

SECTION 4 – RATTLESNAKE SAFETY

Whether you're camping in the beautiful eastern Georgian Bay area, enjoying the scenery of the Bruce Peninsula, exploring the Wainfleet bog, or learning about the Ojibway Prairie region in Windsor, you are in massasauga country. Your chances of seeing a rattlesnake are remote, since they are relatively shy and will often hide from view to avoid being detected. A rattlesnake's first response is to lie motionless, relying on its cryptic pattern to prevent detection. When the snake does not feel threatened, it will let the danger pass without revealing its location. Depending on the situation and on the snake, a rattlesnake may warn you of its presence by rattling its tail. If given room and time, the snake will move away into nearby cover.

PEOPLE AND RATTLESNAKES

By being aware of your surroundings, and following certain safety precautions, you can enjoy the beauty of Ontario's out-of-doors, while safely sharing habitat with the eastern massasauga rattlesnake.

SNAKE SAFETY TIPS

1. Learn to identify Ontario snakes, and to distinguish the eastern massasauga rattlesnake from other snakes that resemble it. Children can also be taught to identify the massasauga;
2. Wear protective footwear (such as hiking boots that cover the ankles) and long, loose fitting pants, especially when hiking in open rocky areas or places where vision may be obscured, such as in long grass or at night;
3. **DO NOT** pick up snakes or other wild animals. This act is the most common cause of bites;
4. Do not harass, chase or threaten a snake. This act is the second most common cause of bites. Most importantly, never kill a massasauga rattlesnake, which is unnecessary, dangerous, and illegal due to its protected status;
5. Always watch where you are putting your feet and hands. Poke around with a stick before reaching into brush, under rocks, or into dark places where snakes may be hiding;
6. If you hear a rattlesnake, **STAY CALM!** Stop walking, and then determine the snake's location. Slowly move away from the snake and give it room to also move away;
7. Keep pets on leashes; curious pets at large are more often the victims of snakebites than people;
8. If you come across a snake, the best advice is to enjoy the unique encounter but observe it from a safe distance and try not to disturb the snake.



Massasauga relying on its cryptic colouration to remain hidden in the leaves.

PEOPLE AND SNAKEBITE

Snakebites can be avoided by following basic safety precautions. However, snakebites can and do occur. Snakebites are primarily the result of careless human behaviour, resulting from people handling or provoking snakes.

Due to its small size, and limited striking distance, the massasauga cannot strike very high above the ground unless in an elevated position on a log or boulder. The most common strikes tend to occur on the foot or at the boot top level when a person steps over or on a snake. To avoid a snakebite, wear appropriate footwear, especially at night when vision is poor. Bites may also occur to the hands, as a result of reaching into an area where one's vision is obscured.

A proportionally high percentage of reported snakebite cases can be associated with alcohol consumption and attempts to capture, handle, or harass rattlesnakes. Data is unavailable on the amount of illegal snake collecting occurring in Canada. In the U.S., however, experts have determined that 50% of snakebites are associated with illegal collecting.¹

Massasauga bites with envenomation (a bite with venom injected) are relatively rare when proper precautions are being taken, such as the avoidance of risky activities.

ABOUT RATTLESNAKE VENOM:

Rattlesnakes use their venom to aid in capturing their prey. The venom is a specialized digestive enzyme, which disrupts blood flow and prevents blood clotting. It is injected through the snake's retractable hollow fangs. Although people can become ill if envenomated, the purpose of the venom is to kill small prey – not humans.

It is noteworthy that venom is not always injected when a rattlesnake bites. An estimated 25% of snakebites do not result in envenomation, and therefore no anti-venom is required.² If the strike or bite is defensive in nature, and the snake does not intend to eat the victim, the snake may not even inject venom into the bite victim. Most individuals who are bitten are discharged from the hospital within three days, and show no permanent ill effects. Bites from massasaugas are both uncommon and rarely life threatening in humans;³ a full recovery is the common outcome.⁴

TAKE NOTE:

- There have only been two fatalities in Ontario linked to snakebite, and in both cases, the victims did not receive appropriate or timely medical treatment. In Ontario, there have been no snake-bite fatalities in almost 40 years.
- Keep the danger of a snakebite in perspective. Every year, people die from bee stings, encounters with bears, or from driving into deer on roadways. No one dies from a snakebite;

¹ Dubinsky, 1.1996. Canadian Family Physician 42 (11) 2207-2211.

² (Kurecki BA. 1987. 25 (4):386-392.)

³ (Prior and Weatherhead, 1992)

⁴ (Greene and Campbell, 1992)

- Although venomous snakebites are a serious medical emergency, the media, folklore, and superstition have exaggerated the potentially negative outcome of snakebites;
- Males aged 10-29 years are most commonly bit by rattlesnakes (46%). In most cases, bites occur in the wake of risky and/or dangerous human behaviour.⁵

FIRST AID FOR HUMANS

WHAT TO DO IF YOU ARE BITTEN

Snakebites are a medical emergency and should be taken seriously. Within 15 minutes, most bites are recognizable by the development of discolouration, swelling, and pain at the site of the bite. Hospitals and doctors now receive specialized training in snakebite treatment and have quick access to a network of snakebite experts. With appropriate hospital treatment, no one has died from rattlesnake bites in Ontario.

IF A SNAKEBITE OCCURS THE MOST IMPORTANT ACTIONS ARE:

- Do not panic. Remain calm. Reassure the bitten person. Remember that the person may have been bitten, but NOT envenomated. The calmer the person is, the better he/she can assist the hospital in ensuring a full recovery.
- A calm person can assist doctors by answering questions about the incident and the snake in question – important information doctors will use to assess your condition and appropriate treatments.
- Staying calm is essential! The spread of venom, development of shock, and other medical reactions will be slower if the person stays calm.

Call emergency services to request transportation to the hospital. Remember, there is time. Although a medical emergency, a doctor may opt for one or two hours of observation before deciding on treatment. Do not endanger yourself, the person who was bitten, or others by the reckless operation of a vehicle or boat in order to get to a medical facility or transfer point. To secure transportation to a hospital, one should call an ambulance or an emergency service.

FOLLOW-UP ACTIVITIES

1. If possible, carry the patient or assist them in reducing activity. Ensure they are laying down while waiting for transportation. Remaining calm and inactive will slow the circulation of venom throughout the body.
2. Wash and cleanse the wound.
3. Remove any jewellery from the bitten limb in case of swelling.
4. Splint the limb to reduce movement.
5. DO NOT apply a tourniquet.
6. DO NOT apply ice; DO NOT cut the bite area and apply suction.

⁵ (Leber, 1998:257)

7. Identify the snake (if possible). Take note of the snake, its colouring, pattern, and size. You will be asked to describe the snake when you reach the medical facility. This will aid doctors in determining whether you were bitten by a rattlesnake, and whether you have been envenomated. Often snakes will not envenomate prey which is significantly larger than they are (such as humans), and you will not require anti-venom.
8. DO NOT try to catch the snake! (refer to section two for identification information).

ALWAYS BE PREPARED!

Have an emergency plan in place at all times. Whether hiking, camping, cottaging, living or working in rattlesnake areas, be prepared. Have the phone numbers of emergency services (hospitals, police, Coast Guard) handy, as well as relevant information about yourself (how to describe your location, emergency routes, meeting location/pick up or transfer point if you are not near roads, or if you have boat access). Also, keep Toronto Zoo's "Snakes of Ontario" identifier at hand.

HUMAN MEDICAL TREATMENT CENTRES

A person bitten by a massasauga rattlesnake requires medical treatment. Medical centres stock or have access to anti-venom and, when necessary, can administer the serum intravenously to patients. However, in many cases anti-venom is not required.

In Ontario, the Poison Control Centre at Sick Children's Hospital in Toronto and Children's Hospital of Eastern Ontario in Ottawa coordinate the treatment of venomous snakebites. Calls from emergency services, and/or doctors treating snakebite are taken at the poison control centre. From there, the centre may contact the Toronto Zoo and other experts to confirm the snake identification, as well as to ensure the treatment facility has anti-venom in stock, or is restocked immediately.

If bitten, and you are in an area where rattlesnakes are found, get to the nearest hospital or treatment centre via ambulance. If required, anti-venom will be transported to that centre.

Neither hospitals nor treatment centres provide anti-venom for animal treatment, nor to individuals prior to a bite incident e.g.: travel to a remote area.



The various snakebite kits available are mostly ineffective and, in the event of a rattlesnake bite, could possibly increase the risk of further injury. With the help of this guide, common sense and the resources in section 7, you will have enough information in the case of a massasauga bite.

FOR FURTHER INFORMATION CONTACT:

Ontario Regional Poison Information Centre Children's Hospital of Eastern Ontario

401 Smyth Road
Ottawa, ON K1H 8L1

Toll-free Ontario: 1-800-267-1373
Emergency inquiries: (613) 737-1100
General inquiries: (613) 737-2320
Fax: (613) 738-4862

Ontario Regional Poison Information Centre The Hospital for Sick Children

555 University Avenue
Toronto, ON M5G 1X8

Toll-free: 1-800-268-9017
Local: (416) 598-5900
Fax: (416) 813-7489

FIRST AID FOR PETS

Encounters with rattlesnakes are infrequent. Rattlesnakes are shy and so well camouflaged that passersby rarely notice them. Rattlesnakes often lie motionless when they sense danger and may rattle a warning when approached. When the snakes are given some space, conflicts are easily avoided. However, dogs often wander into areas not well traveled by people, and they tend to investigate unfamiliar sights and sounds. When some dogs discover a snake, they stand their ground at a safe distance and bark. Other breeds run in to challenge, grab, or kill the snake.

Bites occur to the legs, but more frequently to the face, since dogs use their nose to investigate their surroundings. If the dog is bitten on the head, the situation is serious due to the speed with which the venom can impair the dog's respiratory functions. Dr. Hilary Turnbull, of the Georgian Animal Hospital in Parry Sound, confirms that small dogs (especially terriers) are particularly at risk if bitten on the face, since the swelling can encompass a good part of their head.

FIRST AID FOR DOGS

What to do if you know or suspect your dog has been bitten:

- If your dog surprises a rattlesnake and is bitten, he/she may exhibit swelling, pain, or signs of discomfort. Watch for these signs;
- It is important to keep your pet calm and restrict his/her movement;
- If possible, splint the bitten extremity, and keep the limb below heart level. DO NOT let the dog walk;
- DO NOT apply tourniquets, ice or suction to the limb;



Dogs that have been bitten in the leg may show signs of the bite and swelling.

- Take your pet IMMEDIATELY to a veterinarian, by transporting the dog in a basket or by carrying it;
- DO NOT DELAY SEEKING TREATMENT, DUE TO TIME OF NIGHT, HOLIDAYS OR WEEKENDS. WITH IMMEDIATE TREATMENT, FEW DEATHS HAVE OCCURRED.

Take note that venomous snakes do not always inject venom when they strike, and a veterinarian must first determine whether the dog has been envenomated. Next, the veterinarian must establish the degree of envenomation. In mild cases, the veterinarian may only give the dog painkillers. In serious cases, fluid therapy may be required to restore blood pressure, and the doctor injects epinephrine or corticosteroids and antihistamines to treat allergic reaction and swelling. Nose and head bites are dangerous because swelling may cut off nasal or tracheal air passages.

Anti-venom is seldom administered to dogs except in very serious cases, mainly because there is a good chance of recovery without the administration of anti-venom. In addition, there is also a risk of allergic reaction to the anti-venom. The use of anti-venom is also limited by its prohibitive costs. Up to five vials may be required to treat most cases. If you are uncertain if a venomous snake has bitten your dog, observe for signs of severe asymmetrical swelling or pain which may occur immediately or may not be visible for up to two hours.

PREVENTION

Keep dogs and other pets on leashes at all times. Dogs love nosing around; rattlesnakes may feel threatened and may bite in self-defense. If you know an area where there are records of massasauga sightings, or where you have seen or heard massasaugas in the past, do not let the animal wander near such sites off leash. Remember that the quick recovery of your family pet from venomous snakebite depends on prompt veterinary treatment.

BECOME KNOWLEDGEABLE

Learn to identify local snakes in your area. This knowledge will increase your own awareness of snakes and may help you to correctly identify snakes involved in snakebites. The Toronto Zoo hosts workshops at the zoo twice a year, and other recovery team members can provide a workshop for your cottager association annual or special meetings (contact the Toronto Zoo – see contacts in Section 7).