



VICTIM RECOGNITION, SCANNING & EMERGENCY DRILLS FOR POOLS AND WATERFRONTS

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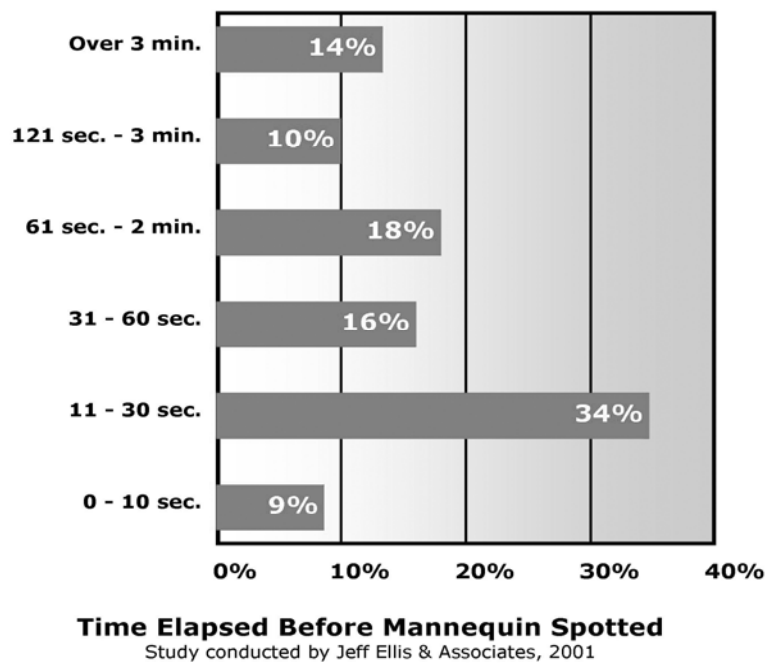
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Scanning & Emergency Drills

The most critical skills for a lifeguard are those that prevent accidents. While rescue and resuscitation skills are extremely important, scanning skills used in incident recognition are the primary function of the guard. Lifeguards must be constantly vigilant and attentive. When on duty, a guard must be mentally and physically prepared to scan their entire zone of coverage effectively. This includes being Rescue Ready; rescue tube in hand with the strap over the shoulder, properly attired, easily identifiable, wearing a whistle, and equipped with a resuscitation mask and gloves on the guard's person.

Lifeguards may appear to be Rescue Ready and actively scanning but tests continue to show that less than 10 percent of the lifeguards tested spotted a submerged silhouette manikin within 10 seconds of its placement on the pool bottom. In 2001 more than 500 submerged silhouette tests were performed by Jeff Ellis and Associates in 90 US pools and water parks. It took 1 minute and 14 seconds, on average, for lifeguards to spot the manikin (see graph below).



In approximately 75% of drowning cases where a guard was present, it was not the lifeguard that initially identified the victim. The submerged victim was brought to the attention of the lifeguard by another patron. This is not always the fault of the lifeguard. There are many factors that influence a lifeguard's ability to adequately protect the swimmers in the guard's assigned zone.

Scanning & Emergency Drills

KEY FACTORS AFFECTING A LIFE GUARD'S ABILITY TO SCAN

The **Five Minute Scanning Strategy** is designed to reduce monotony and increase vigilance. This strategy includes:

Posture - Sit – Stand – Stroll

Position - Switch position or posture every five minutes and include more frequent rotations.

Pattern - Scan – Change visual patterns every five minutes and scan the pool bottom first and then the pool top.

Count - Count or approximate swimmers in zone every five minutes.

Note: Rehearse a rescue in your mind with a swimmer in your zone. Expect it to happen!

Educate and coach life guards about correct diet and nutrition, on avoidance of alcohol and other substance abuse, and on adequate sleep. A healthy lifestyle can measurably improve vigilance capacity.

Lifeguard Duties should be limited to scanning and control. Drowning is most often silent and vertical with little noise or movement and therefore recognition by the guard is key. Lifeguards should have no duties other than scanning their assigned zones. Secondary job responsibilities or conversation take a guard's focus away from active scanning. Taking pool readings, recording readings, checking the patrons using the sauna, hot tub and steam rooms, moving lane lines and cleaning should take place off duty between guarding shifts. These activities not only distract the guard from their primary duty but result in 360 degree scanning, or stepping off the pool deck, leaving the life guard's back to the pool.

Lifeguard Stands provide the best vantage point to observe the entire bottom and top of the water in an assigned zone. Lifeguard stands should be a minimum of 5ft above the deck and be mounted directly at pool side to facilitate observation of the pool bottom immediately in front of the chair. Access should be to the left and the right of the stand – not from the rear or the front. Lifeguard stands that are placed near shallow water pose the risk of injury to a guard. Life guards should not jump from elevated life guard stands into shallow water. Lifeguards should spend the majority of their shift in an elevated life guard stand when possible.

Note: Low guard chairs, folding chairs and deck chairs place the lifeguard in a compromised scanning posture, mostly reducing the guard's elevation even lower than when standing on the pool deck. Elevation is critical to effective 10 / 10 scanning.

Outdoor Pools have many different challenges. Heat and sun glare negatively impact vigilance capacity. Lifeguards must be required to wear personal protective equipment including; t-shirts, hats and polarized sun glasses. Shade should be provided and mandated. (Many young people want to catch some rays while on duty. This will most definitely have a negative impact on vigilance capacity.) Hydration is important and it may be necessary to provide cold bottled water to life guards while on duty.

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Vigilance Capacity cannot be maintained at an optimal level for more than 30 minutes according to sports performance studies and studies with air traffic controllers. The YMCA of the USA recommends guards should be rotated every 20 to 30 minutes and given at least a 15 minute break every 2 hours for indoor pools and a 10 minute break every hour for outdoor pools.

Note: Safe-Wise recommends that a ten minute break should be provided every hour of duty in both indoor and outdoor pools in order to facilitate optimal vigilance capacity.

Zones are defined as the area of a pool assigned to a particular lifeguard. Glare at various times of the day, water agitation, physical obstructions, pool design and pool usage must be considered when assigning zones. Zones should be assigned based on the ability of a guard to see the bottom and top of the water in their assigned area in a 10 second, 180 degree scan. Ten seconds to see the victim and 10 seconds to get to the victim. Zone coverage plans should be documented and posted in the pool area where lifeguards can see them.

SCANNING PRIORITIES

Triage Scanning, is an effective method of scanning that compliments the general 10/10 rule. This technique prioritizes the zone of coverage and how scanning is applied by the guard.

1st Priority – Scan the bottom of the pool as victims underwater are at the greatest risk.

2nd Priority – Scan the surface of the water.

3rd Priority – Manage behavior and deck activity

Managing scanning priorities with multiple guards:

When multiple guards are on duty, one guard may be stationed on the elevated guard stand with a priority on bottom scanning. Another guard may manage behavior and deck activity with a priority on surface scanning.

Managing scanning priorities with single guard:

When a single guard is guarding alone it may become necessary to close off one or more sections of the pool to facilitate adequate scanning and zone coverage.

Managing scanning priorities and high risk areas:

Specialty areas such as diving wells and slide shoots should be separated from swimming areas with a buoy line. A dedicated guard should be assigned to these areas when ever they are open.

Managing scanning priorities and youth swimming skill levels:

All children should be either deep or shallow water tested before entering a YMCA pool. Colored break-away neck bands, or swim caps should be worn by all children identifying their swimming ability e.g. Deep – Shallow- Arms-length supervision required or PFD required. It is critical for effective scanning that all children are tested and wear visible (neck/head not wrist) colored identification designating their swimming ability and swimming area.

Scanning & Emergency Drills

GENERAL SCANNING AND EMERGENCY DRILL GUIDELINES

Regular and unannounced drills are useful practices in maintaining a high level of aquatic readiness and to reinforce victim recognition and scanning skills. These drills should be conducted to compliment monthly in-service training that includes a heavy emphasis on victim recognition, scanning and the Emergency Action Plan (EAP). By conducting weekly unannounced scanning drills leadership can emphasize and reinforce bottom and top scanning and 10/10 protection. Drills should be executed at different times of the day and week. High pool usage times should not be avoided. All drills should be documented by an observer to record results and for later review. After the drill is run, the procedures should be reviewed and analyzed to determine effectiveness and modified if necessary.

Staff actions in emergency situations are critical and time is of the essence. Water emergencies are among the most critical emergency situations in YMCA programs as suffocation by drowning compounds all other causes and conditions. While pools are more common in YMCA programming, open dark water areas such as resident and day camps, offer different challenges that must also be reviewed and planned for. Every aquatic location must have a comprehensive site-specific EAP that clearly defines roles for each staff member. The EAP should be rehearsed on a regular basis through emergency drills. Various scenarios can be utilized for these rehearsals of the EAP; drill procedures are outlined below.

The EAP should be included in all New Staff Orientations and in-service trainings. A record of participation should be maintained in each staff member's personnel file. Local emergency personnel should review the EAP to ensure effectiveness and compliance with local protocols. It is important to follow as much of the EAP as possible during a drill to ensure that all components are effective. This should include emergency response staff, an AED trainer, Oxygen and a manikin.

DRILLS

Disappearing Silhouette Manikin – Submerged victim recognition under differing light conditions, agitation and guard orientation. Include in new staff orientation and in-service training.

Red Ball Drill – Surface victim recognition within 10 seconds - lifeguard indicates victim recognition by thrusting fist in air.

Silhouette Manikin Drill - Submerged victim recognition within 10 seconds – clear pool.

Red Cap Drill – Live victim recognition within 10 seconds with activation and implementation of the Emergency Action Plan. Many YMCA aquatic programs have adopted this drill procedure as part of their training program in order to effectively prepare for drowning emergencies.

Scanning & Emergency Drills

Disappearing Silhouette Manikin Drill Guidelines:

The **purpose** of this drill is to observe a submerged victim under a variety of conditions; swimmer activity, different angles of light, agitation of the water surface, various obstructions such as lane lines and pool design features. This drill is best suited to new staff orientation and in-service trainings.

The silhouette manikin should be placed on the pool bottom (avoid laying it on the black lane markers). All staff present should then be instructed to slowly walk with the leader around the pool deck keeping their eyes focused on the submerged manikin. The leader should point out how the manikin will “disappear” with the effects of glare and water agitation. Staff should also notice how the manikin disappears or becomes distorted below swimmers and floating lane lines. The leader should point out how the manikin disappears as they walk due to pool design features such as “L” shape designs, divider walls, “Lazy” rivers and water toys. Staff should observe the manikin from the elevated guard stand and see the tremendous improvement in bottom scanning ability.

Repeat this drill for two or more placements of the manikin based on your knowledge of your pool; place the manikin where it will best help emphasize the specific conditions at your pool that limit effective scanning.

Red Ball Drill Guidelines:

This is a simple time effective drill with a **purpose** of emphasizing surface scanning and 10/10 protection.

A swimmer is instructed by a senior aquatic staff member to release a 4 to 6 inch (in diameter) red ball into the pool while either swimming or teaching. A signal indicating the ball has been released should be agreed upon (E.g. push hair back) and then a stop-watch is started.

Once the guard scans and observes the red ball, the guard should thrust a fist into the air. The stop-watch is then stopped and elapsed time is recorded. A record of elapsed time should be maintained for each red ball drill. Life guards who consistently score 10 seconds or less should be immediately praised and recognized and rewarded at a future staff meeting.

Silhouette Manikin Drill Guidelines:

The **purpose** of this drill is to emphasize bottom scanning and submerged victim recognition within 10 seconds. This drill also involves members and patrons in understanding their role in aquatic emergency management.

A skilled swimmer practiced in the art of silhouette manikin placement is instructed by a senior aquatic staff member to deliver the silhouette to the pool bottom while either swimming or teaching. A signal indicating the silhouette has been released should be agreed upon (E.g. push hair back) and then a stop-watch is started.

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Once the guard scans and observes the silhouette, the guard should blow the whistle to clear the pool and retrieve the manikin. The stop-watch is then stopped and elapsed time is recorded. A record of elapsed time should be maintained for each drill. Lifeguards who consistently score 10 seconds or less should be immediately praised and recognized and rewarded at a future staff meeting.

Note: Whenever an unknown object is observed on the pool bottom it should be assumed to be a possible victim. The whistle should be blown and the object should be identified and removed. "When in doubt – Fish it out"

Red Cap Drill Guidelines:

The **purpose** of this drill is to evaluate scanning vigilance and emergency response using a live victim. The drill should be unannounced and a senior staff member should be assigned to stop 911 from being activated.

This drill utilizes a trained swimmer (who can hold their breath for ten to twenty seconds) and a red swim cap to activate the EAP. The swim cap may be labeled in such a manner as to make it distinctive; such as marking with a large black "X". The drill scenario should be reviewed during New Staff Orientations and regular in-service trainings.

While the pool or waterfront is open and active a properly trained swimmer should subtly submerge and place the red cap on their head before surfacing. They may assume a prone float position in the water, simulating an unconscious, non-breathing and/or pulse-less victim.

The lifeguard on duty should recognize the red capped swimmer within 10 seconds and immediately activate the EAP. The YMCA of the USA standard is the 10/10 protocol for lifeguards; 10 seconds to recognize the victim and 10 seconds to reach the victim in the water.

This scenario is best practiced in conjunction with a CPR manikin, an AED Trainer, Oxygen and suction. Once the victim has been safely removed from the water the manikin should be placed in lieu of the victim and appropriate resuscitation should be demonstrated; rescue breathing, CPR, use of the AED, oxygen administration and suction.

The entire EAP should be activated up to the point of notifying 911 or activating the local EMS, unless it has been previously arranged for their inclusion in this drill.

The following form can be used to evaluate the drill. Regularly rehearsing the EAP will ensure that the plan is effective and allow the YMCA to be better prepared for emergencies.

Scanning & Emergency Drills

Anytown YMCA Aquatic Red Cap Emergency Action Plan Drill

Date: _____ Day/Time: _____ Scenario: _____

Lifeguards: _____

	Pass	Fail	Comments
Lifeguard Rescue Ready			
Victim recognition (Max. 10 sec.)			
Lifeguard activated appropriate EAP protocols			
Lifeguard performed a safe & effective entry and in-water rescue			
Lifeguard used appropriate in-water rescue equipment			
Lifeguard completed extrication of victim from the water within 90sec.			
Lifeguard provided adequate airway management techniques; in and out of water.			
Lifeguard provided adequate obstructed airway techniques			
Lifeguard performed adequate circulatory and first aid management techniques			
Lifeguard utilized appropriate personal protective equipment			
Emergency staff responded within 1 minute of activation of the EAP alarm system			
AED and Oxygen was available within 2 minutes of the victims extrication			
Pool area quickly and effectively cleared			

Remarks: _____