

CORRECTIONAL MANAGED HEALTH CARE POLICY MANUAL	Effective Date: 07/08/2015	Number: D-27.2 Page 1 of 6
	Replaces: 08/21/2014	
	Formulated: 8/97	
	Reviewed: 01/18	
HEAT STRESS		

POLICY: To establish guidelines for preventing and monitoring heat stress illness.

DISCUSSION:

It is the **responsibility of the facility medical staff** to provide guidelines to assist the facility administration in the determination of safe and healthful work conditions. Every reasonable effort shall be made in the interest of preventing heat-related injuries in the workplace. Problems of heat stress are more common than those prevented by very cold environments. Heat stress is best prevented by acclimatizing staff and offenders to working under hot and humid climate conditions, assuring adequate fluid intake and, to a lesser extent, assuring adequate salt intake. Proper treatment of heat stress should begin at the work site, but severe heat stress is a medical emergency which must be treated in a medical facility. **Salt tablets should not be used in the treatment or prevention of heat stress.**

DEFINITIONS:

- I. **Heat Stress:** a group of conditions which may occur from overexposure to or overexertion in excess environmental temperature. It includes heat cramps, heat exhaustion and heat stroke.
- II. **Heat Cramps:** usually develop following strenuous exercise, in muscles that have been subjected to extensive work. The pain is brief, intermittent and crampy, and may be quite severe. Heat cramps usually occur after several hours of work, and may occur even at low ambient temperatures. The cause is inadequate replacement of electrolytes (sodium and potassium). Cooling efforts should be provided while medical staff is contacted for further treatment. **Prevention** is accomplished by ample fluid intake during and after work, and salting of food during meals if not medically contraindicated. Use of electrolyte replacement drinks or lightly salted fruit drinks at the work site may also be beneficial.
- III. **Heat Exhaustion (Heat Prostration):** the most common form of heat stress, caused by depletion of water and salt. Symptoms include weakness, anxiety, fatigue, thirst, dizziness, headache, nausea and urge to defecate. Signs include profuse perspiration, rapid pulse, incoordination and confusion. Heat prostration may lead to **heat syncope**, a sudden onset of collapse that is usually of brief duration. During heat syncope the patient appears ashen gray and skin is cool and clammy. Failure to treat heat exhaustion may result in progression to heat stroke. Risk factors include failure to maintain adequate fluid intake during exertion, and taking diuretics. Cooling efforts should be provided while medical staff is contacted for further treatment. **Prevention** is accomplished by ample fluid intake during work, proper work-rest cycles, and salting of food during meals if not medically contraindicated.
- IV. **Heat Stroke:** is a medical emergency. While it may be preceded by signs of heat exhaustion, the onset is often sudden. In heat stroke the body has lost its ability to dissipate heat and maintain a normal body temperature. Body temperature is often elevated over 106° F. Exertional heat stroke occurs in young, healthy people who maintain inadequate fluid intake during exertion. Signs include headache, chills, gooseflesh, weakness, incoordination, nausea and vomiting, progressing to unconsciousness. Classical heat stroke is seen in the elderly, those with predisposing medical conditions such as congestive heart failure, diabetes and alcoholism, and those on medications which cause fluid depletion, interfere with sweating or interfere with the body's thermoregulatory system. Classical heat stroke has few premonitory signs. Collapse may be among the first symptoms. Skin is hot and dry, and pulse is rapid and weak. Shock and death may occur in either type of heat stroke. Cooling efforts should be provided while medical staff is contacted for further treatment. **Prevention** includes ample fluid intake during work, proper work-rest cycles, excluding people at high risk from working under conditions of extreme

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heat and humidity, and maintaining adequate indoor conditions, such as access to cool fluids and use of cooling fans, for persons at increased risk for heat stroke.

- V. **Anhidrotics** are drugs that inhibit perspiration.
- VI. **Poikilothermics** are drugs that disrupt the body's normal temperature regulating mechanisms.
- VII. **Potentiators** are drugs which potentiate the effects of anhidrotics or poikilothermics.

PROCEDURES:

- I. Whenever the temperature is 85° F or higher, the Warden (or designee) will use the Heat and Humidity Index (Table 1 on page 4) to **determine safe hot weather working conditions**. Prior to exposing workers to extremely hot working conditions, the Warden or designee should consult with medical staff to evaluate the hazard of the effective temperature.
- II. **Acclimatization.** Offenders newly assigned to jobs which require strenuous work under conditions with an apparent air temperature of 90° F or greater (see Table 1 on page 4) must be acclimatized before assuming a full workload. They should work no more than 3-4 hours at a time, separated by at least one hour rest in a cooler environment for the first week. After the first week, they may assume a normal work schedule. Acclimatization can be lost in as little as two weeks, so anybody who has been away from a hot work environment for more than two weeks should be reacclimatized. Acclimatization is not necessary for persons assigned to the same job when temperatures vary with seasonal changes.
- III. **Fluid Intake.** Offenders and staff working at apparent air temperatures over 90° F should maintain an intake of at least 16 oz of fluids per hour of work. Under extreme conditions, work should be interrupted every 15 - 20 minutes and offenders instructed to drink fluids even if they are not thirsty. Drinking water will always be available to workers in hot weather conditions.
- IV. **Work-rest Cycle.** Whenever the apparent temperature (see Table 1 on page 4) is 90 - 95° F, a 5-minute rest break should be given every hour. If the apparent temperature is 96 - 120° F, a 5-minute rest break should be given every 30 minutes, and work intensity be reduced by 1/3. If the apparent temperature is over 120° F, work should be curtailed, or, if work must continue, a 10-minute rest period should follow every 20 minutes of work, and work intensity should be decreased by 1/2 to 2/3.
- V. **Newly-assigned workers** who are not acclimatized to the heat should be evaluated by the medical staff before being subjected to significant heat stress, and should be monitored by supervisors for signs of heat stress during the acclimatization period.
- VI. **Offenders on Medications.** Work assignments for offenders on medications classified as anhidrotics, poikilothermics or potentiators (see Attachment A) should be considered carefully. In general, offenders on antipsychotic drugs should not be allowed to work or recreate in environments where the apparent air temperature is 95° F or higher. This restriction should also be considered for offenders who are on other drugs classified as anhydrotics or poikilothermics or potentiators if they are on more than one such drug or if they also have an underlying medical condition that places them at increased risk (see Attachment B), particularly at higher dosage

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levels of the drugs. Decisions about suitability of work assignments for these offenders will be made by facility medical staff. Documentation shall be made in the patient's health record on the HSM-18, *Health Summary for Classification*, form.

Reports identifying offenders with heat and/or sunlight sensitivity restrictions:

1. Unit count room staff will provide unit security staff with the "Medical Heat Restriction List" which is generated from the Countroom Management System (R050) in mainframe. This report identifies offenders who have a heat restriction for security to perform "wellness checks" in accordance with A.D.-10.64, "Extreme Temperature Conditions in the TDCJ".
2. The INFOPAC chain list, "Daily Strength Changes", (ITSS52) produced for individual units and the Transportation Department identifies offenders with a heat and/or sunlight sensitivity restriction who will be moving from one TDCJ unit to another on the following day.
3. Unit medical staff can access the INFOPAC report, "Inmates with Sunlight and Heat Restriction" (IMS042) any time a list of offenders with a heat and/or sunlight sensitivity restriction who are currently assigned to that unit is needed.

VII. **Transportation.** Units are to refrain from transporting psychiatric inpatients to another facility via chain bus. Offenders on the Infopac medication list should be transported during the coolest hours of the day. Outgoing chain screens should be reviewed against the unit Infopac Report to ensure that the offenders on medication are traveling on the appropriate mode of transportation. Please note that the Transportation Department adjusts their schedule during the summer months so that routes are run during the coolest part of the day.

VIII. **Training.** Facility medical staff shall provide initial and annual training in the prevention of temperature extreme injury to all supervisory personnel who manage employees and offenders. Documentation of completed training shall be maintained by the Facility Health Administrator. Training should generally be accomplished in March or April of each year.

IX. **Reporting.** Facility medical staff shall complete the "Heat-Related Illness Reporting Form" (Attachment C) for each case of heat cramps, heat exhaustion, heat stroke or neuroleptic malignant syndrome. The complete form is e-mailed to HSLIAISON via EMR e-mail or faxed to the Office of Health Services Liaison at 936-437-3599.

References:

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TDCJ Administrative Directive 10.64, rev.1, Temperature Extremes in the TDCJ-ID Workplace (Cold/Hot).

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Likelihood of heat disorders with prolonged exposure or strenuous activity	Heat Index	Risk Level
Yellow = Caution	80 to 90°F	Possible fatigue with prolonged exposure
Gold = Extreme Caution	91°F to 103°F	Heat-related illness possible with long exposure
Orange = Danger	103°F to 115°F	Heat stroke possible and heat-related illness likely
Red = Extreme Danger	Greater than 115°F	High risk of heat stroke
