Ogden Marathon

Medical Team Handbook







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OGDEN MARATHON MEDICAL HANDBOOK

Medical Director Welcome

It is my pleasure to welcome you to the medical team of the Ogden Marathon. For those returning, welcome back. Your experience will be critical keeping the race a safe and happy event. For those who are with us for the first time, we are glad to have you and hope this experience will lead to many more in the future.

This year we will continue our tradition of providing high quality medical support to our runners. Our race medical lead this year will be Dr. Alex Olaveson. He has spent a lot of time helping organize people and supplies for the race as well as meeting with Ogden City Police and Fire amongst other participating organizations. If you have questions about the race or your role, please contact him.

Please read through the race handbook in its entirety but note the following overarching points:

- Even though this is a race all athletes should be treated under patient privacy laws (HIPPA). Do
 not disclose any runner specific information unless asked to do so by the athlete. Discussion
 between medical team providers is acceptable. Direct all media inquiries to the Race Director and
 do not discuss patient care. If asked by bystanders how an athlete is doing, say something like,
 "Thanks for your concern, I cannot discuss any runners condition at this time."
- Our primary responsibility is keeping runners safe. As the race is stretched over 26.2 miles and
 does not pass in front of a clinic or hospital, we will all be working in a strange environment. Lean
 on the emergency training you have received and act within your scope of practice.
- Our goal is to have an invisible presence on the race. Be patient when watching the runners and
 only intervene if medically necessary. This is a special day for our runners who have trained hard
 for this so try to have a minimal impact in their experience by intervening only when appropriate
 and as aggressively as necessary. Otherwise, join the other volunteers and cheer them on. Please
 read the section on removing athletes from competition.
- While our focus is on keeping the athletes safe, please take care of yourself and your colleagues.
 The temperature will change throughout the day from cold weather in the morning to warm weather
 by the afternoon. Rain and even snow are not uncommon during the race. Please dress in layers,
 come prepared for rain, and wear sunscreen. To identify yourself as a medical provider, please
 wear your work badge on the day of the race.

Working in medical is a lot of fun and very fulfilling. The runners are appreciative and many multimarathon runners comment on the comforting and professional experience in our medical tents. Let's earn that compliment. I'll see you on race day.

Sincerely,

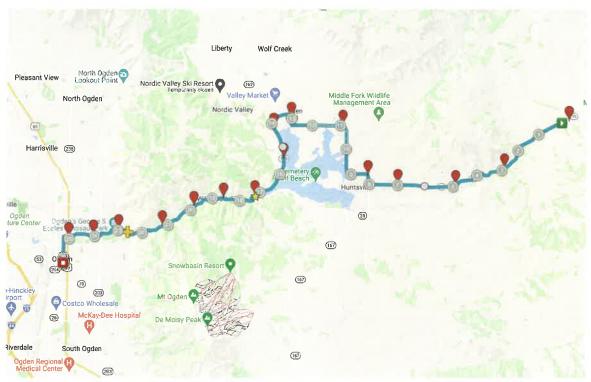
Clark Madsen MD MS

GOAL Foundation Medical Director

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Course Map





Aid Stations in red Half Medical tent at Mile 13 Mouth of canyon tent at mile 22 Main Med tent at finish line

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Contact Information

2023 Contact Information

Role	Name	Contact
Medical Lead / Finish Tent	Alex Olaveson MD	208-716-3455
ATC Lead	Jeremy Wiley ATC	435-770-0221
GOAL Medical Director	Clark Madsen MD	801-821-8319
Radio Medical Channel		Zone 3, Channel 3, Ops 3

Race Day Instructions

Finish Line Tent

- 1. No parking at the medical tent, park in a nearby lot or parking structure.
- 2. Head to the finish line and find the medical tent.
- 3. The medical lead will meet you and provide details of your role.
- 4. Introduce yourself to your teammates. As you receive patients you will be responsible for each of them until discharge from the medical tent. Each athlete should have a completed athlete evaluation form which is saved in the designated location prior to patient discharge.
- 5. Athletes with minor musculoskeletal conditions will be managed by the ATC providers.
- 6. All other patients will be supervised by a nurse/resident team. Consultation with the attending physician is available for any patient.
- 7. Give a patient summary to the attending physician prior to discharge from the medical tent.
- 8. Missing items or other needs should be communicated to the Medical Lead in tent.
- 9. Communicate with the Medical Lead if you are leaving on a break or at the end of your shift. If you still have patients, please give verbal sign out to another resident or nurse.
- 10. If assigned to be a catcher, stand about 15m away from the finish line. Encourage runners to keep walking after the finish and only intervene if the athlete collapses or collapse is imminent. If the athlete can keep walking, assist them for 5 minutes. If able to walk on their own and can communicate their name, bib number, and hometown, they may be released, otherwise assist patient to the medical tent.
- 11. Always work within your scope of practice.

Half Start Tent

- 1. Parking is available near the site of the medical tent. (2100 N 5600 E, Eden, UT)
- 2. Be at the medical tent by 6:45AM
- 3. Always work within your scope of practice.
- 4. Any athlete you discuss medical care with should be logged in the athlete treatment list (appendix), any athlete you remove from the race should be relayed over the radio(location, bib number, reason).
- 5. Begin cleaning up once the last runner passes your station.

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6. You are cleared to leave after all runners have passed into Ogden Canyon or been pulled from the upper course. Contact the Medical Lead to confirm closure of the Half Start Tent.

Aid Stations

Parking available near all aid stations

- 1. Arrive at your assigned time.
- 2. Set up the aid station with resources easily accessible for runners.
- 3. Do not interfere with athletes running the course. Read the section on removing athletes from the race.
- 4. In the event of a witnessed emergency, ensure that EMS is contacted immediately and apply first aid. Take care to practice within the scope of your training.
- 5. If EMS is not at your location, you may contact the medical lead with your location, runner bib number, situation, and time of arrival.
- 6. If the runner has minor injuries or wishes to leave the race, contact the medical van in your zone via radio to have the athlete picked up.
- 7. Any athlete you discuss medical care with should be logged in the athlete treatment list (appendix), any athlete removed from the race should be relayed to the medical lead (location, bib number, reason).
- 8. To the best of your abilities be a good steward of your supplies and the environment around your aid station
- 9. Be positive, friendly, and cheer on the runners
- 10. Once cleared by race director staff you may clean up and close down the aid station.

Medical Vans

- 1. Arrive at the McKay Dee Sports Medicine Clinic by 0530 on the day of the race to find your assigned van and teammate. There will be one driver and provider for each van. Arriving late may mean you miss the closing of Ogden canyon and be late to arrive at your assigned area.
- 2. Drive your van to the assigned location.

	LOCATION	COVERAGE
VAN 1	7800 E & SR 39, Huntsville, UT, mile 8)	Mile 1-17
VAN 2	Ogden Canyon, follow pilot vehicle	Mile 17- 21
VAN 3	Mouth of Ogden Canyon (mile 22)	Mile 21-finish

- 3. Make sure your radio is in good working order and set to the proper channel. Check to make sure you have all your supplies.
- 4. Maintain readiness to respond to calls for assistance within your zone. Respond quickly but safely. There are many runners on the course. Safety is better than speed.
- 5. When arriving to a distressed runner, perform a brief triage and determine disposition. Options include:
 - allowing the runner to continue the race,

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- taking the runner to the half or finish line med tent,
- contacting EMS for direct transfer to a hospital.

If unsure, contact the medical lead for support. No ill or injured runner is to be transported via private vehicle.

- 6. Any athlete found collapsed and unresponsive should be considered to have a cardiac event until proven otherwise. Apply the AED and contact EMS.
- 7. If EMS is not at your location, you may contact the medical lead with your location, runner bib number, situation, and time of arrival. See communication below.
- 8. Any athlete with evidence of heat stroke should be taken to the finish line tent via EMS prior to going to the hospital. Rapid cooling in the medical tent with our prepared ice water tanks is the best treatment and must be done rapidly.
- 9. Some runners may have mild injuries and decline medical care and request a ride to their car. You should provide an evaluation to rule out major injury and take them to the nearest transport bus or finish line area, whichever is closer.
- 10. Any athlete you discuss medical care with should be logged in the athlete treatment list (appendix), any athlete you remove from the race should be relayed to the medical lead (location, bib number, reason), see the communication section.
- 11. After all runners have been cleared from your zone, check in with the aid stations in your zone to determine if they need assistance and then return to the finish line medical tent.

Communication

When in doubt communicate with the race medical director. Most errors in care are related to communication. We are a unified medical team practicing over 26.2 miles. To maintain order and best care practices all medical team should follow the following communication guidance.

When to use the radio

- Emergency situations or situations with potential to become emergencies
- 2. Need for increased support (more providers, supplies, etc)
- 3. Removing an athlete from the race
- 4. When you leave or return to your assigned location
- 5. When you need to vary from our written protocols
- 6. When you have finished your shift and are leaving your assigned area

How to Radio

Questions regarding clarification of duties or when more than a brief conversation is needed can be phoned directly otherwise use the radio. When calling, hold down the transmit button and use the following SBAR technique:

- Say "Medical".
- 2. State your name and assignment and wait for a response from medical.
- 3. State the situation, give the runner bib number 2 times, and current status.
- 4. Give background information that the medical tent will need.
- 5. Give your overall assessment of the situation.



- 6. Recommend next steps from your perspective.
- 7. Wait for a response, medical director team will repeat back critical sections of your communication and give you further information and guidance.

Example 1: "Medical, this is John Smith, medical van 2... We are at mile 18 with a runner that will need transport from the course. Bib number 223, repeat bib number 223. Runner fell down near mile 18 and has not been able to bear weight. Assessment on site showed no acute distress but she is unable to continue the race. I would like to transport her to med van 3 for transport to finish tent."

Example 2: "Medical, this is John Smith, medical van 2... We are at mile 20 with a runner needing urgent EMS support. Bib number 404, repeat bib number 404. Runner collapsed on course about 5 minutes ago. He continues to have altered cognition and he feels hot and dry. I am suspecting heat stroke. I recommend rapid transport for cooling in medical tent or transport to the hospital."

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Temperature Affects Runners

In running a marathon, temperature control is key. Research has clearly shown that the number of injuries increases as the temperature rises. In addition, some of the most serious adverse events are directly related to ambient heat. When determining environmental risk, the marathon uses the wet bulb globe temperature (WBGT) which utilizes the air temperature, relative humidity, and relative radiant energy from the sun. The WBGT is monitored throughout the race to inform athlete risk.

Wet Bulb Globe Temperature Definition

Specialized thermometer with three chambers to measure temperature, humidity, and radiation.

$$WBGT = (0.7 \text{ x Wet Bulb}) + (0.1 \text{ x Dry bulb}) + (0.2 \text{ x Black bulb.})$$

Action Criteria

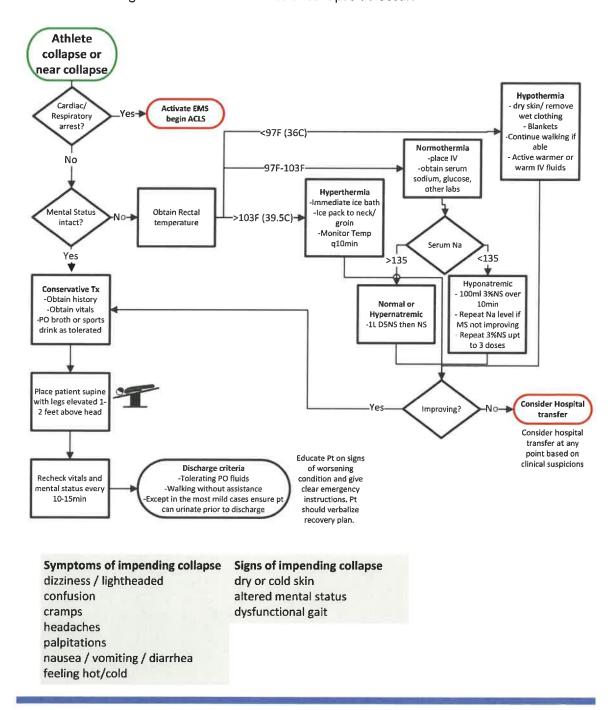
A flag system has been developed based upon wet bulb temperatures. This flag system is used to inform athlete safety and to educate runners.

	Black	Red	Yellow	Green	White
	Flag	Flag	Flag	Flag	Flag
WBGT	>28°C >82°F	23-28°C 73-82°F	18-23°C 65-73°F	10-18°C 50-65°F	<10°C <50°F
Risk	Extreme Risk	High Risk	Moderate Risk	Low Risk	Hypothermia Risk
Officials	Race delay or cancelation	Increase Hydration stations, inform local hospitals	Proceed with event	Proceed with event	Consider possible delay or cancelation of race
Medical Staff	Runners should be pulled from course, lookout for heat stroke and heat exhaustion	Elevated hyperthermia concern, add more ice baths	Watch for increased heat illness occurrence	Standard preparations	Watch for hypothermia injuries. Increase blankets and warm broth.
Athletes	Seek cool shelter, stop race	Increase hydration, reduce speed	Standard preparation and hydration	Standard preparation and hydration	Dress warmly with extra layers

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Athlete Collapse Algorithm

Athlete collapse is the most common presentation to the finish line medical tent. Please review the algorithm below. Most cases are due to acute hypotension from abruptly stopping after ~4hours of running. However serious causes of collapse do occur.



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Environmental Dangers

Precipitation

Rain and even snow are unlikely to stop or significantly alter the race. The medical tents should however anticipate higher risk of hypothermia and prepare accordingly. The on-course medical providers should watch for excessive shivering or altered mental states. Slips and falls are also going to be more common. If precipitation becomes severe or temperatures drop very low (see Temperature section) the race may be postponed or even cancelled. This call will be made by race officials and passed on to medical teams. Regardless, medical providers may need to transition to providing guidance and aid to runners to help them get out of the elements and into a warm sheltered environment. Please note that this can also include hail which should prompt consideration for evacuation to shelter.

Lightning

Lightning is a rare but potentially life-threatening phenomenon that requires persistent vigilance. Prior to the marathon day race officials will monitor weather for risk of storms including lightning. Race officials will use weather tool kits to identify lightning strikes early. Race adjustment and cancellation is made by the race director, but general recommendations include lightning within:

10 miles Begin conversation about race delays or changes, identify

safe locations for evacuation if necessary

5 miles Consider evacuating racers in affected section of course

Within course Consider evacuation and delay of race

The medical director will advise race directors in these situations, but race changes will be made by the race director. If evacuation is warranted safe locations (fully enclosed substantial buildings and vehicles) should be identified as quickly as possible. Find large enough structures for runners, officials, volunteers, and spectators. NATA recommendations are to wait at least 30 minutes from the last strike within 5 miles of the event. The marathon is a very large event and it may be most effective to have some sections close at a time rather than stopping the whole race. If a person in your area is struck by lightning, follow the steps:



Wind

Wind levels high enough to adversely affect the race are unlikely. If wind levels reach the point that flying debris becomes a danger the course or section should be evacuated. See precipitation section above.

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Earthquakes and Rockslides, Fire, and Natural Disasters

Tectonic plate movement is part of life along the Wasatch Front. Most earthquakes are mild and will not have any bearing on race function. The Race Director will make determinations regarding race changes and evacuation. Medical staff will serve to aid in evacuating participants if needed and providing medical care and triage in the event of injuries due to an earthquake or other natural disaster.

Rockslides are a possibility as the race does run through the Ogden canyon which has narrow steep walls. In the event of a rockslide onto the course, medical vans will respond to the area as permitted by law enforcement and be present to provide first aid and evacuate uninjured athletes. Athletes with significant injuries will be triaged and stabilized until EMS can arrive.

In the event of other natural disasters such as wildfires or tornados, race officials will watch conditions closely with local officials and make race day changes, postponements, cancelations as needed with the aim of protecting athlete safety above all other considerations.

Poor Air Quality

Race day air quality along the course will be monitored using data from the Utah Department of Environmental Quality. The Air Quality Index (AQI) can be used to guide judgement. A PM2.5 level greater than 30 will trigger an alert to athletes about affected areas of the course and a warning for vulnerable people. A PM2.5 greater than 50 will trigger a conversation with race leadership about potentially postponing or canceling the race.

Evacuation

If evacuation is required, use your best judgement to find areas of safety for runners in your area. Safe locations will be communicated to you via race officials and public safety personnel or via the radio medical channel. Authority in emergency situations lies with public safety officers (police, fire department, EMS) and secondarily to race officials. Please assist them in their efforts to protect athletes.

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Removing Athletes from the Race

Removing an athlete from the race whether that be the marathon or 5K should never be taken lightly. Athletes have trained for a long time, paid for, and sometimes even traveled a long

distance to run this race. For many this is may be a highlight of their life. That said, there may be times that an athlete will need to be removed from competition, sometimes against their will. This document establishes policy regarding situations where athlete removal is warranted.

"All runners look bad, some look badder."

 Pittsburgh Marathon Medical Guidebook

Who Can Remove Runners?

Involuntary medical removal from race can only be performed by physicians and licensed athletic trainers. Preferably these should be providers with experience working with distance runners and their unique concerns. In severe cases where the athlete is unable to respond then they are considered self-retired from the race.

Removal Criteria

- Cardiac Arrest
- Altered mentation or confusion that does not resolve with simple treatment and rest
- Athletes requiring IV infusions are removed from competition
- Multiple injuries or falls
- Core temperature greater than 102°F (38.5°C) or less than 97°F (36°C)
- Any other situation where the athlete is at high risk of harm to self or others.

Return to Competition

An athlete that needs evaluation can be seen by pulling them to the side or running along next to them. Mild first aid, evaluation, bandaging, rest, food or fluids, and analgesics/electrolytes can be given without jeopardizing an athlete's race. If you have ongoing concerns about a runner that decides to continue in the race radio in the bib number and concern to medical. Aid stations along the course will be made aware to look out for the athlete as they continue the course and at the finish line.

Decision to Remove

If a physician or ATC decides that removal is necessary, please follow the following steps:

- Clearly state to the athlete that you are removing them from the race and your reasoning for doing so.
- 2. Escort the athlete to the medical tent or van.
- 3. Log details regarding the removal and contact the race medical director
- 4. Transport athlete to closest medical tent, ambulance, or location as determined by medical director.



Balancing Safety and Runners Choice

Do not remove an athlete from the race lightly. In general, if an athlete is alert enough to follow commands and can verbalize the risks of continuing the race they should be allowed to do so. Runners will often look very ill to providers used to seeing hospitalized patients. However, a distance runner's physiology has adapted keep running despite large amounts of physical stress.

Caution should be given in actively assisting athletes. This is critical with our elite athletes as your interference can be deemed unfair assistance and result in disqualification. Generally, contact with athletes for medical evaluation will not result in disqualification. Medical staff can run alongside the athlete if they identify themselves and do not provide forward assistance to the athlete. Contact with the patient should only be that necessary to provide medical evaluation and support but not assist in performance. The goal of the medical team is to provide competent medical support but leave as little a footprint on the race as possible.



Appendices Medical Lead Race Review

Date					
Medical	Lead				
Medical T	eam	_		3/ U	
Race Mea	surements		To		
	Temp (°C)	WetBulb (°C)	Precipitation	Wind (mph)	PM 2.5
0700					
1000					
1300					
Pre-Race Communic	ations		Med Vans/Aid To	ents	
			Finish Tent		
Supplies					
			L		

^{*}The Medical Lead is responsible for developing a post-race debriefing document describing inury patterns and recommendations for future race preparation.



Athlete Treatment List

Intermountain AcKay-Dee Sports Medicine

TREATMENT GIVEN (ice, wound care, blister care, etc.)								
BIB#								
D.O.B.								
NAME							J	



Athlete Evaluation Form

W/X
Intermountain
Healthcare
Healing for life

ATHLETE EVALUATION FORM	Bib#		
Event:			
Name:	[M] [F]	DOB	
		/	1

Evaluation	When did symptoms begin?mi/laps Finished event [Y] [N] Fall [Y] [N] H2O qmi Electro qmi Bar/gel qmi CONST: [Exhaustion] [Fatique] [Hot] [Cold] [Syncope] [Headache] Mobility [Ambulating] [Assisted] [Carried] Cognition [Alert] [Confused] [Unrespons] Orientation [person] [place] [time] [date] CV [Chest Pain] [Palpitations] [Lightheaded] PULM [SOB] [Wheeze] [Cough]	SKIN (Hot) Lesion _ MSK (Blist	ps] [Trua Hips Thigh Knee Calf	y] [Rash]	
Pho	Other				

H W			Current Rx	
<u>a</u>	Weeks in Training	Miles/Wk	#of previous events	

Time	Treatment/labs		BP	Pulse	SaO2	Temp
			/			R
			1		1 -1 - 8	R
			1			R
			1			R
Discharge time:	DISPO: Participation Ho	me EMS	Declined Tx	Follow up	None PCP Ortho	PT

Othe	er Dx		Provider
	EAC:	[Hyper] / [Hypo] / [Normothermic]	
	Const	[Muscle cramps] [Hyponatremia] [Heat Exhaustion]	
č	MSK	[Strain/Sprain] [Fracture Suspected]	[Rapid Cooling] [Ibuprofen] [Bendaryl]
		[Insect Bite/Sting]	[Wrapping] [Stretching] [Massage] [Laceration Repair]
	Derm	[Abrasion] [Laceration] [Blister]	Tx: [Leg Elevation] [PO fluids] [IV Fluids] [Ice Pack]



Athlete Home Instructions



Home Report

TO:			DATE:	
FROM:		RE:		
INJURY:				
TREATMENT: Rest. Ice	minutes and repeat every	hours or	times per day for the next	
Compression with	inches above the heart.			
Follow-up:				
If you have any questions,	please contact our office at 801-38	3-SPORT.		

LAST REVISION: 3.18.24. BY CLARK MADSEN MD