BY ORDER OF THE COMMANDER
502 AIR BASE WING

AIR FORCE INSTRUCTION
48-151 JOINT BASE SAN
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Medical

THERMAL ILLNESS PREVENTION PROGRAM

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(Col Kai-Wood Ma)
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AFI48-151_JOINTBASESANANTONIOSUPPLEMENT, *Thermal Illness Prevention Program*, implements requirements of AFPD 48-1, *Aerospace Medical Program*, 23 August 2011 and AFI 48-151, *Thermal Injury Prevention Program*, 7 April 2016. This consolidated instruction establishes Joint Base San Antonio (JBSA) responsibilities and procedures to prevent and treat the adverse effects of heat stress. This supplement prescribes policies and responsibilities for all AF military and civilian personnel, Tenat Units, and Mission Partners assigned to JBSA to include all Geographically Seperated Units (GSU). The execution of these prevention and treatment procedures apply to Air Force Reserve Command (AFRC) and Air National Guard (ANG) Units. Subordinate units may supplement this document, but all supplements must be routed to the applicable Wing Safety Office for coordination prior to certification and approval. This supplement does not apply to contractor personnel. During mission essential, contingency, or emergency operations, commanders may waive the provisions of this supplement; however, when commanders waive procedures, they must ensure all units exercise caution, employ operational risk management, and take necessary actions to protect the health of personnel. Ensure that all records created as a result of processes prescribed in this supplement are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with (IAW) Air Force Records Disposition Schedule located in the Air Force Records Information Management System (AFRIMS). Contact supporting records managers as required. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of*

Publication; route AF Forms 847 from the field through the appropriate functional chain of command.

2.7.5.1. **(Added)** Ensures an effective method of communication is established with BAMC/SAMMC medical team and 502 ABW Command Post for proper dissimination of thermal risk levels for all JBSA locations.

2.7.7. **(Added)** Wing Commander. Publish guidance and properly resource heat illness prevention to support training, especially during field training and other physically demanding activities where personnel may be susceptible to heat stress.

2.7.8. **(Added) Tenant Organizaion Commanders.** Ensure tenant organization personnel follow their service specific guidance for thermal heat injury prevention unless the service recommends otherwise. Army; TB MED 507, AFI 48-151 and AR 40-5; Navy NAVMED P-5010-3.

2.10.6. **(Added)** Advise unit commanders and supervisors on prevention of heat illness. This function will be accomplished by Preventive Medicine (PM) for the JBSA Fort Sam Houston location.

2.10.7. **(Added)** Provide consultation with 59 MDW Chief of Medical Staff (SGH) to clinical providers regarding duty limitations and profiles related to heat illness in accordance with AFI 10-203, *Duty Limiting Conditions*.

2.12.1.1. **(Added)** provides program update to the Installation Commander as required during the ESOH Council.

2.12.7. Where host installation Bioenvironmental Engineering (BE), PM, or Command Post staff wet bulb globe temperature (WBGT) index notifications are not available, such as at geographically separated locations, units will measure/monitor conditions with a portable WBGT unit (NSN 6665-00-159-2218), or a suitable commercially available instrument, notify unit leadership, and comply with the work/rest cycles depicted at Attachment 2, unless waived or exempted.

2.12.7.1. **(Added)** The JBSA Lackland BE takes WBGT readings during normal duty hours 0800-1600 hours, Monday through Friday. After normal duty hours and on weekends and holidays, the 320th Training Squadron (320 TRS) takes on that responsibility for all Basic Military Training (BMT) units. The 320 TRS controller will notify all BMT units of the change in reported flag condition. The Charge of Quarters (CQ) of each training squadron is responsible for notifying the Military Training Instructor(s) of changes in heat category.

2.12.7.1.1. **(Added)** Other 37 TRW organizations on Lackland and the Medina Annex that require the current WBGT index and reported flag condition will contact the 320 TRS controller on an as-needed basis.

2.12.7.2. **(Added)** The JBSA Randolph BE takes WBGT readings during normal duty hours 0800-1600 hours, Monday through Friday.

2.12.7.3. **(Added)** The PM flight located at BAMC takes WBGT readings during normal duty hours 0800-1600 hours, Monday through Friday, for JBSA Ft Sam Houston.

2.12.7.4. **(Added)** At the Camp Bullis location, Independent Duty Medical Technicians (IDMT) and Range Ops conduct Heat Index monitoring during the hours of operation.

2.12.8. **(Added)** Annually trains personnel from other installation functional areas responsible for assessing environmental conditions for heat stress. NOTE: This does NOT apply to Weather Squadrons/Flights or trained medical personnel (such as EMT-Paramedic certified pararescue instructors or certified Paramedics) attached to AETC Training units. Army PM will accomplish this function for the JBSA Fort Sam Houston location.

2.13.4. **(Added)** Assists supervisors in developing appropriate training materials for supervisors, workers, and trainees.

2.13.5. **(Added)** Ensures heat illness related occupational illness data is collected and reported in accordance with AFI 48-145, *Occupational and Environmental Health Program*.

2.14.1.1. **(Added)** Seguin Air Field and Canyon Lake will be supported by JBSA-Randolph BE flight.

2.14.1.2. **(Added)** Camp Bullis will be supported by 37 TRW IDMTs, Range Operations, and medics imbedded with the units utilizing the range.

2.16.1. **(Added)** 502 Civil Engineering Squadron will provide oversight to ensure thermal injury concerns are addressed related to facility and new construction projects.

2.17.7. **(Added)** Ensure personnel operating on JBSA Camp Bullis ranges follow Range Operations procedures established and outlined in AR 350-1. All units, including sub units of a larger organization, need to check in with Range Control prior to using ranges.

2.17.8. **(Added) 59 MDW Group Commanders.**

2.17.8.1. **(Added)** Will ensure execution of the following response and treatment procedures through operating instructions, policy memo or other documented methods as necessary.

2.17.8.2. **(Added)** Ensure heat response procedures and associated staff training requirements are reviewed annually by 59 MDW Education and Training, 559th Medical Group, 37 TRG IDMT Flight Chief, and the 37 TRW Safety (37 TRW/SE) staffs and certified as current.

2.17.8.3. **(Added)** Consult with the 559 THLS Sports Medicine (SM), 559 THLS PM, and USAF Emergency Medical System (EMS) Program to review lessons learned from responses to recent heat illness cases and to ensure Emergency Medical Technician (EMT) heat emergency protocols reflect the standard of care.

2.17.8.4. **(Added)** Ensure ice water immersion stations are placed and fully operational in appropriate locations throughout all locations at which BMT trainees and technical training students conduct organized physical training, per this supplement.

2.17.9. **(Added) 37 TRW Group Commanders.**

2.17.9.1. **(Added)** Will establish the following requirements through operating instructions, policy memo or other documented methods as necessary. These requirements will be reviewed annually by BE, PM, and 37 TRW/SE in order to be certified as current.

2.17.9.2. **(Added)** Consult with the 559 THLS Trainee Health Surveillance staff to develop and implement activity levels and fluid replacement requirements and heat illness mitigation protocols.

2.17.9.3. **(Added)** Ensure supervisors brief personnel annually on the requirements of this instruction and unit-specific procedures to minimize the risk of heat illness disorders and document this training on AF Form 55, *Employee Safety and Health Record*, or other established methods, i.e., and AF Form 623A, *On-The-Job Training Record – Continuation Sheet*.

2.17.9.4. **(Added)** Ensure the application of AF risk management process and operational considerations are followed when waiving provisions of this instruction to meet operational mission or training requirements. Figure 1.1.,*Heat Strain Decision Process*, outlines the steps in making a heat strain decision. Ensure risk management measures and an approved course training plan risk management annex are outlined in lesson plans and followed.

2.17.10. **(Added) 37 TRW Squadron Commanders.**

2.17.10.1. **(Added)** Squadron commanders, commandants, superintendents in organizations where work/training processes may involve potential heat stress exposures will accomplish the following:

2.17.10.2. **(Added)** Brief workers, AETC military training instructors/leaders, and tech school instructors prior to 15 April annually on the requirements of this instruction and unit-specific procedures to minimize the risk of heat stress disorders. Document training on AF Form 55 or other established methods. During student orientation provide instruction on heat illness prevention, the signs and symptoms, hydration and nutrition requirements, the challenge of over hydration, the dangers of dietary supplements, and the trainee's role to identify and assist their wingman.

2.17.10.3. **(Added)** Schedule activities to meet the requirements of this instruction as applicable. Daily risk management reviews must cover proper water intake, the harmful effects of dietary supplements, proper nutrition, work/training restrictions, and rest requirements.

2.17.10.5. **(Added)** Consult with representatives of the 559 MDG/SGP or 559 MDG PM Physican as needed to verify acclimatization levels and appropriate curtailment recommendations unique to specific work or training requirements. To the extent possible, ensure trainees are performing regular aerobic physical training in the hot environment, green and yellow flag conditions, for a minimum of two weeks, the average acclimation period, prior to rigorous or high risk outdoor training. Attachment 2, Work Rest Cycles and Workload Examples Table A2.3. Heat Guidelines for Average Acclimatized Individuals and Table A2.4., Heat Guidelines for Average Unacclimatized Individuals, show work rest cycles and workload examples. The risk management (RM) worksheets or annexes contained in course training plans identify the events and activities rated as high risk. Groups that conduct short courses, in addition to health warnings and pre-attendance preparations published in the course catalogs, will provide students a reminder to physically prepare for the environmental conditions they will be subjected to along with their selection notice.

2.17.10.6. **(Added)** Consider principles of heat load, specific local environmental conditions, trainees' physical ability, duration and intensity of training, amount of clothing and gear to be worn, etc., when planning outdoor activities in hot environments. For example there should be an adequate time for rest and recovery between sequential or continuous rigorous activities.

2.17.10.7. **(Added)** Medical support and evacuation plans or procedures must be reviewed by the squadron commander. Stan Eval/Quality Assurance or other local evaluators, where the

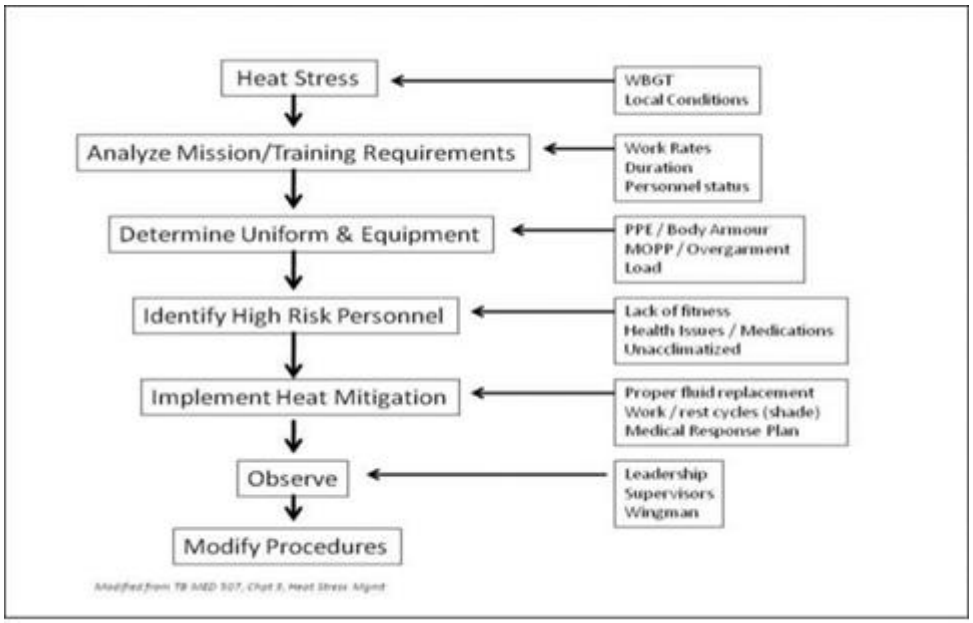
support personnel, equipment and other resources are established, must exercise the plan or conduct table top exercises at least annually prior to 15 April.

2.17.10.8. **(Added)** Ensure all trainees/students comply with the work/rest cycles outlined in Attachment 2. Should the need to deviate arise, risk management plans must be developed and coordinated with BE, PM, and 37 TRW/SE. The group commander is the approval authority. Exception: A comprehensive set of heat illness prevention RM/countermeasures were established for the Battlefield Airman (BA) and Security Forces (SF) courses. Instructors and students enrolled in these programs are exempted from complying with the work/rest cycles in Attachment 2 regardless of location.

2.17.10.9. **(Added)** Establish either fixed or portable resources such as a treatment tent, rescue vehicles, etc., to facilitate trainee hydration replenishment and on-site emergency cooling procedures. Ice sheets or cold packs must be readily available at training sites outlined in risk management plans, course guidance or unit operating instructions. Consider providing cold water between the temperature of 59-72 degrees Fahrenheit (º F) to increase palatability and encourage voluntary hydration. GOV or other government furnished vehicles are the only authorized mode of conveyance.

2.17.10.10. **(Added)** Instructors are authorized to assess a trainee's/student's condition and remove him/her from training or terminate an event without concern for training deficiencies or adverse repercussion. Technical Training instructors are to follow established guidance for helping students make up missed training events.

Figure 2.1. (Added) Heat Stress/Strain Decision Process



2.17.11. **(Added) Mission Partner and Tenant Units.**

2.17.11.1. **(Added)** Mission partner and tenant units conducting operations on JBSA Camp Bullis will follow ASA guidelines and Range Control guidance in Army Regulation 350-1 for WBGT guidance and distributing information.

2.17.11.2. **(Added)** Ensure all units going to the field have a WBGT kit and a medic or equivalent that monitor it hourly and post the heat category and work/rest cycles.

2.18.8. **(Added)** Notifies Unit/Organizational Commander of any occupationally-related thermal injuries or illnesses to ensure Command is aware of situation, can track progress of RME, and conduct trend analysis.

2.20. **(Added) Medical Staff.**

2.20.1. **(Added)** Must implement procedures to notify the public health flight (or sister services equivalent), 559 MDG PM (37 TRW BMT/tech students) and then to applicable Wing Safety (59 MDW, 37 TRW, 502 ABW) of any heat illness disorders associated with work or training activities.

2.20.2. **(Added)** Must be educated at least annually on this instruction and any local supplements or requirements, emphasizing their role in establishing recommendations or other restrictions during the hot season for workers, instructors and trainees who have been ill.

3.2.8. **(Added)** Training squadrons and flights may perform WBGT measurements to determine the WBGT index during specific operational/training activities. Use the portable hand-held WBGT kit (NSN 6665-00-159-2218), or a suitable commercially available instrument. Measurements shall represent the conditions that most closely relate to the training or working conditions. BE must annually train personnel from other functional areas in taking and reporting these measurements, except as defined in paragraph 2.12.10. of this supplement.

Chapter 4 (Added)

PROVISIONS FOR AETC INSTRUCTORS, TRAINEES AND STUDENTS

4.1. **Personnel Instructing/Attending Training Administered by AETC.**

4.1.1. Personnel attending training administered by AETC are subject to the requirements of this instruction. Detachments and operating locations (OL) not on AETC bases will coordinate with the host base BE or other PM personnel to determine the method used to locally determine the WBGT index and disseminate its value. The BE staffs provide assistance on WBGT concerns and PM staffs assist with heat mitigation measures.

4.1.2. Supervisors and instructors will follow work/rest cycle guidelines in Attachment 2 (and AFI 48-151), unless specifically waived per paragraphs 1.2.1.3 of this instruction. NOTE: The Army, Navy, and Marine Corps have similar guidelines for heat stress based on the WBGT index. Additionally, most Air Force installations have local procedures in place to determine WBGT during periods of hot weather.

4.1.3. AETC trainees/students may at times be called upon to assist with completion of the tasks required in this protocol, but are ONLY to be called upon when manpower from Training Instructors, Training Leadership, Medical staff (IDMT/AT), and other responders (e.g., Fire) are insufficient. The first and most important consideration is the safety of the victim, all responders, and bystanders. Other important but secondary considerations include the privacy of the victim and mental/emotional distress of concerned bystanders (such as wingmen).

4.1.4. MTIs, MTLs, and training leadership must be trained annually on this supplement and any updates. This training may include a video, live didactic training, or an actual simulated event wherein the ice water immersion station is actually activated; commanders will determine the level of training for their own personnel. It is at the discretion of TRW/CC whether and how to train the trainees/students regarding the execution of this heat illness response protocol. In the event of a heat emergency, trainees/students will be given specific, real-time instructions by responding personnel.

4.2. AETC Personnel Attending Training Not Administered By AETC. AETC personnel attending training not administered by AETC (for example, training administered by the Army, Navy) will follow the respective service Interservice Training Review Organization (ITRO) instructions MOAs/MOUs established by that command between units/command, at that installation, instead of the guidance contained in this instruction.

4.3. **(Added) Heat Illness Prevention for Battlefield Airman (BA) and Security Forces (SF).**

4.3.1. Heat illness prevention is a high priority in the preparation and training of BA and SF. In order to overcome the inherent training restrictions created by exclusively following the work/rest cycles in Attachment 2, Training Wings/Training Groups (TRG) will work in partnership with Safety and PM physicians to produce a strategic, comprehensive set of heat illness prevention countermeasures. This approach provides a level of heat illness prevention that far exceeds the work/rest cycles in Attachment 2, while assuring training standards and mission goals are accomplished.

4.3.2. Heat illness prevention will be targeted to the unique needs and integrated into the risk management aspect of each training course. A defined risk management worksheet(s) will be developed for each high risk training event.

4.3.3. Heat illness prevention elements of the TRG's risk management process matrix will be reviewed and approved by 559 THLS PM physicians upon initial development and re-reviewed in the event of any heat illness.

HEATHER L. PRINGLE, Brigadier General, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DODD 4715.1E, *Environment, Safety, and Occupational Health,* 19 March 2005

AFI 48-151, *Thermal Illness Prevention Program,* 7 April 2016

AFI 90-802, *Risk Management,* 11 February 2013

AFI 91-204, *Safety Investigations and Reports,* 12 February 2014

AETCI 36-2641, *Technical and Basic Military Training Development,* 26 June 2014

Air Force Pre-Hospital EMS Protocols

Air Force Independent Duty Medical Technician Protocols

AR 40-5, *Medical Services, Preventive Medicine*, 25 May 2007

Camp Bullis Regulation 350-1, *Range Training Regulation*, 17 May 11

NAVMED P-5010-3, *Manual of Preventive Medicine, chpt 3 (Prevention of Heat and Cold Stress Injuries),* 12 Februrary 2009

TB MED 507/AFPAM 48-152, *Heat Stress Control and Heat Casuality Management*, 7 March 2003

Adopted Forms

AF Form 55, *Employee Safety and Health Record*

AF Form 623A, *On-The-Job Training Record-Continuation Sheet*

Abbreviations and Acronyms

AETC—Air Education and Training Command

AT—Athletic Trainer

ASA—Army Support Activity

BA—Battlefield Airmen

BMT—Basic Military Training

CNS—Central Nervous System

CQ—Charge of Quarters

EMS—Emergency Medical System

IDMT—Independent Duty Medical Technician

LTA—Lackland Training Annex

MTI—Military Training Instructor

MTL—Military Training Leader

PM—Preventive Medicine

SF—Security Forces

SM—Sports Medicine

WBGT—Wet Bulb Globe Temperature

Terms

Acclimation—the physiological adaption of an individual to changes in climate or environment, such as temperature, humidity, or altitude.

Exercise Collapse Associated With Sickle Cell Trait—collapse during exertion by an individual with sickle cell trait, which has a variable clinical presentation ranging from severe muscle pain to fulminant collapse; this condition must be distinguished from exertional heat stroke, as the two conditions have different pathologies and require different treatments

First Responder—Any person responding to a medical incident who is only BLS certified. For example: Fire department, Security Forces, MTI/MTL, tech school instructors, pre-hospital athletic trainers.

Heat Stress—Heat stress is the combination of environment and physical work factors that constitute the total heat load imposed on the body. The environmental heat stress factors are air temperature, radiant heat exchange (example, sunlight), air movement, and relative humidity. Physical work contributes to total heat stress through the body's production of heat (metabolic heat) as it burns energy to sustain the work. This production of metabolic heat depends on the intensity of the physical effort that is affected, in turn, by body size, muscular development, physical fitness, and age.

Heat Illness—General term used to indicate any type of adverse health problem related to heat. Heat syncope, cramps, exhaustion, and stroke are all forms of heat stress disorders. Heat disorders may be recognized by one or more of the following symptoms: nausea, vomiting, fever, dizziness, headache, faintness, abnormal sweating, convulsions, lack of coordination, mental confusion, and abdominal or leg cramps. The personnel most likely to be affected by the heat are those who have just arrived from cooler regions of the country, are obese, are ill, or are in poor physical condition. A list of heat illnesses follows:

Heat Cramps—Painful intermittent spasms of the muscles used during work (arms, legs, or abdominal) may occur during or after work hours. Cramps may result from exposure to high temperature for a relatively long time, particularly if accompanied by hard physical work. Cramps usually occur in unacclimatized personnel after heavy sweating and are the result of excessive loss of salt from the body. Even if the fluids are replaced by drinking water, the loss of salt by sweating may provoke heat cramps.

Heat Exhaustion—The signs of heat exhaustion include profuse sweating, weakness, rapid pulse, dizziness, confusion, nausea, and headache. The body temperature is generally between 101.0º F to 104.0º F. (Note that core temperature has been reported as high as 104.7º F in well-trained athletes without any CNS or organ system dysfunction, and this situation is termed “heat exhaustion,” not “heat stroke”). Heat exhaustion is the body’s protective mechanism, shutting down the exertion to allow cooling to occur. Contributing factors include dehydration,

electrolyte abnormalities, and circulatory strain from competing demands for blood flow to the skin and to active muscles. It can rapidly progress to heat stroke if not treated immediately.

Heat Stroke—Heat stroke is defined as hyperthermia with a core temperature of 104.0º F or greater associated with organ system dysfunction (CNS dysfunction is almost always the first visible symptom of organ failure associated with heatstroke). There are two types: exertional heat stroke (usually younger patients during or shortly after intense exercise) and classic heat stroke (usually infants and elderly in setting of intense/prolonged environmental heat exposure). Any heat stroke is a medical emergency. Common signs and symptoms include agitation, confusion, disorientation, fatigue, poor balance, uncoordinated movement, and loss of consciousness. This may progress to delirium, convulsions, coma, and even death.

Heat Syncope—Fainting that occurs immediately after exertion without proper cool down or while standing erect and immobile in heat. It is caused by pooling of the blood in dilated vessels and the lower parts of the body.

Hyponatremia (Acute Water Intoxication)—Condition in which the level of sodium in the blood is markedly lowered as a result of sodium lost in sweat, coupled with fluid replacement using only large volumes of plain water (greater than 1 1/2 quarts per hour). This is a medical emergency. Hyponatremia is a life-threatening condition that may result in confusion, fatigue, muscle cramps, and nausea early on, followed later by vomiting, unconsciousness, seizures, and death if not recognized and treated promptly. This condition can be difficult to distinguish from heat stroke in the absence of serum electrolyte levels. If suspected, immediate activation of EMS is necessary.

Medical Responders—EMS, IDMT, Pararescue Instructors.

Wet Bulb, Globe Temperature (WBGT) Index—The WBGT index is a combination of temperature measurements that factor dry air temperature, air movement, relative humidity, and radiant heating. The equation for the WBGT index uses dry bulb (DB), natural wet bulb (NWB), and black globe (BG) temperatures.

Attachment 2 (Added)

ACCLIMATIZATION

A2.1. Acclimatization is defined as the adaptive changes that occur when an individual undergoes repeated or prolonged heat exposure and the concomitant reduction in physiological strain produced by the hot environment. Acclimatization is achieved by repeated exposures to a heat stress sufficient to raise internal body temperature to levels that provoke moderate to profuse sweating; this is most effectively accomplished by exercising or working in the heat. Acclimatization to heat begins with the first exposure; at least 7 to 14 days of exposure are required to reach approximately 95 percent of maximal physiological response.

A2.2. Higher levels of aerobic conditioning from exercise in thermo neutral or cool environments provide a partial degree of acclimatization, but not complete acclimatization. Also, acclimatization is specific to the environmental vapor pressure; that is, adaptations to hot-humid conditions are different than those to hot-dry conditions. Individuals who will exercise or work in the heat should increase their state of acclimatization by gradually increasing exercise or work exposure during the approximately 2-week period before the scheduled activity. Supervisors must note that several factors, including inter-individual differences, affect the rate and magnitude of acclimatization.

A2.3. When an unacclimatized worker is exposed to heat, he/she may experience discomfort and signs of heat strain, such as high body temperature, increased heart rate, and fatigue on the first day. On each succeeding day, the worker's ability to perform at the same level of heat stress improves as signs of discomfort and strain diminish. During the approximately 2 weeks it takes to acclimatize, the worker should be especially aware of the signs and symptoms of heat illness disorders and should drink an adequate quantity of water as indicated in Table A2.4. After a period of approximately 2 weeks, a worker should be able to perform most tasks without difficulty. Acclimation can take as long as three weeks for some individuals.

A2.4. Individuals who are seasonally exposed to strenuous duties or heavy work undergo acclimatization each year. This may occur during regular duty or work as outside temperatures increase during the spring and summer.

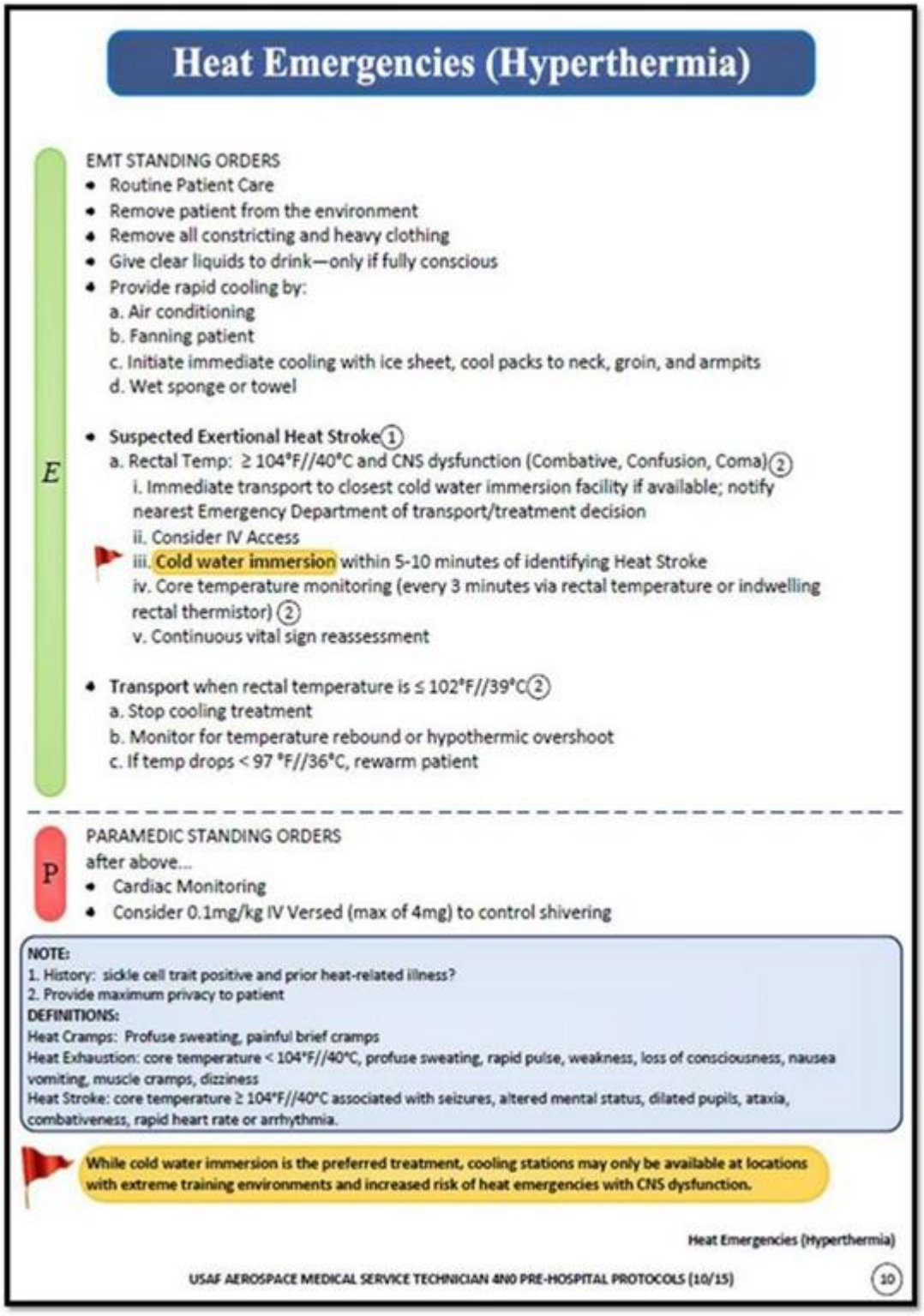
A2.5. Supervisors of personnel in training status will use the activity level restrictions in Tables A2.1. and A2.2. of Atch 2 to plan and conduct outdoor training and troop movements for individuals under their control. Paragraph 6 addresses recommendations for single training events conducted solely for the purpose of physical conditioning. All trainees/students will be considered unacclimatized unless exposed to increasing levels of exertion in heat conditions. The actual number of days to acclimatize will depend on many factors and will be determined for each course based on the training schedule and prior heat category levels.

A2.6. Although trainees may eventually become acclimated, the body's tolerance to heat may be reduced based on pre-existing health conditions. Trainees must be educated to inform instructors of these conditions so that proper adjustments in training activities can be made. Depending upon the seriousness of the condition, these adjustments can include more closely observing the affected personnel, reducing the activity rate and/or time, or referring the trainee to a clinical provider for an evaluation.

Attachment 3 (Added)

HEAT EMERGENICES (HYPERTHERMIA)

Figure A3.1. Heat Emergencies (Hyperthermia) – USAF EMS Pre-Hospital Protocol



Attachment 4 (added)

RECOGNITION AND FIRST-AID TREATMENT OF HEAT ILLNESS

A4.1. (Added) There are several recognized heat illness disorders described in Attachment 1, Glossary of References and Supporting Information, under Terms. Individuals must be trained to recognize when they or their fellow trainees or workers are experiencing the signs and symptoms of any of these illnesses. Early signs and symptoms and required actions are identified in Figure A4.1., Heat Illness Warning Signs and Symptoms. This figure also addresses the later signs and symptoms and immediate actions to respond to such individuals.

A4.2. (Added) For any medical intervention due to potential heat illness requiring hospital admission for military or civilian employees, the healthcare provider will contact public health to initiate an Occupational Illness/Illness Investigation Report. Occupational injuries and illnesses will be determined and reported according to AFI 91-204, *Safety Investigations and Reports*.

A4.3. (Added) For personnel who become ill and are returned to duty during the hot season, a clinical provider will recommend whether or not additional restrictions are required to prevent further heat illness disorders. The clinical provider will annotate these recommendations and any other restrictions or modifications to the individual's physical training and outdoor activities on AF Form 469, *Duty Limiting Condition Report*, or locally developed equivalent for trainees.

Figure A4.1. (Added) Heat Illness Warning Signs and Symptoms

EARLY SIGNS AND SYMPTOMS	**ACTIONS**
• Dizziness • Lightheadedness • Fatigue • Headache • Muscle cramps	• Remove from training • Allow to rest in shade • Remove excess clothing and gear • Encourage hydration • Replace electrolytes lost in sweat (e.g., salt tablets, salty foods) • If signs/symptoms do not improve within 15-30 minutes, transport to medical facility • If signs/symptoms worsen, call 911
LATER SIGNS AND SYMPTOMS	**ACTIONS**
1. Confusion, disorientation 2. Unusual/slurred speech 3. Unsteady gait 4. Conscious or unconscious collapse 5. Very rapid pulse 6. Vomiting 7. Convulsions	8. Call 911 9. Halt training event 10. Medic must obtain rectal temperature ASAP 11. Remove excess clothing and gear 12. Apply ice sheets or douse with water/ice 13. If ambulance ETA >10 min., and if location/setting allows, begin evacuating toward nearest ice water immersion station (see below)