



Event Obstacle Safety Guideline

v2023.01

1) Overview

This guideline outlines the procedures and practices for the design, build, execution, maintenance, inspection, and delivery of Obstacle Sports competitions produced, sanctioned, or associated with World Obstacle, the Fédération Internationale de Sports d'Obstacles, its member federations, leagues, association and other related organisations. Relevant sections may be applicable, at the discretion of the user, to training facilities that employ obstacles.

This guideline does not address all safety concerns associated with its use. It is the responsibility of the user to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations before use.

This guideline cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this practice may be applicable in all circumstances. This guideline is not intended to represent or replace the standard of care by which the adequacy of a professional service must be judged, and it is not appropriate to apply this document without consideration of an event's specific circumstances. These may include, but are not limited to, the venue, terrain, vegetation, weather, traffic, social/cultural norms, number of participants, duration, and event type.

The word "guideline" in the title indicates that the document is not a standard but should be used in conjunction with any standard(s), codes, regulations, and approvals applicable to the city, region, province, state, and country in which the Event is located.

2) Referenced Documents

This guideline is based on the most up-to-date ASTM International F770 Standard Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices, ASTM F2291 Standard Practice for Design of Amusement Rides and Devices, ANSI/ACCT Challenge Courses and Canopy/Zip Line Tours Standards, the Climbing Wall Association Industry Practices, and related international and EN standards. If doubt exists as to the application and use of this guideline, the referenced standards shall take precedence.

NOTE: *Event Producers should be aware that local, regional, national, and continental laws, regulations, and standards may also apply to their events and/or facilities.*

3) Definitions

Event: Events are obstacle sports competitions that include a course designed for participants to traverse primarily on foot and/or obstacles.

Event Organizer: Organization that produces and operates the Event.

Participant: individuals participating in the Event and interacting with Obstacles.

Event Personnel: any entity, individuals, volunteers, or contractors retained by Event Organizer to help produce the Event.

Qualified Engineering Professional: An individual with a professional degree and experience relevant to the design, construction, and maintenance of structural elements that may include but are not limited to obstacles, parts of obstacles, start/finish arches, camera positions, viewing platforms, seating, stages, tents, and podiums. In most countries and circumstances, the qualified Professional will be a professional structural engineer.

Qualified Medical Manager: the individual responsible for overseeing patient care and any medical staff on site during the Event. This individual must have a current certification or license of an Emergency Medical Technician (EMT or equivalent certification/license) or greater training, and have experience in emergency medical care and experience relevant to their assigned Event work.

Qualified Medical Planner: an individual responsible for developing an Emergency Medical Action Plan, Incident Action Plan, or other Risk Management plans pertaining to the medical operations of the Event. Such an individual shall have a current certification or license of an EMT (or equivalent certification/license) or greater training, have relevant experience in emergency medical care, experience relevant to their assigned Event work, and training in Incident Command and Emergency Medical Management. A Qualified Medical Planner is responsible for planning reasonably acceptable methods and guidelines for: patient care and the transfer of patients into the local emergency medical system if needed.

Qualified Risk Assessor: a person with extensive knowledge, training, and experience relating to Event events who is capable of identifying existing, reasonably anticipated, and predictable hazardous scenarios, unsanitary conditions, has familiarity with the Obstacle build process, and who has authorization to take prompt corrective measures to address these hazards.

Lifeguard: a person with a current nationally or internationally recognized lifeguard certification or greater who has experience in surface water rescue.

Rescue Diver: appropriately equipped person who is certified, trained, and has experience as a Public Safety Rescue Diver (or equivalent international certification) or similar training and experience.

Obstacle: Manmade or natural elements identified by the Event Organizer as components of the Event with which Participants interact.

Course: a predetermined route between start and finish areas at an Event, that includes Obstacles intended for Participants. The Course also includes any start, finish, or other event areas.

Water Element: component of an Obstacle that has water with which Participants interact.

Structural Element: Any component of an Obstacle that, upon structural failure, overload, or collapse, would cause hazard(s) to persons.

Hazardous Obstacle Element: A component of an Obstacle that can cause significant injury or death to Participants, including but not limited to a fall from height, high-impact fall onto another Participant, water submersion, electricity, fire, or smoke.

Emergency Action Plan: a formal written plan, developed by the Event Organizer, that identifies potential emergency conditions at the event site and prescribes the procedures to be followed to minimize or prevent injury, loss of life, and property.

4) Obstacle Requirements

- a) **Risk Assessment:** Obstacles shall have a Risk Assessment created and written by a Qualified Risk Assessor before the Obstacle is opened on the course. The Risk Assessment shall identify hazardous obstacle elements, hazards, probability, and severity of harm, and risk mitigation plans associated with Participants' use of the Obstacle.
 - i) For any Obstacle with a fall from height Hazardous Obstacle Element, the Risk Assessment shall take into account the following factors: assessment of height of fall, landing surface, type of Participant fall, Participant body orientation throughout Obstacle, Participants falling on each other, appropriate fall warning signage, and landing surface maintenance.
 - ii) For Obstacles with a Water Element over 4 feet in water depth, the Obstacle Risk Assessment shall outline water personnel schedules, rescue response guidelines, chain of command, and the appropriate number of Lifeguards and Rescue Divers based on the following factors: length, width, depth, temperature of the water, and the expected Participant load on the Obstacle.
- b) **Operating Document:** A written Operating Document shall be created for an Obstacle before that Obstacle is opened on the Course. The Operating Document shall include proper use of the Obstacle by Participants, operation of the Obstacle by Event Personnel, Obstacle monitoring requirements, and Obstacle-specific emergency response and rescue guidelines as applicable.
- c) **Structure Approval:** All Obstacles that include a Structural Element require a stamp or written approval from a Qualified Engineering Professional, of the Obstacle designs approving the Obstacle for the proposed use before being used at Events.
 - i) When approving Obstacle drawings, Qualified Engineering Professionals shall document to the Event Organizer the design loads for Obstacles with a Structural Element, taking into account the following factors, including but not limited to anticipated environmental factors, wind, Participant volume, and Participant interaction.
- d) **Build and Inspection**
 - i) Obstacles with a Structural Element shall be built according to a Qualified Engineering Professional approved design(s).
 - ii) Event Organizers must conduct and document a pre-event inspection and confirmation of the integrity of the Obstacle(s) before each day of the Event.
 - iii) Any modifications to a Structural Obstacle that change the overall structural integrity of the Obstacle relative to Qualified Engineering Professional approved designs shall be approved and documented by a Qualified Engineering Professional before intended use.
 - iv) Event Organizer shall periodically monitor obstacles throughout the Event for fitness for use.

5) Course Design

The Event Organizer shall consider factors in the course design as they apply to the health and safety of Participants and spectators, such as:

- 1) medical access to the Course
- 2) spectator areas and access

- 3) Course and Obstacle Marking
- 4) water stations
- 5) Obstacle placement
- 6) weather mitigation protocols
- 7) terrain assessments
- 8) evacuation routes
- 9) course checks and sweep procedures
- 10) pre-event walkthrough

6) Water Obstacle Staffing

- a) The Qualified Medical Planner and the Event Organizer shall determine appropriate staffing and mitigating factors for any Obstacle with a Water Element based on the Obstacle Risk Assessment, which shall take into account the following factors: water clarity, flow rate, depth, distance, and temperature.
- b) Obstacles with a Water Element greater than 4 ft. in water depth require the following staffing, in which the number of personnel shall be determined in advance by the Qualified Medical Planner or on-site by the Qualified Medical Manager:
 - i) Over 4 ft. Water Depth: Lifeguard(s)
 - ii) Over 6 ft. Water Depth: Rescue Divers and Lifeguard(s). No fewer than 2 Rescue Divers staffed. When Rescue Divers are present, a written and clearly defined search and rescue plan shall be prepared.

7) Water Obstacle Signage

- a) Obstacles containing a Water Element greater than 4 ft. in water depth shall have signage posted by the Event Organizer before the entry to the Obstacle communicating a variation of the message 'If you cannot swim, go around this Obstacle.'
- b) Obstacles containing a Water Element shall have signage posted by the Event Organizer before the entry of the Obstacle communicating a variation of the message 'No diving'.

8) Water Quality

- a) The Event Organizer shall maintain water quality within the Event where Participants can reasonably be expected to ingest or contact water volume sufficient to pose a substantial health risk.
- b) The Event Organizer shall notify Participants of the risks of contact with mud and Obstacles containing water or a Water Element.

9) Event Day Operations Safety

- a) The Event Organizer shall conduct a Course sweep at the end of the operation to ensure the Obstacles and the Course are cleared of all Participants and spectators before the Course is closed.
- b) An Emergency Action Plan shall be developed by the Event Organizer in the following areas:
 - i) Severe Weather (monitoring lightning, wind, and heat index throughout the Event)
 - ii) Mass Casualty
 - iii) Obstacle Failure
 - iv) Lost Person
 - v) Fire Emergency

- vi) Active Shooter
 - vii) Bomb Threat
 - viii) Critical Communications Failure
 - ix) Critical Power Failure
 - x) Venue Evacuation
- c) Event Instruction/Orientation
- i) The Event Organizer shall brief the Event Personnel and Technical Officials (TOs) on their roles before being deployed on the Course.
 - ii) Event Medical staff shall be briefed by the Qualified Medical Manager on rescue protocols, obstacle-specific risks, communication protocols, Course and Obstacle access points, no drive zones, locations of life-saving equipment, important emergency response protocols for Potentially Hazardous Obstacle Elements, and Emergency Action Plans.
 - iii) Participants shall be informed before being allowed on the Course how to access medical care on the Course and their ability to bypass any Obstacle if they choose to do so.
- d) Event Infrastructure and Equipment Maintenance
- i) The Event Organizer shall employ security protocols appropriate for the Event size, location, and type.
 - ii) The Event Organizer shall employ parking and transit protocols appropriate for the Event size, location, and type, and have appropriate emergency vehicle egress and ingress.

10) Medical Provision

- a) The Event Organizer shall be prepared to deliver medical care at the Event. The Event Organizer shall ensure that a Qualified Medical Planner is involved in the planning of the medical aspects of the Event and administering medical care at the Event. Medical planning shall take into account the following factors, including but not limited to;
- i) size of Event
 - ii) risk of Obstacles
 - iii) likelihood of potential injuries
 - iv) weather including fire, flood, wind, heat, cold, and lightning danger
 - v) environmental terrain
 - vi) advanced medical response
 - vii) wildlife
 - viii) vehicular interaction
- b) If determined necessary by the medical planning, the Event Organizer shall provide a central medical treatment location that provides shelter from the environment and has the following components as needed: Adequate space based on predicted patient volume, Adequate lighting, HVAC as appropriate, Clean treatment areas, Working treatment furniture (cots, beds, chairs, tables, etc.), Electrical sources, Potable water source.
- c) The Event Organizer shall have a protocol for transporting patients to the medical treatment location in a manner that minimizes patient risk.

- d) The Event Organizer shall ensure a minimum of one automatic external defibrillator (AED), or a person practiced in the application of Cardiopulmonary Resuscitation (CPR), if an AED is not available, at each location onsite as follows: each medical treatment facility and each medical rover as designated by the Event Organizer. The Event Organizer shall ensure there are AEDs able to reach any location on the Course. The Event Organizer shall provide an AED at each Obstacle where participants intentionally interact with an electric current as a feature of the Obstacle.
- e) The Event Organizer shall ensure adequate rescue and extraction capabilities for all Obstacles and for ambulance inaccessible areas of the Course (i.e., backcountry or rugged terrain areas). Before the Event, the Event Organizer and the Qualified Medical Manager shall create a procedure for the transfer of patients into the local healthcare system for those requiring an advanced level of care.