

Mass Participation Event Management for the Team Physician: A Consensus Statement

SUMMARY

This document provides an overview of select medical issues that are important to team physicians who are responsible for mass participation event management. It is not intended as a standard of care, and should not be interpreted as such. This document is only a guide, and as such, is of a general nature, consistent with the reasonable, objective practice of the healthcare professional. Individual treatment will turn on the specific facts and circumstances presented to the physician. Adequate insurance should be in place to help protect the physician, the athlete, and the sponsoring organization.

This statement was developed by a collaboration of six major professional associations concerned about clinical sports medicine issues; they have committed to forming an ongoing project-based alliance to bring together sports medicine organizations to best serve active people and athletes. The organizations are: American Academy of Family Physicians, American Academy of Orthopaedic Surgeons, American College of Sports Medicine, American Medical Society for Sports Medicine, American Orthopaedic Society for Sports Medicine, and the American Osteopathic Academy of Sports Medicine.

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DEFINITION

Mass participation event management is medical administration and participant care at these sporting events. Medical management provides safety advice and care at the event that accounts for large numbers of participants, anticipated injury and illness, variable environment, repeated games or matches, and mixed age groups of varying athletic ability. This document does not pertain to the care of the spectator.

GOAL

The goal is to assist the team/event physician in providing medical care during mass participation events. The physician's role is to organize a medical team that facilitates event safety, provides medical care, makes return-to-participation decisions, and acts as the event medical spokesperson. To accomplish this goal, the team physician should have knowledge of and be involved with

- Administrative matters concerning the event
- Medical care and protocols
- Hydration and fluid replacement

ADMINISTRATION

A well developed and properly executed medical plan will provide on-site care for participants with the additional goals of reducing patient load on area emergency facilities and providing rapid access to these facilities for participants in need of more advanced care. The unique aspects of mass participation event planning include access to and communication with the “field of play” (e.g., 42 kilometers of city streets, several acres of soccer pitches, multiple tennis courts, open water sports, or back-country trails), a wide variation in the number and ability of competitors, and differences in the type and volume of injury and illness.

General Administration

It is *essential* to:

- Develop an agreement concerning medical care and administrative responsibilities between the medical team and the organizing body
- Assess potential environmental conditions and site and event risk factors
- Organize the medical team prior to the event
- Notify police, fire and rescue departments and emergency medical facilities of time, location and access to the event and the expected number of casualties
- Develop and communicate medical protocols to include directing acute on-site care, determining who needs to be transported, as well as limits to participation or return-to-play
- Plan for operations, transportation, communication, and command and control
- Develop an adverse event protocol for deaths or catastrophic illness or injuries that addresses confidentiality, medical reporting, and public disclosure
- Adhere to the principles of the Health Insurance Portability and Accountability Act (HIPAA)
- Develop and maintain medical and event records
- Follow modified universal precautions protocol for the handling and disposal of body fluids and contaminated medical waste and all other principles of Occupational Safety and Health Administration (OSHA) standards
- Confirm and adhere to medical policies of applicable governing bodies
- Provide all-area access credentials to the medical team

It is *desirable* to:

- Organize the medical team at least six months prior to the event
- Schedule the event when historical environmental conditions are most favorable
- Schedule the start time to accommodate the safest start and finish times for elite through novice competitors
- Develop a tracking system so family members can find injured or ill participants
- Conduct a post-event review of the medical care, administrative plan and budget
- Review and analyze event injury, illness, and environmental data
- Prepare a summary report

Hazardous Condition Plan

Hazardous conditions pose a risk to event participants beyond the inherent risk of the activity and to support staff involved in the event.

It is *essential* to:

- Develop a modification or cancellation policy for the event when hazardous conditions exist
 - Hot conditions: determine an ambient temperature and relative humidity cut-off appropriate for the sport, age, and abilities of the participants
 - Cold conditions: determine an ambient temperature and windchill cut-off that is appropriate for the sport, age, abilities of the participants, and location (latitude, altitude)
 - Suspend activities when lightning and thunder are present (“if you can hear it, clear it”), and resume activity after 30 minutes without lightning and thunder
 - Consider other sport-specific conditions, such as air quality, traction, water conditions, wind speed and visibility
- Announce the risks of current and anticipated competitive environment at the start

It is *desirable* to:

- Publish hazardous condition protocol in advance
- Monitor conditions on-site with a wet bulb globe thermometer or ambient temperature-relative humidity device, and lightning warning system
- Develop an on-site communications system for changing conditions

Competitor Education

Pre-event and on-site participant education may reduce injury risk and improve safety.

It is *essential* to develop a method to inform participants of:

- Inherent event risks
- Safety measures to reduce individual risk
- Anticipated environmental conditions and site risks
- Risks of over and under hydration where applicable
- Fitness recommendations for the event
- Location and identification of medical facilities and personnel

It is *desirable* to provide in advance:

- Health and safety material to all participants and coaches
- Equipment and clothing recommendations
- A method for participants to convey significant medical information

Competition Site Preparation

Site preparation positions medical resources and personnel and facilitates safety for competitors and support staff.

It is *essential* the competition site:

- Be inspected to reduce injury risks
- Be accessible to medical team and support staff
- Include designated access and egress points for emergency medical services
- Include major and minor medical aid stations that are clearly identified, strategically placed with controlled entry, and easily accessible to injured or ill participants, medical team, and support staff
- Include a transportation plan for well and injured/ill competitors both on-site and between the event site and the emergency facility
- Include a communications plan to direct emergency care and link medical sites and personnel
- Include hydration fluids that are available for participants, medical team, and support staff

It is *desirable* the competition site:

- Include food, shelter, and sanitation facilities for competitors, medical team, and support staff
- Include parking/venue passes, locations and maps for medical team and support staff

Staffing for Medical Areas

Staffing for mass participation events should be based on anticipated medical event requirements, anticipated injury and illness, and planned level of medical care delivery. These decisions are made in advance by the event medical director and are frequently based upon historical event data.

It is *essential* the medical team:

- Include a medical director
- Provide basic first aid and cardiopulmonary resuscitation (CPR)
- Provide event-specific medical and musculoskeletal care
- Include support staff who possess specific skills to access all areas of the course

It is *desirable* the medical team:

- Provide early defibrillation
- Provide advanced cardiac life support and advanced trauma life support
- Provide intravenous fluid administration for non life-threatening illness
- Include non-medical staff to assist medical providers

Equipment and Medical Supplies

The medical team requires equipment and supplies in the major and minor medical aid stations. The requirements may differ based on the mass participation event, the number of competitors, and the type and volume of injury and illness.

It is *highly desirable*, depending upon the mass participation event, that the major medical aid station:

- Be contained and offer privacy and protection from environment
- Have the following supplies:
 - Medical supplies, including automatic or manual external defibrillator, airway kit, intubation equipment, pocket venti-mask, rectal thermometers, blood pressure cuff, stethoscope, pen light, oxygen and oxygen delivery system, intravenous fluids and administration kits, medications (advanced cardiac life support drugs, aspirin, dextrose 50% in water, albuterol inhaler, epinephrine 1:1000 SQ, antihistamine, diazepam, glucagon, and magnesium sulfate), glucose monitor, sodium monitor, and oxygen saturation monitor, and as indicated, cricothyrotomy kit and immersion tubs
 - Musculoskeletal supplies, including ice, plastic bags, splints, slings, braces, crutches, athletic tape, blister care products, elastic bandages, and suture materials
 - Other supplies, including shelter, stretchers, cots, blankets, towels, chairs, tables, security fencing, heating and cooling equipment, generator or electricity source, lights, sharps box, gloves, contaminated waste disposal, waterless soap, portable sink, toilet, and as indicated, back boards and semi-rigid neck collars.

It is *desirable*:

- Other supplies included for game-day preparation be available for the major medical aid station [See *Sideline Preparedness for the Team Physician*]
- The minor medical aid stations provide basic first aid supplies for medical and musculoskeletal conditions.

MEDICAL CARE

Medical care at mass participation events is best delivered by predetermined protocols. These protocols direct acute on-site care, determine who needs to be transported, and determine limits to participation or return-to-play. While some events may require pre-participation screening, in general, it is neither practical nor cost effective.

Medical Care Delivery

It is *essential* to provide on-site:

- Basic first aid and CPR
- Event-specific medical and musculoskeletal care

It is *desirable* to provide on-site:

- Early defibrillation
- Advanced cardiac life support and advanced trauma life support
- Intravenous fluid administration for non life-threatening illness
- Hyper- and hypothermia evaluation and initial care
- Hyponatremia evaluation and initial care

Limits to Event Participation and Return-To-Play

It is *essential* the medical team:

- Be authorized to evaluate the injured or ill participant and limit participation or determine

return-to-play

It is *desirable* the medical team:

- Has facilities and equipment for evaluation on-site.
- Publish criteria for limits to participation or return-to-play

HYDRATION AND ENERGY REPLACEMENT

Events should have fluids (and food if indicated) available for safe participation. Fluids should be easily accessible and strategically placed. Six to 12 ounces (180 to 360 ml) of fluid should be available for every 15 to 20 minutes of continuous activity. Excessive fluid intake may result in hyponatremia.

It is *essential* to:

- Provide fluids for competitors, medical team, and support staff
- Provide additional fluid choices containing carbohydrate and sodium for events involving continuous activity lasting more than one hour
- Encourage participants to replace sweat losses during activity and replace weight loss post-event

It is *desirable* to:

- Cool fluids to 59-72°F (15-22°C) for optimal palatability and absorption
- Publish the fluid types and location prior to the event
- Utilize carbohydrate and salt solutions for optimal palatability and absorption containing:
 - 25-50 mmol/l sodium, 2-8% carbohydrate for pre-event and event
 - 50-100 mmol/l sodium post event (with normal diet)

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