

In Support of the Layered Approach to Swimming Pool Safety

Presentation to the City of Hamilton

Planning Committee

City Hall, Hamilton, Ontario

April 5, 2016



Pool & Hot Tub Council of Canada

Introduction

- ◆ **The Pool & Hot Tub Council of Canada recognizes the importance of creating a safe backyard pool and spa environment for all families. We have a long history of working with water safety and drowning prevention organizations, local Boards of Health, and provincial ministries to promote safety in and around pools, spas and water features.**
- ◆ **Our objectives:**
 - ◆ **Ensure that all municipalities have Swimming Pool Fence By-laws in place;**
 - ◆ **Promote a layered approach to safety in and around pools and spas;**
 - ◆ **Work with communities to strengthen existing By-laws;**
 - ◆ **Educate homeowners on key elements of water safety and drowning prevention;**
 - ◆ **Foster public awareness of the importance of adult supervision**
 - ◆ **Develop and implement pool safety educational programs in co-operation with municipal health authorities across the country.**

Canadian Drowning Report 2015

Drowning Prevention Research Centre Canada

- ◆ % of all deaths 2003-2007 in private pools = 6%
- ◆ % of all deaths 2008-2012 in private pools = 6%
- ◆ % of all deaths 2003-2007 in private hot tubs = 1%
- ◆ % of all deaths 2008-2012 in private hot tubs = 2%
- ◆ % of all deaths 2003-2007 in bathtubs = 8%
- ◆ % of all deaths 2008-2012 in bathtubs = 9%

The Issues

1. Ensure Municipal By-laws are in Place

- ◆ **Some communities in Canada have yet to enact swimming pool barrier By-laws. The PHTCC recommends instituting regulations consistent with the publication, “*A Model Residential Pool Enclosure By-law for Canadian Municipalities*”.**
- ◆ **Some communities have By-laws that are antiquated and are in need of revision. By-laws must be kept up to date in keeping with modern technologies and the current body of knowledge on the subject of drowning prevention and water safety.**

The Issues

2. Creating a Safe Backyard for Young Children

- ◆ Intuitively, one might consider the installation of an isolation fence completely surrounding a swimming pool as the ultimate safeguard to prevent toddlers from accessing the water. In reality, the most effective solution to prevent drownings has proven to be the combination of: **i) the institution of local by-laws, ii) the promotion of a layered approach to safety – a series of deterrents, and iii) the establishment of educational programs.**
- ◆ In the absence of active enforcement, owner buy-in is essential to any success. Otherwise an imposed solitary solution has the potential to fail.
- ◆ 2011 Drowning Report from the Office of the Chief Coroner for Ontario – Of the seven (7) toddler pool drownings addressed in the report, three (3) of the children had gained access to the body of water through open or faulty gates.

The Best Solution

- ◆ **Keys to drowning prevention are to:**
 - ◆ **Mandate that all communities have Swimming Pool Fence By-laws in place**
 - ◆ **Recommend the institution of a layered approach to safety. In order to maintain an effective level of protection it is imperative to:**
 - ◆ **Avoid absolute reliance on any one mechanical/electronic device that might be overridden or disengaged.**
 - ◆ **Allow for select combinations of safeguards that will create a safer environment around the pool and spa.**
 - ◆ **Build awareness of the vital role of adult supervision (i.e., no substitute).**
 - ◆ **Establish public education programs**

The Layered Approach to Swimming Pool Safety

- ◆ **The layered approach has been endorsed by virtually all organizations involved in promoting water safety, including the Red Cross and the Lifesaving Society. Elements include:**
 - ◆ **ADULT SUPERVISION**
 - ◆ **Physical barriers – fencing, safety covers, doors, window locks**
 - ◆ **Warnings - access alarms, wave detectors, immersion alarms**
 - ◆ **Safety equipment - shepherd’s hook, ring buoy, lifeline, flotation devices**
 - ◆ **Posted Signs, Rules and Painted Notices (e.g., ‘No Diving’)**
 - ◆ **Education – swimming lessons, public awareness programs**

The Layered Approach to Swimming Pool Safety

- ◆ **Safety is best served by having the homeowner take ownership of whatever “layer of protection” measures that he or she is committed to using. Such approaches achieve greater compliance and have been successful in reducing child incidents.**
- ◆ **HOW?**
 - ◆ **Institute a multi-level approach that is predicated on integrating elements of supervision, physical barriers, safety devices, signage, public awareness and education.**

Effective Physical Barrier Options

A) Four-sided (Isolation) Fencing

- ◆ The Pool & Hot Tub Council of Canada recognizes that an **isolation fence**, at least 1.5m in height, built of a non-climbable material, completely isolated from any other barrier, with correctly functioning self-closing and self-latching gates provides protection.



- ◆ Nevertheless, gates are not fail-safe. Latches are too often broken or gates are left propped open. There are other safeguards that can offer effective layers of protection as alternatives.

Effective Physical Barrier Options

B) Three-sided fencing with wall

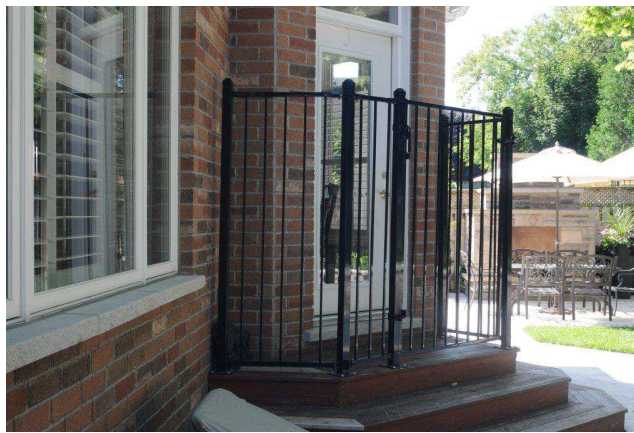
- ◆ Three-sided fencing (≥ 1.5 m in height) with the fourth side being the wall of a house with **self-closing, self-locking access door(s)** outfitted with **protective devices or alarms** installed on all egresses that access the pool level.
- ◆ Applying the same technology to doors that is accepted on gates creates an equivalent level of protection. A door outfitted with an access alarm offers the additional benefit of an alerting mechanism.



Effective Physical Barrier Options

C) Three-sided fencing with Juliet gate

- ◆ Three-sided fencing (≥ 1.5 m in height) with the fourth side being the wall of a house with self-closing, self-locking access door(s) plus a **Juliet gate**, and protective devices or alarms installed on all egresses that access the pool level.
 - ◆ a restricted-access gate forms part of the deck



Effective Physical Barrier Options

D) Three-sided fencing with Safety Cover

- ◆ Three-sided fencing (≥ 1.5 m in height) with the fourth side being the wall of a house with self-closing, self-locking access door(s) plus an approved **safety cover**, and protective devices or alarms installed on all egresses that access the pool level.
 - ◆ Modern automatic safety covers, some of which are lockable, are designed to take the weight of many adults and will effectively keep a child out of the water.



Effective Physical Barrier Options

E) Lockable Pool Enclosures/Shelters

Three-sided fencing (≥ 1.5 m in height) with the fourth side being the wall of a house with self-closing, self-locking access door(s) plus an approved **enclosure/shelter**, and protective devices or alarms installed on all egresses that access the pool level.



Supplementary Layers of Safety

- ◆ **Pool Motion Detectors/Alarms - Motion alarms and detectors will sound off if there is any motion in the water or around the perimeter.**



Supplementary Layers of Safety

- ◆ **“Kiddie” Fencing - “Baby gates”** are safety-approved products that can be installed to further separate a play area in the backyard from the swimming pool and hot tub. This type of fencing will not allow young children access to the restricted area, and can be removed at a later date when no longer required.



Supplementary Layers of Safety

- ◆ Safety immersion wrist alarms - made for children and adults
- ◆ Personal Flotation Devices



Supplementary Layers of Safety

- ◆ **Safety Equipment** - There should be basic life saving equipment readily accessible in the vicinity of the pool, hot tub or water feature, such as...

a Ring buoy



a Shepherd's hook



a Lifeline







Supplementary Layers of Safety

- Development and enforcement of pool rules and the posting of signs and warnings:

Backyard Pool and Spa Safety Rules

- Stay within sight and reach of children in, on or near water at all times.
Active adult supervision is the primary layer of safety.
- Always watch children closely when they are playing with inflatable toys or swimming in lifejackets as these do not replace active adult supervision for safety.
- Encourage swimming lessons and first aid instruction for all family members or guardians.
- Restrict access to your backyard pool or spa and ensure that the four-sided barrier conforms to local by-laws.
- Refrain from propping gates open, or disabling alarms on doors that connect to pools or spas.
- Keep all chemical products away from children and other unauthorized individuals.
- Encourage walking only around the poolside. Running is prohibited.
- Always swim with a "buddy" or with an adult supervisor.
- Do not swim or soak if you have been drinking alcohol.
- Drain all backyard wading pools after every use.
- Never dive into a spa, an above ground pool, or the shallow end of any pool. Always enter pools feet first.
- Do not use slides on above ground pools.
- Establish a set of pool rules and ensure that everyone using your pool follows them.
- In the event of an emergency, call 9-1-1.

Compliments of: _____

Pool & Hot Tub Council of Canada Red Cross Swim LIFESAVING SOCIETY St. John Ambulance
SAVING LIVES at work, home and play

Supplementary Layers of Safety

- ◆ **Education**
 - ◆ **Swimming lessons**
 - ◆ **CPR and lifesaving training**
 - ◆ **Public awareness campaigns**



Public Education on Water Safety



Adult Supervision – the cornerstone of protection for toddlers

- ◆ Lifesaving Society: *“If you are not within arms’ reach of your child, you’ve gone too far.”*



Endorsements for the Layered Approach to Safety

- ◆ **The layered approach to safety is endorsed by the U.S. Consumer Product Safety Commission. (Note: Not one State in the U.S.A. mandates isolation fencing as the sole option.)**
- ◆ **The International Code Council, through the *International Swimming Pool & Spa Code*, specifies the use of a series of optional safeguards – a layered approach. (It also sanctions the independent use of automatic safety pool covers.)**
- ◆ **The City of London (Ontario) has a sensible and effective water safety program in place. The municipality also supports an active public awareness campaign annually. The result is an exemplary record of pool safety. A model program exists.**

Related Experiences

[fostering consumer compliance]

- ◆ **Phoenix, AZ:** Mandates barriers for residences with a pool where one or more children under the age of six live (or regularly visit): Barrier Options: isolation fencing, or self-latching and self-closing rear doors and gates, or motorized safety covers. Plus, window and door specifications.
- ◆ **Ottawa, ON:** All gates in a pool enclosure must be self-closing and equipped with a self-latching device and a lock located inside the enclosed area at least 1.35 metres (4 ft 6 in) above the bottom of the enclosure. Every gate in the enclosure must be closed and locked at all times, except when the pool area is in use. Also, a public awareness campaign has been launched (cinemas).

Municipalities that are serious about making a positive difference:

- apply rules to all swimming pools (new and existing).
- support a layered approach to water safety in the backyard.

Inherent Risks of Mandated Isolation Fencing (used in Isolation)

- ◆ **SafeKids Canada Pool Fencing Discussion Paper (August 2007) stated: “In most drowning cases the pools (95%) had inadequate safety gates.”**
- ◆ **Based on similar such findings, it has been determined that four-sided isolation fencing when deployed in the absence of other safeguards -**
 - ◆ **gives a false sense of security and encourages complacency on behalf of pool owners,**
 - ◆ **creates a potentially dangerous situation since gates can be propped open by adults and older children,**
 - ◆ **incorrectly assumes that “one size fits all”,**
 - ◆ **hinders the development and implementation of new, innovative layers of protection,**
 - ◆ **may or may not have the support of the pool owner.**

Inherent Risks of Mandated Isolation Fencing (used in Isolation)

- ◆ **Leading proponents of the single, quick-fix solution of isolation fencing:**
 - ◆ **continue to reference outdated studies by Vimpani, G. (1982) and Wintermute, G.J. (1992), that were conducted prior to the introduction of new safeguarding mechanisms based on modern digital technology and automated controls.**
 - ◆ **frequently have drawn comparisons to regions that previously had no regulations in place whatsoever. This has led to inflated projections and unrealistic expectations.**



Considerations

- ◆ **Lifesaving Society Ontario Drowning Report of 2008:**
 - ◆ Since 1987 total drowning deaths in Ontario have been reduced to half, during the same period in which the province experienced the largest growth in new pool construction.
 - ◆ “On or near the water alone” - 95% of children under the age of five were alone when the drowning occurred.
- ◆ **A Phoenix, AZ Children’s Hospital study concluded that:**
 - ◆ One-half of the child drownings that occurred in Phoenix between 1982 and 1989 took place in just one percent of all residential pools --- those which had four-sided fencing.

Australian Drowning Report 2015

issued by the Royal Life Saving Society

- ◆ Australia introduced swimming pool barrier policy in May 2004
- ◆ Prior to that, two states had no fencing requirements in place
- ◆ As expected, initial progress saw an improvement in the drowning rate of young children

◆ Progress has tapered off:

Drowning Deaths (ages 0-4 years)	
2002-03	42
2011-12	21 (recorded low)
2014-15	26
10-yr. avg.	31

Message to PHTCC from Coroner's Office

January 29, 2016

- ◆ ***“I have polled my colleagues and we are not aware of any death investigations that involved automated pool covers. One colleague did report a personal experience in which a cover was partially retracted such that the deep end was still covered. The pool owner thought that this would prevent the children from entering the deep end. The problem, of course, is that this would impair visibility and rescue. This just speaks to the proper use of any safety device, whether a cover or a fence/gate. Thank you again for your efforts to improve pool safety. Please contact me if I can be of assistance.” ... Roger***

Dr. Roger P. Skinner, BA, MD, CCFP(EM)
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To create a safer and more secure pool environment...

- ◆ **We strongly encourage the City of Hamilton to amend its existing swimming pool enclosure By-law to incorporate elements of “*A Model Residential Pool Enclosure By-law for Canadian Municipalities*”.**
 - 1) **All pools, old and new, should be required to have fencing on all three sides, and a gate that is self-closing, self-latching, and locked when the pool is not in use.**
 - 2) **Families with children of six (6) years of age or less should be required to select and install one or more of the recommended physical barrier options and deploy supplementary safeguards to assure additional layers of protection.**
- ◆ **We also recommend the establishment of an educational program that addresses water safety.**

To create a safer and more secure pool environment...

- ◆ **We are prepared to work with City Officials to promote pool safety and increase the level of public awareness in communities across the country. There are positive examples to draw upon. Platforms of past success:**
 - ◆ **Water Discharge By-laws**
 - ◆ **Model Municipal By-law development with the B.C. Ministries of Public Safety and Housing & Social Development**
 - ◆ **Safety sign with Lifesaving Society, Canadian Red Cross, St. John Ambulance**
 - ◆ **Aquatic industry regional radio and television announcements, water safety brochures, bus shelter advertising, cinema ads, etc.**

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