



LIFESAVING SOCIETY® SOCIÉTÉ DE SAUVETAGE

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Guideline for Canadian Waterfronts

Lifeguard Supervision for Open Water Swimming Events

Guideline

Open water swimming (OWS) events, including but not limited to competitions and group practices, should be supervised by lifeguards trained in open water rescue. There should be at least one (1) lifeguard for every twenty (20) swimmers, with all swimmers under surveillance being not more than fifty (50) meters from a lifeguard.

This level of lifeguard supervision should be the basis of a customized safety plan, created and tailored for every event. Additional supervision should be considered for varying factors and course conditions, such as: weather, swimmer abilities, participant ages, water conditions, and more. In circumstances where assistant lifeguards are on duty, the number of assistant lifeguards should not exceed the number of lifeguards.

Application of this guideline should ensure all swimmers remain under direct supervision and conform to the safety tenets published by FINA (Fédération Internationale De Natation) in the Open Water Swimming Guidelines (2018)¹:

- All swimmers must be observed during the race so that there is immediate recognition when a swimmer is struggling or loses consciousness;
- There must be immediate rescue available when a swimmer is in distress; and
- There must be immediate resuscitation available to address medical emergencies.

Events that cannot meet this guideline due to course layout or other factors should invoke the use of alternate proven supervision safety measures, such as the use of escort boats.

Definitions

Assistant Lifeguard: a person appointed by the owner or operator to assist a National Lifeguard in the supervision of bather safety at a swimming pool or waterfront.

Direct Supervision: maintaining continual eye contact on deck and in water; able to alert lifeguards.

FINA: Fédération Internationale de Natation (FINA) is the international federation recognised by the International Olympic Committee (IOC) for administering international competition in six (6) water sports: swimming, open water (swimming), artistic swimming, diving, high diving, and water polo.

Lifeguard: a person with a current National Lifeguard certification appointed by the owner or operator to supervise bather safety while bathers are on the deck or beach, or in the pool or body of water.

Open Water Swimming (OWS): swimming in any location other than a swimming pool that is without significant environmental control and is subject to changes in conditions; including designed and natural settings such as: lakes, rivers, ponds, oceans, reservoirs, canals, artificial lakes, etc.

Operator: the trained individual designated by the owner to be responsible for the day-to-day operation of an aquatic facility.

Owner: the person or corporation who is the owner of an aquatic facility.

Risk Assessment: a systematic process of identifying, analyzing, and evaluating potential events that may impact individuals, assets, and/or the environment; and making judgments "on the tolerability of the risk" while considering all reasonable influencing factors.

Safety Supervision: a lifeguard's active scanning of their zone to ensure that bathers in that area remain free from harm. While providing safety supervision lifeguards must be on the pool deck or beach, vigilant, and at their station.

Serious Medical Condition: a condition which may put the bather at risk in a swimming facility (e.g. seizures, heart conditions, etc.).

Supervised Waterfront: the designated area of a waterfront where certified staff provide safety supervision as part of the operations.

Swimming Canada: The recognized national governing body of competitive swimming, including open water swimming, in Canada.

Swimming Pool: an artificially constructed basin, whether indoor or outdoor, lined with concrete, fiberglass, vinyl, or similar material in which persons can swim, wade, or dive.

Waterfront: an outdoor, artificial or natural shoreline alongside a body of water that may include docks or piers and be used for aquatic activities such as swimming, wading, diving, or aquatic sports.

Rationale

Open water swimming presents potential serious risk, including sudden and serious medical conditions such as loss of consciousness and the possibility of drowning^{2,3,4,5,6,7}. Qualified, skilled, and dedicated lifeguard supervision provides a critical layer of protection for participants.

In consideration of the variety of locations, conditions and the abilities of swimmers, and the absence of peer-reviewed study supporting a single standard, this guideline provides owners, operators of waterfronts, and event organizers with a baseline of lifeguard supervision. Completion of a full risk assessment will inform a comprehensive event safety plan, including the identification of additional staffing as necessary.

Background

Open water swimming was once limited to a few brave souls with strong swimming ability and tolerance to environmental conditions. Early feats of swimming accomplishment remain milestones in history. Lord Byron swimming the Hellespont (1810) is often considered as the birth of the open water swimming sport. While later, Captain Matthew Webb's crossing of the English Channel (1875) continues to serve as the inspiration to many open water swimmers.

In the late twentieth century, the interest and growth of open water swimming was triggered by triathlon, later boosted by the inclusion of both triathlon (Sydney 2000) and marathon swimming (Beijing 2008) into the Olympic Games². Recently, the environmental movement and the COVID-19 pandemic have further fuelled participation in open water swimming, connecting participants with the environment and providing space and opportunity outside of traditional swimming pools.

Today, the popularity of open water swimming is still increasing sharply^{2,8}. With unrivaled growth compared to other water sports, open water enthusiasts are seeking new sites to swim and new forms of open water swimming (eg. winter swimming, wild swimming, circuit, and escort swimming, etc.). Open water swimming is also developing thanks in part to media attention, social media platforms, and advances in swim technology. Wetsuits, eye wear, accessories, and safety equipment are all being improved for all conditions and participant abilities. These rapidly evolving changes are enabling more people of varying skill to take to the open water. Importantly however, there is no technology that can provide a safe and reliable substitute for trained lifeguard supervision.

While the need for good lifeguard supervision of open water swimming is obvious from an appreciation of the risks of exercise and environment, evidence clearly underscores this need. A published letter of study in the Journal of the American Medical Association (JAMA) analyzed deaths in the sport of triathlon⁷. From January 2006 to September 2008, a total of 14 participants died in sport-sanctioned events, 13 died during the swim leg^{7,9}. Another review from 2007 to mid-October 2013, found that of 52 people died during sanctioned triathlons in the USA, 44 died during the swimming portion⁸.

The death of American Francis (Fran) Crippen is another testament to the need for good safety supervision. Fran Crippen died while swimming the last race of 2010 10K World Open Water Swim Series in the United Arab Emirates. Approximately two hours after the finish of the men's televised race, Crippen's body was found underwater by deep-sea divers near the last race buoy marker about 500 yards from shore. He was presumed to have drowned, influenced by warm conditions and dehydration. Crippen was a highly decorated and elite international athlete. Following his death and similar tragedies from the sport of triathlon, investigations were undertaken to improve swimmer safety^{10,11,12,13}.

Analysis of incidents and deaths associated with open water swimming show that participants will remain at risk due to physiological factors as well as environmental stressors. Compounding these powerful influences are the effects of exertion and fatigue, even for the best-conditioned athletes. While the empirical risk is low and incidents are rare, dangers of the sport cannot be eliminated entirely. The possibility and severity of adverse outcomes dictate the need for complete surveillance of all participants in open water swimming events.

Implementation

In the interest of safety, all open water swimmers should swim where lifeguard supervision is provided. For practical reasons, this guideline is focussed on organized group swimming events only, such as, but not limited to, competitions and practices where lifeguard supervision is practicable.

Given the broad variety of venues, waters, and prevailing conditions the application of one generic standard for safety supervision of open water swimming events by lifeguards is not appropriate. The guideline of at least one (1) lifeguard for every twenty (20) swimmers and with all swimmers under surveillance not being more than fifty (50) meters from a lifeguard, provides a baseline of safety supervision. This guideline marries a manageable ratio (1:20) of lifeguard supervision to the 50M anerobic fitness standard of the Lifesaving Society's National Lifeguard Waterfront and Pool options, it is also a guideline currently in use by some national triathlon governing agencies^{14,15,16,17,18,19,20,21,22,23}. This baseline may exceed local standards of general waterfront supervision, appreciating that open water swimming events present different and substantially greater challenges than seen at supervised waterfronts²⁴. It is important to note that additional resources over the baseline complement may be required to meet prevailing conditions.

To provide proper lifeguard supervision, a comprehensive risk assessment should be completed prior to every event to inform an event safety plan including the accurate level of required staffing. The risk assessment should be completed by a qualified assessor in a timely manner, giving sufficient lead time to ensure appropriately organized, resourced, and effective supervision tailored to the event conditions.

To help open water swim organizers assess risks thoroughly and develop an event safety plan, the following guides may be valuable:

- Swim Canada Open Water Swimming Safety Guide, Supplementary Rules, Meet Manager Guide (2021)²⁵
- Swim Canada Open Water Swimming Event Director's Handbook (2015)²⁶
- FINA Open Water Swimming Guide (2018)¹

Once a risk assessment is complete control measures are applied with the aim of reducing or eliminating risk. If any risk posed by a hazard cannot be adequately addressed through resources or staffing, the event should not take place.

References

1. FINA (Fédération Internationale De Natation) *Open Water Swim Guidelines* 2018
2. Tipton MJ. *Sudden Cardiac Death During Open Water Swimming* Br J Sports Med 2014; 48:1134-1135
3. Gosling CM, Forbes AB, McGivern J, Gabbe BJ. *A Profile of Injuries in Athletes Seeking Treatment During a Triathlon Race Series* Am J Sports Med 2010; 38:1007-1014
4. Gerrard D, Migliorini S. *Testing the Waters: Highlighting the Safety of Open Water Swimmers*. Aspetar Sports Medicine Journal 58-63 2016
5. Gerrard DF. *Particular Medical Problems*. Clin Sports Med Apr;18(2):337-47 1999\

6. Greenemeier L. *Why is Swimming the Most Deadly Leg of Triathlon* Scientific American August 2011
7. Harris KM, Henry JT, Rothman E, Haas TS, Maron BJ. *Sudden Death During Triathlon* JAMA. 2010;303 (13):1255-1257
8. Ford, BD *Trouble Beneath the Surface* Outside the Lines October 2013
9. USA Triathlon. *USA Triathlon (USAT) Fatality Incidents Study*, 25 October 2012
10. Khodaei M, Edelman GT, Spittler J, Wilber R, Krabak BJ, Solomon D, Riewald S, Kendig A, Borgelt LM, Riederer M, Puzovic V, Rodeo S. *Medical Care for Swimmers*. Sports Med Open. July 25;2:27 2016
11. Gerrard DF. Mountjoy M. Migliorini S. *Thermal Stress in Open Water Swimming: Establishing Competition Parameters for Athlete Safety* A Research Project IOC| FINA| ITU & Otago University (NZ) January 2016
12. Hiller WD. O'Toole MI. Fortress EE. Laird RH. Imbert PC. Sisk TD. *Medical and Physiological Considerations in Triathlons*. Am J Sports Med 2010; 38:1007-1014
13. Dallam GM. Jonas S. Miller TK. *Medical Considerations in Triathlon Competition: Recommendations for Triathlon Organizers, Competitors and Coaches*. Sports Med 2005; 35:143-161
14. Lifesaving Society Canada *Alert: Lifeguarding in Action*, 2nd ed. 2016
15. Triathlon England. *Organised Open Water Swimming, Establishing and Developing Safer Venues to Support Mass Participation*. January 2020
16. Triathlon Scotland. *Organised Open Water Swimming, Establishing and Developing Safer Venues to Support Mass Participation*. version 4 May 2017
17. Swim Safety (website). *Open Water Swimming and Triathlons*
<https://swim-safety.co.uk/open-water-swimming-triathlons-water-safety/>
18. Swimming New Zealand *Open Water Swimming Manual* June 2010
19. USA Triathlon Swimming Safety (website):
<https://www.teamusa.org/USA-Triathlon/About/Multisport/Safety>
20. International Triathlon Union (ITU) *Competition Rules* December 2017
21. International Triathlon Union (ITU) *Event Organizer's Manual* November 2015
22. Race Rules and Etiquette – MultiSport Canada (website):
<https://multisportcanada.com/resource-library/racing-guide/>
23. Ontario Association of Triathletes *Open Water Swim Safety Guidelines* Second Draft, April 2004
24. Lifesaving Society Canada, Ontario Branch. *Waterfront Safety Standards*. 2019
25. Swimming Canada. *Open Water Swimming Safety Guide, Supplementary Rules, Meet Manager Guidelines*, January 2021
26. Swimming Canada. *Open Water Swimming Event Director's Handbook*, February 2015

Approval

- Approved by the Lifesaving Society Canada Board of Directors on XXX

Disclaimer

Lifesaving Society Canada's National Safety Standards are developed using Coroners' recommendations, the latest evidence-based research, and reflect the aquatics industry's best practices at the time the publication was approved.

The purpose of these standards is to encourage swimming pool, waterpark and waterfront owners, managers, operators and regulators to adopt these standards, in order to prevent drownings in aquatic environments.

Lifesaving Society Canada's National Safety Standards do not replace or supersede local, provincial/territorial or federal legislation or regulations, but they are considered the standard to which aquatic facility operators should work towards, in order to enhance safety within their operations and to prevent drowning.