



First thing first

First, we have to identify a bite mark – whether it is by a venomous or non-venomous snake. If we can diagnose the cause of the bite, we can save time, money, and precious life.

Juktibadi Sanskritik Sanstha, Canning is working since 1986 with the slogan that “**No More Death Due to Snakebites**”. For this, we are organising seminars, workshops, awareness programmes, surveys; publishing books, pamphlets, videos, etc.

Over and above, we are coordinating among snakebite victims and their family members by helping the doctors with acute, meticulous observation in the process of this medical emergency, especially at **Canning S. D. Hospital**. In 2010, we have also started a 24-hour ‘Help Line’ for snakebite cases to help the victims with important scientific guidelines. In this regard, Mr. Bijan Bhattacharya, the founder of this organisation, with his vast experience observing many victims over the years developed these eight steps on how to differentiate snakebites from bites of other animals. If we apply these steps for any unknown bite we can save many precious lives and unnecessary trouble for their family members.

Below we have displayed the bites of different animals that are not lethal or venomous and on the right side, you will find the ‘eight steps’ to accurately delineate the nature of the bites – venomous or non-venomous.

Bites of other animals (not lethal)

Other animals

On the bed at night

Centipede

Spider

Rat

Large ant

Two major bite marks with intense pain and burning sensation, person wakes at night, there is slight oedema. Generally, the bite can be at any place of the body.

Two light bite marks side by side, little pain; bite occurs on the hand and facial region.

Two bite marks but the superficial skin gets a scratch mark, blood with serous fluid secreted. Generally the bite occurs on fingers and toes.

Large ants Two scratch marks; slightly reddish, occurs anywhere on the body.

Scorpion

Prawn-insect

Leech

Hornet

Thorn or spike

Two bite marks with intense pain and burning sensation and swelling of the part of the body. Generally, a bite occurs on the feet.

Two approximate faint bite marks; pain and swelling. Generally, a bite occurs on hand.

A round shaped mark over the skin with oozing of blood. Generally, it occurs on the feet.

Two bite marks with pain and swelling. Generally, occur near the upper side of the body.

Skin scratches, bleeding occurs with burning sensation. Generally, occur on the hands and feet.

Bites and its Prevention

In any bite, the right steps by the care provider is the best possible way to keep the victim safe from any physical, mental, and economical disaster.

Primary Care

- No extra suggestion to the victim, only reassurance.
- In any movement of the body the toxin will spread all over the body so strict immobilisation needed.
- Washing the bitten part with soap and water.
- Do not tie the part with greater force.
- Keep away the victim from any village snake specialist.
- As early as possible transport the patient to the hospital and inform the doctor of the whole incidence of the bite along with changes in the body after the suspected bite. Only in this way the victim avoids unnecessary expenses and trouble and can return home full of joy.

Treatment at the Hospital

Venomous snakebite

Neurotoxic (Acts on nervous the system)

Haemotoxic (Acts on the blood)

Common krait

Spectacled cobra

Monocled cobra

Russell's viper

AVS

AVS with Atropine Neostigmine

- If we can give right doses of AVS at the right time, we can avoid respiratory failure in neurotoxic cases and kidney failure in haemotoxic cases.
- In case of any allergy, we have to give a dose of Adrenalin (1:1000) 0.25 ml subcutaneously.
- When the allergy subsides, we can again start AVS.

Snakebites and bites of other animals in West Bengal (Quick Identification)

Juktibadi Sanskritik Sanstha, Canning, South 24 Parganas, West Bengal, India

In Snakebite cases, most of the time it is very difficult to ascertain whether the bite is due to a venomous snake or a non-venomous snake. So, we have to be sure about the nature of the bites and for this, we formulated eight steps.

In venomous snakebites either it would be neurotoxic or haemotoxic. Moreover, we have to know whether the bite is successful with a lethal dose, and the present condition of the victim as he/she is critically ill or has been bitten by other animals. To ascertain these questions, we formulated the following eight steps. In our State we have **four venomous snakes** *Bungarus caeruleus* (Common krait), *Naja kaouthia* (Monocled cobra), *Naja naja* (Spectacled cobra), *Daboia russelii* (Russell's viper), and **three non-venomous snakes**. We face bites of these common snakes in our community. We have displayed the problems here in question and answer form to make a quick decision from the nature of the bite and treatment.

Eight Steps

1

Time of bite

2

Bite sites

3

Bite marks (within 1 minute)

4

Signs/ Symptoms (within 1 hour)

(after 3 hours)

(after 6 hours)

5

Possible snakes

6

Distribution of venomous snakes

7

Time of observation

8

Identify the bites

Snakebites

Venomous

Common krait (*Bungarus caeruleus*)

from 10 PM to 3 AM

Monocled cobra (*Naja kaouthia*)

dawn and twilight from 4 PM to 8 AM

Spectacled cobra (*Naja naja*)

dawn and twilight from 4 PM to 8 AM

Russell's viper (*Daboia russelii*)

dawn to 1 PM and dusk to 1 AM

Non-Venomous

Rat Snake

(Diurnal) during day time

Wolf Snake

(Nocturnal) during night time

Checkered keelback

(Diurnal) day time & early evening

1. 99% at nighttime bed; others 1%, except in North Bengal it occurs in the daytime in 50% of cases.

2. One or two pinpoint marks.

3. The points may turn to blackish colour.

3. No usual intense pain.

1. 65% at marshy lands; field roads 35%; stable and poultry areas 35%.

1. One or two pinpoint marks.

2. The points may turn to blackish colour.

3. Intense pain from the bite site.

1. One or two pinpoint marks.

2. The points may turn to blackish colour.

3. Intense pain from the bite site.

1. Same as kaouthia.

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1. As there is no pain or burning sensation the victim easily goes to sleep.

2. If the victim is awake then she gets some irritating feelings from the bitemark and a slight pain sensation.

1. Intense pain in the abdomen.

2. Nausea or vomiting, tenesmus.

3. Pain all over the body.

4. intense sore throat.

1. Pain and burning sensation increased.

2. Oozing of reddish serous fluid.

3. Pain abdomen. nausea or vomiting

4. Swelling of the part.

1. Blackish colour of the whole bite area.

2. Difficulty talking.

3. Salivation.

4. Drowsiness.

1. Same as kaouthia.

1. Pain all over the body.

2. Reddish eye

3. Bleeding inside the skin

4. Vomiting, diarrhoea, haematuria but no haematuria in cases of neurotoxic bite.

1. Salivation.

2. Nasal intonation.

3. Drooping of the upper eyelid (ptosis) remains even after 48 hours of treatment.

4. At the last stage severe respiratory distress and the heart stops functioning.

1. Nasal intonation

2. Blisters or ulcers at the site of the bite.

3. Paralytic feeling in the downward area.

4. Severe ptosis and dropping of the head-neck-lower lip.

5. Severe respiratory distress & ultimately the heart stops.

1. Same as kaouthia.

1. Huge swelling of the whole body.

2. Gangrene started at the bite area.

3. Immobilisation of the tongue and the vocal chord.

4. Difficulty starting kidney functioning.

Common krait (*Bungarus caeruleus*)

Venomous.
No hood.
3' to 4' long.
Small head. Shiny black and gray stripes.
Venom: Neurotoxin.
Local names: *Shiorchanda, Domachiti, chiti, ghamchata*.

Monocled cobra (*Naja kaouthia*)

Venomous.
Hooded. O- shaded mark on the back.
5' to 6' long. Venom: Neurotoxin
Local names: *Al Keute, Padma Keute, Shamuk Bhangra*

Spectacled cobra (*Naja naja*)

Venomous.
Hooded. U- shaded mark on the back.
4' to 5' long. Venom: Neurotoxin.
Local names: *Raj Saap, Dudhe Keute, Kharish, Gomo*

Russell's viper (*Daboia russelii*)

Venomous. No hood.
2' to 3' long. The head is flat and triangular.
The burly body is marked with round-shaped signs.
Venom: Haemotoxin.
Local names: *Dhusho Bora, Pradeepe Bora, Bora*

Rat snake (*Ptyas mucosa*)

Non-venomous.
5' to 6' long.
Large-eyed and pointed mouth.
Checked body.
Local names: *Dhamna, Bastu Saap*

Wolf snake (*Licodon aulicus*)

Non-venomous.
Brown coloured.
1' to 2' long.
Thin body.
Broad stripes.
Local names: *Khoi Kalach, Chiti*

Checkered keelback (*Xenochrophis piscator*)

Non-venomous.
2' to 3' long.
Yellow on black diamond-shaped marks.
Gets easily agitated.
Local names: *Pani Bora, Holde Bora, Dhnora*

South 24 Parganas

Sunderbans Area (13 blocks)

Common krait

Monocled cobra

Rest of the areas (16 blocks)

Common krait

Monocled cobra

Russell's viper

There is a huge number of Monocled cobras (about 90%) and 10% of Common krait in North Bengal and the rest of the venomous snakes are seen in South Bengal. Two types of Common krait are seen in North Bengal. Some of them are black and have no white markings. Others have white markings on the body. Common kraits may bite during the daytime or in the evening in the gardens and bushes.

The bites and Observation – Most of the time the critical observation is done around 2-3 hours after evenenomation. By that time, the initial physical signs/symptoms or disturbances may subside (except in the case of Common kraits) due to the intense development of the signs/symptoms after 2-3 hours. So how much time has elapsed at the time of observation is crucial. If the victim is already suffering from malnutrition or taking drugs for other illnesses then all the signs/symptoms may change or complicate the whole situation. So, it is essential to observe the patient for at least 24 hours for any other unusual outcomes.

You need to ask the person(s) accompanying the victim where and when the bite happened. Following **Steps nos. 1 and 2** above, you can pretty much narrow down the possible snakes which could have been responsible for the bite.

In **Step no. 3**, the bite mark, place of bite, oozing, and the time of the bite can help to ascertain the nature of the snake – neurotoxic or haemotoxic.

From **Step no. 5** we can exactly identify the snake, especially from the description of the snake by the victim. Following the other steps, by observing the physical condition of the victim, you can ascertain the amount of AVS or other medicines and how much intensive care is needed.

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References

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