



HEAT ILLNESS/INJURY PREVENTION PROGRAM 2018

FORT DEVENS RFTA SAFETY OFFICE



AGENDA



- ▶ References
- ▶ Purpose
- ▶ Background on WHY this training is needed
- ▶ Key Players
- ▶ Individual Risk Factors
- ▶ Heat Risk Assessments
- ▶ Types of Heat illnesses and injuries
- ▶ Treatment of Heat illnesses and injury
- ▶ Wet Bulb/ Heat Categories/ Work/Rest
- ▶ Reporting a Heat Casualty



SUPPORTING REFERENCES



- ▶ AR 40-5 (Preventive Medicine)
- ▶ DA PAM 40-11 (Preventive Medicine)
- ▶ TB MED 507 (Heat Stress Control and Heat Casualty Management)
- ▶ TC 4-02.1 (First Aid)
- ▶ TC 4-02.3 (Field Hygiene and Sanitation)
- ▶ ATP 4-25.11 (Unit Field Sanitation Teams)
- ▶ TRADOC REG 350-29 (Prevention of Heat and Cold Casualties)
- ▶ FORT DEVENS RFTA REG 385-10 (Fort Devens Safety Regulation)



PURPOSE/ TRAINING OBJECTIVES



- ▶ 1. Develop an understanding of Heat Casualties and their impact on unit readiness.
- ▶ 2. Develop knowledge of the various Heat illnesses and injuries and how to treat. Know what are reportable heat injuries.
- ▶ 3. Develop the ability to conduct a heat risk assessment and apply this to training.
- ▶ 4. Develop an understanding of how to identify individual factors for heat injuries.



Background and WHY



- ▶ DNBI
- ▶ Command and Individual Responsibility
 - ▶ Installation Commander
 - ▶ Unit Commanders
 - ▶ Individuals
- ▶ Statistics
 - ▶ 2017 – 464 heat stroke cases
 - ▶ 2017 – 2163 additional heat casualties (1699 were heat exhaustion)
- ▶ Mission Degradation



KEY PLAYERS



- ▶ Commanders and Unit Leaders
- ▶ Unit Medical Staff/ Medics
- ▶ Field Sanitation Team (FST) Members
- ▶ Battle Buddies



Individuals at Increased Risk



- ▶ Poor Physical Fitness
- ▶ Body Mass index > 26
- ▶ Age > 40
- ▶ Gender (females)
- ▶ Dehydration
- ▶ Minor illnesses
- ▶ Medications
- ▶ Alcohol
- ▶ Skin susceptible to rashes, sunburn, poison ivy/oak
- ▶ Sleep Deprivation
- ▶ Lack of Acclimatization
- ▶ Overly Highly Motivated



Heat Risk Assessments



Start early – at least 1-month prior to mission

- ✓ Plan on acclimatization – make it a part of training plan
- ✓ Mimic the mission environment
- ✓ Must stress the body
- ✓ Work toward 100 minutes of continuous activity in a heat stress environment – maintain this for 7-14 days
- ✓ Maintain good hydration – do not simply drink when the thirst sensation occurs
- ✓ Maintain a balanced diet
- ✓ Maintain good sleep habits
- ✓ Stay as healthy as possible



Heat Risk Assessments



Identify previous heat casualties and susceptible individuals

- ✓ Review the individuals at risk factors
- ✓ Have medical staff review records for any previous heat casualties
- ✓ Develop a method of marking or identifying those at increased risk
- ✓ Enforce the Battle Buddy system



Heat Risk Assessments



Conduct the assessment

TB MED 507 Appendix D has a good guide for conducting a Heat Risk Assessment

Developing and Implementing Controls might be the hardest task

Additional Handout documents

- Commander's, Senior NCO and Instructor's Guide to Risk Management
- TRADOC Leaders FY07 Heat Injury Prevention Program

Heat Risk Assessments

Remember “**HEAT**”

HEAT ILLNESS AND INJURY IS CUMULATIVE

- ✓ Monitor the **HEAT** category for the past 3-days
- ✓ Monitor the **EXERTION**/ work level for the past 3-days
- ✓ **ACCLIMATION** and other risk factors (refer back to the individual risk factors)
- ✓ How much **TIME** has been allocated/available for recovery



Types of HEAT illness and injury



- ▶ Minor/ Non-Reportable Illness and Injuries
 - Sunburn
 - Heat Rash
 - Heat Cramps
 - Heat Edema (swelling)
 - Parade Syncope
 - Dehydration



Types of HEAT illness and injury



- ▶ Major/ Reportable Illness and Injuries
 - Severe Dehydration
 - Heat Exhaustion
 - Heat Stroke
 - Hyponatremia (over hydration)

Why the two Categories?

Treatment of Heat Illness and Injury

▶ Minor

- ❖ Sunburn – Watch out for blisters and infections. May cause a fever
- ❖ Heat Rash - Discomfort moving due to clothing rubbing on the skin. Itching can be severe leading to infection risk.
- ❖ Heat Cramps – Can be very painful. Replace lost salt and electrolytes
- ❖ Heat Edema – Hand and Feet swelling (shoes no longer fit). Rest and elevation. Return to normal in a few days
- ❖ Parade Syncope – Temporary circulation failure, usually in the legs, and usually after prolonged standing in heat conditions. Can also result in lightheadedness and loss of consciousness. Sit or lay down and recovery is relatively quick (hours)

Treatment of Heat Illness and Injury

- ▶ Major
 - ❖ Heat Exhaustion – Most common heat causality
 - ❖ Symptoms:
 1. Weakness
 2. Fatigue
 3. Dizziness
 4. Headache
 5. Nausea/vomiting
 6. Hypotension
 7. Tachycardia
 8. Cramps
 9. Transient alteration in mental status
 - ❖ Reminders: Individual still sweating and the body still has the capacity to cool itself if removed from the heat stress.
 - ❖ Rest, Shade, rehydration, cooling, monitoring for more severe symptoms

Treatment of Heat Illness and Injury

- ▶ Major
 - ❖ Heat Stroke – LIFE THREATENING
 - ❖ Symptoms:
 1. Increased severity of any of the heat exhaustion symptoms
 2. Elevated body temperature above 104F
 3. Central nervous system dysfunction
 1. Dizziness
 2. Restlessness
 3. Severe Headache
 4. Confusion
 5. Irrational or aggressive behavior
 4. Late state symptoms
 1. Hot, dry skin
 2. Temperature above 106F
 3. Convulsions
 4. Coma
 - ❖ Reminders: Body has lost the ability to cool itself and needs immediate help.
 - ❖ Start immediate cooling with total immersion and seek medical help.
 - ❖ Ask simple questions that they should be able to answer to determine mental change or ability

Treatment of Heat Illness and Injury

- ▶ Major

- ❖ Hyponatremia

Symptoms:

1. Confusion
2. Weakness
3. Nausea/ vomiting
4. Distended/Bloated Abdomen
5. Large quantity of clear Urine

- ❖ Reminders: Can be fatal if not treated immediately

- ❖ NO MORE WATER !!!/ NO INTRAVENIOUS FLUIDS !!!



DEHYDRATION



- ▶ Very Common Problem
- ▶ Can be Severe if not addressed
- ▶ Some Symptoms:
 - ✓ Dizziness
 - ✓ Weakness
 - ✓ Fatigue
 - ✓ Headache
 - ✓ Yellow to Orange Urine
- ▶ Major treatment:
 - ✓ Battle Buddy
 - ✓ Leadership monitoring water intake and urine
 - ✓ Time to rest and rehydrate

Heat Categories

- ▶ Cat 1 = WHITE – temperature 82F and below
 - ▶ Cat 2 = Green – temperatures 82-84.9F
 - ▶ Cat 3 = Yellow – temperatures 85-87.9F
 - ▶ Cat 4 = RED – temperatures 88-89.9F
 - ▶ Cat 5 = BLACK – temperatures 90F and above
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- ▶ Temperatures impact
 - ▶ Fluid Intake
 - ▶ Work Rest Schedules
 - ▶ Uniform and equipment modification
 - ▶ Cats are your Risk Assessment Hazard/ Controls are developed for what the temperature impacts



Define WORK



- ▶ Listed in categories of EASY, MODERATE and HARD
- ▶ Easy
 - Walking 2.5mph/ >30lb load
 - Weapons maintenance/ marksmanship training
 - Drill and Ceremony
- ▶ Moderate
 - Walking 3.5mph/ >40lb load
 - PT
 - Patrolling/individual movement
 - Defensive position construction
- ▶ Hard
 - Walking 3.5mph/<40lb load
 - Field Assaults



Uniform and Equipment Modification



- Heat category 1-2: no restrictions
- Heat category 3:
 - Unblouse trouser legs
 - unbuckle web belt
- Heat category 4-5:
 - Unblouse trouser legs
 - unbuckle web belt
 - Remove t-shirt from under BDU top or remove BDU top down to T-shirt (think about insects)
 - Remove helmets unless there are specific safety reasons to keep them on

NOTE: MOPP 4: Add **10°F** to WBGT index for easy work, and **20°F** to WBGT index for moderate to hard work



Reporting



- ▶ 3 Reportable Heat Illnesses or Injuries
 - ▶ Heat Exhaustion
 - ▶ Heat Stroke
 - ▶ Hyponatremia
- ▶ Follow normal accident/incident reporting procedures (notification followed by an accident report (285AGAR))
- ▶ Leaders should seriously consider modification of the training plan or even halting training to provide rest, shade and rehydration when there are reportable casualties



QUESTIONS

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