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NEWS

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**Summer emergencies series

Part I: Drowning -- a common tragedy
that can be prevented.

EDITOR'S NOTE: Summer is finally here. But unfortunately accidents occur more often in the summer because of increased activity. Common sense and a few basic guidelines might save you or someone you know from being a statistic. This is a series on summer emergencies, giving you vital information on prevention and first aid of common accidents. We explore drowning and near-drowning, lightning, heat-related illnesses, bites and stings and skin problems.

DROWNING

DALLAS—Drowning is second only to motor vehicle accidents as the leading cause of accidental death. But common sense and some basic first aid and rescue tips can prevent many water tragedies.

Drowning is defined as death by submersion, usually in water, explained Dr. Gary Reed, assistant professor of Internal Medicine at The University of Texas Health Science Center at Dallas, and medical director, Parkland Memorial Hospital Emergency Room. And, he said, there are three main types of drowning. Wet drowning, when the victim breathes in water, constitutes about 90 percent of drownings and near-drownings. Dry drowning accounts for about 10 percent of the cases. The victim actually has no water in the lungs because the larynx has closed up to block water intake and in doing so blocked the airway. Immersion syndrome is cardiac arrest after sudden submersion in extremely cold water.

There is also a difference in the kind of water a person takes in. It requires less salt water to drown because the sodium pulls water from the victim's blood and dehydration occurs. But in fresh water, said Reed, just the opposite happens--the water is absorbed into the blood. In addition the water washes away surfactant in the lungs, the substance that prevents the alveoli (tiny air sacs) in the lungs from collapsing. Often the accompanying respiratory distress is not evident until 8 to 12 hours after near-drowning.

How quickly brain damage occurs depends on two things: the victim's diving reflex and how cold the water is. The diving reflex is evidently a protective device carried over from earlier (prehistoric) times, says Reed. When a person is submerged, the body reacts by slowing down the heart rate, blood vessels constrict and the circulatory system shunts blood toward the vital organs. The body will utilize the oxygen that is already present in the lungs and bloodstream, and approximately four to five minutes after that oxygen is gone, irreversible brain damage begins.

The temperature of the water also contributes to the victim's chance for survival. In very cold water, for example, the body's heat is quickly transferred from skin to water resulting in hypothermia, a spontaneous cooling of the body that also causes metabolic slowdown. There have been instances where persons have survived for as long as 40 minutes in frigid water.

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First Aid

The most important thing is to get the person out of the water without endangering the rescuer's life. Lie down and extend something to the victim. Never let a panicked victim grab you and do not attempt a swimming rescue unless the person is unconscious or unless you have been trained in lifesaving techniques. It is best to always have some object between you and the victim to prevent him or her from clutching on and pulling you under with them.

Once out of the water, check for breathing and pulse, clear airways and start CPR or artificial resuscitation immediately. Because there have been people to survive long periods of time submerged, always begin resuscitation, stressed Reed, regardless of the amount of time the victim has been in the water. It is not necessary to drain fresh or chlorinated water from the lungs. As circulation is established, the water will be absorbed into the body relatively quickly. Salt water, however, should be drained and this can be done by getting the head down and allowing gravity to drain the water out.

Keep the victim warm to prevent shock, administer first aid for bleeding if needed and seek medical help as soon as possible. Even if a person appears recovered, the standard treatment is observation for 24-48 hours to watch for pulmonary or other complications, said Reed.

Prevention

Many of the nearly 8,000 annual drowning victims might have been saved had they observed some common sense rules.

--It may seem obvious, but if you are planning to participate in water-related activities, learn how to swim. Two-thirds of drowning victims, according to a recent study, did not know how to swim, and one-half were alone when they drowned.

--Use the "buddy system"; never swim alone.

--Take time to learn rescue techniques and boating safety.

--Use life jackets.

--Be extremely careful when drinking alcoholic beverages near water. Says Reed, "Probably the major cause of near-drownings, diving injuries and death is alcohol and drug abuse. People are careless and over-estimate what they can do."

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