



Alertinsert

Lifeguarding in Action

INTRODUCTION

National Lifeguard certification is the nationally recognized training standard for Canadian lifeguards. The Lifesaving Society ensures the National Lifeguard program is comprehensive, research-based and up to date. To meet this goal, the program is reviewed and revised on a regular cycle. The most recent revisions to the program were introduced in June 2012.

Alert Insert summarizes content that is new, newly emphasized or updated in the revised National Lifeguard program including:

- Positioning and scanning (especially the pool bottom)
- Shallow water blackout
- Standardized open water arm signals
- Environmental hazards of pools including pool fouling
- Epinephrine auto-injectors
- Preparation for the lifeguards' work environment

Alert Insert does not repeat technical content found in the *Alert: Lifeguarding in Action*, the *Canadian Lifesaving Manual* or the *Canadian First Aid Manual*. In the following pages, all NLS test item references relate to the revised NLS program.

Positioning & Scanning

Scanning & Observation
Reference: Alert Chapter 2
NLS Pool Item 5a; Waterpark Item 7a; Waterfront Item 5a; Surf Item 4a

Effective lifeguard positioning and systematic, continuous scanning are the foundations of the lifeguard surveillance system. Constant, vigilant supervision is the primary duty of all lifeguards. Lifeguards must not allow non-lifeguard duties or distractions to intrude on surveillance. See "Factors in Drownings in Supervised Areas" (*Alert*, page 23).

Positioning and zone coverage

Lifeguards must be positioned where they can clearly see their entire designated supervision zone. From this position, the lifeguard starts and finishes a scanning cycle.

Stationary guards (in towers or chairs) may need to be complemented with mobile lifeguards who can move to cover high traffic or hazardous areas or "blind spots" created by surface glare, equipment or physical structures. See "Positioning of Lifeguards" (*Alert*, page 11–16).

Scanning

The Lifesaving Society recommends a **10-30 second scanning window** – the time it should take a lifeguard to complete a full and effective scan of his or her designated supervision zone. This scanning window provides for the typical variables that affect scanning time such as: type of facility, size of zone, number of bathers and their activities, and equipment used by bathers.

Scans must take in:

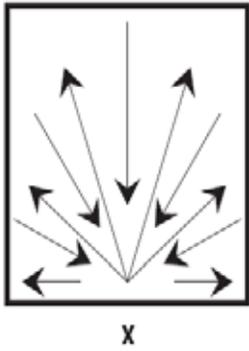
- Areas of bather congestion
- Fixed and portable equipment
- Hazards, blind spots, pool basin edges and corners
- Hot tubs, saunas and steam rooms
- Other lifeguards on duty
- The surface, middle and bottom of pool basins

The pool bottom must be a priority during visual scanning.

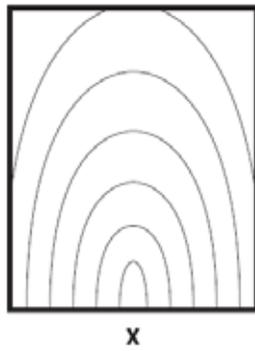
Lifeguards should respond immediately to any unusual shadows, smudges or dark objects below the surface. Disturbance of the pool surface – caused by swimmers, splashing, wind or rain for example – can distort or completely obscure the lifeguard's view of a victim on the bottom.

Bather loads, activities and environmental circumstances change during the day. There should be plans or protocols in place to deal with the effects of changing circumstances. See "Scanning" (*Alert*, page 17–19).

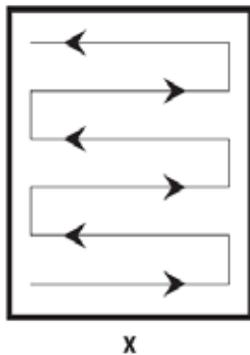
STARBURST SCAN PATTERN



ARCING SCAN PATTERN



ZIG-ZAG SCAN PATTERN



To fulfill these responsibilities, the pivot guard actively monitors the number of lifeguards responding to an incident and assesses how the remaining team members reposition themselves to maintain adequate supervision. The pivot guard may also need to provide direction to the team, coordinate pool evacuations and ensure that EMS has been activated.

Before establishing a pivot guard system, pool operators and lifeguard teams should understand the following.

The pivot guard must be able to clearly see all on-deck lifeguards and vice versa.

Scanning a waterpark facility can be challenging due to facility size, physical barriers and blind spots that block sight lines. When all lifeguards are unable to maintain visual contact with each other, it is necessary to have one guard positioned with a sight line to every other guard.

Diagram 1 (page 3 opposite) illustrates a pivot guard system at a waterpark. The six triangles represent the location of guards on deck – including one at the top of the slide. The pivot guard (star) has a line of sight (dotted lines) to each lifeguard position.

All communication passes through the pivot guard.

Lifeguards signal the pivot guard whenever they need to respond to an incident including public relations and minor or major emergencies. This enables the pivot guard to communicate with the entire team; to redeploy guards as required; to assign necessary back-up; and to maintain overall awareness of what is happening at any given time. This is especially important when managing a missing person report or major emergency.

Note that a vast waterpark facility requires that the guard team use large and clear hand signals to prevent miscommunication. Some facilities invest in electronic devices to facilitate team communication.

If the pivot guard must leave position, another guard assumes the pivot position and/or role.

The pivot guard may be required to leave his or her position. For example, it is reasonable to expect the pivot guard to respond to an emergency if he or she is closest to the situation. If the pivot guard leaves position, he or she signals another lifeguard to reposition and assume the pivot position/role until the pivot guard returns.

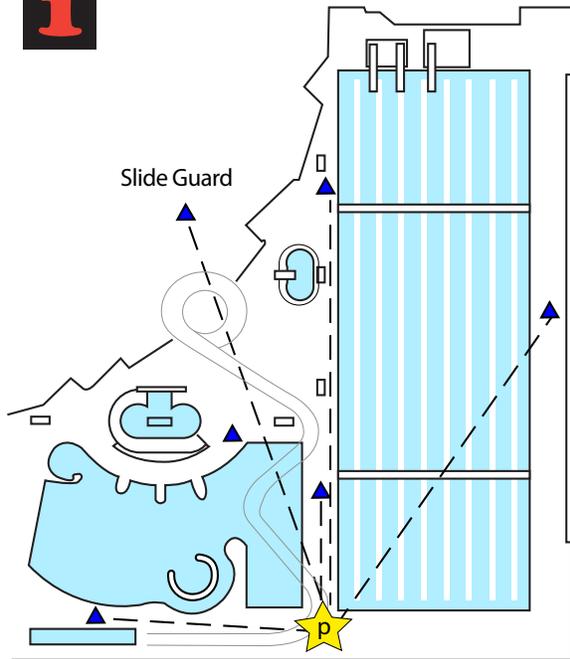
Waterparks and the Pivot Guard System

Positioning & Rotation
Reference: *Alert* Chapter 2, Chapter 13
NLS Waterpark Item 6, 7b

The pivot guard system is one method of organizing lifeguards on deck. The system is useful when there are four or more lifeguards on duty or when guards cannot maintain visual contact with one another because of blind spots.

The pivot guard – the person who plays a central role in coordinating the team – has three key responsibilities:

- To ensure that there is adequate supervision (scanning coverage) of all areas.
- To ensure that appropriate back-up responds to any given incident.
- To close certain areas/pools if adequate supervision cannot be maintained.

1

Ensure adequate pool coverage at all times.

It is critically important that an aquatic facility be supervised constantly with adequate lifeguard coverage – the number and positioning of lifeguards suitable for the type of activity and number of bathers, etc. The pivot guard may need to close a pool or other waterpark feature when members of the lifeguard team respond to an emergency leaving insufficient guards to adequately cover the abandoned supervision zone(s). In Diagram 2, two lifeguards are responding to a major emergency in the deep tank. The pivot guard has coordinated pool closures (red diagonal slashes) and guard repositioning.

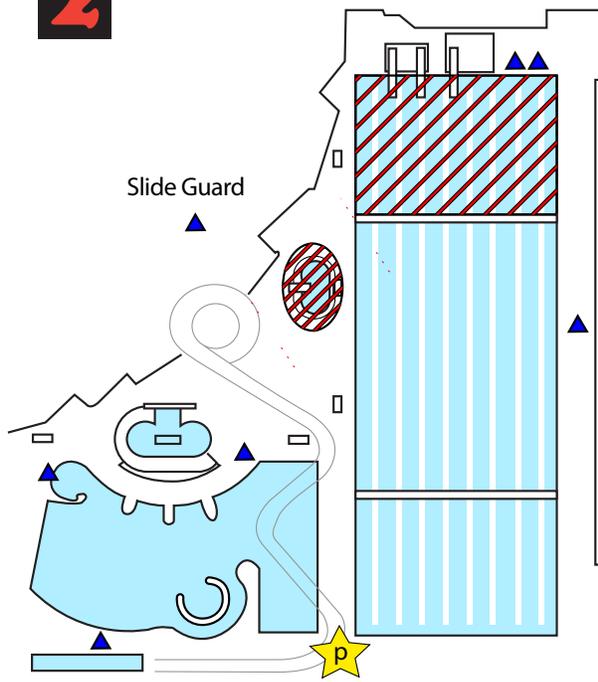
Epinephrine Auto-injectors

First Aid & Resuscitation
Reference: Canadian First Aid Manual, p. 44-45

Anaphylaxis is a severe, often life-threatening, allergic reaction that affects multiple body systems. Anaphylactic signs and symptoms don't appear in any particular order and no two reactions are the same (although each successive reaction can get worse).

A third of all reactions require a second dose of epinephrine within 10 minutes of the first dose. There is no way to predict how severe a reaction will be and for this reason, more people who suffer from severe allergies are starting to carry more than one EpiPen® or a Twinject®. Twinject auto-injectors provide two doses of epinephrine. The first dose is administered using the auto-injector. The second dose, if needed, is administered via a pre-filled syringe located inside the barrel of the device.

Lifeguards should consult and comply with their employer's policies and procedures with respect to the administration of medication – including epinephrine auto-injectors. For details on the use of EpiPen or Twinject auto-injectors consult the *Canadian First Aid Manual* and www.epipen.ca or www.twinject.ca.

2

Shallow Water Blackout

Lifeguarding Techniques
Reference: Alert Chapter 3
NLS Pool Item 5a, 5c, 10; Waterpark Item 7a, 7c, 12; Waterfront Item 5a, 5c, 11; Surf Item 4a, 4c, 10

Shallow water blackout (unconsciousness) results from an insufficient amount of carbon dioxide to activate the body's natural impulse to breathe. Swimmers who practice prolonged underwater breath-holding are particularly at risk.

Swimmers mistakenly think that hyperventilation or overbreathing will increase the amount of oxygen in the bloodstream and prolong the time they can spend underwater.

What they are really doing is extending their time underwater by closing down the body's natural breathing mechanism, not by increasing oxygen load.

The primary urge to breathe is usually triggered by rising carbon dioxide in the bloodstream. In hyperventilating, swimmers blow off an excessive amount of carbon dioxide. The swimmer never feels that a breath is needed and – without any warning – loses consciousness when the oxygen level in the blood runs low before the carbon dioxide level rises sufficiently to trigger breathing.

Once submerged, the swimmer may be hidden from lifeguards' view by surface glare and ripple/waves on the surface.

Typical victims of shallow water blackout do not fit the profile of an at-risk swimmer and therefore may not receive the lifeguard attention that a non-swimmer or 'gutter-grabber' might. Shallow-water blackout is a potential hazard for competitive swimmers, underwater hockey players, fitness swimmers and young children vying to see who can hold their breath the longest.

Tips for lifeguards and pool managers include:

- Be aware that victims of shallow water blackout are not your typical at-risk swimmer.
- Be on the lookout for swimmers taking several large forced breaths or a series of short, fast breaths.
- Do not allow (and post signs warning against) hyperventilation or breath-holding activity.

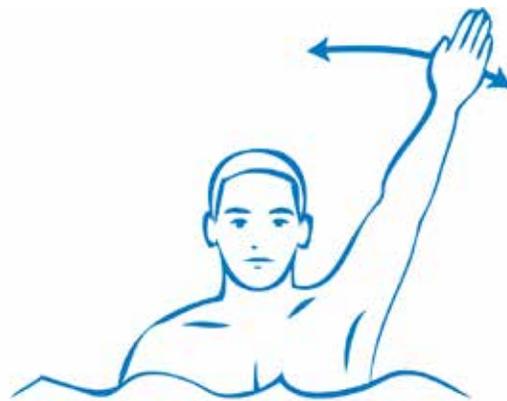
Arm Signals

Lifeguard Communication
Reference: Alert Chapter 3, Chapter 12
NLS Waterfront Item 4, 11; Surf Item 3, 10

Lifeguards at open water facilities are encouraged to adopt these international arm signals. Additional, facility-specific signals may be needed.



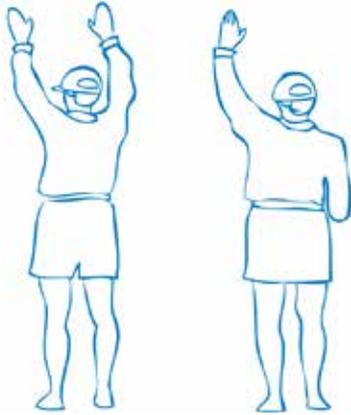
Submerged victim missing



Assistance required

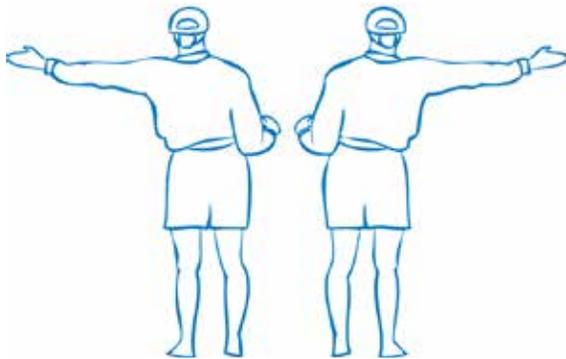


All clear/okay



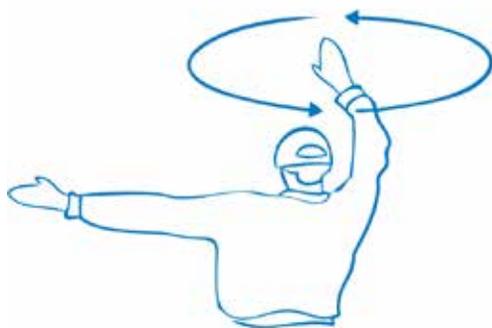
**Proceed away
from shore**

**Proceed
towards shore**



Proceed left

Proceed right



Pick up victim

Pool Fouling

Lifeguard Theory
Reference: Alert Chapter 11
NLS Pool Item 3; Waterpark Item 2

Pool fouling refers to the release of diarrhea, solid stool or vomit into the pool water. Of particular concern is diarrhea. The Centers for Disease Control (CDC) in Atlanta reports that outbreaks of gastrointestinal illness associated with swimming pools appears to have increased in recent years. Most of these outbreaks are associated with the *Cryptosporidium* parasite which is found in diarrhea.

Cryptosporidium appears to be resistant to standard chlorine levels. It can exist in pools for up to 10 days at a chlorine level of 1.0 ppm, and up to 24 hours at 10 ppm. It has been determined that *Cryptosporidium* can be effectively eradicated at chlorine levels of 20 ppm. While information is rapidly changing, at this time only chlorine is an effective disinfectant. The effects of other disinfectants such as bromine have yet to be determined.

The CDC specifies procedures to be followed after discovering any form of fecal matter or vomit in a swimming pool.

Implications

Pool operators should consult their public health officials and adopt procedures for disinfecting a pool after fouling contamination. These procedures should be documented in facility manuals and staff handbooks and pool fouling incidents should be recorded along with the steps taken.

All staff should review pool fouling procedures during staff training. A record should be maintained listing aquatic staff who have participated in the training.

Public education is important in reducing the health risks presented by *Cryptosporidium*. Patrons should be informed through signage, flyers, department brochures, etc., that:

- Patrons must shower with warm soapy water upon entering the pool, initially, and every time after using the washroom.
- Patrons who have diarrhea, stomach flu, etc., should not enter the pool.
- Patrons (especially children) should not eat a heavy meal before going into the pool.
- Diapers specifically designed for swimming should be used for children who are not toilet trained.
- Any kind of fouling must be reported to staff.

For more information: <http://www.cdc.gov/healthywater/swimming/rwi/illnesses/cryptosporidium.html>

Harassment and Violence in the Workplace

Reference: Alert Chapter 8, Chapter 9

Lifeguards should be aware of their rights as employees to a safe, respectful workplace. They must also ensure they themselves avoid violence and any behaviour which could be considered harassment. The following is based on information provided by the Canadian Centre for Occupational Health and Safety (www.ccohs.ca).

Workplace violence

Workplace violence is any act in which a person is abused, threatened, intimidated or assaulted in his or her employment and includes:

- **threatening behaviour** – such as shaking fists, destroying property or throwing objects
- **verbal or written threats** – any expression of an intent to inflict harm
- **harassment** – any behaviour that demeans, embarrasses, humiliates, annoys, alarms or verbally abuses a person and that is known or would be expected to be unwelcome. This includes words, gestures, intimidation, bullying or other inappropriate activities
- **verbal abuse** – swearing, insults or condescending language
- **physical attacks** – hitting, shoving, pushing or kicking

The following factors can put people at increased risk for workplace violence:

- working with the public
- handling money or valuables
- working with unstable or volatile persons
- working in premises where alcohol is served
- working alone, in small numbers, or in isolated or low traffic areas

Prevention

The most important component of any workplace violence prevention program is the commitment of management expressed in a written policy. Preventive measures generally fall into three categories – workplace design, administrative practices and work practices.

Workplace design considers factors such as workplace lay-out, use of signs, locks or physical barriers, lighting and electronic surveillance. Building security is one instance where workplace design issues are very important.

Administrative practices are decisions made about how you do business. Certain administrative practices can reduce the risks involved in handling cash for example.

Work practices include all the things you do while you are doing the job. People who work outside the traditional office setting can adopt work practices that will reduce their risk. For example:

- Use the buddy system especially if you feel your personal safety may be threatened.
- Do not enter any situation or location where you feel threatened or unsafe.

Workplace violence prevention legislation

Most Canadian jurisdictions have a “general duty provision” in their Occupational Health & Safety legislation which requires employers to take all reasonable precautions to protect the health and safety of employees. More information on this topic is available from the Canadian Centre for Occupational Health & Safety (www.ccohs.ca). Contact your employer’s human resources personnel or local authorities to find out more about the specific laws applicable to violence in your jurisdiction.

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