

United States Masters Swimming

Open Water
Safety Director Training
Module

Presented by the USMS Open Water Committee

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How to Use this Training Module

- Note the learning objectives for this training module, found on the next slide (slide 3).
- Proceed through the slide show at a comfortable pace for you.
- Meet the learning objectives—review slides as necessary.
- Then go to http://www.usms.org/gto/gto_longdist, download the test, take it, and submit it.
- You will be notified of your result shortly after you submit the test.

Prospective USMS Safety Directors must successfully complete the course & test (80% correct answers) before serving as a Safety Director at a USMS-sanctioned open water swim.

Safety Director Training Objectives

After completing this short training module, the prospective Safety Director should know & understand...

- USMS requirements and recommended procedures for open water event safety;
- The qualifications, responsibilities, and powers of the safety director;
- The major areas of safety planning;
- How to evaluate site conditions on race day;
- How to plan for and provide excellent race safety;
- How to plan for and provide excellent race safety in cold water & warm water conditions; and
- Know what resources support safety directors, and where to find these resources.

Safety Director - Appointment

- The Safety Director for an event is chosen by the Event Host.
- The Safety Director is approved by the USMS Open Water Compliance Officer when considered “trained” (upon successful completion of this course).
- A trained Safety Director is required for all USMS-sanctioned open water events.

Safety Director - Qualifications

- Open water swimming experience as an official, event staff, or swimmer.
- Basic knowledge of water safety principles.
- Working knowledge of USMS OW rules and guidelines.
- Water safety background and experience is desirable, but not required.
- Work with an event host or LMSC in the past is desirable, but not required.

Safety Director - Responsibilities

According to USMS Rule 303.8.1B, the Safety Director is responsible for overseeing all aspects of event safety, including:

- Completing and complying with the approved safety plan;
- Checking that the entire course, especially the start and finish areas, is safe and free of obstructions;
- Arranging that sufficient suitable water craft, equipment, and safety staff are available during the swim;
- Briefing and assigning safety staff; and
- Advising the referee to modify the manner in which the swim is conducted or change the course and/or distance.

Safety Director - Position & Power

According to USMS Rule 303.8.1B...

- The position of Safety Director shall not be combined with the duties of any other staff member or official.
- The Safety Director has the authority to delay the start and/or stop a swim in progress if circumstances warrant.

Safety Director - Limitations

- The Safety Director is not an event Official, and does not have the authority to disqualify any swimmer.
- The Safety Director may not swim in the event, unless the position is assumed fully by another trained Safety Director during the swim.

The Safety Plan

- The safety plan is the foundation for planning a safe event that meets USMS rules and guidelines.
- Safety plans for all USMS-sanctioned events must be reviewed and approved by the LMSC Sanction Chair, then the USMS Open Water Compliance Coordinator.
- When applying for sanction, the event host must submit the safety plan document electronically on the template provided.

Main Areas of the Safety Plan

- Event Information
- Course & Event Conditions.
- Event Safety.
- Thermal Plan (if called for in the Safety Plan due to expected cold or warm water temperatures).
- Map attachment.

Event Information: the Basics

- Name of Host
- Name of Event
- Event Location
- City & State
- Event Date(s)
- Number & length of Swim(s)
- Is the event dual-sanctioned?

Event Information: Key Personnel

- Key event personnel:
 - Event Director(s).
 - Safety Director.
 - Referee.
- Required contact information:
 - Phone.
 - Email address

Event Information:

Required Pre-Race Meeting for Event Staff

- All officials and safety staff must attend a pre-race meeting to discuss swim safety, including the venue, course, and swimmer & staff safety procedures.
- The event host must submit a tentative date, time, and agenda for this meeting as part of the safety plan.

Event Information:

Required Pre-Race Meeting for Swimmers

All swimmers must attend a pre-race meeting—that can be seen and heard by all swimmers—to discuss logistics including:

- Day of race conditions.
- Water safety staff positioning & calling for assistance.
- The course, including start, turn buoys, directional buoys, and finish.
- Potential hazards.
- Protocol for swimmers who do not finish the race.
- Cancellation & evacuation signals & exit locations.

The event host must submit a tentative date, time, and agenda for this meeting as part of the safety plan.

Course & Event Conditions: Venue Characteristics on Race Day

The event host must submit the following information in the safety plan:

- Expected water temperature range.
- Expected air temperature range.
- Wetsuits, if allowed.
- The type of body of water: lake, river, bay, open ocean, etc.
- The type of water: salt, fresh, or brackish.
- Type of course: open, closed, loop, straight, etc.

Course & Event Conditions: Area Control on Race Day

If the course is open, the event host must include how boat traffic will be controlled in the safety plan, including:

- Name of the agency that controls the water when swimmers are in it.
- The contact information for this agency during the event.

Course & Event Conditions: Water Conditions on Race Day

- Temperature.
- Tides and currents.
- Wind effects.
- Surface & underwater hazards.
- Marine life & aquatic vegetation.
- Other users: fishing, recreational boating, etc.

Course & Event Conditions: Course-specific Information

- Course design: triangle, out and back, straight line, etc.
- Turn buoys: height, shape, & color.
- Guide buoys: height, shape, & color.
- Approximate distance between turn buoys.
- Approximate distance between guide buoys.
- Special ground rules.

Course & Event Conditions: Feeding Stations

If the event has feeding stations (designated places—usually fixed—on the course where swimmers may take nutrition), the plan must include...

- Number of feeding stations.
- Type of structure(s) used as a feeding station.
- Number of people the structure(s) can hold safely if support crews are allowed on them.

Course & Event Information: Water Quality

- Water quality should be checked one week before the event, preferably using local authorities.
- If exceptional weather such as heavy rain or flooding affects the water quality, the event host may need to postpone or cancel the event.
- If potential water quality hazards are found during or after the event, swimmers should be notified. Race day water sample results should be taken and retained for future reference.

Event Safety: Overview

Event safety encompasses many areas including:

- Medical personnel.
- First responders, lifeguards, and monitors.
- On-site & nearby medical care and facilities.
- EMS, ambulance, and emergency personnel.
- Watercraft used for emergency response and safety.
- Communications.
- Counting & accounting of swimmers.
- Warm-up and warm-down safety planning.
- Swimmer management.
- Severe weather planning.

Event Safety: Medical Personnel

Lead medical personnel on site

- Name of person(s) or agency/company
- Medical Qualifications.
- Experience with sporting events and open water events.
- Location during the event, on course or land.
- Number of personnel, based on course configuration, number of swimmers, & conditions.

Event Safety:

First Responders: Lifeguards & Monitors

- Qualifications of lifeguards & monitors.
- Number of lifeguards & monitors on the course.
- Number of lifeguards & monitors on land.
- Location of the lifeguards, & monitors must be noted on the course map

Event Safety:

On-site Medical Care & Facilities

- During event preparation, EMS should be contacted well in advance of the event.
- The safety plan must describe the on-site facilities for medical care, such as treatment tent and heating/cooling tent or facility.
- The location of these essential services must be noted on the site map.

Event Safety:

Ambulance/Emergency Transportation

- At least one ambulance dedicated to the event should be onsite whenever possible. If the ambulance is “on call”, it should be available within an acceptable period of time.
- For full coverage, other ambulances should be on call if the first one is deployed.
- Event staff should have a communication method to contact EMS.

Event Safety:

Nearby Medical Facilities

The location of the closest medical facility(s) should be identified, and written directions to that site must be available on race day. These details should be noted in the safety plan:

- The name of the facility.
- The contact phone number.
- The type of medical facility.
- The distance from the venue.
- The approximate travel time to the facility.

Event Safety: Watercraft

- There are two categories of water craft used for open water swim safety
 - Motorized: powerboats & personal water craft (jet-skis).
 - Non-motorized: paddle boards, canoes, row boats, canoes, kayaks, barges, & rafts.
- In the best case scenario, these water craft are owned and operated by a government agency responsible for safety at the venue on a day-to-day basis (i.e. Coast Guard, fire, police, lifeguard service, etc.)
- All water craft must carry a brightly colored emergency signal flag, the color of which must be universal for all event craft during the event.

Event Safety: Watercraft (continued)

The event host must include the following motorized craft summary in the safety plan:

- Number of government agency boats.
- Number of private/commercial boats with propeller guards or swimmer monitor.
- Number of private/commercial boats with propellers in front of the rudder.
- Number of private/commercial boats with impeller motor (jet-skis).
- Number of boats anchored throughout the race.

Event Safety:

Watercraft (continued)

The event host must submit the following safety craft information in the safety plan:

- Number of motorized and non-motorized first & second responders.
- Number of motorized & non-motorized craft for race officials & race supervision.
- Number of watercraft for feeding stations, if any.
- Number of motorized & non-motorized watercraft for escorted swims, if allowed.

Event Safety:

Motorized Watercraft

- Motorized watercraft operated by Coast Guard, local police, fire & rescue, or other government agencies trained in the safe use of that watercraft for monitoring or rescue are exempt from USMS propeller/swimmer monitor restrictions.
- Boats owned by private volunteers or commercial operators used for monitoring & rescue must meet all safety requirements, and complete the safety checklist found in Addendum C to the USMS Open Water Guide to Operations.

Event Safety: OWGTO Addendum C

The following information is verified by submitting the Boat Operator Checklist

- Event name.
- Event sanction number.
- Event location & date.
- Boat Operators.
- Event Director.

Event Safety: OWGTO Addendum C

Additional information needed for completion of the Boat Operator Checklist:

- Watercraft description.
- Is the boat owned or operated by a government agency?
- Was the boat moving or at anchor from start to finish of the race?
- Did the boat have a propeller guard or dedicated Swim Monitor on board?
- Did everyone on the boat have a lifejacket?
- Did the boat have rescue & first aid supplies on board?

Event Safety:

OWGTO Addendum C (continued)

Additional information needed for completion of the Boat Operator Checklist (continued):

- Did the boat operators & swim monitors agree to not participate in the swim itself?
- Did the operator and swim monitor attend the pre-race meeting or pre-race safety briefing?
- Were the boat operators & swim monitors aware of hazards and restricted areas within and around the course?
- Was there two-way radio communication between the boat operator and the safety director?

Event Safety: Communications

The safety plan must describe how event staff will communicate during the event, from safety staff briefing until event conclusion, including:

- Primary & secondary methods of communication between officials
- Primary & secondary methods for communicating between medical personnel, first responders, & safety craft.

Event Safety:

Swimmer Counting & Accountability

- There must be a method of swimmer body numbering.
- There should be a method of electronic identification of swimmers if possible (recommended).
- There should be different bright colors of swim caps for each division if there are multiple swimmer divisions or multiple waves at the start (recommended).
- There must be a method for accounting for swimmers before, during, and after each swim.
- There must be a method for accounting for swimmers who drop out or do not finish.

Event Safety:

Warm-up & Warm-down

- Warm-up & warm-down areas & times must be identified and shared with all safety staff and participants.
- No one should ever be in the water at the event—before, during, and after the swim(s)—without spotting & rescue-ready personnel.

Event Safety:

Swimmer Management

- The key to good swimmer management & on-water safety is an adequate number of course monitors, rescuers, and safety craft.
- Each event host should determine the maximum number of swimmers allowed on the course.
- There should be a procedure for adjusting the safety plan and number of monitors on the course if there is a significant increase in swimmers on race day (usually due to race day registration).

Event Safety:

Swimmer Management (continued)

- The event host must identify how monitors & rescuers will be deployed along the course to ensure swift recognition, rescue, and treatment of swimmers in distress.
- There must be a plan if there is not sufficient safety staff in place to ensure proper recognition, rescue, and treatment when swimmers are in distress or need basic assistance.
- There must be a missing swimmer plan.

Event Safety: Severe Weather

- The event host must submit a severe weather plan in the safety plan, and have that plan in place on the day of the swim(s).
- The event host must submit a course evacuation plan in the safety plan, and have that plan in place on the day of the swim(s).
- The event host should have a lightening detector, weather radio, or weather phone app on site on the day of the swim(s).

Thermal Planning:

USMS Water Temperature Measurement Procedure

To provide a meaningful uniform standard, the event host should take water temperatures in this manner:

Using an accurate thermometer, take three to five measurements at various places on the course (12 to 18 inches below the surface of the water and no closer to shore than 25 meters if possible) within one hour of the start of an open water swim. The host should average these temperatures, post or announce the resulting average temperature at least 30 minutes before the start of the swim, and announce it during the pre-race safety staff and swimmers' meetings.

Cold Water Thermal Planning: Rules

USMS rule 302.2.2:

- (1) A swim shall not begin if the water temperature is less than 60° F. (15.6° C.), unless heat-retaining swimwear is required of all swimmers or a USMS-approved thermal plan is in place.
- (2) A swim in which heat-retaining swimwear is required of all swimmers shall not begin if the water temperature is less than 57° F. (13.9° C.), unless a USMS-approved thermal plan is in place.

Cold Water Thermal Planning: Requirement & Recommendations

- If an event has a chance—even remote—of water temperature below 60° F. , the event host is required to complete and put in place a cold water thermal plan.
- If an event has a chance—even remote—of water temperature below 66° F., the event host is strongly encouraged to complete and put in place a cold water thermal plan.
- If a swim has a chance of water temperature below 72 ° F, the event host is encouraged to complete and put in place a cold water thermal plan.

Cold Water Thermal Planning: The Main Issue

Average masters swimmers (whoever they are) often don't acclimatize for cold water swimming, so even a small drop in water temperature – especially in cold ranges – dramatically increases the odds of thermal issues, which can include:

- Cold shock response.
- Cold incapacitation.
- Hypothermia.
- Circum-rescue collapse.

Cold Water Thermal Planning: Swimmer Preparation before the Event

- To increase swimmer preparation before the event a host could:
 - Emphasize and stress the existence of cold water conditions;
 - Require prior cold water experience; and/or
 - Require a swimmer cold water preparation plan.
 - Refuse swimmer entry if the swimmer is not acclimated to cold water swimming.
- In the submitted thermal plan, the event host should include specific details of how it plans to accomplish this.

Cold Water Thermal Planning: Reduced Swimmer Exposure

- To reduce swimmer exposure to cold water during the event, the host should be ready to:
 - Cancel swims;
 - Shorten swims or institute/shorten time limits;
 - Encourage wetsuits for all swimmers;
 - Require wetsuits for all swimmers; and/or
 - Have additional safety staff near the start to assist with potential “cold shock response” rescues.
- In the submitted thermal plan, the event host should include specific details of how it plans to do this.

Cold Water Thermal Planning: Maximizing Mitigation & Treatment

- To mitigate and treat symptoms of thermal issues the host could:
 - Bring in more emergency trained medical personnel and/or ambulances and/or more volunteers to assist medical personnel;
 - Bring in more emergency craft & first responders on the course;
 - Increase warm beverages before the swim, at feeding stations, and after the swim;
 - Increase thermal treatment gear (blankets, hot water bottles, etc.);
 - Have special procedures for removing swimmers from the water and venue (different than normal trauma rescue); and/or
 - Make warming facilities and/or warm showers available on site.
- In the submitted thermal plan, the event host should include specific details of how it plans to do this.

Warm Water Thermal Planning: Rule

USMS rule 302.2.2(3):

- A swim of 5 kilometers or greater shall not begin if the water temperature exceeds 29.45° C. (85° F.).
- A swim of less than 5 kilometers shall not begin if the water temperature exceeds 31° C. (87.8° F.).

Warm Water Thermal Planning: Requirements & Recommendation

- If an event has a chance—even remote—of water temperature above 87.8° F. , the event host is required to complete and put in place a warm water thermal plan.
- If an event 5-km or greater in distance has a chance—even remote—of water temperature above 85° F. , the event host is required to complete and put in place a warm water thermal plan as above.
- If an event has a chance—even remote—of water temperature above 82° F., the event host is strongly encouraged to complete and put in place a warm water thermal plan.

Warm Water Thermal Planning: The Main Issue

Average masters swimmers (whoever they are) often don't acclimatize for warm water swimming, so even a small increase in water temperature – especially in warmer ranges – dramatically increases the odds of thermal issues, which can include:

- Dehydration.
- Heat Stroke.
- Hyperthermia.

Warm Water Thermal Planning: Swimmer Preparation before the Event

- To increase swimmer preparation before the event a host could:
 - Emphasize and stress on entry information of possible warm water swim conditions;
 - Require prior warm water experience; and/or
 - Require a swimmer warm water preparation plan.
- In the submitted thermal plan, the event host should include specific details of how it plans to accomplish this.

Warm Water Thermal Planning: Reduced Participant Exposure

- To reduce participant exposure to warm water during the event, the host should be ready to:
 - Cancel swims;
 - Shorten swims or institute/shorten time limits;
 - Remind all participants to stay well hydrated;
 - Remind swimmers to set appropriate pace; and/or
 - Make swim caps optional or use Lycra swim caps.
- In the submitted thermal plan, the event host should include specific details of how it plans to do this.

Warm Water Thermal Planning: Maximizing Mitigation & Treatment

- To mitigate and treat symptoms of thermal issues the host could:
 - Bring in more emergency trained medical personnel and/or ambulances and/or more volunteers to assist medical personnel;
 - Bring in more emergency craft & first responders on the course;
 - Increase cool beverages before the swim, at feeding stations, and after the swim (for all participants, not just swimmers);
 - Increase heat exhaustion & heat stroke treatment gear (iced water, ice chips, cold water bottles, misting tents/fans, etc.);
 - Make shade & cooling facilities and/or cool showers available on site.
- In the submitted thermal plan, the event host should include specific details of how it plans to do this.

Map of the Proposed Course with Critical Elements

- The event host must submit a map of the course—preferably using Google Earth™ or equivalent—with the event plan
- The course map must include:
 - Start & finish location;
 - Turn buoys and directional buoys;
 - Safety craft locations;
 - Location of first responders (lifeguards & monitors);
 - On site medical services;
 - Evacuation points; and
 - Hazards and/or restricted areas.

Resources

The Safety Director packet should include...

- The completed & approved safety plan for the event;
- The USMS Safety Director Training Outline;
- The Safety Director's Checklist.

USMS policy & procedures for open water events are found at http://www.usms.org/gto/gto_longdist.

USMS rules for open water events are found at http://www.usms.org/rules/?utm_campaign=top_nav&utm_medium=for_volunteers. Look in Part 3 of the rule book.

Safety Director's Checklist

- The Safety Director must complete & sign the Safety Director's checklist.
- The Safety Director must submit a copy of the completed & signed checklist to the Event Host.
- The Event Host must submit a copy of the completed & signed checklist to the supervising LMSC officer and the USMS Open Water Compliance Coordinator.
- The Event Host should retain a copy of the completed & signed checklist for three years.

The Safety Director Test

You have completed the course, so now take the test. Prospective USMS Safety Directors must successfully complete the course & test (80% correct answers) before serving as a Trained Safety Director at a USMS-sanctioned open water swim.

- Go to http://www.usms.org/gto/gto_longdist and download the test;
- Take the test (it's open book); and
- Submit your completed test (scan & send) to David Miner, USMS Open Water Compliance Coordinator, at openwateradvisor@usmastersswimming.org

You will be notified of your result shortly after you submit the test.

Thanks for preparing to be a USMS Open Water Safety Director!