

ORIENTEERING EVENT SAFETY

General

Orienteering is an outdoor activity which like all adventure-based outdoor pursuits, can carry some degree of risk to the participant. For the most part, orienteering can be a relatively safe activity, but occasional situations can and do arise, which may result in the orienteer being placed at risk of personal harm. This is, in large part, due to the nature of the variable terrain that is a component of the sport of orienteering.

To ensure a safe, enjoyable but still challenging orienteering experience, the course planner must make some calculated decisions on which areas are suitable to use for an orienteering event. Normally areas that could create considerable risk are also not necessarily desirable for orienteering and as such are not mapped. However, some great areas for orienteering may contain some area hazards such as cliffs or rivers that with some careful course planning can be avoided. Most clubs will have a range of maps of urban, city park and wilderness areas to use for orienteering. Those who are new to orienteering should be introduced to the sport in 'easy' terrain such as a city park or well-travelled wilderness area.

Those who have engaged in the sport of orienteering for some time are usually quite aware of their body movements while travelling through wilderness and rough terrain and unlikely to injure themselves as a result. However, caution must be exercised when doing course planning to ensure that even these experienced orienteers are not inadvertently led into an unexpected hazard by virtue of a poorly planned orienteering leg.

Potential Risks

A Risk Matrix is a useful tool to help analyze the potential for risk that could be encountered during an orienteering event or activity. Noted in **Annex A** is a **Risk Matrix** that identifies the following:

- Potential harm or injury;
- Risk Probability (likelihood of the injury/harm happening);
- Preventive Strategies; and
- A Response Plan.

Prevention - Whenever possible the greater risks associated with orienteering should be avoided through the careful decision making employed by course planners and event organizers. As many of the risks in orienteering are directly associated with environmental hazards (such as areas of rock fall, steep drop offs, river currents etc), these risks could be reduced or mitigated by analyzing potential route choices and carefully locating control sites to avoid areas of potential harm. However, not all potential for injury to the orienteer can be completely eliminated. To pursue the aim of eliminating all risk is not a practical consideration as the adventure aspect and outdoor nature of the orienteering demand that a level of challenge must continue to exist in order to enjoy all parts of the sport of orienteering. Providing information to the orienteers at the beginning of an event is crucial to make them alert for any known hazards. **Annex B** contains a **Safety Briefing Format** to help provide event organizers a framework on what to communicate to participants.

Response - Beyond prevention, there is a need for a secondary strategy, which involves a defined response plan should an incident or injury occur. A well-thought out response, will make a reaction to an event involving injury swift and methodical. Also, it will remind organizers to have certain resources always on-hand at all orienteering events such as radios, first aid kits, and emergency contact numbers.

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Overdue Orienteers

An Orienteer not arriving back at the Finish Area by the required course closure time is always a cause for concern. Typically, the experience level of the orienteer will be a main factor. Those new to the sport of orienteering are more likely to make navigation errors and misjudge the amount of time they may need to return to the Finish Area. However, even more experienced orienteers may occasionally make a navigation error that finds them off-track and overdue.

Causes – Beyond a simple lack of navigation experience, some of the potential compounding factors, which could cause orienteers to become lost/overdue, could also be the following:

- Not carrying a watch (no way to reference time spent on course)
- Not carrying a compass (losing direction)
- Sustaining an injury (twisted ankle etc) which can slow progress
- Making a 180 degree error
- Inadvertently travelling off the map, and no longer being able to re-locate

Not wearing a watch may be particularly true of junior orienteers, who may not wear one in favour of keeping time with their cellular phone. Those coaching or assisting junior orienteers should be especially vigilant that these junior participants have a watch or time piece on them prior to heading out on their course.

Response – Located at **Annex C** is a step-by-step **Response Plan for dealing with an Overdue Orienteer**, starting with gaining the information to establish that someone is indeed overdue, organizing a search, and taking the next steps to engage outside authorities should a search by orienteering club members not prove successful.

Emergency Contact Numbers

On rare occasion, incidents may occur during an orienteering event, which will require that outside help, such as an ambulance service or search and rescue group, be summoned. In preparation for this, it is helpful to have the applicable emergency numbers for a given area on hand. **Annex D** contains a handy reference sheet to record Emergency Contacts, which can be filled in by the event organizer to make this information easily available.

Summary

Good planning and forethought will help keep all participants safe during an organized orienteering activity. Please keep this emergency plan with your emergency response gear (first aid kit, radios etc), so that it can be easily located and referenced. **Annex E** – contains a summary of responsibilities for all Event Organizers and Course Planners. Stay Safe!

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ANNEX A – RISK MATRIX

Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Not returning to Finish by Course Closure Time/ Orienteer Getting Lost	Occasional	<u>Prevention:</u> ▪ Clearly communicate course closure times ▪ Ensure participants wear watches or have a timing device ▪ Ensure young junior participants travel in pairs or are accompanied by an adult ▪ Ensure participants set out on courses that are matched correctly to their ability ▪ Ensure all participants carry a whistle to summon aid <u>Response Plan</u> ▪ Have an established plan to search for overdue participants. See Annex C.
Sustaining a minor injury (cuts, scrapes, bruises)	Likely	<u>Prevention:</u> ▪ Avoid placing controls in areas of unpleasant thick vegetation and orienteering legs that may lead orienteers into undue steep or rough terrain (rocky, slippery areas) by careful course planning. ▪ Place information in the event description to encourage participants to wear the correct clothing (eg. Long pants when travelling through vegetation, correct footwear) ▪ Provide information in initial safety briefing to announce potential hazards in the terrain ▪ Ensure participants carry a whistle to summon aid <u>Response Plan:</u> ▪ Keep First Aid Kit visible at the Start/Finish area ▪ Have a trained First Aider available to provide assistance
Sustaining a major injury (broken bones)	Seldom to Improbable	<u>Prevention:</u> ▪ Avoid bringing course participants into dangerous areas (cliffs, rock falls etc) by careful course planning ▪ Note any areas to avoid by placing out-of-bounds areas on maps ▪ Provide specific information to participants during their initial safety/event briefing warning them about using caution in certain areas ▪ Ensure participants carry a whistle to summon aid <u>Response Plan:</u> ▪ Have a First Aid Kit visible at the Start/Finish Area ▪ Have a trained First Aider available to assist and also travel to the injured orienteer if necessary ▪ Have a vehicle available to assist an injured orienteer to get to medical aid as needed

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Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Neck or Spinal Injury (Immobilizing the Orienteer)	Very Improbable	<u>Prevention:</u> ▪ Avoid all dangerous areas where falls, that may cause severe injury could happen, by careful course planning ▪ Mark specific areas out-of-bounds on maps so that orienteers will know to avoid these areas ▪ Provide specific information to participants to warn them of any potential dangerous hazards in the area ▪ Ensure participants carry a whistle to summon aid <u>Response Plan:</u> ▪ Have a First Aid and trained First Aider available to travel to the casualty to assess the situation ▪ Have a communications plan ▪ Seek immediate assistance from the Search Rescue Team to help extract the injured orienteer to safety ▪ Engage BC Ambulance for travel to hospital
Dangerous Encounters with wildlife	Improbable	<u>Prevention:</u> ▪ Avoid using areas for events that may have had a recent dangerous wildlife siting ▪ Consider cancelling an event, if there has been a very recent siting of dangerous wildlife ▪ Ensure all young junior participants travel in pairs or are accompanied by an adult, when in forest wilderness areas as opposed to park-like areas ▪ Ensure all participants carry a whistle to summon aid <u>Response Plan:</u> ▪ In the event an orienteer has spotted or encountered dangerous wildlife, cancel the event immediately ▪ Set out volunteers in teams of three to travel backwards on each course and encourage orienteers to head directly to the Finish Area ▪ Account for all participants by carefully checking start lists and finish times ▪ Notify the local Conservation Office/Police of the wildlife siting / close encounter
Hypothermia	Seldom to Improbable	<u>Prevention:</u> ▪ Consider cancelling the event if weather is particularly unfavourable (ie. Heavy persistent rain, snowy icy conditions) ▪ Ensure all participants are advised ahead of time of potential conditions so that they can prepare themselves for the weather

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Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
		<u>Prevention (cont'd):</u> ▪ Check participants at the start line to ensure they are dressed appropriate to the weather ▪ Use a manned control to check participants if on a long course ▪ Check-in on orienteers as they enter Finish area ▪ Provide warm refreshments (ie. Hot chocolate) at the Finish Area ▪ Provide a place to warm-up if at all possible <u>Response Plan:</u> ▪ Have a trained First Aider available to treat the hypothermic orienteer ▪ Have warm blankets, space blankets available to give to casualty ▪ Use a vehicle to warm up the casualty and keep them out of the elements ▪ Drive casualty to immediate medical aid if deemed serious
Heat-Related Injury (Heat stroke or heat exhaustion)	Seldom to Improbable	<u>Prevention:</u> ▪ Consider cancelling the event if weather is particularly unfavourable (ie. extreme heat) ▪ Ensure all participants are advised ahead of time of potential conditions so that they can prepare themselves for the weather ▪ Check participants at the start line to ensure they are dressed appropriate and are carrying water ▪ Provide water on course ▪ Provide cool refreshments at the Finish Area ▪ Check-in on orienteers as they enter Finish Area ▪ Provide lots of liquid refreshment at Finish Line <u>Response Plan:</u> ▪ Have a trained First Aider available to treat any potential heat-related injuries ▪ Have areas of shade, cool water available for the casualty ▪ Use a vehicle air conditioning to cool down the casualty and keep them out of the heat ▪ Drive casualty to immediate medical aid if deemed serious

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Potential Risk Situations	Risk Probability	Preventive Strategy/Response Plan
Bee Stings	Seldom to Improbable	<u>Prevention:</u> - Although difficult to detect, if a wasp/bee hive does happen to be discovered during course planning/course setting, this area should be avoided. Even on the morning of the event, drop a control if necessary. - Participants, who know they have a sensitivity, should be cautioned to carry an Epi-Pen with them at all times when the environmental conditions of the area make the presence of bees/wasp likely <u>Response Plan:</u> - Have First Aid Kit with anti-histamine tablets available at Finish Area (note – anti-histamine tablets can reduce the adverse effects of a bee sting) - If a severe allergic reaction is suspected, transport the casualty to hospital immediately
Snake Bite - Poisonous	Very Improbable	<u>Prevention:</u> - Advise participants if poisonous snakes are part of the wildlife to be expected in a given area - Warn participants to be on a the alert, including listening for the sounds of rattle snakes - If a snake is spotted, participants are to avoid sudden movement, give lots of space and back away slowly - Wear gaiters to protect the lower legs <u>Response Plan:</u> - Have First Aid Kit with anti-venom available at Finish Area - If a severe snake bite is suspected, transport the casualty to hospital immediately
Tick Bites (Note: Tick bites can lead to Lime Disease and early detection should be emphasized)	Seldom to Improbable	<u>Prevention:</u> - Alert participants if the weather conditions and type of area may make the presence of ticks likely - Encourage participants to wear protective clothing, long pants, gaiters, cap etc - Encourage participants to check themselves carefully upon returning to the Finish Area <u>Response Plan:</u> - Have First Aid Kit with equipped with tweezers or other instrument to help extract ticks available at Finish Area

ANNEX B – ORIENTEERING EVENT AND SAFETY BRIEFING FORMAT

Component	Information to be Covered
General Overview	▪ Type of event (point-to-point, Score-O etc) ▪ Number of controls in the area ▪ Number of courses available
Required Equipment	List mandatory equipment: ▪ Compass ▪ Whistle ▪ Watch (highly recommended) ▪ Water (as required) ▪ Miscellaneous – pencil, etc
Course Closure Time	▪ Absolute Finish Time is _____. ▪ All Orienteers must report back by this time. IMPORTANT: ALL COMPETITORS MUST REPORT TO THE FINISH, REGARDLESS IF YOU COMPLETED YOUR COURSE OR NOT.
Potential Hazards	▪ Expected Hazards in the terrain: cliffs, rocky areas, deep swamps etc ▪ Wildlife – bears, cougars, snakes etc ▪ Roadways and expected level of traffic
Emergencies	Inform participants, what to in case of the following: ▪ If you get injured, need immediate assistance, or are very disoriented and unable to return to the Finish Area, blow your whistle three times to attract attention. Only blow your whistle in a genuine emergency. ▪ If you hear a whistle, stop your course, investigate and provide help where needed. Alert event organizers at the Finish Area soon as possible.
Safety Bearing	▪ If applicable, provide and describe the safety bearing to find large linear feature (ie. Highway or river etc) that will help funnel the orienteer back to the finish
First Aid	▪ Describe the location of the First Aid Kit (usually the registration tent) ▪ Identify the first aid attendant
Location of Refreshments	▪ Describe any water stations on course ▪ Water and snack available at Start/Finish
Additional Info	▪ Provide any extra info as required by specific event

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ANNEX C - OVERDUE ORIENTEERS – RESPONSE PLAN

At course closing time, check the finish list to see if any participants are missing. If a participant has not returned, follow the procedure below:

Gather Information about the Orienteer

1. Check the start list to determine if the participant actually started and note his/her start time. Determine how long the participant has been on the course.
2. Ask other participants if they have seen the missing person either on the course or at the finish. The person may have returned and not checked in to the Finish.
3. Determine the location where the person was last seen. Was it early in the course or late? Did he/she appear to be lost/in trouble? What was he/she wearing? Did he/she have any food or drink?
4. Search parking areas, washrooms, and other nearby facilities. Is the person's car still in the parking lot? Are the person's belongings at the staging area? Are there friends or family waiting at the Finish?
5. Arrange for control pick-up volunteers to keep an eye out for the overdue participant. At least one volunteer must remain at the Finish at all times, in case the participant returns.
6. If the event is using SI and the SI number of the participant is known, the control units can be downloaded to confirm the time of each punch.
7. Check the membership form or ask around for the person's cellular number. Call the phone.

Commence a Search

8. Send an experienced orienteer (or team of two experienced orienteers) with a cellular phone or radio to run the course backwards.
9. Send another experienced orienteer or team to run the course forwards.
10. If the event is a Score-O, it will be more difficult to establish the route taken by the orienteer. In this situation, it would be best to send out teams of experienced orienteers equipped with radios or cellular phones to check a group of controls that are located close to each other. Several teams may need to be dispatched to different sectors in order to visit each control site.
11. If necessary, send other experienced volunteers (with cellular phones or radios) to check all major trails and roads, and/or drive or run the perimeter of the map especially the area of a safety bearing.

Contact Emergency Services

12. At some point **no later than 3 hours past the overdue person's maximum allowed time**, the event director must contact emergency services and ask for assistance.
13. The decision to call in emergency services should be made by the event director and the controller and will depend upon circumstances. Examples of factors to be considered include:

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- Age, health, experience of the participant
- Weather conditions
- Length of time the participant is overdue
- Last known location of participant
- Amount of daylight left
- Nature of the terrain

14. The Emergency Services will become the search master upon arrival at the site.

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ANNEX D – EMERGENCY CONTACTS

The following information is applicable to the where the orienteering event/activity is scheduled to take place.

Event Location:	
Local Police #:	
Local Ambulance #:	
Local Search & Rescue #:	
Nearest Hospital:	
Hospital #:	

ANNEX E – SUMMARY OF RESPONSIBILITIES

Event Organizer Responsibilities:

- Ensure a well-stocked First Aid Kit is on hand at the event venue
- Ensure water is always available at the Start and Finish
- Make participants aware of any hazards during the pre-event safety briefing
- Liaise with Course Planner/Setter about any placing any public warning signs in the area of the event such as 'Event in Progress' signs for busy roads where competitors may likely to cross
- Take note of any sudden changes in the weather and be prepared to make a decision to cancel if severe conditions indicate that the orienteers may be unsafe (ie. Wind Storm)

Course Planner/Setter Responsibilities:

- Ensure courses are set with expected participants in mind (do not have junior participants crossing busy roads, plan routes that may cross dangerous areas etc)
- Provide master maps or course planners notes, so that orienteers can make the correct choice as to which level of course they should choose.
- Consider all potential route options during course planning and make sure orienteers are not inadvertently led into any dangerous or unpleasant areas
- Mark areas of particular concern as out-of-bounds on the map to warn away orienteers as selecting them as a potential route choice
- If necessary, use marked routes or flagging tape as visual indicators to orienteers of any particular areas in the terrain that they should avoid