



Mark Denno, Sacramento Chapter ENA member, attended ENA National Day on the Hill in Washington, D.C. in April with ENA members from all over the country. They met with lawmakers and attended

Message from the President

It's been another busy quarter for the Sacramento chapter of ENA!

We've had some great education events these last few months. Sutter hosted a lecture about 5150 rules and regulations that was quite enlightening. Kaiser Roseville hosted a great lecture with Dr. Goodwin about pediatric rashes. We brought Trauma Care After Resuscitation to the Sutter Conference Center for an awesome 2 day class.

Our President-Elect, Jeremy Elrod developed a new graduate workshop complete with interviewing tips and resume review. We are hopeful that new graduate nurses can find their first job and many of us are in a great position to lend our support.

For upcoming events, we've been working with the local AACN

chapter for months to develop an all day education symposium with top-notch speakers from our region. Registration includes breakfast, lunch, and a vendor hall. Special discount for ENA members and nursing students.

We are also very excited for Kaiser Vacaville hosting a trauma lecture with special guest, Matt Powers, National ENA President. See the last page of this newsletter for more details.

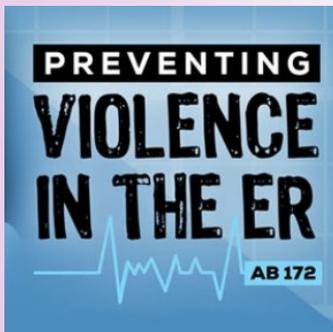
As we near the second half of the year, we need to think to the future and prepare for chapter elections. Are you interested in holding an office? It is a wonderful opportunity and there is mentoring offered if you are new to the chapter. The positions will be: President-Elect and Secretary/Treasurer. Feel free to contact me with any questions!

Jen Denno MSN, RN, CEN

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AB172 passes the Assembly!



AB 172 will increase fines and penalties for people who assault ED healthcare workers. The bill has passed the Assembly with unanimous support!

The next step is the California Senate. We will be testifying in front of the Public Safety Committee on July 7th. Next

the bill will go to Appropriations for another fiscal review. After that, the Senate will have a floor vote on the bill.

If all goes well, Governor Brown could sign the bill into law by October!

You can help-letters to Sena-

tors and the Governor are a very important part of the process. Find out how to send a letter on the Government Affairs webpage:

[Www.californiaena.org/government-affairs/](http://www.californiaena.org/government-affairs/)

This Bites: Assessing, Treating and Avoiding Rattlesnake Envenomation

By Erik Angle RN, MICN, KJ6YJD

Summer is here. The warmer months brings and children being out of school, bring many people to take part in outdoor activities like hiking and swimming in rivers and lakes. The warm weather also brings out other kinds of wildlife, such as rattlesnakes. Most California snakes are not poisonous. The bite of a nonpoisonous snake can cause pain, infection and potential allergic reaction, but it is rarely serious. The most common type of poisonous snake in our region of California is the Northern Pacific Rattlesnake (*Crotalus viridis oreganos*).

The Northern Pacific Rattlesnake (*Crotalus viridis oreganos*) is the most commonly treated Pit Viper bite by emergency personnel in Northern California. Other rattlesnakes which may be found in California would be the Western Diamondback Rattlesnake (*Crotalus atrox*), Sidewinder (*Crotalus cerastes*), Red Diamond Rattlesnake (*Crotalus ruber*), Southern Pacific Rattlesnake (*Crotalus viridis helleri*) and the Mojave Rattlesnake (*Crotalus scutulatus*).

Snake identification is important in treatment, however it is important that the snake NOT be transported to the Emergency Department for identification, alive or dead. If needed, use a digital camera or cell phone camera to obtain a picture. Characteristics of a Rattlesnake versus a non-venomous native California Gopher Snake are:

A Rattlesnake is a heavy bodied, blunt-tailed snake with dry and dull appearing scales with one or more rattles on the tail. It has a distinct triangular shaped head, much broader at the back than the front and a distinct neck region. Rattlesnakes are a type of Pit Viper. Pit Vipers are characterized by heat-sensing pits, called Loreal Pits, on either side of the head. The pits are located behind the nostril and in front of the eye, but below the line that runs between the centers of each. It is the external opening to an extremely sensitive infrared detecting organ, called the Jacobson's Organ, which helps the Pit Viper hunt and find prey. The eyes have elliptical (not round) shaped pupils. Additional identifying characteristics include single row of subcaudal plates and a series of dark and light bands near the tail, just before the rattles which are different from the markings on the rest of the body. Be aware that the rattles may not always be present, as they are often lost through breakage and are not always fully developed on the young snake.

The California Gopher Snake, when frightened, will often try to imitate a rattler by hissing and shaking its tail in dry grass or leaves. If in doubt, assume it is a rattler and take two steps back to get out of the strike range. A Gopher Snake, although non-poisonous, will strike like a rattler to fend off danger. The head is only slightly larger than the body, sleek looking with a slender, glossy body and a pointed tail. The Gopher Snake has round shaped eyes and does NOT have heat sensing pits on the head. Gopher snake bites can be easily discerned from rattler bites. The Gopher Snake has a complete set of small, sharp teeth on both upper and lower jaws that leave multiple needle-like puncture wounds that follow the shape of the upper and lower jaws, while the Rattlesnake has only two fangs on the upper jaw that leave two deep puncture marks. Gopher Snake bites can be painful and the wound, like any animal bite, should be cleansed, but this snake has no venom and thus is considered harmless to humans and livestock.

Snakes can be found in every state of the United States, except for Alaska and Hawaii. Of the roughly 3,000 known species of snake found worldwide, only 15% are considered dangerous to humans. In the United States, on average approximately 9,000 people are bitten by poisonous snakes each annually and seek treatment in Emergency Departments, but since 2010 only six people have died from venomous snake bites in the United States. The majority of snakebites occur between April and September, with the peak month being July. Of the victims that present to Emergency Departments:

Approximately 75% of all snakebites occur in people between the ages of 19 and 30 years.

Approximately 40% of all snakebites occur in people who are handling, abusing or playing with snakes.

Approximately 45% of all people bitten by snakes are intoxicated

65% of snakebites occur in the hands or fingers.

24% of snakebites occur on the foot or ankle.

Only 1%-2% of all snakebites occur in women.

Up to 25% of the bites are considered "Dry Bites". No antivenom required but still need to be observed for at least 8 hours as some types of venom, such as from the Mojave Rattlesnake, may have delayed symptom presentation.

Pit Viper venom is a cocktail of toxins. The venom can linger in tissue and affect the body in multiple ways. The composition varies with the species, age, and diet of the snake and with the time of year and geographic location. Each toxin may have several distinct actions on diverse body systems, and different toxins may work synergistically to increase toxicity. The venom's primary function though is not for defense, but to aid in the digestion of food for the snake. It is slowly and steadily breaking down the tissue in the victim bitten. Symptoms of envenomation may include:

Intense pain, edema and tissue destruction at bite site

Generalized Weakness

Muscle Fasciculation/Myokymia

Tachycardia

Hypotension

Oral parasthesia and unusual metallic taste, which may represent early signs of systemic toxicity

Vomiting and severe abdominal pain

Confusion

Bleeding disorders

Progressive Respiratory distress

If not treated, eventual organ failure and possible death

If a victim presents for treatment, it is important to keep them calm and control their pain. Rattlesnake venom is hemotoxic and consists of proteins, polypeptides and enzymes that cause tissue necrosis, hemolysis and destruction. Rapidly perform a patient assessment and obtain history, especially if have ever had Antivenom before or if have allergies to Papain or Papaya. Note the pattern of fang marks and swelling. Obtain a full set of vital signs and place the patient on the monitor and O2 upon arrival. Obtain I.V access in the patient, if not presented as such from EMS Personnel. Remove any clothing or jewelry near the bite due to the anticipation of swelling. Monitor the airway for possible edema due to allergic reaction to the venom and saliva. Wounds should be cleansed and tetanus shot administered if needed. If bitten on an extremity, keep this in a neutral position. Mark the edges of the swelling and bite site with indelible ink every 15 to 30 minutes. This demarcation should be timed and dated. Also consider measuring circumference of site as well. Confirm the patient has pulses distal to the bite. If the area is edematous and possible compartment syndrome is suspected, a pressure monitor may need to be used.

Time is tissue and the only "cure" for Rattlesnake envenomation is antivenom. Prepare the patient for antivenom, such as CroFab which is used in the majority of the Emergency Departments in the United States. Always follow the manufacturer's recommended guidelines for use. Any patient which receives antivenom would require close monitoring and ICU admission.

Direct consultation with a physician-expert is recommended in certain high-risk clinical situations:

Life-threatening envenomation

Envenomation of those of extremes of age

Shock

Serious active bleeding

Facial or airway swelling

Hard-to-control envenomation and /or Envenomation that requires high dose of antivenom for initial control

Allergic reactions to antivenom

If transfusion or fasciotomy is considered

Complicated wound issues

When the patient is **being discharged**, the instructions should include the following:

Return if the swelling worsens or pain becomes severe

Return if abnormal bleeding, bruising, petechiae, dark tarry stools or headache develops

Return for any signs of wound infection

Return or follow up if a fever, rash, joint pain or swollen lymph nodes develop

Do not take Non-Steroidal Anti-Inflammatory (NSAIDS), such as aspirin, ibuprofen or naproxen for two weeks after the snake bite.

Do not participate in contact sports, undergo elective surgery or have dental work for two weeks after the snake bite

Drink plenty of fluids. Return if urine output decreases or urine becomes dark brown or cola colored

Wound checks should occur every 3 days for two weeks with repeat lab work performed

If the rare case of serum sickness occurs, instruct the patient that steroids and antihistamines will be used to treat the symptoms

If a Rattlesnake bites you or someone you know, it is important to seek medical attention:

Stay calm, do not panic and use general first aid.

Remove constrictive clothing or jewelry due to potential swelling.

Keep the bite at the level of the heart.

Wash the wound with soap and water

Depending on the degree or grade of bite, you may or may not need to receive antivenom. However, all Rattlesnake bites are considered an emergency until medically ruled out.

DO NOT apply a tourniquet above the bite wound. This cuts off the blood circulation and can damage tissue due to the venom.

DO NOT waste time trying to capture or kill the snake to bring it to the hospital. This wastes time and can be dangerous.

DO NOT use heat, electric shock or ice directly on the bite wound.

DO NOT cut into the bite wound to remove the venom.

DO NOT suck on the bite wound with your mouth to remove the venom. This can lead to worsening of the symptoms.

Pets are our family members, too. In many parts of the country, the spring and summer months bring the risk of pets, dogs especially, being bitten by Rattlesnake:

The best ways to protect your dog is know your environment, use a leash and pay attention.

Rattlesnakes are most active in the heat of the day, and they are most frequently found around rocks, shrubs, and bushes (although they might bask in the open, especially in the morning along trails).

Unfortunately, dogs can be bitten even if their owners do everything right. If this happens to you, go straight to the vet, as soon as possible.

Do not try to suck out the venom, do not cut the skin overlying the site, do not apply to a tourniquet to the area, do not administer aspirin or any other nonsteroidal anti-inflammatory drugs, and do not ice the site.

Stay calm, try to keep your dog calm, and go to the vet. If your dog is small, carry him to the car. If not, walk him back. During the walk, focus on the fact that most rattlesnake bites are not fatal to dogs.

The main treatment for dogs is pain control and antivenom. There is also a vaccine on the market for rattlesnake bites. If you live in a high risk area, discuss your options ahead of time with your veterinarian.

A key to avoid being bitten is good Situational Awareness. Know your environment and know the wildlife there, including snakes. Rattlesnakes are cold-blooded creatures. They strive to maintain a certain body temperature, which means that their behavior varies according to the temperatures of seasons and times of the day. To keep warm, rattlesnakes come out during warm hours of the day and sun themselves on rocks and other open areas. They will usually be under a rock or in a hole during cool hours of the evening and morning, where they can soak up the warmth from the earth or rocks. Rattlesnakes are shy and docile creatures and will not attack, only defend.

Some tips to avoid the bite would be:

Avoid hiking alone and always have methods of communication.

Always wear boots while hiking. Never go barefoot or wear sandals when hiking.

Always stay on paths and avoid tall grass, weeds and heavy underbrush where snakes may be present.

If sitting in or near tall grass, look before you sit down or place your hands down.

Use a walking stick when hiking, so a snake can strike at the stick and not you.

When climbing, always look before putting your hands or feet in a new location. Rattlesnakes can climb walls, trees and rocks and are frequently found in elevated locations.

Never grab at sticks or branches while swimming, Rattlesnakes are excellent swimmers.

Always be aware of concealed snakes when clearing debris, underbrush or collecting firewood.

Never tease a snake to see how far it can strike. Rattlesnakes can strike over half their body length away!

If you encounter a snake, quickly take two large steps back, if safe to do so, to get beyond their strike range

Always give Rattlesnakes the right of way and show them respect. They will not attack, only defend themselves. Snakes are not “out to get us”. They do not travel in groups to hunt people, which only happens in the movies. They are an essential part of our environment and eat rodents, insects and other creatures that can carry disease. They are also food to other predators that are out there and are a key link of the natural food chain. Awareness of Rattlesnakes in our surroundings, and knowing how to avoid them, can be the best antivenom of all.

ENA Sacramento Chapter 2015 Events

Date/Time	Topic	Location
July 11 and 12	Trauma Care After Resuscitation	Kaiser Vacaville
July 29, 0730-1630	ED/Critical Care Symposium	UCD Education Building
August 5 6pm-8pm	Trauma Disasters/Matt Powers, ENA President	Kaiser Vacaville
September 21 and 22	CEN Review	Sutter Conference Center
September 28-Oct 3	ENA National Conference	Orlando, FL

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www.californiaena.org

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<https://www.facebook.com/groups/39078452583/>