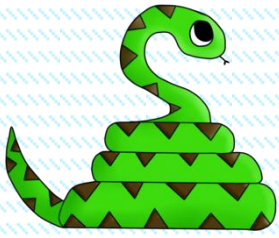
*Source: OSDMA Safety Manual*

**did  
YOU?  
know**

SNAKEBITE IS ONE AMONG THE EIGHT STATE SPECIFIC DISASTERS DECLARED BY GOVERNMENT OF ODISHA.

EX-GRATIA ASSISTANCE OF INR 400,000/- PER DECEASED TO NEXT KINS OF THE VICTIMS IS PROVIDED BY STATE DISASTER RESPONSE FUND (SDRF).





## DO's AND DON'Ts IN A SNAKE BITE CASE

### DO's

### DON'Ts

Give consolation to the victim.

Do not panic.

Remove all the ornaments and other constricting materials present on the bitten limb

Do not allow victim to run or any work.

Use a broad crepe/elastic bandage/long cloth to wrap lightly towards the upper proximity of the wound.

The use of tight tourniquets made of rope, belt, string, electric wire or cloth have been traditionally used to stop venom flow into the body following snakebite. They actually do MORE harm and NO goods.

Get to the nearest hospital where the snakebite treatment is available.

Do not apply any herbs to the wound.

DO IT

**R**



Reassure the patient. Remove the ornaments and other constricting materials present on the bitten limb.

**I**



Immobilize the bitten limb by lightly wrapping with bandage or cloth.

**G**



**Get to Hospital Immediately.** Traditional remedies have **NO PROVEN** benefit in treating snakebite.

**H**

**T**



Tell the doctor of any systemic symptoms that manifest on the way to hospital.



### People Gathered At Meena's House...







## HOW TO TREAT A SNAKE BITE???

### VENOMOUS SNAKE BITE

**CALL EMERGENCY SERVICES.**

Take note of the snake's appearance.

Move away from the snake.

Immobilize and support the area of the bite.

Remove clothing, jewellery, or constricting items.

Clean the wound as best as you can, but don't flush it with water.

Wait for, or go for, medical help.

There are a lot of myths about how to care for a snake bite, avoid these.

Understand the medical care you should receive.

Follow recommendations for continued care of the bite.

### NON- VENOMOUS SNAKE BITE

Stop the bleeding.

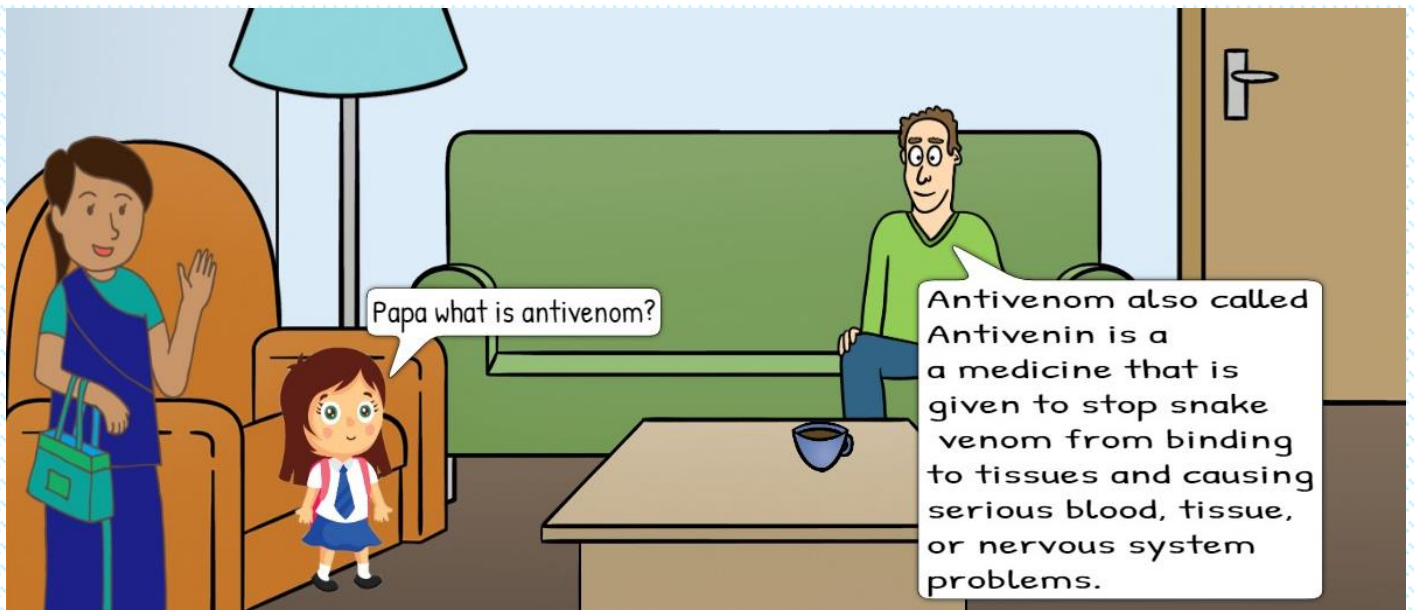
Clean the wound carefully.

Treat the wound with an antibiotic ointment and a bandage.

Seek medical attention.

Pay attention to the wound as it heals.

Drink plenty of fluids as you heal.



# DID YOU KNOW???



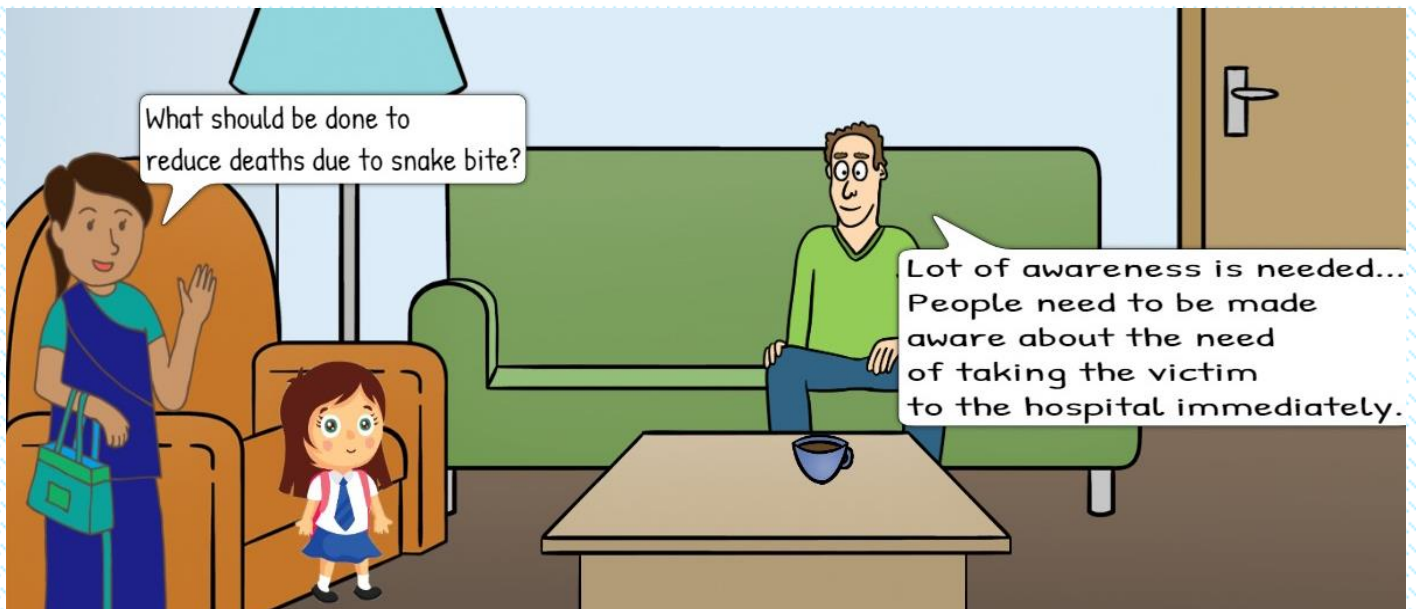
- WHO added snake bite envenoming to its priority list of neglected tropical diseases (NTDs) in June 2017.
- The majority of snake bite envenoming cases occur in tropical and sub-tropical regions of the developing world.
- As many as 46 000 snake bite deaths happen in India alone; sub-Saharan Africa, tropical Asia, New Guinea, and Central and South America are also snakebite hot spots.
- Snake bite affects particularly the farmers and poor men and women (including children aged 10-14 years) in villages.

Sources: 1. <https://www.hindustantimes.com/india-news/1-716-people-died-due-to-snake-bites-in-three-years-in-odisha/story-Fxg7RbALwkZVUcFW2edQII.html>

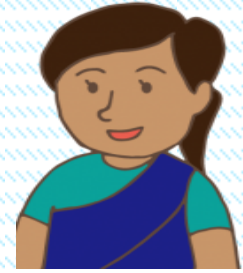
2. <https://www.who.int/news-room/questions-and-answers/item/snakebite->

## EMERGENCY NUMBERS

1. FOR MEDICAL HELP AFTER SNAKE BITE CALL- 108
2. FOR RESCUE- 09337295142



# MYTHS ABOUT SNAKE BITE



MYTHS	FACTS
Sucking the venom out of the wound / snake kits.	<ul style="list-style-type: none"><li>• Sucking the venom out can cause the venom to spread to the mouth.</li><li>• Extractor pumps found in snake kits won't do any better.</li></ul>
Use a tourniquet to keep the venom in an extremity	<ul style="list-style-type: none"><li>• Using a tourniquet can actually do more harm than good.</li><li>• confining the venom to an extremity where the bite occurred actually causes more damage to that area.</li></ul>
Shock it - with ice or electricity	Snakebites may cause swelling, that doesn't mean ice will deactivate the venom.
You must identify the snake that bit you	Getting a photo of the snake may be helpful if it is safe to do so rather than tracking the snake.

Source: <https://btgsp.com/en-us/insights/five-common-snakebite-myths,-debunked>



## DID YOU KNOW???

- Venom from rattlesnakes contains a chemical called crotoxin which is used for treating Cancer disease.
- The venom of the Brazilian pitviper contains a protein that is useful in reducing blood pressure, kidney disease, stroke and diabetes.

Source: [popsci.com/10-crazy-uses-animal-venom/](http://popsci.com/10-crazy-uses-animal-venom/)



# MYTHS ABOUT SNAKE

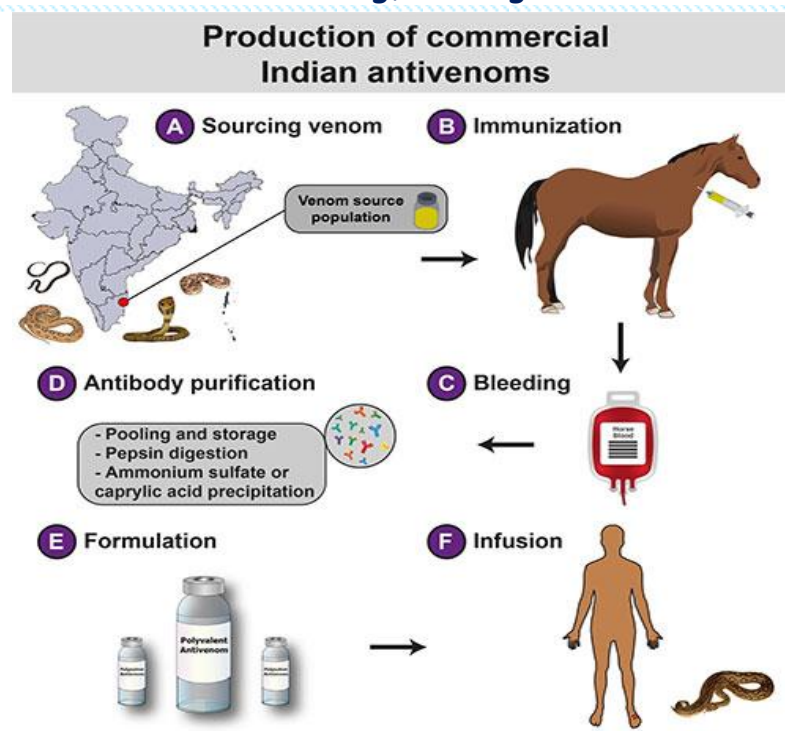


MYTHS	FACTS
Snakes can avenge their partner's death	<ul style="list-style-type: none"><li>• Snakes do not have any sort of social bond, or the intellect or memory to recognise and remember an assailant.</li><li>• When a snake is killed, it expels its musk. It is very much possible that a nearby snake may show up to investigate what the musk is all about.</li></ul>
Snakes drink milk.	<ul style="list-style-type: none"><li>• Snakes never developed what it takes to digest milk-enzyme, lactase.</li><li>• A snake would ever drink milk only because it's thirsty, and actually wants water, but water isn't available.</li></ul>
Snakes are poisonous	<ul style="list-style-type: none"><li>• Snakes are venomous, not poisonous.</li><li>• Poison can be inorganic such as compounds of Mercury, Arsenic, etc.</li><li>• Venom from snake, scorpion etc. are purely organic.</li><li>• Venom must be injected into the bloodstream; whereas poisons can be ingested, inhaled or absorbed through the skin.</li></ul>
Snakes dance to the snake charmers' tunes	Snakes lack true ears and cannot hear high frequency sounds. They often replicate the movement of their prey or whatever is threatening them to be in the attacking range.
Pythons kill their prey by breaking their bones.	Breaking the bones will not kill the prey instantly. Pythons actually do asphyxiation or <i>cut off the blood supply</i> by coiling around the prey.



## LET'S LEARN ABOUT ANTIVENOM

- Antivenom is a medicine that is given to stop snake venom from binding to tissues and causing serious blood, tissue, or nervous system problems.
- The Antivenom used in India is a polyvalent derived from the venom of the four snake species(Big 4) responsible for most bites in the country. It is ineffective in neutralising the venom of less known but medically important species such as kraits, etc.
- Antivenom is used for envenomations.
- Dry bites (no venom injected) do not need to be treated with antivenom.
- Mild envenomation bites may cause mild symptoms, such as slight bleeding, pain, and swelling at the bite.
- Moderate envenomations are more likely to cause symptoms of severe pain, swelling of the whole limb, and general feelings of illness, such as nausea, vomiting, and weakness.
- Severe envenomation symptoms include severe pain, severe swelling, difficulty breathing, moderate to severe bleeding, and signs of shock.



Source:1. <https://www.uofmhealth.org/health-library/tm6541>

2. <https://www.indianpediatrics.net/mar2021/mar-219-223.htm>

3. <https://theprint.in/science/snake-antivenom-in-india-ineffective-in-treating-bites-from-most-species-study-finds/331923/#:~:text=The%20antivenom%20in%20use%20in,as%20kraits%2C%20the%20study%20said.>

finds/331923/#:~:text=The%20antivenom%20in%20use%20in,as%20kraits%2C%20the%20study%20said.

# INTERESTING FACTS ABOUT SNAKES



Snakes are ECTOTHERMS. They rely on external sources (like the sun) to give them energy.

Snakes smell with their tongue.

Snakes enter a state of reduced metabolism called BRUMATION during cooler weather conditions.

Snakes are NOT aggressive rather shy secretive creatures.

Snakes are mostly deaf to airborne sounds as they have no external ears.

Snakes do not have eye lids, they have an eye spectacle which protects their eyes.

Source: 1. <https://www.discoverdeadly.com.au/interesting-snake-facts>

2. <https://www.worldanimalprotection.org.au/news/7-cool-facts-about-snakes>



# COMMONLY FOUND SNAKES IN ODISHA

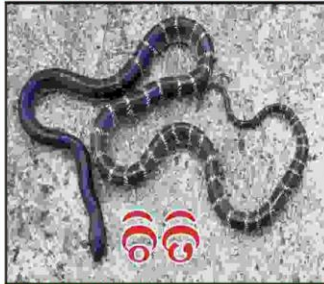
ଓଡ଼ିଶାରେ ଦେଖାଯାଉଥିବା କିଛି ସ୍ରାପ

COMMON SNAKES OF ODISHA

## ବିଷଧର ସ୍ରାପ / VENOMOUS SNAKES



COMMON COBRA (*Naja naja*)



COMMON KRAIT (*Bungarus caeruleus*)



RUSSELL'S VIPER (*Daboia russelii*)



SAW SCALED VIPER (*Echis carinatus*)



MONOCLED COBRA (*Naja kaouthia*)



BANDED KRAIT (*Bungarus fasciatus*)



KING COBRA (*Ophiophagus hannah*)



BAMBOO PIT VIPER (*Trimeresurus gramineus*)

## ବିଷହୀନ ସ୍ରାପ NON-VENOMOUS SNAKES



COMMON KUKRI (*Oligodon arnensis*)



COMMON SAND BOA (*Euprepophis conicus*)



BARRED WOLF SNAKE (*Lycodon striatus*)



RAT SNAKE (*Ptyas mucosus*)



COMMON WOLF SNAKE (*Lycodon aulicus*)



STRIPED KEELBACK (*Amphiesma stolatum*)



GREEN KEEL BACK (*Macropisthodon plumbicolor*)



CHECKED KEELBACK (*Xenochrophis piscator*)



INDIAN PYTHON (*Python molurus*)



COPPER-HEADED TRINKET (*Crotaphytus reticulatus*)



BRONZE BACK TREE SNAKE (*Dendrelaphis trisris*)



TRINKET SNAKE (*Crotaphytus helena*)

ଅଳ୍ପ ବିଷଧର  
(ମଣିଷ ପାଇଁ କ୍ଷତିକାରକ ନୁହେଁ)  
MILDLY VENOMOUS  
(NOT HARMFUL FOR HUMAN)

ORNATE FLYING SNAKE (*Chrysopelea ornata*)

COMMON CAT SNAKE (*Boiga trigonata*)

COMMON VINE SNAKE (*Ahaetulla nasuta*)

SMOOTH SCALED WATER SNAKE (*Emydoidea corymbosa*)

ALL THE SEA SNAKES  
ARE HIGHLY VENOMOUS.  
ସମସ୍ତ ସାମୁଦ୍ରିକ ସ୍ରାପ ଅତ୍ୟନ୍ତ ବିଷଧର ।

Source: [www.snakehelpline.com](http://www.snakehelpline.com)