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In "The RID Factor as a Cause of Drowning" Frank Pia, an expert on drowning accidents, offers critical advice about preventing water-related injuries and deaths. Failure to *Recognize* a struggle, *Intrusion* of nonlifeguard duties upon lifeguards' primary role, and *Distraction* from surveillance—individually or in combination—may result in unwitnessed drowning in open water pools. Pia, president of Pia Consulting Services in Larchmont, NY, offers some operating and administrative principles that will do much to increase safety of bathers and improve the performance of lifeguards. Turn to page 52.

P.L.A.



P&R

THE RID FACTOR

As a Cause of Drowning

ON A HOT SUMMER afternoon, a young boy slips away unnoticed from his parents, who usually closely supervise him at swimming facilities. After entering the water, he suddenly finds himself above his head, and an instinctive struggle for survival begins. However, even though three lifeguards are on duty, his struggle will go unnoticed; he will eventually drown.

The eyes of the first lifeguard who was not trained to recognize the arm movements and body position of a drowning victim pass over the young boy who appears to be either playing in or flapping the water. The second guard who normally patrols this area as a walking guard is now performing maintenance duties. The remaining lifeguard, rather than visually scanning the bathing area from his tower, is engaged in an extended conversation with an attractive female.

The bathers that partially sur-

round the young boy are unaware that a drowning is taking place within 5 to 10 feet of them for several reasons. First, because the young boy lacks swimming or floating skills, he cannot support himself in the water while he waves for help. Second, he cannot call out for help because his head is sinking below and barely reappearing above the surface of the water. The little remaining air in his lungs is rapidly being used up for the primary function of the respiratory system, breathing, rather than for the secondary or overlaid function, speech. Twenty to 60 seconds after his struggle for life began, he sinks to the bottom of the swimming area.

Alarmed that they cannot find their son, frantic parents begin a search of the pool. The guard assigned to walking patrol has returned from his brief maintenance chore, and the senior guard has discontinued his two-minute conversation with the attractive female. However, turbidity of the water

caused by a recurring problem with pool filtration equipment obscures the boy's body from the searching eyes of his parents and the lifeguards. Four to six minutes after the boy reaches the bottom of the swimming pool, irreversible brain damage occurs, and he dies.

This drowning was caused by the failure to Recognize the young boy's struggle, the Intrusion of non-lifeguard duties upon lifeguards' primary task—preventive lifeguarding—and the Distraction from surveillance duties. Drowning may result because of either one or all three of the components of the RID factor.

This article is an attempt to provide parks and recreation administrators an understanding of the RID factor so that they can take steps to prevent unwitnessed drownings. It is believed that the information in this article will also guide administrators in setting up inservice training programs, as well as monitoring the performance of lifeguards and lifeguard supervisors.

Over the last 20 years, drowning has remained one of the major causes of accidental death in the United States. Approximately 7,000 to 8,000 people have died each year from drowning, making it the second leading cause of accidental death for people aged 1 to 44. For all ages, drowning is the third leading cause of accidental death in this country (National Safety Council).

The National Safety Council divides drowning accidents into three classifications: (1) swimming related—approximately 3,000 people who drown while either swimming or playing in the water; (2) non-swimming-related fatalities—approximately 3,900 people who drown after falling into the water from docks or dry land or drown in accidents at home; and (3) boating-related fatalities—approximately 1,100 people who drown while engaging in recreational boating.

Parks and recreation directors are primarily concerned with preventing swimming-related fatalities that occur in areas staffed by lifeguards. Most swimming-related fatalities are

unwitnessed drownings in which neither the lifeguard nor nearby swimmers noticed the drowning victim struggle and slip below the surface of the water. However, new findings about the behavior that drowning persons exhibit while struggling on the surface of the water will illustrate that a properly trained and supervised lifeguard can detect the 20- to 60-second surface struggle of the drowning non-swimmer prior to submersion.

A brief overview of the two types of water crises will aid understanding the first element of the RID factor, the failure to *recognize* the surface struggle of the drowning victim. In earlier publications, I classified water crises into two categories—distress situations and drowning situations. A distress situation involves a swimmer who is unable to return to safety without assistance. Because of his or her swimming skills, this victim is generally able to summon aid by waving or calling out for help.

Drowning situations can be subdivided into two groups—passive and active victims. Because of a sudden loss of consciousness, the passive victim slips under water without waving or calling out for help or struggling on the surface of the water. Generally this type of emergency is caused by a heart attack, stroke, hyperventilation, a blow to the head, cold water immersion, or excessive drinking of alcoholic beverages.

On the other hand, a conscious, struggling drowning non-swimmer exhibits behavior that an attentive, properly trained and supervised lifeguard can detect. The following description of the behavior that non-swimmers exhibit while drowning is based on two sources: first, from my 21 years of experience as a lifeguard and lifeguard supervisor at Orchard Beach on Long Island Sound, where as many as 2,000 non-swimmers were rescued each summer, and second, from the 16mm lifeguard training film *On Drowning*, which recorded the movements of actual, not staged, near drownings and rescues.

The behavior of a drowning per-

“Any activity that takes the lifeguard away from active surveillance of bathers . . . must be viewed as inattention to duty.”



PHOTO BY AMERICAN RED CROSS



son resembles the following description.

- The person is rarely able to call out for help. This apparently odd fact becomes believable when one remembers that breathing, not speech, is one of the primary functions of the respiratory system. Therefore, in time of extreme peril in water, breathing must take precedence over speech. I believe that this phenomenon accounts for the fact that throughout *On Drowning*, viewers will observe onlookers watching a person drown—unaware that he or she is drowning, because there has been no call for assistance.

- The person has instinctive arm movements, which appear to be an attempt to push the victim upward in the water by thrashing the water with both arms extended laterally. This type of arm movement cannot propel the person in any direction; it merely raises and lowers the person out of and into the water as he or she tries to breathe.

- The person usually manages to turn toward shore. The body is upright with no apparent supporting kick.

- The victim's head sinks lower and lower in the water as the

drowning progresses. The arm movements become less visible and more feeble, until only the top of the head and grasping hands can be seen.

The process can last for as long as 60 seconds or for as few as 20 seconds.

The next step in attempting to reduce swimming-related fatalities is to realize that a vast majority of a lifeguard's time is spent in preventing people from either engaging in or placing themselves in dangerous situations. When the preventive work of a lifeguard is effective, potential life-threatening conditions are corrected prior to rescues or accidents. However, to the unknowledgeable observer, a lifeguard engaged in surveillance work might appear less than fully used and available for additional duties.

The surveillance system used by lifeguards for preventive and rescue work may be of three types: elevated stations, ground-level stations, and boat stations. The elevated stand or tower should be at least five to six feet in height and give the lifeguard an unobstructed view of the swim-

ming area. The view of the bathers that the lifeguard has from the elevated tower is markedly superior to that obtained from either a ground-level station or a boat station. Therefore, the tower guard must be considered the foundation and most important part of the surveillance system.

Whenever the facility is open to bathers, a lifeguard should be positioned on the elevated tower, even if only one swimmer is using the facility. My research has shown that it is not unusual for drownings to occur while several lifeguards are on duty, the elevated tower unused, and only a few bathers in attendance. Increased vigilance by lifeguard supervisors and administrators will effectively eliminate the tendency for some lifeguards' surveillance techniques to relax during off-peak times.

In analyzing the scanning techniques used by lifeguards on ground-level stations, I found the guard had limited view of the swimming area, with many bathers shielded from view. Because of his or her closeness to the patrons, the guard was more prone to distractions. However, a guard assigned to a walking patrol or ground-level station can provide effective and efficient enforcement of safety rules.

If cautions or reprimands to patrons are needed, the ground-level guard rather than the tower guard should be the one to offer the explanation. Because of the relatively brief 20- to 60-second surface struggle of the drowning non-swimmer, it should be clear why the tower guard should not, unless he or she is the only one on duty, engage in detailed explanations of safety rules. If explanations must be given by the tower guard, they should be as brief as possible and made while the guard continues scanning the bathing area.

In addition to stopping those activities that may lead to injury or death, lifeguards must be trained to recognize the difference between *distress situations*, in which the victim can call out and wave for help, and *drowning situations*, in which the person cannot. If lifeguards are to detect the silent and relatively

brief struggle of the drowning non-swimmer, they cannot be assigned maintenance or recreational duties while they are part of the surveillance system.

The second element of the RID factor is the *intrusion* of maintenance or recreational duties upon the surveillance system of the swimming facility. One of the best ways to analyze this contributor to drowning fatalities is to use the approach found in the Miller & Rice (1967) book *Systems of Organizations*. By applying organizational systems theory concepts, we will see that in an effort to fulfill their primary task, maintenance or recreation units will either overtly or covertly renegotiate the lifeguard's task while he or she is on duty, thereby endangering the lives of the swimmers.

Miller and Rice view organizations as open systems that import, convert, and then export products or services. These processes are the work that organizations must do in order to survive. An educational enterprise, for example, imports students and through the conversion process provides them with opportunities to learn. It then exports students who have acquired some qualifications or who have failed to be altered by the conversion process.

Parks and recreation departments have a corresponding import/conversion/export process. With a limited amount of resources, they take in individuals and provide them with opportunities to relax and enjoy leisure time activities. After the activities are completed, the individuals are sent home.

Parks departments have as their primary task the maintenance and operation of various facilities. The services that these agencies provide are judged by how well the facilities are maintained and operated.

Recreation departments have as their primary task the provision of leisure activities. To survive as an organization, they must provide various forms of relaxation for the users of their services.

Clearly defined primary tasks for the subsystems in parks and recreation organizations enables us

not only to compare and contrast different primary tasks, but also to establish boundaries between subsystems. This concept of primary task and the boundary of subsystems is quite important. Administrators need to understand that overt or covert crossing of boundaries and the blurring or renegotiation of a subsystem's primary task are major causes of conflict in parks and recreation agencies. I believe that intrusion upon the lifeguard unit by maintenance or recreational tasks has not only prevented the upgrading of lifeguard standards, but has also been a direct cause of unwitting drownings in guarded areas.

The primary task of the lifeguard unit is to prevent people from engaging in hazardous behavior or placing themselves in life-threatening situations. Secondly, the unit performs rescues or administers first aid. Since many near-drownings and emergencies have occurred at facilities with only a few bathers in attendance, the lifeguard should never be assigned recreational or maintenance duties while he or she is a member of the surveillance system.

The maintenance unit has as its primary task the care and cleaning of parks facilities. Since this particular unit, especially during the summer, is overworked and understaffed, the director of maintenance or the administrative subordinate may look to the lifeguard unit for assistance in cleaning aquatic facilities. However, any written or verbal policy that requires lifeguards to perform maintenance duties while they are or should be part of the surveillance system not only sharply increases the chance of drownings and accidents occurring, but also increases the agency's legal liability.

The recreation unit has as its primary task providing pleasurable leisure activities. This unit, like the maintenance unit, is generally understaffed and overworked and often looks to the lifeguard unit for help. To require lifeguards who are or should be part of the surveillance system to rent beach umbrellas or chairs, to take admission tickets, or to give swimming lessons sharply increases the probability of a drowning

or accident occurring, as well as agency's legal liability.

As is correctly pointed out by the Red Cross in their 1983 lifeguard textbook, "One cannot safely perform the duties of a lifeguard and a coach simultaneously. . . . The facility should provide separate lifeguard supervision for additional safety during these activities." One of the best ways to prevent the intrusion of maintenance or recreational duties is to follow the advice of the Red Cross and ensure that there is "uninterrupted and proper supervision of the facility . . . at all times."

The renegotiation of the lifeguard's primary task by either the maintenance or recreation units may be covertly interpreted by a lifeguard as authorization either to ignore the agency's priority-setting of his or her duties or to establish a new set of priorities. If this action by the lifeguard goes unchallenged by the lifeguard supervisor, serious and perhaps fatal consequences to the users of the facility are likely to occur.

Distraction, the third element of the RID factor, is a concept that most administrators are quite familiar with, one that can also be analyzed through systems theory concepts. If a distraction from surveillance duties occurs beyond the time limits of the surface struggle of the drowning non-swimmer, the lifeguard is either unaware of preventive lifeguard concepts or chooses to ignore both the agency's priority on his or her duties and established and nationally recognized lifeguarding principles.

As in all occupations, there are lifeguards who cannot or will not satisfactorily fulfill the requirements of their position. Often, these individuals seek a lifeguard job because of the environmental fringe benefits, such as outdoor work in a pleasant recreational setting or the glamour attached to the opportunities to meet attractive individuals. My investigation at Orchard Beach has shown that young children can sometimes struggle for only 20 seconds on the surface of the water before submerging. Therefore, any activity that

Continued on page 67

THE RID FACTOR

Continued from page 55

takes the lifeguard away from active surveillance of bathers for more than this brief period of time must cause what is viewed as inattention to duty.

This strict standard of care can be met if there is overlapping tower surveillance of the bathing area and if the lifeguards receive regularly scheduled breaks from their surveillance duties. One break system that the Red Cross recommends is for the lifeguard to receive one 15-minute break every hour.

The strongest reason for advocating this standard of care is that the lifeguard must detect the surface

struggle of the drowning non-swimmer within 20 to 60 seconds or a routine rescue may become a submersion or fatality. If a lifeguard demonstrates continued inattention to duty, he or she should be warned about the consequences of this behavior and be closely supervised. If the pattern continues, the person should be encouraged to seek a job in which the consequences of inattention will not be catastrophic.

One of the many hallmarks of American society is the high value placed on human life and the belief that as new information on reducing and treating accidents becomes available, our nation should benefit from it. The American National Red Cross has mandated that cardiopulmonary resuscitation (CPR), standard or advanced first aid, and advanced lifesaving be prerequisites for enrollment in their new lifeguard training program. Thus, those individuals who complete the program will have the qualifications and training to function as aquatic emergency service technicians.

Recreation and park administrators can implement both the wishes of the American people and the aspirations of the American National Red Cross by altering any old perceptions that they have of a lifeguard as a bronzed, adolescent beach boy and demand that the lifeguard act as job title implies, as "a guard of life." For, in the words of Johann W. von Goethe, if we, "Treat people [lifeguards] as if they were what they ought to be [aquatic emergency service technicians] . . . you will help them become what they are capable of being" [guards of life]. □