



UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS EAST-MARINE CORPS BASE
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MCIEAST-MCB CAMLEJO 6200.1B
G3-5/OPS

26 APR 2025

MARINE CORPS INSTALLATIONS EAST-MARINE CORPS BASE CAMP LEJEUNE ORDER
6200.1B

From: Commanding General
To: Distribution List

Subj: EXERTIONAL HEAT INJURY (EHI) PREVENTION AND MANAGEMENT

Ref: (a) NAVMED P-5010-3
(b) MCO 5100.29C vol. 9
(c) MARADMIN 111/15
(d) BUMEDINST 6220.12
(e) NEHC-TM-OEM 6260.6A
(f) TB MED 507

Encl: (1) EHI Risk Identification, Prevention, and Treatment
(2) Heat Flag Activity Limitations
(3) Work/Rest Ratios and Fluid Replacement Guide
(4) Physical Conditioning and Acclimatization Program Guides

1. Situation. Marine Corps operations place personnel in very hot and humid environments. This Order establishes requirements for the execution of Exertional Heat Injury (EHI) prevention programs in II Marine Expeditionary Force (II MEF), U.S. Marine Corps Forces, Special Operations Command (MARFORSOC), and Marine Corps Installations East-Marine Corps Base, Camp Lejeune (MCIEAST-MCB CAMLEJ), subordinate commands, and tenant activities aboard Marine Corps Base Camp Lejeune.

2. Cancellation. MCIEAST-MCB CAMLEJO 6200.1A.

3. Mission. To prevent EHIs to Marines, Sailors, and civilian personnel by providing policy and procedural guidance per references (a) through (f).

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) Commanders, Commanding Officers (COs), and Officers-in-Charge (OICs) shall fully implement and comply with this Order from 1 May to 31 October of each year.

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(b) Local policies and orders may be issued as long as those policies equal or exceed this Order. All Marines and Sailors will use risk assessment prior to operational exercises and physical training (PT) events.

(2) Concept of Operations. Commanders, COs, and OICs will support the Automated Heat Stress System (AHSS) and EHI initiatives by:

(a) Ensuring that commands are properly posting and disseminating heat stress conditions and units receiving this information are implementing properly.

(b) Ensuring all Marines and Sailors receive EHI risk and management training at least annually. Individuals must feel empowered to report EHI risk factors and symptoms.

(c) Ensuring individuals with personal risk factors are identified, evaluated, cleared, and educated by a medical provider; and that they are monitored by a supervisor/buddy for EHI symptoms.

(d) Designating a sufficient number of EHI-trained Hospital Corpsmen, who will not participate in the training evolution, to monitor the event, assist stragglers, and transport heat casualties.

(e) Safety vehicles shall be equipped with coolers containing sheets and towels in an ice-water slurry. Plan and execute unlocking key access points along event route to prevent unnecessary delays in emergency medical response and transport.

(f) Providing the evolution time, location, and EHI risk assessment to the supporting Navy Medicine Readiness and Training Command (NMRTC) Unit.

(g) Recording and disseminating local Wet Bulb Globe Temperature Index (WBGTI) data, in accordance with reference (a).

(h) Preventing EHI in accordance with references (a) through (f) and enclosures (1) through (4).

(i) Training, conditioning, and acclimatizing personnel per enclosure (4), before participation in events where there is risk of EHI. Maintain physical conditioning year-round.

(j) Caring for EHI casualties per enclosure (1).

(k) Ensuring all EHI cases are reported in both the Risk Management System (RMI) by unit safety representatives in accordance with reference (b) and the Navy Disease Reporting System Internet (NDRSI) site by unit medical personnel, in accordance with references (a) and (f).

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b. MCIEAST-MCB CAMLEJ:

(1) Comply with reference (a) to maintain and operate WBGTI equipment, provide readings to subordinate commands, post heat index flags in accordance with chapter (3) page (11) of reference (a), and implement controls.

(2) Coordinate with the local Navy Medicine Readiness and Training Command (NMRTC) to ensure that: the emergency medical system, medical clinics, and emergency department have standing operating procedures (SOPs) and equipment in place for EHI management including ice/water cooling; all personnel receive EHI training at least annually in accordance with reference (a); and this Order is reviewed and updated at least annually by a medical expert.

(3) Provide a link to current AHSS data from the camp/station website <<https://ahss.usmc.mil/>>, including hourly WBGTI updates. Once at/above Red Flag conditions, the website will be updated every 30 minutes until return to Yellow or Green Flag.

(4) Maintain a backup system capable of providing accurate WBGTI data.

(5) Provide a primary and alternate point of contact to the Assistant Chief of Staff (AC/S), G-6 and ensure that the AC/S, G-3 maintains SOPs for operations, maintenance, and communications of the WBGTI system.

c. Training units (II MEF, MARFORSOC, Tenant Commands and guest units): The safe conduct of field and garrison training is the responsibility of the training unit. It is incumbent upon training unit leadership to perform appropriate Operational Risk Management during planning, to continually monitor conditions throughout execution, and to adjust risk mitigation measures necessary to ensure the safety of their personnel. Points to be considered include:

(1) Ensure all unit safety and medical department representatives document annual training in Marine Corps Training Information Management System (MCTIMS) for all personnel to recognize, prevent, and provide first aid treatment for heat stress injuries and the most serious heat stress condition, heat stroke, per reference (a).

(2) Medical records of Marines and Sailors who have suffered a heat-related illness must be flagged for ease of identification of susceptible personnel for close monitoring by the Hospital Corpsmen. The Hospital Corpsmen or medical officer must evaluate Marines and Sailors with illnesses, especially those with fever or dehydration, to determine fitness for PT or other training operations in the environment. Err on the side of caution and place Marine or Sailor on light duty if in doubt.

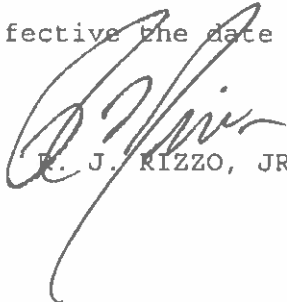
(3) Marines and Sailors who are taking dietary supplements shall inform their senior leadership to ensure close monitoring to reduce the potential for additional heat stress injury.

5. Administration and Logistics. Any deviations or requests for changes to this Order must be routed to II MEF Health Services for consideration and concurrence.

6. Command and Signal

a. Command. This Order is applicable to all active duty and reserve Service Members attached to II MEF, MARFORSOC, MCIEAST-MCB CAMLEJ, and their respective subordinate commands and elements.

b. Signal. This Order is effective the date signed.



F. J. RIZZO, JR.

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EHI Risk Identification, Prevention, and Treatment

1. General. EHI occurs commonly in Marines and Sailors exerting themselves in hot, humid, low-wind environments, and is affected by multiple contributing factors relating heat loss to metabolic and environmental heat accumulation. The spectrum of EHI ranges from simple heat cramps to life threatening heat stroke. Permanent damage and death are directly related to the amount of time the Marine or Sailor is at the high core body temperature. No instruction or guide can cover all possible situations. Common sense and an understanding of the basic concepts presented here are essential to the effective identification, prevention, and treatment of EHI. The following guidelines provide for risk identification, prevention, and treatment of EHI:

2. Risk Factorsa. Environmental

(1) Exertion in high WBGT conditions (yellow flag and above), per enclosure (2), especially when the effects of heat and exertion were noticeable on the preceding day. The effects of heat and exertion are cumulative and dangerous.

(2) Wearing clothing or equipment that restricts cooling (add 10 degrees Fahrenheit to WBGT when wearing helmet, flack, and pack, or Mission Oriented Protective Posture (MOPP) gear).

(3) Competition, peer pressure, or orders that push individuals beyond their ability (e.g., unit runs and conditioning hikes, physical fitness test (PFT)).

(4) Most heat strokes occur during the PFT, unit runs of three miles or less, unit marches of six miles or less, and field activities.

(5) Exercising in a high solar radiation environment (e.g., training during the hottest hours of the day).

b. Personal

(1) Poor Physical Conditioning. EHI risk is three times higher in individuals who are overweight, who possess a Body Mass Index (BMI) greater than 26 or run slower than eight minutes per mile on average on the PFT.

(2) Illness/Dehydration. Fever, vomiting, diarrhea, or respiratory illness within 24-hours precludes exerting in heat. Illness within three days requires medical clearance prior to engaging in physical exertion.

(3) Pushing beyond comfortable physical exertion (physical effort unmatched to environmental conditions).

(4) Fatigue and Stress. Less than seven hours sleep in the last
Enclosure (1)

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24-hours, jet lagged (flight crossed five time zones in last five days), high heat load/work in the days prior, and excessive worries or stress.

(5) Acclimatization less than two to three weeks, per enclosure (4).

(6) Inadequate hydration and nutrition (calories and salt).

(7) Medications and supplements include, but are not limited to, allergy and common cold medicines (e.g., diphenhydramine or pseudoephedrine), blood pressure medicines (e.g., diuretics, beta-blockers, angiotensin-converting-enzyme inhibitors, calcium channel blockers, etc.), depression medicines, medications for chronic pain/migraine prophylaxis, stimulants (e.g., ephedra or Ma Haung), and alcohol (no more than two drinks for males or one drink for females per day within two days prior to event). Voluntary dehydration, laxative, and diuretic use to reduce weight is especially dangerous.

(8) Prior EHI and/or family history that supports predisposition for EHI. Disregarding regulations, improper diagnosis, and improper treatment of heat casualties. These risk factors are additive for the person who is at a higher risk for an EHI.

3. Prevention

a. Leaders must know their personnel.

b. Ensure proper hydration and rehydration regimens and work/rest cycles are followed.

c. Observe and listen to junior personnel. Stop high intensity training for these individuals when signs are present of a problem. Personnel must know they can communicate changing EHI risk and symptoms or stop exerting without fear of reprisal.

d. Individuals should condition and acclimatize their bodies per enclosure (4), and not push themselves or others beyond their ability in heat. High intensity drills/events should not be conducted for Marines or Sailors who are not acclimatized.

e. Apply the principles of risk management before, during, and after evolutions. Pay attention to the WBGTI, per enclosure (2). High exertional heat events should be conducted during low-risk times.

f. Provide rest with active cooling, meals, and fluids, per enclosure (3).

g. Minimize or eliminate group conditioning unit marches and runs. Group activities should be solely for strengthening group intrinsic values, such as trust and cohesion. The slowest individual should pace group physical activities.

h. Identify individuals at risk and monitor them closely with peers

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and leaders.

i. Individuals should get at least seven hours of sleep each night to promote recovery from fatigue (prior day's work or jet lag). Ensure sleeping, messing, and recreation quarters are screened and ventilated by natural or mechanical means. A nighttime WBGTI higher than 80 degrees Fahrenheit warrants air conditioning or fan cooling, if feasible.

j. Individuals should maintain ideal body weight by regular activity and proper nutrition.

k. Diuretics, laxatives, or other means to dehydrate (e.g., wearing clothes that promotes excessive sweating or fluid restriction) should not be used to reduce weight. Official weigh-ins should not occur within 48-hours of a PFT or event in heat.

l. Avoid alcohol use.

m. If a Marine or Sailor suffers an EHI, leaders will check the entire unit and apply risk management to consider event cancellation or modification.

n. Provide EHI education and training for everyone at least annually and when determined necessary by leaders.

O. Become familiar with body cooling strategies. Per enclosure (4), methods to the right of the figure possess the greatest potential body cooling power but are limited to small numbers of users, require significant manpower and resources, or both. These cooling methods are for treating exertional heat illness. Methods to the left are for preventing exertional heat illness. They provide less cooling power but allow multiple users at once and are generally easy to implement at low cost. Per reference (f), the use of cooling troughs/arm immersion cooling stations (AICS) have been suggested in preliminary analyses in Army Ranger training to significantly benefit reduction in EHI and treatment costs.

4. Reporting

a. A unit safety representative will report all EHIs in the Risk Management Information (RMI) program in accordance with reference (b).

b. Medical department representatives will report all EHIs to the supporting NMRTC (e.g., Naval Medical Center Camp Lejeune (NMCCCL) Directorate for Public Health (DPH), Preventive Medicine (PM) Department, Naval Health Clinic Cherry Point (NHCCP), NMRTC Beaufort, etc.). Reporting will be done by the patient's parent command. The supporting command will report the EHIs in the Navy Disease Reporting System Internet (NDRSi) site in accordance with references (a) and (d).

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Heat Flag Activity Limitations

GREEN FLAG

WBGTI: 80 degrees Fahrenheit - 84.9 degrees Fahrenheit

Action: Heavy exercise for un-acclimatized personnel should be conducted with caution and under constant, responsible supervision.

YELLOW FLAG

WBGTI: 85 degrees Fahrenheit - 87.9 degrees Fahrenheit

Action: Strenuous exercise such as marching at a standard cadence should be suspended for un-acclimatized troops. Avoid outdoor classes in the sun.

RED FLAG

WBGTI: 88 degrees Fahrenheit - 89.9 degrees Fahrenheit

Action: All physical training should be halted for those troops who have not become thoroughly acclimatized. Those troops who are thoroughly acclimatized may carry on limited activity not to exceed six hours per day. Personnel will not be burdened with body armor, field marching packs or similar equipment during this condition.

BLACK FLAG

WBGTI: 90 degrees Fahrenheit and above

Action: All strenuous outdoor physical activity shall be halted for all units.

Note 1: Essential activities may be conducted outside this guidance with the following considerations: Essential activities are defined as those activities associated with scheduled exercises or other major training evolutions where the disruption would cause undue burden on personnel or resources, be excessively expensive, or significantly reduce a unit's combat readiness. Essential outdoor physical activity will be conducted at a level that is commensurate with work/rest cycles, per enclosure (4), in conjunction with the unit's CO, coordinating with the unit's medical officer, and/or medical personnel, as well as the supporting medical facility to ensure preparation for expected EHIs. All efforts should be made to reschedule these activities during cooler periods of the day. Individual elective outdoor physical fitness training shall also observe the same strict guidance.

Note 2: Most EHIs occur during no flag or green flag conditions. The American College of Sports Medicine Black flag condition starts at WBGTI 82 degrees Fahrenheit, which is well within military green flag condition, WBGTI 80 degrees Fahrenheit to 84.9 degrees Fahrenheit. EHIs occur even in temperatures as low as 60 degrees Fahrenheit. WBGTI guides do not fully prevent EHI.

Note 3: Administrative Black Flag: Administrative black flag occurs whenever one WBGT sensor reaches black flag. In this instance, MCB Camp Lejeune will operate under black flag conditions until all WBGT sensors fall below black flag for two consecutive readings 30 minutes apart.

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Work/Rest Ratios and Fluid Replacement Guide

Flag Condition	WBGTi (Index)	Easy Work**		Moderate Work**		Strenuous Work**	
		Work/Rest (min)	Water per Hr.	Work/Rest (min)	Water per Hr.	Work/Rest (min)	Water per Hr.
Green	80-84.9	No Limit	½ Qt.	50/10	½ Qt.	40/20	1 Qt.
Yellow	85-87.9	No Limit	½ Qt.	40/20	½ Qt.	30/30	1 Qt.
Red	88-89.9	No Limit	½ Qt.	30/30	½ Qt.	20/40	1 Qt.
Black	90 and Greater	50/10	1 Qt.	20/40	1 Qt.	10/50	1 Qt.

Note 1: Add 10 degrees Fahrenheit to the WBGTi for MOPP gear, personal protective equipment, or body armor. Minimize restrictive clothing/equipment and wear light colored clothing if possible.

Note 2: Work/rest times and fluid replacement volumes shall sustain performance and hydration for at least four hours of work in the specified heat category. Individual water needs will vary. Do not exceed greater than three gallons per day without medical evaluation.

Note 3: Drinking to thirst is adequate during activity with full rehydration accomplished during meals. It is important to eat meals for salt and calories. Pale urine and return to normal body weight indicate full hydration. Drinking too much water and/or rehydration fluids can be deadly.

Note 4: Do not overexert yourself. Beware of the accumulative effects of heat and exertion from previous days. Personnel who feel sick, dizzy, or fatigued must stop exerting. Adjust work/rest ratios based on continuous unit assessment and self/buddy aid evaluations.

Note 5: Actively cool down during rest periods by soaking hands and arms in water (colder is better), showers, shade, fans, or any other means of cooling available. At a minimum, drop loads and relax dress.

Easy Work	Moderate Work	Strenuous Work
-Weapon maintenance -Walking hard surface at 2.5 miles per hour (mph), <30 pound load -Manual of Arms -Marksmanship training -Drill and ceremony	-Walking loose sand at 2.5 mph, no load -Walking hard surface at 3.5 mph, <40 pound load -Calisthenics -Patrolling -Individual movement technique, e.g., low crawl, high crawl -Defensive position Construction -Field assaults	-Walking hard surface at 3.5 mph, ≥40 pound load. -Walking loose sand at 2.5 mph with load. -Running and participating in physical conditioning training.

** Examples of Easy, Moderate, and Strenuous Work.

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Physical Conditioning and Acclimatization Program Guides

1. Physical conditioning is important for EHI risk reduction and accelerated acclimatization. Table 1 suggests a six-week in-garrison or pre-deployment physical reconditioning and acclimatization program. Use various exercise routines to condition and rest different muscle groups (e.g., walk, jog, bike, etc.). Aerobic fitness is improved during weeks one through four. Weeks five through six enhances the rise in core temperature to assist in overall acclimatization. When exercising and/or conditioning in heat, do so to the point of perspiring, but do not push beyond comfort in heat. Rest when needed. Ensure individual EHI training and conditioning precedes acclimatization.

Week	Activity	Intensity (%HRmax) *	Frequency (times per week)	Duration (min)
1	Intermittent exercise	65% - 80%	3	35 - 40
2			4	45 - 55
3			4	60 - 70
4			5	80 - 90
5	Continuous aerobic activity	55% - 65%	5	100
6			7	

Table 1. CONDITIONING AND ACCLIMATIZATION IN GARRISON OR PREDEPLOYMENT

Note: Maximum Heart Rate (HRmax) equals 220, minus your age, multiplied by the percent intensity. For example, to calculate the HRmax for a 25 year old Marine or Sailor, subtract 25 from 220, then multiply by 0.65. $220 - 25 \times .65 = 127$ beats per minute.

2. Table 2 suggests an alternate 21-day acclimatization program that may also augment the program in Table 1 for deployments as an eight-day arrival in-theater acclimatization program. The first day provides critical rehydration, sleep and rest to recover from a flight.

Day#	Dress	WBGTi (Index)	Duration	Activity (moderate workload)
1	No activity. Rest, eat, drink and sleep (24 hr. after flight)			
2	T-shirt and shorts	79-86	1 x 50 min	Walk 3.5 mph
3	T-shirt and shorts	79-86	2 x 50 min	Walk 3.5 mph; rest 15 min; resume walking.
4	T-shirt and shorts	79-86	100 min	Walk 3.5 mph
5	Utility uniform	79-86	2 x 50 min	Walk 3.5 mph; remove blouse; rest 15 min; resume walking
6	Utility uniform	79-87	100 min	Walk 3.5 mph
7	Utility uniform and 22 lbs. load	79-86	2 x 50 min	Walk 3.5 mph; Remove blouse and load; rest 15 min; resume walking.
8-21	Utility uniform and 22 lbs. load. (add load to 39 lbs as tolerated days 14+)	79-86	100 min	Walk 3.5 mph

Table 2. ACCLIMATIZATION IN GARRISON/UPON ARRIVAL IN THEATER

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Note 1. Allow for continuously available fluids to quench thirst.

3. Acclimatization improves cooling mostly through increased sweating (evaporation) which is less effective in high humidity. Perspiration that rolls off the skin, but does not evaporate, provides little in regards to cooling the body. Acclimatization is important, but it does not fully prevent EHI.

4. Acclimatization occurs by progressive and prolonged elevation of the body's core temperature. Living in a hot environment without exercising in the environment provides little acclimatization. Working and sleeping in an air conditioned environment restricts acclimatization. Conditioned athletes acclimatize after four to seven progressive exercise sessions of one hour to four hours total duration each over a period of seven to 10 days. Studies indicate that military units acclimatize about 40 percent during the first week, 80 percent during the second week, and 100 percent during the third week, but that depends on the individual conditioning levels of each person.

5. For periods exceeding two weeks of not working or exerting in heat (e.g., living and working in air conditioned spaces, temporary additional duty, leave, convalescence, etc.), individuals should regain their conditioning level by following the guidelines in Table 1. Reacclimatize in the area of heat with the eight-day program, per Table 2.

6. Individuals who have not exercised or worked in heat for two to four or more weeks should be reconditioned/acclimatized during a graduated three to six-week program adapted from Table 1 or Table 2. Reconditioning requires reverting to a lower level of exertion and gradually increasing total exertion by about 10 percent per week. A typical guideline for unconditioned/non-acclimated personnel is to start at 50 to 75 percent of the last conditioned exertion level and increase exertion about 10 percent per week for three to six weeks. Written logs documenting exercise duration and intensity improve compliance. Leaders may determine when documentation of conditioning and/or acclimatization program completion is indicated.

7. Units where all Marines and Sailors have a BMI less than 26 and an average run time less than eight minutes per mile on their last PFT may only need 14 days acclimatization. Units with one or more individuals with a BMI equal to or greater than 26 or have an average run time equal to or greater than eight minutes per mile should expect 21 days to fully acclimatize. Days one through eight of Table 2 should be sufficient if the conditioning program, Table 1, immediately precedes acclimatization. For individuals preparing to deploy, the six-week conditioning/acclimatization program in garrison, followed by the eight-day upon-arrival in theater program, would be sufficient. This assumes less than one week travel time to the deployed theater.