



Pool and Spa Operator Guide



Mission Statement

Together with the Halton Community, the Health Department works to achieve the best possible health for all



To: Public Pool and Spa Owners and Operators

Re: Operating and Maintaining Public Pools and Spas

The operation and maintenance of public pools and spas is legislated by Ontario Regulations 565/90 and 428/05, respectively, under the Health Protection and Promotion Act, R.S.O.1990, c.H.7.

Owners and operators are responsible for ensuring that public pools and spas are operated and maintained in accordance with the provincial requirements. To assist you in meeting these requirements, the Halton Region Health Department has created the Pool and Spa Operator Manual. This manual contains information to aid in maintaining safe and healthy public bathing environments. Proper pool maintenance and operation ensures bathers will not be exposed to illness, injuries, or death.

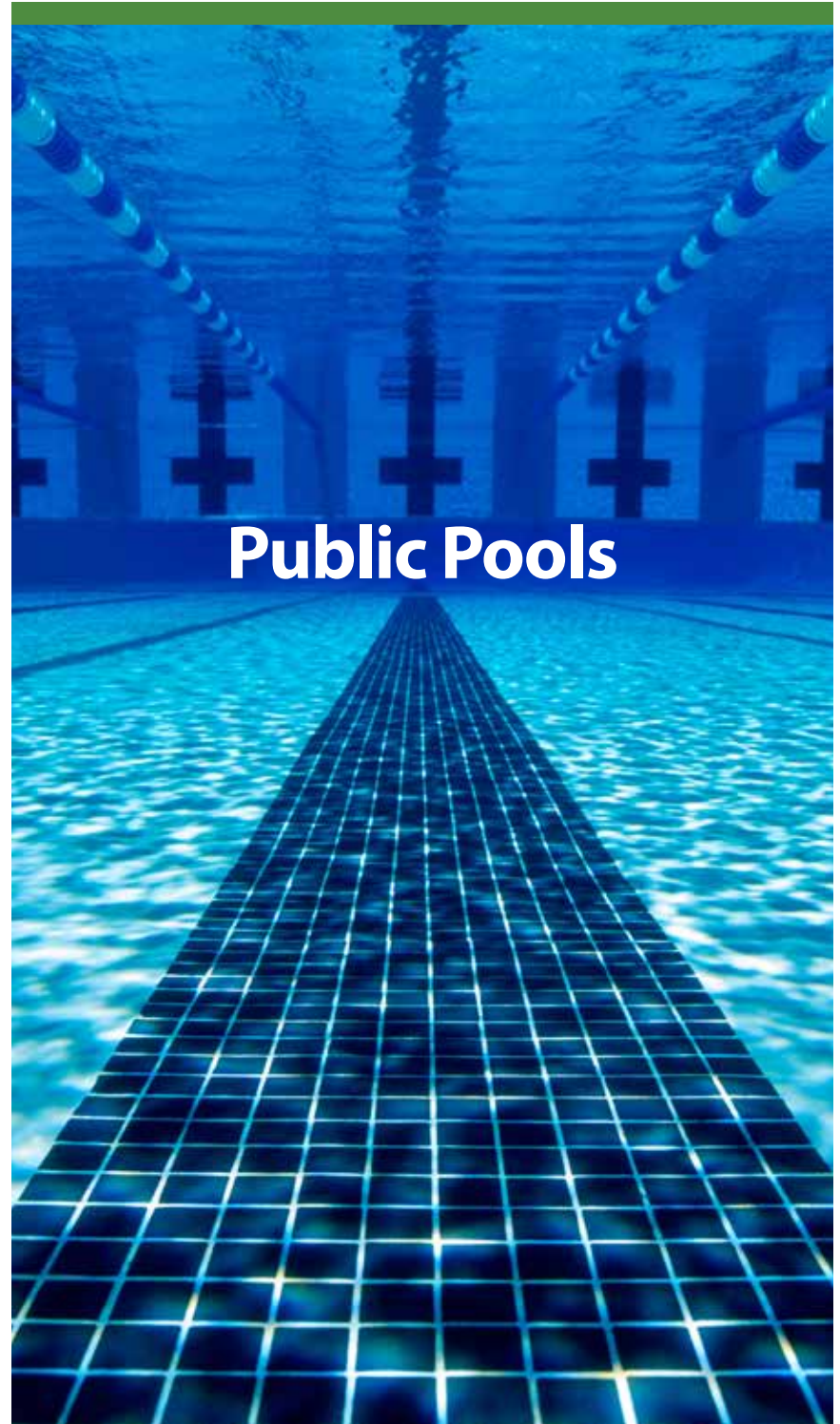
Certified public health inspectors carry out routine inspections of all public pools and spas to ensure compliance with the regulations. If you have any questions please contact the Halton Region Health Department by dialing 311.

Thank you for your cooperation in ensuring a safe and healthy environment for public pool and spa users!



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Legislation

Health Protection and Promotion Act (HPPA) R.S.O. 1990, Chapter H.7

The purpose of this Act is to provide for the organization and delivery of public health programs and services, the prevention of the spread of disease and the promotion and protection of the health of the people of Ontario.

Public Pools R.R.O 1990, Regulation 565

The Public Pool Regulation is one of the many regulations made under the Health Protection and Promotion Act. The purpose of this regulation is to protect the health of swimmers and to protect the pool structure and equipment.

Important Definitions in the Public Pools Regulation

“Operator” means a person designated by the owner of a public pool as being responsible for the operation of the pool

“Owner” means a person who is the owner of a public pool

Role of the Public Health Inspector

The Public Health Inspector ensures compliance with Ont. Reg. 565 by inspecting pools for the requirements outlined in the regulation. The inspector examines records, checks the water chemistry and the pool circulation/filtration systems, checks safety equipment and ensures required signage has been posted by the operator. If a health hazard is present the Public Health Inspector, will order the pool closed under section 13 of the HPPA to ensure the public’s safety.

Owner/Operator Responsibilities

It is the responsibility of the owner/operator to ensure the pool and its equipment are maintained in a safe and sanitary manner and to ensure the pool is closed when a health hazard is present. Examples of health hazards include no sanitizer in the pool, electrical concern, missing safety equipment, inoperable emergency phone or a cloudy pool.



Classification of Public Pools

In Ontario, public pools are classified under two categories, Class A and Class B. Class A pools are required to be supervised by lifeguards, while Class B pools are able to post unsupervised pool signs advising that no one under 12 years is to be admitted without supervision by someone who is at least 16. Some examples of Class A pools are those that are operated by a municipality or YMCAs. Class B pools are found in places like condos, hotels and gyms.

Reg. 565 Section 2.(1)

Class “A” Pool

- i. a pool to which the general public is admitted,
- ii. a pool operated in conjunction with or as a part of the program of a Young Men’s Christian Association or similar institution or an educational, instructional, physical fitness or athletic institution supported in whole or in part by public funds or public subscription, or
- iii. a pool operated on the premises of a recreational camp, for use by campers and their visitors and camp personnel.

Reg. 565 Section 2.(2)

Class “B” Pool

- i. a pool operated on the premises of an apartment building that contains more than five dwelling units or suites, a mobile home park or a nurses’ residence, for the use of the occupants and their visitors,
- ii. a pool operated as a facility to serve a community of more than five single-family private residences, for the use of the residents and their visitors,
- iii. a pool operated on the premises of a hotel, for the use of its guests and their visitors,
- iv. a pool operated on the premises of a campground, for the use of its tenants and their visitors,
- v. a pool operated in conjunction with,
 - A. a club, for the use of its members and their visitors, or
 - B. a condominium, co-operative or commune property that contains more than five dwelling units or suites, for the use of the owners or members and their visitors,

- vi. a pool operated in conjunction with a day nursery, a day camp or an establishment or institution for the care or treatment of persons who are ill, infirm or aged or for persons in custodial care, for the use of such persons and their visitors, or
- vii. a pool other than a Class A pool, that is not exempt from the provisions of this Regulation. R.R.O. 1990, Reg. 565, s. 2.

Inspection Frequency

The Recreational Water Protocol made under the Ontario Public Health Standards requires all regulated public pools and public spas to be inspected by a certified public health inspector at least two times per year and no less than once every three months while operating to determine compliance with O. Reg. 565.

Pool Operation and Maintenance

Opening/Re-Opening Public Pools

It is the responsibility of the owner/operator to inform the Halton Region Health Department in writing when opening or re-opening a public pool after:

- Construction or alteration
- Any closure of the pool for more than 4 weeks duration

Refer to Section 5.(1), 5.(2) and 5.(3) of the Public Pool Regulation

See Appendix A for “Notification Form”

Operation

Every owner and every operator shall ensure that,

- (a) all components of the recirculation system of the pool are maintained in proper working order;
- (b) all surfaces of the pool deck and walls are maintained in a sanitary condition and free from hazards;
- (c) where changing rooms, toilets and shower facilities are provided for the pool, they are available for use of the bathers before entering the deck;
- (d) the submerged surfaces of the pool are white or light in colour, except for markings for safety or competition purposes;

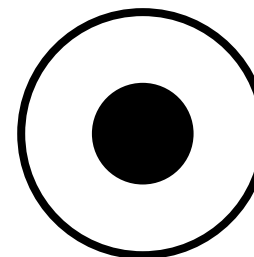
- (e) the pool deck is clearly delineated by markings or other means from the general area where a general area is provided;
- (f) the perimeter drain of the pool is kept free of debris;
- (g) at least 15 per cent of the total pool water volume is capable of being withdrawn from the gutter or skimmer lines daily and discharged to waste drains;
- (h) provisions are made for the safe storage and handling of all chemicals required in the pool operation;
- (i) where footsprays are provided for the pool they are maintained in good working order and are kept sanitary;
- (j) where the pool is equipped with a diving board or diving platform, the board or platform has a non-slip surface finish;
- (k) a black disc 150 millimetres in diameter on a white background is affixed to the bottom of the pool at its deepest point;
- (l) exposed piping within the pool enclosure, inside the structure of the pool and inside appurtenant structures to the pool are identified by,
 - i. colour coding with coloured bands at least twenty-five millimetres wide spaced along the piping at intervals not greater than 1.20 metres, or
 - ii. painting the entire outer surface of the piping, in accordance with the following code:

chlorine — yellow

potable water — green

Water Clarity Check Using the Black Disc

A black disk 15cm in diameter on a white background must be affixed to the bottom of the pool at the deepest point. The black disk is to be clearly visible from any point on the deck 9 metres away from the disk.



Make Up Water and Water Meter

The owner/operator must provide a water meter that registers the volume of all make-up water. The amount of make-up water added to the pool must not be less than 20 litres per bather per day.

Refer to O. Reg. 565 Sections 7. (12) and 7. (13)

Change Rooms, Toilets and Showers

If toilets are provided, they are supplied with toilet paper, soap and paper towels. The pool, the deck, change rooms, toilets, showers and connecting corridors are to be kept clean, ventilated, disinfected and free from slip and trip hazards.

Refer to O. Reg. 565 Sections 11. (1) and 11. (2)

Food

No food or beverage except water is to be supplied or consumed in the pool or on the deck.

Refer to O. Reg. 565 Section 10. (5)



Safety

It is the responsibility of the owner and the operator of a public pool to maintain the pool and its equipment in a safe and sanitary condition.

Pool Accessibility

The pool is to remain inaccessible during hours when it is not in operation. It is to be enclosed by a lockable door or barrier. This fence/barrier must have a gate with a self-closing device and a self latching device.

Refer to Ontario Regulation 403/97: Ontario Building Code Act Section 3.11.3.1(22)



Written Emergency and Operational Procedures

Every owner/operator must ensure that written emergency and operational procedures and instructions are available at the pool to be implemented in the event of an emergency, accident or injury.

Refer to O.Reg 565 Section 17. (1)

Emergency Phone

The telephone must be easily accessible from the deck of a Class A pool. For a Class B pool, the telephone must be located no farther than 30m from the pool. The emergency phone must be tested daily. Cordless phones and cell phones are not acceptable as an emergency phone.

Refer to O.Reg 565 Sections 16. (1)(a), 16. (2)(b), (b) and (c).



Safety Equipment

The following safety equipment must be available on the pool deck:

- A non-conducting reaching pole that is at least 3.65 m long (e.g. fiberglass)
- 2 buoyant throwing aids with a 6 mm diameter rope that is at least half the width of the pool plus three metres
- 1 spine board



First Aid Kit – Required Content

1. A current copy of the St. John Ambulance or the Canadian Red Cross Society First Aid Manual,
2. One dozen safety pins,
3. Twenty-four adhesive dressings individually wrapped,
4. Twelve sterile gauze pads, each seventy-five millimetres square,
5. Four rolls of 50 millimetre gauze bandage,
6. Four rolls of 100 millimetre gauze bandage,
7. Four sterile surgical pads suitable for pressure dressings individually wrapped,
8. Six triangular bandages,
9. Two rolls of splint padding, and
10. One roll-up splint

Refer to O.Reg 565 Section 20. (1) (d)

Recommended Content:

1. Scissors
2. Pocket resuscitation mask
3. Gloves

Refer to O.Reg 565 Section 20. (1)(a)(b) and (c)

Pool Chemistry

Maintaining the pool chemistry is vital to ensuring bather health and comfort. Balanced pool water exists when all the chemical parameters of the pool water are within regulated levels. Chemicals that are added to the pool, source water, people, airborne dirt, rain and animals can all change the pool water balance.

Germs

Birds, animals and people can introduce germs into a swimming pool. Germs include bacteria, viruses, parasites and fungus. Germs can cause skin infections, eye and ear infections, throat infections, athlete's foot, urinary tract infections, planter warts, respiratory infections and intestinal infections.

Organics

Organics include things such as dust, leaves, urine, feces, sweat, nasal discharge, body oils and suntan lotions. Organic matter originating from bathers or the environment provides a food supply for bacteria. An increase in food supply promotes bacterial growth which can lead to slippery surfaces, clogged filters, undesirable smells and tastes, cloudy or discoloured water and bather infections.

Sanitizer

A sanitizer is a chemical that disinfects (kills germs) and oxidizes ("burns") organics. Chlorine and bromine are the only two sanitizers approved in Ontario for use in public pools. The sanitizers must be introduced into the pool water by means of an adjustable dosing device, for example a chlorinator.

Refer to O. Reg. 565 Section 7. (7)

Chlorine

The combination of chlorine and water results in the production of hypochlorous acid, which is highly effective in killing bacteria and oxidizing materials that were not removed by filtration. Hypochlorous acid is however, sensitive to pH and UV light. A high pH will decrease its effectiveness and sunlight will cause it to break down.

Factors Affecting Chlorine Effectiveness

The effectiveness of chlorine can be affected by bather load, sunlight, dirt, debris and microorganism introduced by birds, animals and bathers.

Free Available Chlorine (FAC)

After all the impurities in the pool water have been oxidized by the chlorine, any chlorine added to the pool water at this point will exist as free available chlorine (FAC). O. Reg. 565 requires that the FAC must be maintained above .5 ppm or .5 mg/L. If the pool uses cyanuric acid the FAC must be maintained above 1 ppm or 1 mg/L.

Refer to O. Reg. 565 Sections 7(7)(c) and (d)

Combined Chlorine

Contaminants react with the FAC in the water to form combined chlorines or chloramines. Combined chlorines can result in pool odour problems and bather skin irritation, as well, chloramines are poor disinfectants. The amount of combined chlorine in the water can be calculated by subtracting the FAC from the Total Chlorine (FAC + combined chlorine). To decrease exposure to chloramines, breakpoint or shock chlorination, is required, along with proper ventilation of the pool area. The recommended value for chloramines is no greater than .5ppm or .5mg/L.

Bromine

Bromine is the only other pool water sanitizer approved for use in Ontario public pools. The concentration of bromine in the pool water must be kept at 2ppm (2 mg/L) or greater, unless it's in a wave action pool, in that case it would be required to be kept at 3ppm (3 mg/L). Bromine is not destroyed by sunlight, however, it tends to decrease the pH and total alkalinity of the pool water.

Refer to O. Reg. 565 Sections 7(7)(e) and (f)

pH

The pH is a measure of how acidic or basic a substance is. Pure water has a pH of 7 so it is considered neutral. For public pools in Ontario, the pH is required to be maintained between 7.2 to 7.8. It is important to maintain the pH because it affects water clarity, the efficiency of the disinfecting agent, bather comfort, and the life span of pumps, ladders and other pool equipment. Low pH can be corrosive to equipment and causes eye and skin irritation. High pH can result in scaling and reduced circulation, cloudy water, and skin and eye irritation in bathers.

Refer to O. Reg. 565 Section 7(7) (b)



Total Alkalinity

Total Alkalinity is a measure of the water's ability to neutralize acids. The right amount of total alkalinity acts as a buffering agent to protect the pool water from rapid rise or fall of the pH. O. Reg. 565 requires that Total Alkalinity be maintained at/or above 80ppm or 80mg/L. The ideal range is 80 to 120ppm. High alkalinity results in constant acid demand in the pool, pH drifting upwards, scaling and cloudy water. Low alkalinity results in pH bounce, eye irritation, corrosion to plastic and metal fittings and low pH.

Refer to O. Reg. 565 Section 7(7) (a)

Cyanuric Acid

Chlorine is sensitive to sunlight, so a stabilizer can be used to aid with maintaining chlorine residual in outdoor pools. Cyanuric acid acts as a stabilizer because it forms a weak bond with the free available chlorine making it less sensitive to sunlight. This bond, however, reduces the overall effectiveness of the chlorine. The time it takes to kill bacteria is significantly increased with the use of cyanuric acid, so a greater concentration of FAC is required to treat the pool water. As a minimum, 1ppm FAC must be maintained when using cyanuric acid.

The level of cyanuric acid in the pool is not to go above 60 mg/L (ppm). High levels of cyanuric acid can result in an over-stabilized pool, which results in the chlorine being less effective, water cloudiness and algae growth. Cyanuric acid is never used up, so the only way to decrease it is by draining some of the pool water and adding fresh water.

Refer to O. Reg. 565 Section 7. (7) (d)





Recirculation and Filtration

Make-up Water

Make-up water must be added daily to the pool to a minimum of 20 L of water per bather per day. The volume of make-up water is to be measured by the water meter installed for that purpose. The make-up water must be from an external source that is free from contamination that may be injurious to the health of bathers.

Sample Calculation: Make-up Water

What volume of make-up water must be added to a public pool after 65 bathers?

- Step 1) $20 \text{ L} \times 65 = 1,300 \text{ L}$

If you wish to convert the volume in litres to volume in gallons, complete the following operation:

- Step 2) Divide by 3.785 to convert volume in litres to volume in gallons $1,300/3.785 = 343.46$ gallons

Refer to O. Reg. 565 Section 7. (1), 7. (12)

Turnover Rate

Turnover rate is the time it takes in hours for the circulation system to move the entire volume of pool water through the filtration system

Turnover rate requirements O. Reg 565 Section 6.(2) (d):

- in a Class A pool that was constructed after the 30th day of April, 1974, a volume of water not less than four times the total capacity of the pool is filtered, disinfected and passed through the pool each day,
- in a Class A pool that was constructed before the 1st day of May, 1974 and in a Class B pool, a volume of water not less than three times the total capacity of the pool is filtered, disinfected and passed through the pool each day, and



Flow Meter

In order to determine the turnover rate, a flow meter must be installed on the circulation system. This flow meter must be easily readable, so that the turnover rate can be verified.

Filtration

If a contaminant is visible, it can be filtered out. A filter will not remove bacteria. Sanitizer kills germs – bacteria, viruses and protozoa.

Types of Filter Media

Sand Filters

Sand filters are the most common type of filters. Materials with oil-like properties stick to the sand and solid materials like dirt become trapped in the spaces between the sand grains. Types of sand filters include gravity sand, conventional sand and high rate pressure sand.

Backwashing

Backwashing is necessary when it becomes too difficult to move water through the filter media at an adequate flow rate. The frequency at which backwashing must be carried out is determined by the design of the filter, size of the filter, type of filter, quality of water supply, bather load, location of pool and presence of algae. Check manufactures instructions for recommended backwash frequency.

Changing the Filter Sand

The roughness of the sand is what makes it a good filter. With time, the sand becomes smooth and less effective as a filter. Refer to manufacture's guidelines or consult a pool company on how often the sand in your pool filter should be changed. Proper care of the pool filter will help maintain the pool water balance.

Diatomite Filters (DE)

Diatomaceous earth is the fossilized remains of tiny sea water plant organisms called diatoms. The remains appear like fine porous white powder, but under a microscope look like spheres with tunnels. There are two types of DE Filters, pressure (closed tank) diatomite, and vacuum (open tank) diatomite. The small openings of the diatoms trap/filter out materials as water passes through and around the spheres. See product details on how to maintain DE filter media.

Signage

General Pool Rules Sign

The following sign must be posted in at least 2 places:

- i. No person infected with a communicable disease or having open sores on his or her body shall enter the pool,
- ii. No person shall bring a glass container on to the deck or into the pool
- iii. No person shall pollute the water in the pool in any manner and that spitting, spouting of water and blowing the nose in the pool or on the deck are prohibited,
- iv. No person shall engage in boisterous play in or about the pool,
- v. The maximum number of bathers permitted on the deck and in the pool at any time is _____
- vi. The emergency phone is located _____

Refer to O. Reg. 565 Section 19. (1)

Calculating the Bather Load

The maximum bather load is calculated using the following equation:

$$\text{Maximum bather load} = \frac{\text{Area of deep end}}{2.5} + \frac{\text{Area of shallow end}}{1.4} = \text{___ bathers}$$

Note: Unsupervised Class B pools that have a water surface of greater than 93 m², the bather load must always be 10, regardless of the calculation

Refer to O. Reg. 565 Section 10. (1) and 17.(19)(b)

Shower Sign

At the entrance to each shower area and at every entrance to the deck used by bathers the following sign needs to be posted:

Each bather shall take a shower using warm water and soap and thoroughly rinse off all soap before entering or re-entering the deck.

Refer to O. Reg. 565 Section 19. (2)



Emergency Telephone Sign

At the emergency telephone the following sign should be posted:

EMERGENCY TELEPHONE INSTRUCTIONS

Dial 911

If the emergency telephone is directly connected to emergency services or you must dial a number to get an outside line, indicate this information prominently on the sign

1. REMAIN CALM. SPEAK CLEARLY. ANSWER.
2. This pool is located at:

3. State the type of emergency (drowning, electrical, spinal injury).
4. Remain on the line until the operator tells you to hang up

Refer to O. Reg. 565 Section 19. (3)

No Diving Sign

If the pool water depth is less than 2.50 m, **one** of the following signs must be posted:

CAUTION – AVOID DEEP DIVES

SHALLOW WATER – NO DIVING

Refer to O. Reg. 565 Section 19. (6)

In a Class “B” pool with a diving board:

**DANGER – AVOID DEEP
OR
LONG DIVES**

Refer to O. Reg. 565 Section 19. (8)

Deck Markings

The water depths must be indicated on the pool deck at the following areas:

- Deep Points
- Shallow Points
- Breaks between gentle and steep bottom slopes

In addition, the words “**DEEP AREA**” and “**SHALLOW AREA**” must be marked in their appropriate size locations on the deck

Refer to O. Reg. 565 Section 19. (5)





Unsupervised Pool Sign

Class B pools that have a water surface area of less than 93 square metres, must have the following sign posted:

CAUTION

THIS POOL IS UNSUPERVISED. BATHERS UNDER TWELVE YEARS OF AGE ARE NOT ALLOWED WITHIN THE POOL ENCLOSURE UNLESS ACCOMPANIED BY A PARENT OR HIS OR HER AGENT WHO IS NOT LESS THAN SIXTEEN YEARS OF AGE

Class B pools that have a water surface area of more than 93 square metres, must have the following sign posted:

CAUTION

THIS POOL IS UNSUPERVISED. BATHERS UNDER TWELVE YEARS OF AGE ARE NOT ALLOWED WITHIN THE POOL ENCLOSURE UNLESS ACCOMPANIED BY A PARENT OR HIS OR HER AGENT WHO IS NOT LESS THAN SIXTEEN YEARS OF AGE. THE TOTAL NUMBER OF BATHERS ON THE DECK AND IN THE POOL SHALL NOT EXCEED TEN.

Refer to O. Reg. 565 Section 17. (19)



Record Keeping

Ontario Pool Regulation 565 requires the keeping of pool records. Pool records may be used as evidence in court if a drowning/accident occurs at your pool or an outbreak of a communicable disease is linked to your pool. Records must be signed or initialed by the person who performed the tests immediately following the tests. Records must be kept for a period of one year.

Required Pool Records

Daily Records must include:

- FAC, Total Chlorine / Bromine and pH, must be checked one-half hour before bathers are admitted to the pool and no less than every 2 hours while the pool is open for use.
- Total number of bathers
- Make-up water meter reading
- Emergency phone and GFI check (before opening)
- Emergencies, rescues or equipment breakdowns

Weekly Records must include:

- Total Alkalinity
- Cyanuric Acid (outdoor pools)

Monthly Records must include:

- Outlet cover (main drain) inspections

Refer to O. Reg. 565 Section 8., 9. and 16.1(2)

Safety Supervision

Lifeguards

Lifeguard must be at least 16 years old and a holder of a current National Lifeguard Service's Lifeguard Certificate, which they must have or have a copy of while on duty at the pool. They must be trained in all emergency/operational procedures and have a current first aid certificate. As well, they must be easily identifiable while on duty.

Assistant Lifeguard Qualifications

Assistant Lifeguards must be at least 16 years old and a holder of a current Royal Life Saving Society Canada's Bronze Cross or Award of Distinction. They must have one of these certificates or copy of one these certificates at the pool while on duty. They must also be easily identifiable.

Refer to O. Reg. 565 Section 17. (6)

Lifeguard requirements for a public pool with a water surface area of 500 square metres or less (other than a wave action):

Where There Are Assistant Lifeguards and Lifeguards On Duty		Where There Are Only Lifeguards On Duty	
Number of bathers on the deck and in the pool	Minimum number of lifeguards and assistant lifeguards on duty	Number of bathers on the deck and in the pool	Minimum number of lifeguards on duty
0-30	1	0-30	1
31-100	2	31-125	2
101-200	3	126-250	3
201-300	4	251-400	4
300 or more	One additional lifeguard or assistant lifeguard for each additional 100 bathers or fraction thereof	400 or more	One additional lifeguard for each additional 150 bathers or fraction thereof



Exemptions to Supervision Requirements

Class B pool other than a pool operated in conjunction with a day care facility or day camp - water surface area of 93 square metres or less

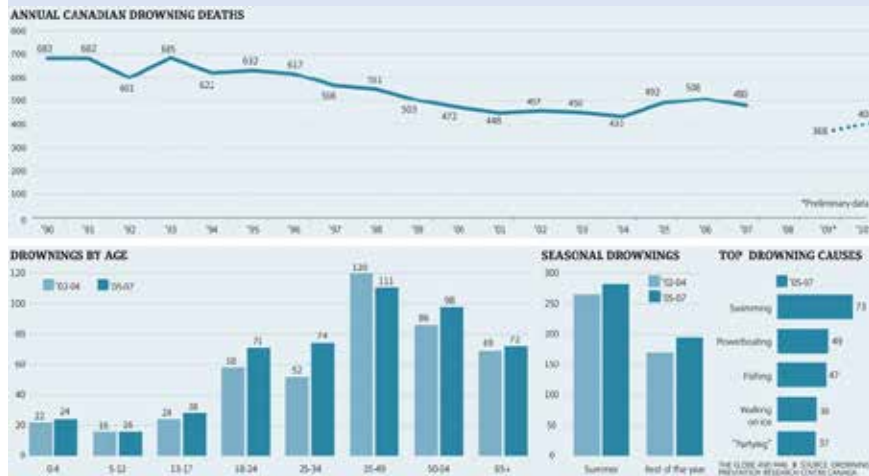
Class B pool other than a pool operated in conjunction with a day camp - water surface area greater than 93 square metres AND the number of bathers does NOT exceed 10

Refer to O. Reg. 565 Section 17.

Canadian Drowning Statistics 2006

The Lifesaving Society reports that nearly 500 people die every year in water related incidents (all settings)

Drowning is the second leading cause of preventable death for children under 10 years of age. Sixty-one percent of drownings occur in lakes, ponds, rivers, streams and waterfalls and six percent of all drowning deaths (32 total) occurred in private pools



Admission Standards

Admission Standards for Public Pools were developed by the Office of the Chief Coroner to assist lifeguards and assistant lifeguards in maintaining adequate surveillance over the whereabouts and the activities of young bathers while they are inside the pool enclosure. The Ministry of Health and Long-term Care requests that these requirements be posted.

Non-Swimmers Under 10

- Children under the age of 10 years who are non-swimmers must be accompanied by a parent or guardian who is at least 12 years of age and responsible for their direct supervision. The ratio of non-swimmers to parent or guardian may be a maximum of 4 bathers to one parent or guardian (4:1). The ratio of non-swimmers to parent or guardian may be increased to a maximum of 8 bathers to one parent or guardian (8:1) if lifejackets are worn by all non-swimmers in their charge.



Swimmers Under 10

- Children under the age of 10 who are swimmers (able to demonstrate comfort in the water and pass the facility swim test) may be admitted to the swimming pool unaccompanied.



Children Under 6

- Children under the age of 6 years may not be admitted to the swimming pool unless they are accompanied by a parent or guardian who is responsible for their direct supervision, with a maximum of two children for each parent or guardian.



Guardians

- Guardians or group leaders are responsible for the children in their care while in the facility and must directly supervise the children at all times.
- Guardians or group leaders should be at least 12 years of age.
- Facilities may set more stringent rules

Ratios of instructors/lifeguards to bathers must also be maintained as per Regulation 565.

Pool Parties

Ensure that the appropriate number of parents or guardians over 12 are available for direct supervision!

Class B Pools

Class B Public Pools that do not require lifeguards still require bathers under twelve years of age to be accompanied by a parent or his or her agent who is not less than sixteen years of age.

Pool Closure

The following reasons require an operator to close a pool:

- Clarity issues (i.e. the black disc is not clearly visible on the white background)
- Pool fouling
- Emergency phone not present/not working
- GFCI not present/not working
- No disinfectant or insufficient level of disinfectant
- Main drain cover loose or missing
- Insufficient number of lifeguards
- Circulation / filtration system not working
- Electrical hazard
- Emergency equipment not present/deficient
- Missing/insufficient test kit
- Other deficiencies deemed to be a health hazard



Pool Foulings

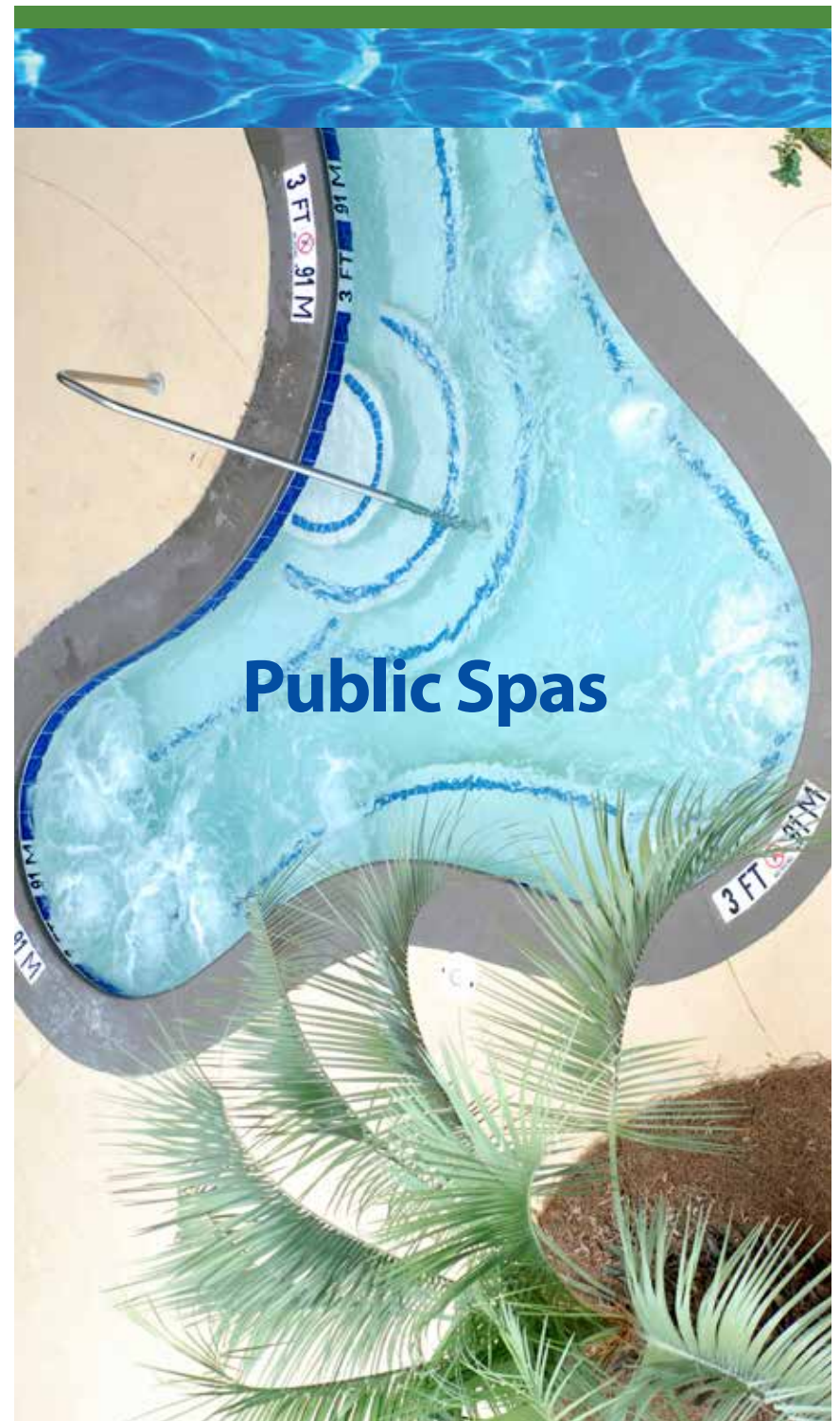
Fecal and vomit accidents are a concern because bacteria, viruses, and protozoa may be introduced into the pool. Bathers can get sick by drinking or getting this water into their eyes, ears or other mucous membranes. Diarrhea is more likely to contain illness causing organisms. Formed stools act as a container for organisms, so if removed without breaking, the spread of organisms, should be limited to a small area.



Preventing Pool Foulings

1. Remind parents to ensure infants and small children use the washroom before entering on to the pool deck
2. Promote use of swim diapers for infants that are not toilet trained
3. Post signs to remind bathers who are ill and have diarrhea not to use the pool

Public Spas



Risks associated with Public Spas

Public Spas are regulated as there are certain risks that are associated with them including, infectious disease, injuries and death.

How is spa water different than pool water?

1. High Water Temperature
 - Faster chemical reactions
 - Hot water could have adverse physiological effects on the human body
 - Bacteria likes warm water
 - More body oils and perspiration
2. Scaling Problem
 - High rate of water evaporation
3. Small Volume of Water
 - Small amount of chemicals can change water chemistry dramatically
 - Heavy bather load
 - Low sanitizer reserves



Legislation

Health Protection and Promotion Act R.S.O. 1990, Chapter H.7

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Public Spas, Ontario Regulation 428/05

The Public Spas Regulation is one of the many regulations made under the HPPA. The purpose of this regulation is to protect the health of spa users and to protect the spa structure and equipment.

Definition of a Public Spa

A hydro-massage pool containing an artificial body of water that is intended primarily for therapeutic or recreational use, and that is not drained, cleaned or refilled before use by each individual, and that utilizes a hydrojet, air induction bubbles, current flow, OR a combination of these over the majority of the spa area

Important Definitions under the Public Spas Regulation

“operator” means a person designated by the owner of a public spa as being responsible for the operation of the spa;

“owner” means a person who is the owner of a public spa;

Spas covered under Regulation 428/05 Public Spas

- A public spa operated on premises of or in conjunction with:
 - An apartment building/condominium/co-operative with more than 5 units
 - A mobile home, park or nurses' residence
 - A community of **more than 5 single-family units**
 - A hotel/motel
 - A campground
- A public spa operated in conjunction with:
 - A club
 - A condominium/co-operative of more than 5 units
 - A day nursery, day camp or an establishment for the care or treatment of persons who are ill, infirm or aged or for persons in custodial care

Refer to O. Reg. 428 Section 2. (2)



Legal Responsibilities

It is the responsibility of the **owner** to designate an operator who is trained in public spa operation and maintenance, filtration systems, water chemistry and all relevant safety and emergency procedures.

Refer to O. Reg. 428 Section 3. (1) and (2)

It is the responsibility of the owner/operator of a public spa to maintain the spa and its equipment in a safe and sanitary condition.

Role of the Public Health Inspector

The Public Health Inspector is responsible for checking that the requirements under Public Spa O. Reg 428/05 are met. This includes examining records, checking the water chemistry and spa circulation/filtration, ensuring that all safety equipment is functioning properly and that required signage/markings are in place. When a health hazard is identified, the Public Health Inspector will close the spa.

Inspection Frequency

Indoor Public Spas are inspected at least 4 times per year.

Opening/Re-opening Public Spas

It is the responsibility of the **owner/operator** to inform the Halton Health Department in writing when opening/re-opening a public spa. The Health Department is to be informed after construction or alteration and after any closure of the spa for more than **4 weeks** duration.

Refer to O. Reg. 428 Section 4.



Safety

Emergency and Operational Procedures and Instructions

Every owner/operator is to provide written emergency and operational procedures and instructions at the spa to be implemented in the event of an emergency, accident or injury

Owner / Operator Responsibilities

The spa owner/operator must ensure that **all** required emergency equipment is present, the spa deck/walls are kept in a sanitary condition, no glass is allowed on deck or in the spa, washrooms/change rooms are kept clean and the spa is inaccessible when it is not in operation.

Refer to O. Reg. 428 Section 5.

Safety Equipment

The following equipment is required:

- A landline emergency phone is to be located within 30m of the spa. The phone must be identified as an emergency phone and emergency telephone instructions placed next to it (see pool signage section for an example)
- A clock installed in a location easily visible from the spa.
- Steps with a non-slip surface are required and are to be equipped with a handrail. These steps have to have a band of contrasting colour.
- Fully stocked first aid kit with the same required contents as the public pool first aid kit. In addition, a pocket mask, gloves and scissors **are mandatory**.

Refer to O. Reg. 428 Sections 11., 12., 13. and 16

Heat-Related Illness

Bathing in hot water for an extended period of time can lead to illness and even death. When the core body temperature is over 40°C, the body gains heat faster than it can cool itself. Symptoms that can result include nausea, pale cool skin, fatigue, muscle cramps, unconsciousness and even death. The upper-limit cut-off switch, timing device and clock are required by regulation to help prevent heat-related illness and drowning.



Upper-Limit Cut-Off Switch

A tamper-proof cut off switch is required to be installed to limit the temperature of the spa (104°F/ 40°C). This switch must be independent of the spa's water temperature thermostat.

Refer to O. Reg. 428 Section 8.

Timing Device

A timing device is required that controls the duration of the spa's jet pump. This timer must be set so that it runs for no more than 15 minutes and must be located so that the bather must exit the spa to reset it.

A notice must be posted at the timing device identifying it as a timer.

Refer to O. Reg. 428 Section 9.

Suction System

The spa suction system must be equipped with a vacuum relief mechanism that is either a vacuum release system, a vacuum limit system, or another engineered system. The suction system is designed to prevent body suction entrapment, which has been a cause of drowning in public spas.

Refer to O. Reg. 428 Section 10.

Emergency Stop Button

An emergency stop button is to be provided that is separate from the spa's timing device, is located within the immediate vicinity of the spa, and activates an audible and visual signal when used.

A notice must be posted above the Emergency Stop Button as follows:

In the event of emergency push emergency stop button and use emergency phone. An audible and visual signal will activate.

Refer to O. Reg. 428 Section 14.



Additional Safety Equipment

If the spa has a horizontal dimension greater than 3m, a non-conducting reaching pole (3.65m long), 1 throwing aid and a spine board are to be provided.

Refer to O. Reg. 428 Section 15. (1)-(3)

Deck Markings

If the spa has a horizontal dimension greater than 3m, the following deck markings are required - the deep points, the breaks between gentle and steep bottom slopes, and the shallow points.

"Deep Area" and **"Shallow Area"** must be displayed at the appropriate locations

Refer to O. Reg. 428 Section 15.(4)





Signage

General Spa Rules Sign

This sign must be posted in a easily visible location.

CAUTION

- Children under the age of 12 are not allowed in the spa unless supervised by a person who is 16 years of age or older.
- Pregnant women and persons with known health or medical conditions should consult with a physician before using a spa.
- Do not use the spa if you have an open sore or rash, or are experiencing nausea, vomiting or diarrhea.
- Overexposure may cause fainting. 10 to 15 minutes may be excessive for some individuals. Cool down periodically and leave the spa if nausea or dizziness occurs.
- Enter and exit the spa slowly, to prevent slipping.
- Do not play or swim near drains or suction devices. Your body, body parts, hair, jewellery and other objects may become trapped and cause injury or drowning. People with long hair should be especially careful.
- Do not enter or remain in a spa if a drain cover or suction fitting is loose, broken or missing. Immediately notify the spa operator.
- No food or beverage except water is permitted within the deck or spa. No glass containers of any kind are permitted within the deck or spa.

Refer to O. Reg. 428 Section 18:



Shower Sign

The following sign is required to be posted near the entrance to the deck.

Each bather shall take a cleansing shower using soap and warm water and thoroughly rinse off all soap before entering the deck.

Refer to O. Reg. 428 Section 19.



Spa Chemistry

Sanitizers

Chlorine and Bromine are the only two approved chemicals for spa water disinfection in Ontario.

Required Spa Chemistry:

Test	Required Level
Free available chlorine	5.0 – 10.0 mg/L (ppm)
Bromine	5.0 – 10.0 mg/L (ppm)
pH	7.2 – 7.8
Total alkalinity	Minimum of 80 mg/L (ppm)
Cyanuric acid (stabilized spa)	No greater than 150 mg/L (ppm)

ORP

The ORP measures in mv (millivolts) the oxidizing power (chemical activity) of the sanitizer. The ORP reading must be greater than 700mv. Where the spa is equipped with an automatic sensing device, the operator must document the Oxidation Reduction Potential daily and perform a manual test of the FAC and pH at least once during the day, recommended at least ½ hour before opening.

Refer to O. Reg. 428 Section 6.





Record Keeping

Records

Spa records must be signed by the operator and kept available onsite for review by the Public Health Inspector. The records must be kept **for at least 1 year**.

Refer to O. Reg. 428 Section 22.(2)

Daily Records must include:

- FAC, Total Chlorine / Bromine and pH, must be checked one-half hour before bathers are admitted to the pool and no less than every hour while the pool is open for use. If an ORP is used, FAC, Total Chlorine/Bromine and pH must be checked manually at least 1 time per day to ensure the accuracy of the ORP
- Water clarity
- Emergency phone and GFCI check (before opening)
- Water temperature
- Oxidation Reduction Potential
- Type and amount of chemicals added manually to spa
- Total number of bathers

If applicable

- Make-up water meter reading
- Any emergencies, rescues or equipment breakdowns

Weekly Records must include:

- Total Alkalinity
- Cyanuric Acid (outdoor spas)

Refer to O. Reg. 428 Section 21.



Other Inspections

- All gravity and suction outlet covers must be inspected at least once every 30 days
- Test and inspect the emergency stop button and vacuum release mechanism every 30 days

Refer to O. Reg. 428 Section 22. (1).

The following reasons require an operator to close a spa:

- Cloudy water/lowest water outlet drain not visible
- Spa fouling
- Emergency phone not present/not working
- Vacuum release system not working/not present
- GFCI not present/not working
- Spa recirculation system not working
- No disinfectant or insufficient level of disinfectant
- Main drain cover loose or missing
- Insufficient # of lifeguards
- Circulation / filtration system not working
- Electrical hazard
- Emergency equipment not present/deficient
- Missing/insufficient test kit
- Other deficiencies deemed to be a health hazard

