

Semipublic Swimming Pool Safety Standards

July 2004



LIFESAVING SOCIETY®

The Lifeguarding Experts

Other Safety Standard Publications available from the Lifesaving Society include:

Waterfront Safety Standards: designed to assist waterfront owners and operators in providing a safe aquatic environment. It recommends minimum safety standards for waterfront operation.

Public Aquatic Facility Safety Standards: designed to assist public aquatic facility owners and operators in providing a safe aquatic environment. It recommends minimum safety standards for public aquatic facility operation.

Private Pool Safety Standards: designed to assist private pool owners and operators in providing a safe aquatic environment. It recommends minimum safety standards for private pool operation.

Public Wading Pool Safety Standards: designed to assist public wading pool owners and operators in providing a safe aquatic environment. It recommends minimum safety standards for public wading pool operation.

Semipublic Swimming Pool Safety Standards

July 2004



LIFESAVING SOCIETY®

The Lifeguarding Experts

SEMIPUBLIC SWIMMING POOL SAFETY STANDARDS

Published by the Lifesaving Society

13123 - 156 Street

Edmonton, Alberta, Canada T5V 1V2

Phone: (780) 415-1755; Fax: (780) 427-9334

Email: experts@lifesaving.org; Website: www.lifesaving.org

First Printing July 2004.

Copyright 2004 by the Royal Life Saving Society Canada. Reproduction by any means of materials contained in this book is prohibited unless authorized by the publisher. Direct inquiries can be made to the Lifesaving Society office.

The Lifesaving Society is Canada's lifeguarding experts. The Society is a national charitable organization working to prevent drowning and water-related injuries through lifeguard, lifesaving, and swimming training, competitive lifesaving, safety management standards and services, and Water Smart® public education.

The Society is an independent, charitable organization educating Canadian lifesavers since the first Lifesaving Society Bronze Medallion Award was earned in 1896.

National Library of Canada Cataloguing in Publication

Semipublic Swimming Pool Safety Standards

ISBN 0-9735656-0-8

Lifesaving Society®, Swim for Life™, Swim to Survive™, and Water Smart® is a registered trademark of the Royal Life Saving Society Canada. Trademarks other than those owned by the Lifesaving Society used in this document belong to their registered owners.

CONTENTS

Executive Summary	1
Foreword	3
The Drowning Problem	5
Children and Your Pool	5
Adults at Risk	6
Diving and Shallow Water	6
Alcohol	7
Definitions	8
Risk Management	10
Who is Responsible?	10
Risk Management Process	10
Preventing Incidents	10
Personnel and Supervision	11
Supervision	11
Lifeguard Qualifications	11
Pool Attendant Qualifications	12
Other Response Staff Qualifications	12
Orientation Training	12
Inservice Training	12
Pool Operator	13
Staff Manual	13
Aquatic Facility Supervision Standard	13
Staff Communication	14
Health and Safety	14
Barrier Devices	14
Emergency Procedures	15
Lifeguard or Pool Attendant Present	15
General Procedures	15
Specialized Procedures	15
No Supervision Staff Present in Pool Area	16
Required Emergency Equipment	16
Emergency Response Signal	16
Contacting Emergency Services	16
Critical Incident Stress	17
Safety Systems	18
Facility Operating Manual	18
Pool Safety Rules	18
Swimming Pool Regulation Requirements	19
Safe Diving Rules	19

CONTENTS

Recreational Equipment Rules	19
Signage	19
Standards for Signage	19
Signs Required by Health Act	20
Whirlpool/Hot Tub Signs	20
Recreational Equipment Signs	20
Diving Signs	20
Other Signs	20
Pool Access Control and Admission Policies	21
Bather Load	21
Number of Lifeguards or Pool Attendants	21
Incident Tracking and Analysis	22
Pool Operation	23
Water Quality	23
Disinfection and Water Balance	23
Pool Water Clarity	23
Pool Fouling	23
Mechanical and Chemical Maintenance	24
Inspections and Testing	24
Recreational Equipment	24
Emergency Equipment	25
Suction Hazards	25
Pool Lighting	25
GFI - Ground Fault Interrupters	26
Safe Environment	27
Facility Access Control	27
Recreational Equipment Safety Standards	27
Waterslides	27
Diving Boards or Platforms	27
Other Recreational Equipment	28
Recreational Equipment Installation	28
Resources	29
Lifesaving Society Resources	29
Government Resources	30
Other Relevant Resources	30
References	31
Index	32

EXECUTIVE SUMMARY

Every owner of a semipublic swimming pool has an obligation to provide a safe environment for every user of the pool. This obligation has been very clearly identified and affirmed by court decisions across Canada. In order to meet this obligation, you need the assistance of the experts – the Lifesaving Society. The Lifesaving Society is the authority in aquatic standards and safety. Our standards and expertise are based on extensive research and over 100 years of public safety education and service. We are leaders in research and prevention of injury and drowning.

The Lifesaving Society has a mandate for public safety. The Lifesaving Society *Semipublic Swimming Pool Safety Standards* are your source of information about how to provide a safe environment and understand the regulations and standards that you must follow to achieve this goal. The Society developed and published these standards to educate pool owners about what they can do to safely operate their pool. Applying these standards to your pool will help you protect your customers – the public. It will also help you reduce the risk of injury or legal actions resulting from injuries.

The information in the Lifesaving Society *Semipublic Swimming Pool Safety Standards* is organized in a logical order to help you understand the material and take the necessary actions to create and maintain a safe environment for your pool users. The following sections of the Standards address information for specific needs:

- **The Drowning Problem** - Provides you with information from the Lifesaving Society Drowning Research about who is at risk of drowning or being injured at your pool and the behaviors that may result in injuries.
- **Definitions** - Definitions of terms used in the standards.
- **Risk Management** - Provides you with information about your responsibility as the pool owner for the safe operation of your pool. Explains the risk management process that you can use to analyze and understand the risks associated with your pool and take steps to eliminate or reduce these risks.
- **Personnel and Supervision** - Explains the requirements for staff to operate and supervise a semipublic swimming pool. It also includes recommendations for staff training and safety.
- **Emergency Procedures** - Emergency procedures are the steps pool staff can take to respond to an incident or help an injured person. This section provides guidance to help you identify and plan for the procedures you will need for your pool and select the necessary emergency equipment.
- **Safety Systems** - Safety systems are the day to day actions and policies established to prevent incidents and injuries. They include such things as pool rules and how they are to be implemented,

procedures for controlling access to the pool and suggestions for signs to educate users about hazards and safe behaviors for using the pool.

- **Pool Operation** - Presents recommendations for the procedures used to operate the swimming pool and maintain a safe pool. This includes maintaining safe water quality, handling pool chemicals, and inspecting and testing pool equipment.
- **Safe Environment** - This section provides you with direction about how to make the physical environment of the pool safe. This includes items such as fencing, gates, recreational equipment such as slides, safe water quality, pool and equipment maintenance and much more.
- **Resources** - This section includes information about additional support resources and information available from the Lifesaving Society. This includes Lifesaving Society links to Government resources and other organizations which can assist aquatic facility owners and operators to provide a safe environment. The *Safety Management* section of the Lifesaving Society website, www.lifesaving.org, is your key to the most complete and current resources from the Society.

The Lifesaving Society recommends that you read the Lifesaving Society *Semipublic Swimming Pool Safety Standards* and use this document to evaluate your pool and determine what steps you can take to create a safe environment for your patrons. Contact the Lifesaving Society for assistance to understand, interpret and implement the recommendations in the Standards. The Society contact information is located on the inside back cover.

FOREWORD

Faced with the potential for multi-million dollar lawsuits, semipublic swimming pool owners are becoming more proactive in assessing and managing risk in their aquatic environment. The Lifesaving Society believes that many incidents are foreseeable and therefore preventable.

As the lifeguarding experts, the Lifesaving Society is the authority in aquatic standards and safety. The Society establishes standards for public safety and consults on aquatic safety issues. The Society sets public safety standards for the aquatic industry such as the owners and operators of swimming pools, interprets safety standards for aquatic facility owners, advises government and serves as an expert witness in legal cases involving aquatic safety issues. The Lifesaving Society *Semipublic Swimming Pool Safety Standards* present the Lifesaving Society standards and recommendations for the safe operation of semipublic swimming pools.

The Lifesaving Society has developed and published public safety standards for aquatic activities and facilities throughout our history. The Lifesaving Society Safety Standards are compilations of aquatic safety guidance from Lifesaving Society research that has been published over many years in a variety of Society manuals and publications as well as external publications. The scope of Society research into public safety and risk management practices includes research and real operational experience from across Canada and around the world. In turn, the Society's expertise is shared internationally with the Royal Life Saving Society Branches throughout the Commonwealth and with the International Life Saving Federation.

The Lifesaving Society *Semipublic Swimming Pool Safety Standards* assembles the standards published in these many different sources into a single document to make this information available and readily accessible to the semipublic swimming pool owner. This document provides owners of semipublic swimming pools a set of clear recommendations from the Lifesaving Society for the safe operation of their pool. In addition to the Society's recommendations, this document also refers semipublic swimming pool owners to other codes, regulations, statutes or standards that should be considered when developing safe operating practices for their pool. This document does not in any way replace or supersede current legislation. Owners and users must obey all provincial and municipal legislation, regulations and by-laws specific to their semipublic swimming pool and community.

The Lifesaving Society recognizes that the recommendations provided in the Lifesaving Society *Semipublic Swimming Pool Safety Standards* are not the only solutions that semipublic swimming pool owners can use to provide a safe environment for their customers. The Lifesaving Society also recognizes that

each semipublic swimming pool has unique features. No single document can address every situation and need. In situations where owners implement alternative safety measures, the Society recommends that they thoroughly evaluate and document these measures. Contact the Lifesaving Society for assistance to understand, interpret and implement the recommendations in the Standards.

THE DROWNING PROBLEM

Drowning is the second leading cause of unintentional death in Canada. The great tragedy is that the vast majority of these deaths are preventable.

Over a 10 year period from 1991 to 2000, more than 30 people drowned in semipublic swimming pools. Many more were injured and needed medical attention. While all age groups were affected, deaths involving children are of particular concern. Drowning fatalities in children under the age of 5 are more than double that of any other age group. A major contributing factor in the deaths of children is the lack of adult supervision. For children under 5 years old, 85% were unsupervised when they drowned. For children age 5-12, 61% were unsupervised and in the age group from 13-15, 34% were unsupervised. These are alarming statistics, and speak volumes to the need for supervision of bathers at your pool.

Children & Your Pool

Children are naturally curious about water. They are persistent and ingenious in finding a way to it. Tragedy can strike quickly. Ten seconds of unsupervised play or exploration can result in a drowning. That's all the time it takes! It also only takes a few inches of water for a drowning to occur.

To prevent such tragedies, children must be supervised any time they have access to the semipublic swimming pool. Access to the pool must be prevented if they are not supervised. This is your responsibility as owner/operator of a semipublic swimming pool. Supervision can be provided by a staff person such as a lifeguard or pool attendant or may be the responsibility of an adult caregiver. Because of their vulnerability, children should never be permitted to swim unsupervised.

Toddlers and preschool children need a higher standard of supervision. The message to the parents and caregivers of these children should be: *If you are not within arm's reach, you have gone too far.* Most young children can't swim or they lack the strength to keep themselves afloat very long, or to pull themselves from the water. They drown when they trip and fall while playing in shallow water, when falling from the pool edge such as when reaching to retrieve a toy, or running around the deck near the edge. In shallow water, very young children who fall often cannot stand up without assistance.

A caregiver or other supervisor can't rely on a cry for help to alert them or splashing or waving. Usually, there are none of these sounds or reactions: the child slips quietly under the surface and may not be seen under the water. It's usually much later when someone notices the youngster missing. But even mere seconds can be too late.

The key to protecting children at a semipublic swimming pool is preventing unsupervised access and always insisting that they be closely supervised when in the pool area.

Adults at Risk

Children aren't the only ones at risk for drowning in the semipublic swimming pool. Adults are the second largest group at risk after young children under the age of 5.

Drowning usually occurs when the adult goes for a dip alone. This may include swimming for fitness, just cooling off on a hot day or soaking and relaxing in the whirlpool. Nobody is around to notice, give assistance or get help if the adult gets into difficulty in the water.

The adult at risk of drowning, like the young child, swims unsupervised. And that's where the greatest danger lies! Everyone should swim with a buddy - adults too.

Diving & Shallow Water

Lifesaving Society Drowning Research has found that shallow water presents risks that the semipublic swimming pool owner/operator should consider. For shallow water (less than 2.5m deep), the only safe entry method is feet first. Patrons who dive into shallow water are at great risk. They risk hitting the bottom head-first and injuring their spine from the impact. Many of these victims are young men. The consequences are tragic. Death sometimes occurs, but most times, the person is paralyzed. One dive into the pool can change their quality of life forever.

Approximately 34 Canadians become partially or completely paralyzed each year as a result of breaking their necks in water-related incidents. Most of these injuries occur while diving into shallow water. They also occur as a result of roughness or "horseplay" around the pool - throwing or pushing a person into the water, diving from high heights, diving off shoulders, or being "boosted" into the air by another swimmer. Dangerous play can result in a range of injuries which include possible spinal injuries, injuries resulting from collisions with the pool bottom or sides as well as injuries resulting from between bathers. Patrons need Water Smart® education and rules about safe ways to enter, play and enjoy the pool.

Alcohol Alcoholic beverages are involved in approximately one-third (36%) of all Canadian preventable water-related deaths, and half (48%) of fatalities where the victim was 18 to 34 years of age.

The high incidence of drowning and alcohol is an important factor for the semipublic swimming pool owner/operator to keep in mind. Many Canadian adults do not understand the increased risk from mixing aquatic activities and alcohol consumption. The effects of alcohol can include impaired judgement and physical coordination. Impaired patrons may not recognize hazards and may engage in dangerous behavior. In addition, they are at increased risk of injury as a result of their physical impairment. Consumption of alcohol in the pool area or using the pool while under the influence should be prohibited.

DEFINITIONS

- q ***Semipublic Swimming Pool*** means: A swimming pool provided by a hotel, motel, apartment building, condominium, multiple housing unit, mobile home park, trailer park, private educational institution, private club, campground, club, or similar establishment. The use of the pool is restricted entirely to the registered guests, owners, tenants, students or members, as the case may be, and their guests.
- q ***Facility Manager*** means a person designated by the facility owner as being responsible for the management and operation of the facility.
- q ***Owner*** means the person or corporation who is the owner of a semipublic aquatic facility
- q ***Pool Operator*** means the person designated at any given time who is responsible for the maintenance of health requirements as outlined in the Swimming Pool Regulations. This person shall hold certification from an approved swimming pool operator training program.
- q ***Swimmer or Bather*** means a person participating in any recreational activity in or on the water.
- q ***Patron*** means any person using the aquatic facility. This includes swimmers or bathers plus any spectators or other persons on the deck, general area or in other areas such as changerooms within the aquatic facility.
- q ***Lifeguard*** means a person holding a current National Lifeguard (NLS) certification appointed by the owner or operator to maintain supervision over the swimmers while they are on deck or in the pool.
- q ***Deck*** means the area immediately surrounding the pool.
- q ***General Area*** means an area adjacent to the deck within the pool enclosure that is used for activities other than swimming.
- q ***Diving Board*** means a flexible board intended for use by divers.
- q ***Diving Platform*** means a rigid board or platform intended for use by divers.
- q ***Wave Pool*** means a swimming pool that is provided with a means for inducing wave motion in the water.
- q ***Current Award*** means a training certification which is valid for a specified period from the date of certification or examination. The length of time that a certificate is current may be set by the certifying body and/or government regulation. For example, Lifesaving Society National

Lifeguard Award is current for 2 years from the date of certification and Lifesaving Standard First Aid certification is current for 3 years from the date of certification.

- q ***Lifeguard Supervision*** is the deliberate and conscious act of observing facility users to ensure the lifeguard is immediately aware of any incident or behavior which may prove life-threatening or injurious.

RISK MANAGEMENT

Who is Responsible?

Ultimately the owner of a semipublic swimming pool is responsible for the safe operation of the facility. The responsibility for the operation of the facility may be delegated to a Facility Manager or Operator. This responsibility may be further delegated to individuals such as Supervisors or Lifeguards who may be left in charge of the facility if it is a supervised semipublic pool. When the owner or manager is not present, the “in-charge” person, regardless of title, assumes full responsibility for the safe operation of the facility.

The Lifesaving Society *Semipublic Swimming Pool Safety Standards* outlines the Lifesaving Society’s recommendations for minimum safety requirements for semipublic pools. Safety shall be the primary concern of pool owners and managers. All facility staff are encouraged to go beyond the minimum requirements in their mandate to provide a safe environment. This means practising risk management: working diligently to prevent emergencies, but also responding to them quickly and efficiently if they do happen.

Risk Management Process

Risk Management is an ongoing process that is used to identify risks associated with your pool and activities in the pool, and take measures to reduce risk and prevent incidents and injuries. The process includes the following steps:

1. Identify risks
2. Evaluate: Why are they happening? What is the source?
3. Develop controls and strategies to minimize or eliminate risks including education of facility users regarding safe behaviors
4. Implement
5. Monitor efforts and evaluate results

Preventing Incidents

All facility personnel must view incident prevention as an integral part of their jobs. An attitude needs to be fostered and encouraged among staff that they are hired to anticipate incidents and take steps to prevent them, as well as respond to emergencies.

Establishing safety systems are important steps in prevention. One way of doing this is to keep accurate incident records. Tracking incidents and analysing these records to develop strategies to reduce risk is critical to risk management.

Facility analysis is an important means to reduce risk. Is equipment in good working order? Are there danger zones where incidents tend to occur or may occur? Are there problems created by structures or design? How secure is the area? Are the fencing and locking systems adequate? Can these be changed or the potential risk be reduced?

PERSONNEL AND SUPERVISION

Supervision

Lifesaving Society drowning research statistics show that most drownings occur in aquatic settings without lifeguard supervision. Almost half of the victims were alone at the time of their death. These are alarming numbers, and this is why the Lifesaving Society encourages all owners of semipublic swimming pools to consider the need and options to provide surveillance systems to monitor or supervise the pool when it is used by customers.

Supervision options include:

1. A lifeguard who is responsible for continuous surveillance of bathers in the pool. ***The lifeguard system is the approach recommended by the Lifesaving Society.*** Lifeguarded facilities provide the highest level of public safety for facility users and owners.
2. A pool attendant who is present in the pool area and can enforce safety and access controls, provide safety education and respond to an emergency.
3. A video surveillance system that can be monitored by a fulltime security station or other continually staffed location such as a hotel registration desk. The staff should have emergency response training.
4. A buddy system where facility users must be accompanied by another person with the clear expectation that they are responsible for supervising each other. Swimming alone should not be an acceptable practice.

If the facility is not supervised by a lifeguard, the owner/operator of a semipublic swimming pool shall post signs in visibly conspicuous locations within the pool area and all access points stating *“Warning: No Lifeguard on Duty. Children under the age of 16 must be accompanied by an adult”* or something similar.

Lifeguard Qualifications

Lifeguard - Required minimum qualifications:

- Minimum age 16;
- Hold a current National Lifeguard Award;
- Hold a current Standard First Aid (Aquatic Emergency Care Award or Lifesaving Standard First Aid recommended);
- Be trained in the facility safety systems and emergency procedures.

Pool Attendant Qualifications

Pool Attendant - Required minimum qualifications:

- Minimum age 16;
- Hold a current Bronze Medallion Award;
- Hold a current Standard First Aid (Aquatic Emergency Care Award or Lifesaving Standard First Aid recommended);
- Be trained in the facility safety systems and emergency procedures.

Other Response Staff Qualifications

Other Response staff - Required minimum qualifications:

- Minimum age 16;
- Hold a current Standard First Aid (Aquatic Emergency Care Award or Lifesaving Standard First Aid recommended);
- Be trained in the facility safety systems and emergency procedures.

Orientation Training

All new or returning supervision staff shall receive orientation training before assuming their supervision duties. This training should include:

- Introduction to fellow staff members;
- Exploration of job description and responsibilities;
- Introduction to and evaluation of hazards and risks in the facility, and a review of facility rules and policies concerning them;
- Review of personnel policies and procedures;
- Specific job-related training required to familiarize staff with the facility's programs, activities, operation and maintenance, and policies and procedures concerning supplies and equipment;
- Specific training in the facility's safety systems and emergency procedures;
- Specific training in public relations and effectively dealing with patrons.

Inservice Training

Pool staff and employers shall recognize the need for regular review of procedures and skills assessment. Inservice training should include:

- Evaluation and practice of emergency procedures designed specifically for the semipublic swimming pool;
- Review and practice of supervision, recognition and rescue skills;
- Practice use of safety equipment;
- Review of supervision policies and procedures including number of staff per patron and guidelines for patron and staff conduct;
- Review and practice of first aid skills including use of first aid equipment and supplies;
- Practice of public relations and effectively dealing with the patrons;
- WHMIS training appropriate to the materials and equipment they may be expected to use.

Every owner/operator of a semipublic swimming pool shall establish

Aquatic Facility Supervision Standard

an Aquatic Facility Supervision Standard. This standard shall define the minimum requirements for facility staff such as lifeguards or pool attendants who are responsible for the supervision of bathers. The standard should include:

- Skill standards appropriate for the facility;
- Minimum vision and hearing standards;
- Practices to evaluate if conditions such as injuries, illness and pregnancy prevent the staff person from meeting the standard;
- Minimum training to effectively perform all required supervision duties;
- A process to identify and replace on duty any staff member who is not able to meet the standard at any time she is scheduled to work in a supervision role.

Two parties have a responsibility to ensure that staff are able to meet their obligations - the employer and the supervision staff member. The employer is required to take reasonable steps to ensure that the supervision staff member is able to perform to the Aquatic Facility Supervision Standard when employed in a supervision role. The supervision staff member also has a personal responsibility to be able to meet the required Aquatic Facility Supervision Standard at anytime that she is on duty. It also requires that anytime she is not able to meet the standard (ie. due to illness or injury) she must inform her employer. A supervision staff member who is unable to meet the minimum standard should not work in a supervision role until she is able meet the standard.

Pool Operator

At least one individual, who at any given time may have responsibility for the care and control of a swimming pool shall hold a certificate confirming that individual's successful completion of an approved swimming pool operator's training program. This person is defined as the Pool Operator. The pool operator is not required to be present in the facility during the hours of operation.

Staff Manual

Every semipublic swimming pool should develop a Staff Manual. This manual must be readily available to the facility staff. The Lifesaving Society recommends that all staff be provided with a personal copy of the Staff Manual. The intent of this manual is to function as a training and reference resource for the facility staff and management. The suggested content should include:

- All facility supervision procedures and requirements;
- All specific safety systems and emergency procedures that the staff member is required to know and be able to do;
- Relevant employment policies and procedures as well as any specific employment standards such as the Aquatic Facility Supervision Standard.

The Staff Manual may be a subset of the more comprehensive Facility Operating Manual.

Staff Communication

A system shall be implemented which provides for regular communication and updates for facility staff (i.e. owner and operator). The primary purpose is to communicate information that is useful in maintaining the safety of patrons and staff. Examples of this information includes:

- Reporting of equipment in need of repair and steps taken to protect users;
- Notice of equipment closure or repair.

Health and Safety

Barrier Devices

All facility staff shall have access to barrier devices to prevent cross contamination in a first aid situation. At minimum this shall include a rescue breathing barrier device with a one-way valve and disposable surgical gloves. Because semipublic swimming pool staff may be required to initiate first aid before the facility first aid kit arrives, the Lifesaving Society recommends that all staff have barrier devices that can be carried with them while on duty.

EMERGENCY PROCEDURES

Lifeguard or Pool Attendant Present

All semipublic pools shall develop and document a set of emergency procedures appropriate to the needs of the facility. The emergency procedures may be a combination of general and specialized emergency procedures designed to address incidents or injuries that may be expected to occur at the specific pool. It is realistic to develop these procedures with the assumption that only one trained staff person will be present during an emergency.

General Procedures

These are generalized procedures which can be adapted to a variety of incidents or injuries.

- **Minor Emergencies** “adequate pool coverage can be maintained at all times by one or more lifeguard or pool attendant (eg. simple first aid, public relations)
- **Major Emergencies** “adequate pool coverage cannot be maintained and pool must be cleared until lifeguard or pool attendant attention can be directed back to pool supervision (eg. serious first aid, a fight, etc)

An excellent reference for developing emergency procedures for your pool is the Lifesaving Society lifeguarding manual – *Alert, lifeguarding in action*. This manual also provides excellent guidance for many of the safety practices that are required for a safe environment.

Specialized Procedures

Specialized procedures are designed to address very specific situations that may require very clear, detailed procedures. These situations may include events which threaten multiple individuals such as a fire or a gas leak. Other situations such as the treatment of possible spinal injuries benefit from developing very clear and detailed procedures which can be practised and developed to a competent and consistent level of skill. Facility management and staff should analyse the types of situations that would benefit from specialized procedures and develop the appropriate emergency procedures.

Examples of common specialized emergency procedures include:

- Evacuation procedures for fire or chemical exposure such as chlorine gas leak;
- Lost child;
- Storms and lightning;
- Spinal injury procedures.

Emergency procedures should include and document at least these elements:

- Emergency signals;
- Procedures for clearing the pool;
- Roles of all responding staff;
- Roles of bystanders;
- Procedures for contacting emergency services;
- Defined focal points for removing a victim from the water and providing treatment;
- Emergency equipment required;
- Procedures for notifying any other persons (ie. management, a victim's family members, other persons that might be affected by the incident);
- Practices for dealing with media inquiries.

No Supervision Staff Present in Pool Area

Basic emergency procedures need to be addressed when the pool is not supervised by a staff person. This may be as simple as posting a sign with instructions about what to do in the event of an emergency (i.e. call 911, cover with a blanket, etc.). In the event of a power outage, chlorine leak, fecal contamination or pool fouling incident, etc., a system should be in place to inform users of the risks and the appropriate procedures such as evacuating the pool and contacting the owner/operator.

Required Emergency Equipment

Every Semipublic swimming pool should have the following emergency equipment available and appropriately located for use in an emergency:

- A dedicated emergency telephone with posted emergency numbers;
- At least 2 buoyant throwing assists with a buoyant line attached;
- the length of the line should be at least the width of the pool;
- At least 1 reaching pole at least 3 metres in length. Ideally the pole should have a large hook that can be used to pull a person to safety;
- At least one spineboard with an effective immobilization system;
- At least one Number 2 first aid kit with a rescue breathing barrier device with a one-way valve and disposable surgical gloves. Extra supplies for high use items such as bandages should be available.

Emergency Response Signal

Every owner should evaluate the need for an emergency signalling device of some sort which could be activated by a patron in the event of an emergency and would alert the facility staff and/or the security station.

Contacting Emergency Services

Every Semipublic swimming pool shall have an emergency telephone which is easily accessible from the deck and has a dedicated line to EMS or a fulltime security station (which would then re-route the call to EMS). The telephone shall be able to work in the event of a power failure. A payphone is acceptable if it provides direct EMS access without requiring any payment.

Emergency contact telephone numbers shall be posted by the emergency telephone.

It is recommended that a script for the emergency call be posted beside the emergency phone. This is particularly important if the emergency procedures include the use of bystanders to contact emergency services. The script should be designed to provide the information required to direct the request for emergency assistance. This may include information such as: facility address, phone number, a prompt to describe the nature of the emergency, the location for emergency access, etc.

Critical Incident Stress

In the event of a serious injury incident, all persons involved in the incident such as rescuers or bystanders should be provided access to Critical Incident Stress Management (CISM) education and support. The Lifesaving Society can provide contacts for CISM support. Local EMS and victim services organizations can also provide local contact information for Critical Incident Stress Management services in your community.

SAFETY SYSTEMS

All Semipublic swimming pools shall develop and document a set of safety systems appropriate to the needs of the facility. Safety systems are the day to day actions and policies established to prevent incidents and injuries. They include such things as pool rules and how they are to be implemented, and procedures for preparing the pool area for bathers. Safety systems are an important part of minimizing risk and preventing injury.

Facility Operating Manual

Every Semipublic swimming pool shall develop and maintain a comprehensive Facility Operating Manual. This manual should document all facility operating standards, expectations, policies and procedures required for the safe operation of the facility. The purpose of the manual is to serve as a training and reference resource. It should be stored in an easily accessible location.

Pool Safety Rules

Every Semipublic swimming pool shall develop and apply a set of rules to guide safe use of the aquatic facility and its equipment. These rules are intended to reasonably control the risks associated with the use of an aquatic facility while also facilitating the enjoyment of the aquatic recreation experience. The rules shall be documented in the Facility Operating Manual. Facility staff should carefully analyse the facility and equipment to identify risks which may be inherent in their design and construction. Patterns of patron use will also provide useful data. The results of this analysis should be used to develop the safety rules. These rules should be communicated to patrons through the use of signs, announcements and other forms of public education.

Some sample rules which should be posted are:

- Suggested minimum age and requirements for supervision of children (i.e. all children under the age of 7 should be accompanied “Within Arms Reach” by a responsible person 16 years of age or older);
- Notification of medical conditions that may affect bather safety; ie. seizure disorder (i.e. please alert the attendant of any medical conditions you may have);
- Anyone not toilet trained must wear protective water resistant swimwear to prevent fouling and contamination of the pool;
- Please walk, deck is slippery;
- Foot first entry only into the pool (a picture of no diving);
- Play safe. Don’t push others into the pool;
- No glass containers are allowed in the pool or on the deck.

Swimming Pool Regulation Requirements

The Swimming Pool Regulation requires that operators regulate behavior which could result in pool contamination and/or disease transmission. This includes excluding persons who have diarrhea, or who have had diarrhea in the past 2 weeks, those who have an enteric disease or a disease communicable from the skin, and monitoring other regulations such as requiring a shower, preventing polluting of the pool water, etc. For more information refer to the Swimming Pool Regulation of the Alberta Public Health Act.

Safe Diving Rules

Diving injuries are a leading cause of spinal injuries. Over 90% of spinal injuries occur in water less than 1.8 metres (6 feet) deep. Based on this research, the Lifesaving Society's Standard for a minimum safe water depth for diving entries off the side of a pool or dock is 2.5 metres. Entries into water less than 2.5m deep should be feet first.

Recreational Equipment Rules

Rules for the safe use of recreational equipment such as diving boards and platforms, slides, inflatables, etc. shall be developed. These rules will include directions for safe use as well as any necessary restrictions such as age or height restrictions.

Signage

Signs serve three functions in a Semipublic Swimming Pool:

- Inform users about supervision requirements;
- Inform users about the suggested rules for safe use of the facility;
- Warn users of hazards and ways to avoid these hazards.

Signs with general safety rules shall be posted in a conspicuous location in the pool area. Where possible, utilize signs which use pictures to convey the message. Use of universal symbols provides instant recognition and avoids confusion if readers cannot read or do not read English.

Standards for Signage

Color:

- Red slash - the activity is prohibited
- Yellow background - warning or caution
- Green Border - activity is permitted

Rules: clearly indicate which activities are prohibited or permitted. Including the reason for the rule increases compliance.

Duty to Warn: identify hazards, the risk or consequence of the hazard and how to avoid it.

Location: should be posted at the hazard and where possible, at the access points or routes.

Signs Required by Health Act

The Swimming Pool Regulation lists requirements for “health protection signs” that shall be posted in the changerooms, pool area and office area. They also require a sign to be posted which indicates the maximum bather load for the pool.

Whirlpool/Hot Tub Signs

Safety rules for whirlpools commonly include some or all of the following examples:

- Check for safe temperature - a maximum of 40C;
- Enter and exit slowly. Headache or dizziness are signs to leave the water immediately;
- Do not use the whirlpool alone;
- Limit length of use to 10 - 15 minutes at one time. **Note:** A clock should be clearly visible from the whirlpool;
- Children under 12 years of age should be supervised by an adult at all times. Children under five years of age are not allowed in the whirlpool;
- Pregnant women should use a whirlpool only with the approval of their doctor;
- Persons suffering from heart disease, diabetes and high or low blood pressure should consult their doctor prior to use;
- Do not use the whirlpool while under the influence of alcohol, antihistamines, anticoagulants, vasoconstrictors, vasodilators, tranquilizers, stimulants or narcotics.

Recreational Equipment Signs

Recreational equipment such as waterslides, diving boards or rope swings require specific rules and restrictions for safe use of each item. These rules shall be posted in a readily visible location near each piece of equipment.

Diving Signs

Signs providing clear direction about where diving is permitted or restricted shall be posted in locations readily visible to the diver.

Other Signs

Signage should be considered in appropriate locations that informs customers about emergency signals and the pool admission policy. Facility management and staff should regularly evaluate whether other signage is required or if the existing signs are effective and take appropriate follow-up measures.

Pool Access Control and Admission Policies

Every Semipublic swimming pool should determine hours of operation and post them, as well as communicate them to patrons. They shall also implement a system to control access to the pool when it is closed. This includes providing effective locks, key control procedures and policies for access control.

Access control at all times is an issue that facility management shall address if supervision by a lifeguard or pool attendant is not provided. There shall be some sort of access control that will not allow young children and preschoolers to access the pool on their own accord, and thus put them in a potentially life-threatening position. This could include self-locking doors that are only accessible by a key or control card, a security code that needs to be punched in to unlock the door, etc.

Admission policies shall be established as part of the pool rules and communicated to the guests/renters, etc. through signs and public education, as well as part of check-in/rental procedures. Suggested topics for admission policies include:

- Minimum age and requirements for supervision of children.
- Notification of medical conditions that may affect bather safety (i.e. seizure disorder, potential fecal contamination);
- Whether non-guests/tenants are allowed access to the pool.

Hazardous areas such as mechanical rooms and chemical storage areas shall be locked at all times that the pool is open or accessible to users.

Bather Load

The total number of bathers shall not exceed the maximum bather load for the pool as defined in the Swimming Pool Regulation. Bathers refers to people on the deck and in the water. People in the general area (such as areas set aside for loungers or for watching swimmers) are not considered bathers. However, if these people cross over from the general area onto the deck or into the pool, then they become part of the bather load.

Number of Lifeguards or Pool Attendants

If the semipublic swimming pool uses lifeguards or pool attendants to supervise the pool, they shall be on duty on deck in order to open the pool for use. The Lifesaving Society recommends that the pool be staffed accordingly for expected bather load, pool size and/or configuration of the pool or play park, equipment that is present and any danger areas that may be present.

Pool staff should regularly (eg. every 30 minutes) count the number of bathers in the pool. It is recommended that these counts be documented and used to regularly evaluate attendant requirements.

Incident Tracking and Analysis

Effective injury prevention requires an understanding of what types of injuries may occur and the circumstances under which the injuries may result. Every semipublic swimming pool should institute a system to try to document and analyse the injuries and rescues that occur in the pool. This data will be used to evaluate and where appropriate modify emergency procedures, safety systems, staff training or any other practices that might benefit from this analysis. If the pool is not supervised by facility staff, this should be a process for patrons to report injuries or incidents to the facility owner/operator.

POOL OPERATION

Water Quality

Maintaining excellent water quality is a critical component of operating a safe environment for your pool patrons. The water quality shall protect the health and safety of the patrons by protecting them from disease transmission and maintaining balanced water to prevent injury from chemicals in the water. Good water quality also contributes to protecting the pool and its equipment and the swimmer's enjoyment of the pool.

Disinfection and Water Balance

Effective pool disinfection and water balance shall be maintained at all times that the semipublic swimming pool is open for users. These procedures shall meet or exceed the minimum standards required in the Swimming Pool Regulation. The Regulation also stipulates the minimum water testing requirements.

The Centres for Disease Control (CDC) has published a standard for the disinfection of water in a whirlpool which is significantly higher than the minimum required under the Swimming Pool Regulation. The CDC Standard requires a minimum Free Available Chlorine (FAC) of 4.0 - 5.0 ppm be maintained in all whirlpools. This standard is a result of research into exposure to Legionella and Pseudomonas in public pools. The Lifesaving Society recommends that the CDC standard should be used for the disinfection of all whirlpools and other warm pools.

Pool Water Clarity

The pool water clarity or the visibility of the pool bottom shall be evaluated regularly throughout each day that the facility is in operation. The Swimming Pool Regulation states that “the water in a filled swimming pool shall be sufficiently clear that the pattern of the pool drain can be clearly seen by a person standing on the edge of the pool at the deep end or that a black disc 150 millimetres in diameter on a white background, located on the bottom of the pool at its deepest point, is clearly visible from any point on the deck 9 metres away from the disc.

Good bottom visibility is imperative for public safety and cannot be compromised. If there is any doubt about water clarity, the pool shall be closed until the problem is corrected.

Pool Fouling

All users of the pool shall be informed via signage; an information sheet when they move in; at the check-in desk, etc. of what to do in the event of a pool fouling incident, and steps to take to prevent one from occurring. The “what to do” will be to immediately vacate the pool and inform a facility staff person about the incident. The staff person will then be responsible for

implementing the appropriate procedures to deal with a pool fouling incident and shall be familiar with the Provincial Fecal Contamination Management Policy as published by Alberta Health and Wellness. This procedure must be able to provide for the removal of the contaminating material and provide effective disinfection of the pool. A pool fouling incident may involve the release of feces, vomit, blood or other organic, potentially infective material into the pool water.

Measures shall be implemented which minimize the probability of a pool fouling incident. Children who have not been toilet trained shall be required to wear a cloth or pool diaper covered by an impermeable pant with closures that seal around the leg and waist openings. Persons with diarrhea, or who have had diarrhea in the past 2 weeks, shall be directed to stay out of the pool until they are well.

Pool fouling is a serious concern. Illness involving E Coli and cryptosporidium have been traced to exposure in aquatic facilities.

Mechanical and Chemical Maintenance

All facility mechanical systems and chemical handling shall be maintained and operated in a manner which protects the facility users and staff. The standards for these practices shall be documented and followed by all facility staff. Reference sources for these standards include:

- Manufacturer directions and Material Safety Data Sheets (MSDS);
- WHMIS regulations and training;
- Pool operator manuals and training programs;
- Occupational Health and Safety regulations.

Inspections and Testing

All areas and equipment of the semipublic swimming pool shall be inspected and/or tested on a regular schedule. The schedule should be designed for the needs of the specific equipment or area of the pool. This may range from a simple visual inspection to a process to test the safe operation of the equipment. Tools such as checklists should be used to document the inspection results and insure that the inspection process is consistent and comprehensive. Any deficiencies identified must be documented and recommendations for corrective measures identified.

Deficiencies which affect the safe operation of the pool or equipment should be corrected immediately. If this is not possible, effective steps shall be taken to protect users and staff. In some cases it may be necessary to close the pool or equipment until it can be returned to a safe condition.

Recreational Equipment

All recreational equipment (eg. waterslides, diving boards) should be inspected regularly. If it is used heavily this may need to be daily. Equipment in unsafe condition shall be closed until repairs can be completed and evaluated.

Emergency Equipment

Pool emergency equipment shall be inspected daily. All equipment shall be maintained in a state of readiness. Any deficient equipment shall be repaired or replaced immediately.

Suction Hazards

All pool water outlet covers shall be inspected regularly (eg. monthly) when the pool is in operation. If any of the pool's water outlet covers are loose or missing the pool shall be closed until the cover is repaired or replaced.

Note: An outlet is an opening in the pool that can generate suction (eg. main drain, vacuum fitting or skimmers). Loose or missing outlet covers have caused fatalities and serious injuries in Aquatic Facilities. Regular inspection of these outlets must be established.

Facility staff must not underestimate the power or danger of suction. Outlet cover inspections should be undertaken with extreme caution to ensure staff safety. The inspection procedure should include:

- Shutting down the filter system and ensuring that:
 - There is no suction in the system;
 - The system is locked down or supervised to ensure that it is not turned on during the inspection.
- A diagram of the pool depicting the outlet covers will guide the inspection. Each outlet cover should be assigned a number to help the accurate recording of inspection results;
- A second person should be present as an emergency back-up during the inspection;
- Record the inspection results and any remedial action required and completed.

Note: Some pool and whirlpool circulation systems include pool skimmers with equalizer fittings located in the pool wall below water level. All equalizer fittings shall be permanently plugged and disabled so that there is no possibility that these fittings could create a suction hazard.

Any semipublic swimming pool with only one drain shall have an anti-entrapment device installed and maintained. Suction from the main drain in pools with only one drain has caused drownings and serious injury in the past. An anti-entrapment device can prevent this.

Pool Lighting

Pool lighting should be inspected daily and shall be adequate to easily see bathers and hazards. Burned out bulbs should be replaced immediately.

Emergency lighting should be tested at least once every month.

GFI - Ground Fault Interrupters

All GFIs shall be tested at least monthly. Any GFI that fails the test shall be disabled and the circuit it controls removed from use until the GFI can be repaired or replaced.

SAFE ENVIRONMENT

The semipublic swimming pool owner and facility management shall be familiar with all codes and regulations that apply to the operation of a semipublic pool. This includes the building code which sets minimum construction standards for a semipublic pool. Where applicable, relevant information from these standards should be incorporated into the policies and procedures of the facility and documented in the Facility Operating Manual.

Facility Access Control

Every semipublic swimming pool shall implement a system to control access to the pool and the pool equipment. If the pool is an outdoor pool, it shall be enclosed by a fence and gate system that complies with the Alberta Building Code 1997 requirements for a public swimming pool. In summary, the building code requires that the pool be enclosed by a barrier at least 2.0m in height that prevents unauthorized access to the pool. The pool gate shall be at least 2.0m in height and equipped with a self closing, self latching, lockable mechanism that is located at least 1.5m above ground level. Consult the building code for the specific design requirements.

Hazardous areas such as mechanical rooms and chemical storage areas shall be locked at all times that the facility is open or accessible to the public.

Recreational Equipment Safety Standards

Waterslides

Waterslides shall be maintained and inspected according to the instructions supplied by the manufacturer. Controls should be implemented which minimize the risk of collision or injury within the slide or the landing pool/flume at the bottom of the slide. Examples of controls would be signage indicating that the next slider can't go until the slider ahead has reached the end of the slide, or a light which is controlled by a timer or a sensor which is automatically activated when it is safe for the next slider to go.

Operators should evaluate factors which affect the movement of bathers within the slide (eg. water flow rate) and establish appropriate safety standards.

Note: Slider speed can affect the safety of the bathers. Sliding slowly and excessive speed can both create safety risks.

Diving Boards or Platforms

Minimum standards for safe entries off a diving board or platform are provided in the FINA (Federation Internationale de Natation Amateur) preferred standard. The latest version of the standard is available through links at the Lifesaving Society website or in the Alberta Building Code 1997.

The FINA standards were designed to protect skilled competitive divers who are trained and supervised by diving coaches. Untrained recreational divers may experience a greater level of injury risk than competitive divers.

Note: The Alberta Building Code 1997 (ABC) lists 2 standards for diving board installations: the FINA Standard for public swimming pools and a separate standard for semipublic swimming pools. The minimum water depth under a diving board in ABC standard for semipublic pools is less than the FINA standard and does not provide adequate protection for the diver.

The Lifesaving Society recommends that all diving board installations comply with the FINA preferred standard. The Lifesaving Society recommends that diving boards and platforms which cannot meet the current FINA standard should be removed from use.

Other Recreational Equipment

Other recreational equipment such as rope swings or large inflatable structures shall be installed and maintained in accordance with the manufacturer's instructions. These installations should be analysed to identify any hazards or risks and steps taken to control these risks. Where entry from a height is involved, the FINA Diving standard may be useful for evaluating safe depth requirements.

Recreational Equipment Installation

Installation of all recreational equipment shall be in compliance with the Alberta Building Code. This code covers all permanently installed play equipment. The hardware of this equipment should be corrosion resistant and the design and location approved. The owner/operator should be aware of the specific regulations governing diving boards and water slide flumes.

Recreational equipment shall be installed, maintained and operated in accordance with the manufacturer's specifications unless it contravenes the Alberta Building Code. These specifications can be obtained from either the manufacturer or the distributor of the equipment.

Recreation equipment shall not contain any protrusions, means of entanglement or other obstruction that might cause the entrapment of a bather. All equipment should be tested by the pool staff and appropriate rules for use be determined and posted before being released for use.

RESOURCES

Lifesaving Society Resources

Many resources are available from the Lifesaving Society to assist aquatic facility owners and operators to evaluate the safety needs of their facility and to develop practices for the safe operation of the facility. These resources include information about safety standards, training programs, resource manuals, sample practices, forms and much more. Visit the *Safety Management* section of the Lifesaving Society website, www.lifesaving.org, for the most complete and current list and links to resources from the Society. You can also contact the Lifesaving Society with questions or requests for assistance.

Lifesaving Society standards, programs, products and services include:

- *Lifesaving Society Safety Standards*: designed to assist aquatic facility owners and operators in providing a safe aquatic environment. Includes standards for public facilities, semipublic pools, wading pools, beaches and private pools.
- *Lifesaving Society Reference Manuals*: examples include Canadian Lifesaving Manual (definitive lifesaving training reference) and Alert: lifeguarding in action (the lifeguard training reference).
- *Lifesaving Society Training Programs*: Swim for Life Learn to Swim Program - the national standard for swimming; Canadian Lifesaving Program - lifesaving training including the Bronze Cross award; National Lifeguard Program - training awards for lifeguards at pools, waterparks, waterfronts and surf beaches; Lifesaving First Aid - includes CPR, Lifesaving Emergency and Standard First Aid, Aquatic Emergency Care, Oxygen Administration; and more.
- *Lifesaving Society Position Statements*: formal Society Positions on a variety of topics such as use of defibrillators by lifeguards and sun protection in aquatic environments.
- *Risk Management Articles*: used to educate facility owners about public safety issues and the measures they can take to create safe environments and enhance public safety. Sample topics include: pool color and design, inservice training, facility lighting, lifeguard positioning, suction hazards, and pool fouling.
- *Drowning Research*: Drowning Reports – analysis of the Society’s annual drowning research.
- *Public Education*: Water Smart® messages about choices to reduce risks in, on and around the water; Within Arm’s Reach video, brochure and posters; Sudden Impact video, and much more.
- Sample forms and tools for developing risk management practices for your facility. Examples include first aid forms, major incident documentation, EMS telephone scripts, Critical Incident Stress Management, suggested contents for Aquatic Staff Manual.
- *Aquatic Safety Management Services*: Lifesaving Society services to help you operate a safe aquatic environment. Includes aquatic safety

audits, facility design and operation consulting, safety standards and expert witness services.

- *Safety Equipment and Training products*: includes spineboards and head immobilizers, barrier devices such as pocket masks, whistles, rescue tubes, lifeguard clothing, Actar CPR training manikins and much more.

Note: Visit the Lifesaving Society website to find new resources, products and services that are added and updated regularly on the website.

Government Resources

The Lifesaving Society *Semipublic Swimming Pool Safety Standards* summarizes standards, guidelines and recommendations from the Lifesaving Society intended to provide guidance for the safe operation of semipublic pools. This guidance is not intended to replace requirements that may be included in statutes, regulations or guidelines of the Government. Semipublic pool owners should also be aware of these government requirements. Information about these requirements and links to government websites are included in the *Safety Management* section of the Lifesaving Society website: www.lifesaving.org.

Relevant Provincial Government statutes, regulations or guidelines may include:

- Alberta Building Code
- Fire Regulations
- WHMIS
- Swimming Pool Regulation of the Public Health Act
- Employment Standards Regulation
- Occupational Health and Safety Code
- Occupiers Liability Act
- First Aid Regulation
- Working Alone Safely
- Transportation of Dangerous Goods

Other Relevant Resources

Resources from other organizations such as the Centres for Disease Control (CDC) and FINA are valuable resources to assist aquatic facility owners to evaluate the safety needs of their facilities and to develop practices for the safe operation of their aquatic facilities. Information about these organizations and links to their websites are included in the *Safety Management* section of the Lifesaving Society website: www.lifesaving.org.

REFERENCES

- q *Alert: lifeguarding in action.* Royal Life Saving Society Canada, Ottawa, Ontario, Canada; 1993
- q *National Lifeguard Standards.* Marianne Paul; Royal Life Saving Society Canada, Ottawa, Ontario, Canada; 1989
- q *Waterfront Safety Standards.* Royal Life Saving Society Alberta and Northwest Territories, Edmonton, Alberta, Canada; 1999
- q *Guide to Ontario Public Pool Regulations.* Royal Life Saving Society Ontario, Toronto, Ontario, Canada; 1996
- q *Standard of Practice for Swimming Pools.* Government of Alberta, Edmonton, Alberta, Canada; 1985
- q *AR 247/85 Public Health Act Swimming Pool Regulation.* Government of Alberta, Edmonton, Alberta, Canada; 1985
- q *AR 48/2000 First Aid Regulation.* Government of Alberta, Edmonton, Alberta, Canada; 2000
- q *Alberta Building Code 1997.* National Research Council of Canada, Ottawa, Ontario, Canada; 1998.
- q *FINA Dimensions for Diving Facilities.* Federation Internationale de Natation Amateur (FINA), Lausanne, Switzerland; 1991
- q *Safety in Swimming Pools.* Sports Council Publications, Wetherby, United Kingdom; 1988
- q *Guidelines for Safe Pool Operation.* Royal Life Saving Society Australia, North Sydney, New South Wales, Australia; 1996
- q *WWA Considerations for Operating Safety.* World Waterpark Association, Lenexa, Kansas, USA; 1989
- q *Beach Lifeguarding.* Royal Life Saving Society UK, Studley, Warwickshire, United Kingdom, 1994
- q *The Encyclopedia of Aquatic Codes & Standards.* National Recreation and Park Association, Ashburn, Virginia, USA; 1999

- Access Control 21
- Admission Policies 21
- Alberta Building Code 27
- Alcohol 7
- alternative safety measures 4
- anti-entrapment device 25
- barrier device 16
- barrier devices 14
- Bather Load 21
- buddy system 11
- building code 27
- CDC 23
- Centres for Disease Control 23
- Children 5
- codes 27
- communication 14
- Critical Incident Stress 17
- diarrhea 19
- disinfection 23
- Diving 6
- diving board or platform 27
- Diving Rules 19
- Drowning fatalities 5
- Drowning Problem 5
- emergency equipment 16
- emergency procedures 15, 16
- emergency signalling device 16
- emergency telephone 16
- equalizer fittings 25
- Facility Operating Manual 18
- Fecal Contamination 24
- fence 27
- FINA 27
- first aid kit 16
- GFI 26
- Ground Fault Interrupters 26
- incident records 10
- Incident Tracking 22
- Inservice training 12
- Inspections 24
- Lifeguard 11
- lifeguard system 11
- lighting 25
- Material Safety Data Sheets 24
- orientation training 12
- pool attendant 11
- pool fouling 23, 24
- Pool Operator 13
- prevention 10
- qualifications 11
- reaching pole 16
- recreational equipment 28
- Recreational Equipment Rules 19
- regulations 27
- responsibility 10
- Risk Management 10
- safety rules 18
- safety systems 18
- Signs 19
- spineboard 16
- Staff Manual 13
- Suction Hazards 25
- Supervision 11
- Supervision Standard 13
- throwing assists 16
- video surveillance 11
- visibility 23
- water balance 23
- water clarity 23
- water quality 23
- Waterslides 27
- whirlpools 20
- WHMIS 24

HOW TO REACH US

For more information about Lifesaving Society programs and services, contact the branch in your area.

Alberta & Northwest Territories Branch

13123 - 156 Street
Edmonton, Alberta T5V 1V2
Telephone: (780) 415-1755
Fax: (780) 427-9334
E-mail: experts@lifesaving.org
Web site: www.lifesaving.org

British Columbia & Yukon Branch

112 - 3989 Henning Drive
Burnaby, British Columbia V5C 6N5
Telephone: (604) 299-5450
Fax: (604) 299-5795
E-mail: info@lifesaving.bc.ca
Web site: www.lifesaving.bc.ca

Manitoba Branch

504 - 138 Portage Avenue East
Winnipeg, Manitoba R3C 0A1
Telephone: (204) 956-2124
Fax: (204) 944-8546
E-mail: aquatics@lifesaving.mb.ca
Web site: www.lifesaving.mb.ca

National Office

287 McArthur Avenue
Ottawa, Ontario K1L 6P3
Telephone: (613) 746-5694
Fax: (613) 746-9929
E-mail: experts@lifesaving.ca
Web site: www.lifesaving.ca

New Brunswick Branch

440 Wilsey Road, Suite 105
Fredericton, New Brunswick E3B 7G5
Telephone: (506) 455-LSNB (5762)
Fax: (506) 450-SWIM (7946)
E-mail: lifesave@nb.aibn.com
Web site: www.lifesavingnb.ca

Newfoundland & Labrador Branch

P.O. Box 8065, Station "A"
St. John's, Newfoundland A1B 3M9
Telephone: (709) 576-1953
Fax: (709) 738-1475
E-mail: lifeguard@nl.rogers.com
Web site: www.lifesavingnl.ca

Nova Scotia Branch

5516 Spring Garden Road
Box 3010 South
Halifax, Nova Scotia B3J 3G6
Telephone: (902) 425-5450
Fax: (902) 425-5606
E-mail: experts@lifesavingsociety.ns.ca
Web site: www.lifesavingsociety.ns.ca

Ontario Branch

400 Consumers Road
Toronto, Ontario M2J 1P8
Telephone: (416) 490-8844
Fax: (416) 490-8766
E-mail: experts@lifeguarding.com
Web site: www.lifesavingsociety.com

Prince Edward Island Branch

P.O.Box 2411
Charlottetown, Prince Edward Island C1A 4A0
Telephone: (902) 368-7757
Fax: (902) 368-7757
E-mail: pei.lifesaving@islandtelecom.com

Quebec Branch

4545 Pierre de Coubertin Avenue
P.O. Box 1000, Station "M"
Montreal, Quebec H1V 3R2
Telephone: (514) 252-3100 or 1-800-265-3093
Fax: (514) 254-6232
E-mail: alerte@sauvetage.qc.ca
Web site: www.sauvetage.qc.ca

Saskatchewan Branch

2224 Smith Street
Regina, Saskatchewan S4P 2P4
Telephone: (306) 780-9255
Fax: (306) 780-9498
E-mail: lifesaving@sasktel.net
Web site: www.lifesavingsociety.sk.ca



LIFESAVING SOCIETY®

The Lifeguarding Experts

