



Special Points of interest:

- Heat-related illnesses are more common when the temperature is above 95°F and the humidity is greater than 80%.
- Less than 1/3 of lightning victims die, but many survivors sustain permanent disabilities.
- In the U.S. most of the snakebites are caused by snakes from the Crotalidae family which includes rattlesnakes, copperheads, and water moccasins.

SUMMERTIME HAZARDS

Heat-Related Illness

If you cannot effectively cool down after exposure to high environmental temperatures, you are at risk. Of the heat-related illnesses like heat cramps, heat syncope (fainting), heat exhaustion, and heatstroke, only heatstroke is a true medical emergency. Heat-related illnesses are more common when the temperature is above 95°F and the humidity is greater than 80%. Other risk factors, especially for infants and older adults, include dehydration, fatigue, sleep deprivation, obesity, cardiovascular disease, fever, muscular exertion, mental impairment, seizures, sunburn, and use of certain medication such as beta blockers, diuretics, amphetamines and angiotensin-converting enzyme inhibitors. When a heatstroke victim's temperature regulatory mechanisms fail, the body temperature may exceed 104°F. Without prompt treatment, organ system failure results and the victim has a high risk of death. Heatstroke is best differentiated from other heat-related illnesses by mental status changes that occur as a consequence of a critically elevated body temperature. Thermal injury to the brain produces anxiety, confusion, bizarre behavior, loss of coordination, hallucinations, agitation, seizures and coma.

The first treatment priority is to rapidly cool the patient. Remove as much clothing as practical and place ice packs on the victim's neck, under the armpit, chest, abdomen, and groin. Use a garden hose or even a spray bottle of water to moisten the victim's skin, and then use a fanning action to take full advantage of evaporative heat loss. Another good option is to immerse the victim in cool water to quickly reduce body temperature. Avoid immersion in ice-cold water because shivering generates body heat and increases oxygen consumption. By causing subcutaneous vasoconstriction, ice water immersion may also slow heat transfer via conduction. Impaired consciousness threatens airway integrity so do not give the victim anything by mouth if not fully awake and alert. Call for an ambulance right away. Once at the hospital the victim will be given IVs along with aggressive cooling measures until the body temperature is lowered to about 100°F.

To prevent heat-related illnesses:

- ▶ Wear light-colored, loose clothing and a hat when going outdoors.
- ▶ Take time to acclimate to hot weather conditions before participating in strenuous activities.
- ▶ Assure adequate hydration & nutrition. Consume water or sports drinks frequently during activities in hot weather even if you do not feel thirsty.
- ▶ Take frequent rest breaks in shady or air-conditioned areas to cool down.

Drowning

Drowning, immersion or submersion in a liquid, with or without survival, is most commonly associated with summertime water sports. The typical drowning victim is a child or teenager. Victims usually aspirate water into the lungs but contaminants like algae, sand and mud can lead to pulmonary infection. The outcome of drowning is closely linked to the amount of time the victim was submerged, the degree of hypoxic central nervous system damage, the victim's age, the cerebral metabolic rate. Survival rates are better when submersion

Inside this issue:

Summertime Hazards	1
ACA Recertification Information	4
ACA Continuing Education	4
Your Brain on Laughter!	4

SUMMERTIME HAZARDS—Continued

occurs in icy cold water, particularly in children when hypothermia occurs before hypoxia. Events surrounding the drowning incident also play a role. The rescue and emergency care can be complicated if the victim also had a seizure, myocardial infarction, stroke, or head injury.

The immediate priority in management of a drowning victim is effectively ventilating the patient during rescue – an intervention highly correlated with survival. Ideally a flotation device such as a raft or surfboard can be used to enable a safe rescue from the water without jeopardizing other lives. Current guidelines recommend spinal stabilization only for those drowning victims with injury mechanisms highly associated with spinal trauma, such as diving, bodysurfing, and use of water slides. If the victim is potentially hypothermic, gentle handling is crucial to prevent ventricular fibrillation which can lead to cardiac arrest. Do not use abdominal thrusts to clear water out of the airways because it delays effective rescue techniques and may cause vomiting and aspiration. EMS personnel will administer oxygen and apply spinal immobilization if needed. A victim who survives may experience transient or permanent neurologic damage.

Remember before making a rescue attempt, always consider your personal swimming ability as well as any environmental or natural hazards.

To prevent water-related tragedies:

- ▶ Continuously supervise children who are in or near the water.
- ▶ Don't drink alcoholic beverages while in or around water.
- ▶ Never swim alone.
- ▶ Do not dive into shallow water or into water of unknown depth; jump in feet first.
- ▶ Have appropriate water rescue equipment including life jackets on boats and around water.

Lightning Injuries

Lightning strikes occur year-round and kill on average 67 people each year in the U.S. and more than 80% of the victims are male.

Most lightning-related injuries occur in the

summer when thunderstorms are common and more people are outside. Besides directly striking a victim, lightning can kill by splashing or side flashing off a nearby strike area or by traveling through the ground. Less than 1/3 of lightning victims die, but many survivors sustain permanent disabilities. The explosive forces generated by a lightning strike can produce multi-system trauma, including cardiac arrest, numerous craniocerebral injuries and central nervous system effects which can be immediate but transient. Talking on a hard-wired telephone during an electrical storm places one at high risk for telephone-mediated lightning injuries and carries the risk of ear drum rupture, blindness, retinal detachment, cataracts and even death. Lightning also produces burn injuries, although most are superficial and heal without incident. Not all lightning effects are immediately obvious after the initial injury. Possible long term complications include fatigue syndromes, subtle cognitive impairments, and posttraumatic stress syndrome.

Initial emergency care is directed at supporting the ABCs, immobilizing the spine, and providing advance life support. Victims who show signs of life immediately after the strike have the best prognosis. Begin CPR immediately. Skin mottling and diminished or absent peripheral pulses may occur initially due to arterial vasospasm as a direct result of the lightning strike but should resolve spontaneously in several hours. The survivor may still have ECG and myocardial perfusion abnormalities. The victim will be further evaluated in the ER, treated and referred to a support group if needed.

To prevent lightning injuries:

- ▶ Get out of the water and seek shelter whenever you hear thunder.
- ▶ Be aware that lightning can strike without warning, even when the sky is clear.
- ▶ Avoid standing near doorways, windows, fireplaces or cave entrances, because these openings attract lightning.
- ▶ Avoid standing near isolated metal sheds.
- ▶ Don't stand under the tallest tree or object in the area – lightning is attracted to the highest point in the area.



“Lightning strikes occur year-round and kill on average 67 people each year in the U.S. and more than 80% of the victims are male.”



SUMMERTIME HAZARDS—Continued

► Don't stand near plumbing fixtures or use a hard-wired telephone. Turn off all electrical equipment and appliances.

Bee and Wasp Stings

Reactions to bee and wasp stings can range from local pain to life threatening anaphylaxis. A local reaction to a bee or wasp sting consists of instant pain, followed by a wheal and flare reaction. A number of systemic effects are also possible depending on the victim's degree of sensitivity to the venom – generalized edema, nausea, vomiting and diarrhea. Clinical signs of an allergic reaction include urticaria, pruritus, respiratory distress, hypotension, loss of consciousness, cardiac dysrhythmias, and cardiac arrest.

Removing the stinger is the first priority. The longer the stinger stays in place, the greater the venom absorption. Choose the quickest available method for stinger removal such as scraping with a credit card, knife blade or needle or use tweezers if that is all you have. Apply an ice pack or hold the site under cold running water. An antihistamine may be all that is required if it is a mild reaction. If wheezing develops, then administer epinephrine and call 911.

To prevent allergic reactions:

- Carry an epinephrine kit or pen at all times and wear a medical alert bracelet.
- Avoid wearing perfume and dark colors when outside.
- Keep screens in windows and doors.
- Keep lids on trash cans that might attract bees and wasps.

Venomous Snakebite

In the U.S. most of the snakebites are caused by snakes from the Crotalidae family which includes rattlesnakes, copperheads, and water moccasins. Coral snakes are from the Elapidae family and account for less than 1% of venomous snake bites. Out of the 7-8,000 reported annually, less than 6 people die as a result of a snake bite. Most snakebite fatalities are associated with rattlesnakes.

The first step in treatment is to determine whether the victim has been envenomated. Local manifestations include one or more puncture wounds in the skin, pain, edema,

and erythema or ecchymoses adjacent to the bite. Systemic responses include a minty, rubbery, or metallic taste in the mouth; tingling or paresthesias of the scalp, face and lips; muscle fasciculations; nausea; vomiting; hypotension; muscle weakness; seizures and coagulopathies. The first intervention is to move the victim to a safe place away from the snake. Have the victim remain still and in a comfortable position to slow the circulation of venom. To limit spread of the venom, splint and immobilize the affected limb and keep it below heart level. Keep the victim warm and calm. Don't offer alcohol or stimulants such as caffeinated drinks, because these accelerate the absorption of venom. If transport is going to be delayed, consider applying a 2 – 4 cm wide constricting band proximal to the wound to impede lymphatic flow, but not venous drainage or arterial flow. Do not apply the band as tightly as a tourniquet. If a band is applied, it is important to assess distal circulation frequently especially if edema develops. Do not incise and suck the wound or apply ice. In the hospital the patient will be evaluated with lab work and an ECG. The hospital will make the decision on whether or not to administer an antivenom.

To prevent snakebites:

- Maintain a keen awareness of snakes and their habitat.
- Wear boots, protective clothing and heavy gloves in known snake habitats such as swamps, caves, bushes and crevices.
- Use a walking stick or trekking pole while hiking and hike with a partner.
- If you see a snake, stay out of its way and do not harass it.
- Remember a dead or decapitated snake can inflict a bite up to one hour after death.

REFERENCE: "Summer emergencies", NURSING2010, JUNE, VOL. 40, NO. 6



“Removing the stinger is the first priority. The longer the stinger stays in place, the greater the venom absorption.”



ACAreer

PO Box 58, Osceola, IN 46561

ACAreer is published by the American Certification Agency for Healthcare Professionals and is free to all of the certificants. ACAreer is published in February, June and November. If you have any questions, comments, or topics you would like to see covered in our newsletter, please fax them to (574)277-4624, phone to (574)277-4538, e-mail to Info@acacert.com or mail to ACA, PO Box 58, Osceola, IN

Presorted Standard
US Postage Paid
South Bend, IN
Permit #498

ACA RECERTIFICATION—Date extended to September 1, 2010

ACA recertification packets were mailed out in April.

Please contact the ACA office by phone or mail if you have not received your packet!

ACA Recertification Fees:

One Category 2-year renewal \$60.00	Two Categories 2-year renewal \$85.00
Three Categories 2-year renewal \$95.00	Instructor 1-year renewal \$60.00

Any recertification not postmarked on or before June 30, 2010 must include an additional \$15.00 making their recertification fee \$75.00. Visit www.acacert.com to download the application form.

ACA CONTINUING EDUCATION INFORMATION

A reminder that ABP, Inc. offers home study continuing education booklets to help you earn CE contact hours. Call ABP at (574) 277-0691 to order or visit ABP's website at www.abpincorp.com to download an order form. Some topics available are:

- Hand Hygiene
- JCAHO and Patient Safety
- HIPAA Security Rules
- Legal Issues in Phlebotomy
- Interpreting ECGs
- Plus many more

YOUR BRAIN ON LAUGHTER!

Using functional magnetic resonance imaging (fMRI) researchers found that as subjects tried to understand verbal jokes, areas of their brains important to learning and understanding were activated. A good knee-slapper also produces a chemical reaction that instantly elevates your mood, reduces pain and stress, and boosts immunity.

Laughter promotes good health in another way, too – by strengthening connections. We use anger to deflect anger and aggression and to communicate good will. In fact, a good sense of humor is consistently rate by women as among the most desirable attributes of a potential partner.

Here are some ways you can reap the benefits of humor every day:

- Keep an eye out for the unexpectedly silly side of daily life to combat negative thoughts.
- Make sure that you don't go to bed stressed out – keep your evening entertainment light by reading a comic novel or watching a funny show.
- Reframe unpleasant situations with humor.

