News
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****The hazards of summer fun

DALLAS--Summer's here. Time for swimming, tanning, jogging, hiking, boating. Time to shed heavy clothing for more loose, comfortable attire. Time to set aside worries and take life easy.

It's a comfortable illusion but one that can and often does backfire. While we're swimming or boating, we're risking drowning; while we're tanning, we're chancing skin injury; while we're jogging, we could be setting the stage for heat exhaustion or heatstroke; while we're hiking, we're treading among insects and reptiles that could poison us.

A lot of factors, some that are obvious, some that are not, can jeopardize safety this summer. By knowing the risks, understanding why there are dangers and how to handle accidents when they occur, people can drastically reduce their chances of having a good situation turn into a bad, even fatal one.

Drownings and near-drownings

Drowning is one of the top three categories of accidental death in the United States, says Dr. Gary Reed, assistant director of Internal Medicine. It is second only to automobile accidents. Eighty-five percent of the victims are men, and most are between the ages of 10 and 19. Children are also high on the statistical scale.

Reed explained that to drown is to die by submersion. Near-drowning is recovery occurring after submersion. Approximately five minutes after the body is denied oxygen, irreversible brain damage usually begins.

Some of the major factors resulting in drownings and near-drownings include the inability to swim, diving injuries, alcohol and drugs, hypothermia, exhaustion, seizures, suicide, hyperventilation and battered children.

Texas lakes and rivers overswelling their banks from unusually high rainfall this season also make for a dangerous setting. Already three drownings have been reported at Lake Lewisville, just north of Dallas.

Prevention is the best defense against drowning. Life vests or jackets should always be worn when riding in any type of boat. With children, it is a good rule to never leave them unsupervised near water, whether it's a pool, a lake or a bathtub.

When a water accident does occur, time and emergency care are critical to the survival of the patient. Cardiopulmonary resuscitation (CPR) should be started immediately to restore oxygen to the blood. Emergency help should be called.

Reed warns that water intake is dangerous and must be dealt with at a hospital. Anyone who has survived a near-drowning episode should be hospitalized for 24 hours whether they've been revived and appear to be fine or not.

The kind of water a person has taken in will also dictate the kind of treatment they will need.

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Reed explained that water is inhaled in 90 percent of drowning or near-drowning cases. When fresh water is inhaled, it denatures and washes away a detergent-like substance called surfactant. Surfactant keeps the tiny alveoli (air sacs in the lungs) from collapsing. When the surfactant is washed away, respiratory distress can occur. Often it is a delayed problem, happening 8-12 hours after the drowning episode.

In salt water drownings, Reed says, the opposite happens. "The salt draws fluid from the blood vessels in the lungs causing respiratory failure. It takes far less salt water to drown that it does fresh water."

In almost 10 percent of the cases the person takes in no water. This is referred to as a dry drowning and is caused by a spasm of the larynx that keeps water from entering the lung If these patients are rescued prior to brain death, respiratory damage is not as prominent.

Another type of drowning is known as immersion syndrome. This is a sudden cardiac death often caused by immersion into very cold water.

"Sometimes cold water can work to a person's advantage," Reed explained. "The body undergoes what is called hypothermia or a cooling of the body temperature. This cooling tends to slow the metabolism and can extend the time a person can be submerged without experiencing irreversible brain damage. Along with hypothermia another phenomenon called the diving reflex often occurs in cold water. The body reacts to the cold water by slowing the heart rate and constricting blood vessels to major areas and shunting the blood primarily to the heart and brain."

Because of varying factors affecting brain damage from oxygen loss, the question of when to revive a drowning victim is very controversial. "Persons have been known to have survived submersions for as long as 40 minutes so the safest thing to do is to try," Reed sai

Summer skin injuries

Sunburn is almost always at the top of the summer skin injuries list, but, says Dr. Michael Tharp, assistant professor of Internal Medicine, it is just one of many skin problems that occur during the summer months.

"During the summer we are usually subjected to increased moisture and heat making us more susceptible to bacterial and fungal infections and other skin problems."

Tharp explained that fungus and yeast like to live in warm, moist, dark places. They are commonly seen between the toes--athlete's foot is the classic example--or in other skin-fold areas. However, these infections can occur just about anywhere.

If the infection is fungal, the affected area will usually have a fine scale. If a yeast infection is the culprit, it is commonly characterized by little pustules or bumps. In both cases a doctor should be consulted so effective medications can be prescribed.

Tharp says one way to offset these infections is to keep the area clean and dry.

Another kind of infection that can be potentially life-threatening is what is commonly called Rocky Mountain spotted fever. It is caused by the Rickettsia organism and is carried by hard-shelled ticks. Humans usually come in contact with ticks through small animals like dogs and cats. Contact may also occur while hiking in areas that are heavily wooded or thick with brush. The disease is seasonal, mainly occuring from May to September.

The first symptoms of Rocky Mountain spotted fever are nausea, headache, fever and muscl pain. Purplish spots on the skin soon follow.

"These people are very ill and need medical attention," Tharp stressed. "The infection can cause a myriad of problems. Untreated patients may develop complications like pneumonia, tissue damage, circulatory failure, brain and heart damage."

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Tharp reports that Children's Medical Center has already seen two patients with Rocky Mountain spotted fever this season.

"Early treatment is important and persons suspecting that they or someone they know might be infected are warned against waiting until the problem is advanced to seek help."

Some viral infections and allergies are also more likely to flare up in the summer, Tharp says. Persons with herpes simplex--sore, red ulcerations--are likely to have flare-ups in response to sun and heat exposure. Skin problems like eczema and psoriasis are also prone to react to warmer weather. Acne may also be more severe.

For most of these problems, there are no magic cures, Tharp admits. Topical astringents, ointments like topical steroids or oral corticosteroids may be helpful in controlling skin problems. In all cases a physician should be consulted to determine the exact nature of the problem for the appropriate treatment.

In dealing with the age-old sunburn Tharp stresses that persons should be aware of how the sun inflicts damage on the skin.

"The sun emits a whole spectrum of light rays--two of which can be especially damaging. These are called Ultraviolet A (UVA) and Ultraviolet B (UVB).

"UVB wavelengths are the primary cause of sunburn. UVA rays in conjunction with several topical or oral medications may also result in a sunburn-like reaction."

Certain drugs, perfumes, plants and other substances can cause sunburn despite relatively little exposure. Common drugs that cause photosensitivity are: tetracycline, sulfa drugs, thiazides, pentothiazides and sulfonylureas.

Some plants and perfumes associated with photodermatitis are: bergamot, celery, dill, lemon, lime and mustard.

Prevention is the best treatment for sun sensitivity and can easily be managed by avoiding exposure. If you choose to venture out, wear protective clothing (tight weave fabrics are the best shield) and hats and use a good sunscreen.

Tharp says there are many very effective sunscreens on the market today. The ones that work best contain para-aminobenzoic acid (PABA), PABA deriviatives or benzophenone. These sunscreens rated factor 15 or more should give you maximum protection.

Heat illness

Two years ago when Texas experienced a record breaking heat wave--40 days of temperatures exceeding 100 degrees Fahrenheit--physicians and staff working in Parkland Memorial Hospital's Emergency Services confronted a large number of heat illness cases.

Dr. Ron Anderson, then director of the ER and now the chief executive officer of the hospital, explained that a number of factors contributed to the heat illness epidemic. Texas' summer climate of high humidity mixed with high temperatures sets the stage.

Anderson explained that when the temperature becomes hotter than 98.6° F (normal body temperature), the body rids itself of excess heat by sweating. If the humidity is high the sweat doesn't evaporate well, causing the body temperature to rise. If the humidity reaches 100 percent, sweat can't evaporate.

Heat exhaustion and heatstroke can happen when persons are exposed to long periods of intense heat or over-exert themselves when the temperature and humidity is high.

"We group heatstroke (when the body temperature exceeds 106 degrees Fahrenheit) into two categories: classical and exertional. Classical heatstroke patients often have limited access to water. They are usually in a high humidity, un-airconditioned environment and are not sweating.

"Exertional heatstroke, on the other hand, often affects people who are in good condition but try to do strenuous exercises like jogging on very hot, humid days. They are especially in danger if they've just moved to Texas and have not become acclimated to the hot weather."

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Anderson says that when heatstroke occurs, the body can no longer regulate heat gain and loss. As body temperature rapidly rises, renal, muscle and brain damage can occur.

Several signs can help in recognizing heat exhaustion or heatstroke. The skin may feel clammy or dry. Depending on how high the person's temperature is, the person's pupils may be fixed. Anderson says the fixed pupils are caused by the temperature in the case of heatstroke and should not be used as an indicator of brain death.

Patients should be cooled immediately. Packing the person in ice is the quickest method but, if this is not available, he recommends warpping the person in a sheet, soaking them with water and pointing a fan on them until emergency help can arrive.

Anderson says heat exhaustion is nothing more than a pre-stage of heatstroke. Signs like cramping muscles, extreme thirst and pain are indicators that should not be ignored. Athletes who exert themselves in high temperature are prime targets of this heat illness.

"Heat exhaustion is usually brought on by water or salt depletion, combined with exertion," Anderson explained. "Muscle cramps are a result of water replacement without salt. Muscle damage can occur. Other symptoms are piloerection (goose bumps), chilling and headaches.

"Salt needs to be replaced with fluid intake. Electrolyte fluids like 'Gatorade' work well for this. If this is not available, shake a little salt in a glass of water and you'll get the same effect.

"Precaution is the best defense against heat exhaustion.

"For joggers, running should be scheduled for early morning or late afternoon if temperatures are expected to be 80 degrees Fahrenheit or higher. Replacement fluids should be taken in every two to two and a half miles."

Common sense can help to alleviate a lot of the dangers. One Anderson stresses is not leaving animals or persons in an unattended car. "A car sitting in the sun is the worst heat box imaginable," he said.

Insects and reptiles

A number of kinds of critters can cause us trouble in the summer. The secret to their irritating and sometimes deadly attacks is the allergic reactions we develop against them, Dr. Timothy Sullivan, assistant professor of Internal Medicine, explained.

"Allergic reactions can range from mild to very severe," Sullivan said. "They can cause us to itch, be in pain, swell, wheeze, have difficulty breathing, cause cardiac disturbances and, in severe cases, die."

Sullivan explained that the most common insect culprits that Texans have to contend with are wasps, bees and fire ants. Of these, he says the yellow jackets are by far the worst offenders. "Yellow jackets are very aggressive," Sullivan explained, "and their venom is very irritating. Fire ants are closely related to the yellow jackets and their venom is also very strong."

The intensity of allergic reactions to insect stings depends on each individual's immune response. Reactions usually happen fast and are graded by the symptoms the persons have.

"In a grade one reaction, the person may have swelling and pain but this usually disappears in two to three hours. In a grade two reaction, the symptoms are worse but still considered relatively mild.

"Grade three is classified by severe swelling and wheezing and is a serious reaction. Grade four is considered acute, and the person will die without treatment."

If a person is having a serious reaction, medical attention is imperative. Cold compresses can be applied to the sting to reduce swelling until antidote-like drugs can be administered. Epinephrine is commonly used against insect stings and can be prescribed to persons known to have serious reactions.

"Persons who have had life-threatening reactions should be armed with these drugs," Sullivan said.

Texas has several species of poisonous snakes, and Sullivan warns that snake bites can be fatal. "Anti-serum snake-bite kits are available but should be used with caution as they can have serious side-effects. Depending on the kind of snake, there is often enough time to safely get the patient to professionals for treatment. Copperhead snake bites are one example."

However, Sullivan said rattle-, coral and water moccassin snake bites should be treated with snake-bite anti-serum if it is available.

The best protection against insects and snakes is to avoid being stung or bitten, Sullivan stressed. Wear protective clothing and leather shoes while you are hiking and don't disturb shrubs or bushes. Be aware of where you are and where you step and remember--you are the invader.

Always carry along a first-aid kit or have one nearby. And if you know you are seriously allergic to insect stings, bring along the appropriate medication.

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