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A Master Scan

Yes, it's hard, but here are ways for lifeguards to stay vigilant.

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Special to Aquatics International

Playing baseball is, in many ways, a lot like lifeguarding. Although the game can be very exciting and the outcome can be decided in just seconds, there are long stretches of inactivity for many players, particularly outfielders. This can lead to a lack of vigilance that can adversely affect performance, one of the basic tenets of the *Inverted U Hypothesis*.



We often think of baseball players as being superstitious and, while they may claim to be superstitious, their daily rituals are actually focusing tools that remind them to keep active both mentally and physically in what is an important yet boring game for many of the participants. All the seemingly unimportant and even silly routines they follow remind them to stay on their toes. Warming up between innings, tapping the glove, repeatedly talking nonsense to others, stretching and jogging in the field are all mechanisms to keep them alert and vigilant because the next ball might be coming their way.

To be effective, however, these routines must be purposeful and systematic, specifically designed to help the athlete direct his energy and focus to the task at hand. Likewise, the positive self-talk that many athletes use could be incorporated by lifeguards to sustain their focus: Lifeguards may want to use predetermined cue words or positive self-talk every five minutes to help maintain focus.

While not everyone plays baseball, most of us drive cars, and

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that analogy certainly may be appropriate as well. At boring facilities on slow days, lifeguarding is like sitting in a car that is idling. Certainly, sitting in an idling car for hours on end would lead to boredom and inattentiveness. If an accident should occur while on duty, that lifeguard must put the pedal to the metal, zero to 60 mph in seconds flat. If the lifeguard is not mentally and physically prepared, slow and/or inappropriate action may take place and the lifeguard may even become injured during the course of the rescue because his body is not warmed up.

Waterpark and ocean guards often are mentally more ready to make a rescue because their environments are more stimulating and even entertaining. The trick for many under-aroused lifeguards is to create mental and physical drills while on duty, as well as mentally rehearse rescues so they do not miss important cues and are physically able to respond safely and appropriately when an emergency occurs.

Why, when, how

Most water-safety experts agree that constant, vigilant supervision is the primary duty of all lifeguards to prevent accidents. But in reality, vigilance is, by human nature, very difficult to maintain, particularly when the visual tasks required by lifeguards and others become boring, repetitive and routine.

Scanning is of paramount importance while maintaining vigilance, but there is no consensus in our field of exactly what scanning is and how it should be performed. In the past couple of decades, three exciting models have been proposed to keep the scanning process vigilant. While not all three specifically deal with the process of scanning, they relate well to the vital scanning process.

First, aquatic safety consultant Frank Pia developed his RID Factor (Recognition, Intrusion, Distraction), which deals mostly with victim recognition and why attention should not be diverted from the water. Pia noted how subtly and suddenly people can drown and then explained the instinctive drowning process in detail. One important result of his work is the realization that a victim may remain on the surface for a very short time.

His work reinforces *why* lifeguards must maintain vigilant scanning.

Then Ellis & Associates, the Houston lifeguard training organization and safety consulting firm, developed its "10/20 Patron Protection Rule," which covers primarily scanning and response times: 10 seconds to detect someone in distress and an additional 20 seconds to render assistance. Ellis preaches this rule because it is possible for a patron to drown in as little as 30 seconds.

P.J. Fenner expanded this time frame to 30/120 for his Surf Lifesavers in Australia. The work of Ellis alludes to the *when* of

scanning.

Finally, I developed The Five-Minute Scanning Strategy, which addresses the physiology and psychology of an active scanning process and utilizes the research findings on vigilance. The system calls for safety checks and significant posture, position and eye pattern changes along with counting the patrons (when possible) every five minutes. I also recommend mental rehearsal drills, and verbal cues and mental focusing skills as a part of this strategy. I consider the Five-Minute Scan to be the *how* of scanning.

All three of these paradigms are closely related and have something important to offer water-safety professionals. Together, the three models can be adapted to rectify the human factors that make vigilance difficult.

RID Factor: The WHY of Scanning
10/20 Patron Protection Rule: The WHEN of Scanning
The Five-Minute Scanning Strategy: The HOW of Scanning

Collectively, the main concepts of these three paradigms help to construct a water-safety model that I call Progressive Prevention of Lifeguarding, as opposed to Reactive Response.

Reactive Response vs. Progressive Prevention



In recent years, with new technologies and advances available to water-safety personnel, many good protocols have been added to lifeguard training, particularly in the medical/science areas. Lifeguards now can use CPR, deliver oxygen, use Automated External Defibrillators (AEDs), backboard victims and use bag valve masks, all while protecting themselves from blood-borne pathogens.

These very positive and necessary advances not only protect lifeguards, but also increase the success rates of rescues and resuscitation efforts. With these advances come some disadvantages, however. These new devices and technologies take time to learn, become familiar with and be assimilated by all lifeguards. In addition, these new skills and technologies must be incorporated into in-service training. One of my fears is that our training scales are being tipped to the rescue and resuscitation side rather than the prevention side.

Remember, it was only back in the 1980s when we changed our name from lifesavers to lifeguards. With all the time and effort we are required to spend on all associated with our Emergency Action Plans (EAPs), it seems that we are stressing Reactive Response rather than Progressive Prevention. Not that we need less skill or technology in rescue

and resuscitation, but I do believe we need to go back to basics and study the scanning process more diligently.

The future of scanning

It is time to reconsider the scanning process in a concise yet comprehensive way. As normal human beings, many lifeguards have not been able maintain vigilance. As a result, we now have a whole new computer-based technology that has been introduced to aquatics as “the lifeguard’s third eye.”

Underwater TV cameras and computers now are being manufactured to assist lifeguards with their scanning, particularly in boring, rectangular pools. Although lifeguards are trained to scan, rescue and resuscitate, we still discover too many motionless bodies at the bottom of guarded facilities. And, let’s face it, this technology will be more vigilant than lifeguards because it cannot and will not succumb to environmental conditions that produce low levels of arousal and vigilance in humans.

To reduce drownings with lifeguards on duty, our profession needs to systematically study what happens to lifeguards at low levels of arousal and how to maintain moderate levels of arousal in lifeguards. Before we can do that, we need to refine the definition of the scanning process. I submit that lifeguard scanning is more than just the physical process requiring constant eye and head movement around the aquatic facility. When we attempt to define scanning processes, we should agree that lifeguard scanning must be an interactive process that includes physical, mental and psychological aspects.

The act of scanning is easy, but the process of scanning and remaining vigilant is a comprehensive and vitally important task. Research must be conducted on how to get lifeguards to maintain vigilance after long hours of boredom and tedium. One of the first steps toward achieving this goal is to define lifeguard scanning more succinctly and then systematically study individual components. As we examine the components of scanning, I believe the Inverted U Hypothesis must be applied.

Although instinctively and intuitively we realize that many physical and psychological tricks can be used to increase vigilance, careful study of the cause and effects of these scanning tips is important. We must study the psychophysiology of lifeguarding so that vigilance is increased.

All variables — those that are physical, mental and psychophysiological — should be measured along with the effectiveness of scanning while on duty. Then, and only then, will we know how to scan more effectively and efficiently. Producing this in a controlled setting is difficult enough, but measuring these variables in the real world of lifeguards is even more difficult. We need to comprehensively study what we believe to be intuitively and instinctively correct. That is the

