Heat Injury Controls:

- **Decision to accept risk is made at the appropriate level**
  - Made in accordance with appropriate MACOM regulation

- **Identified controls are in place**
  - Update WBGT hourly when ambient temperature is $\geq 75^\circ F$.
  - Adhere to work/rest cycle in high heat categories. Rest in shade.
  - For tasks requiring continuous effort, adhere to guideline and allow several hours of rest afterwards.
  - Training event incorporates good prior planning.

- **Monitor and enforce hydration standard**
  - Encourage frequent drinking, but not to exceed 1 1/2 quarts per hour or 12 quarts per day. Make water more palatable, if possible, by cooling.
  - Do not allow soldier or trainee to empty canteens to lighten load (consider imposing a penalty in time events).
  - Ensure soldiers are well hydrated before training. Ask about urine; urine is clear if well hydrated.
  - Check Riley (water) Card or Ogden Card frequently.

- **Monitor and enforce eating of meals**
  - Ensure all meals are eaten during the meal break.
  - Ensure adequate time to eat and drink meals.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

- **Execute random checks**
  - Spot checks by Cadre, Senior NCO’s, and Drill Instructors.
  - Enforce battle buddy checks — need to be aware of each other’s eating, drinking and frequency of urination.
  - Plan placement of leaders to observe and react to heat injuries in dispersed training.

- **Follow clothing recommendations**
  - Heat category 1-2: No restrictions.
  - Heat category 3: Unblouse trouser legs, unbble web belt.
  - Heat category 4-5:
    - Unblouse trouser legs, unbble web belt.
    - Remove t-shirt from under BDU top or remove BDU top down to t-shirt (depends whether biting insects are present).
    - Remove helmets unless there are specific safety reasons to keep them on (ex: range).
  - MOPP 4: Add 10°F to WBGT index for easy work, and 20°F to WBGT index for moderate and hard work.

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**HIP Pocket Guide**

(Heat Injury Prevention Guide)

**Hazards:**
- High heat category - measure WBGT over 75°F.
- Exertional level of training, especially on several sequential days.
- Acclimatization (and other individual risk factors - See reverse side).
- Time (length of heat exposure, especially sequential days, and recovery time allowed).

**Heat Injury Controls:**
- Follow clothing recommendations
- Monitor and enforce eating of meals
- Identify controls are in place
- Decision to accept risk is made at the appropriate level
- Execute random checks

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**Fluor Replacement and Work/Rest Guide**

- **Heat category 1:**
  - No limits to work time per hour.
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

- **Heat category 2:**
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

- **Heat category 3:**
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

- **Heat category 4:**
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

- **Heat category 5:**
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
  - Table salt may be added to food when the heat category is high. Salt tablets are not recommended.

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**High Risk for Heat Illness:**
- Not acclimated to heat (need 10-14 days to get trainees adequately acclimated).
- Exposure to cumulative days (2-3 days) of any of the following:
  - Increased heat exposure
  - Increased exertional level
  - Lack of quality sleep
  - Poor fitness (Run 2 miles > 16 minutes).
  - Overweight.
  - Minor illness (cold symptoms, sore throat, low grade fever, nausea, vomiting).
- Taking medications (either prescribed or over counter) supplements/dietary aids.
  - Example: Allergy or cold remedies
  - Ephedra supplement
  - Use of Alcohol in the last 24 hours.
  - Prior history or heat illness (any heat stroke, or >2 episodes of heat exhaustion).
  - Skin disorders such as heat rash and sunburn which prevent effective sweating.
  - Age >40 years.
  - Exercise/overtraining
  - Age >40 years
  - Exercise/overtraining
  - Use of Alcohol in the last 24 hours
  - Prior history or heat illness (any heat stroke, or >2 episodes of heat exhaustion)
  - Skin disorders such as heat rash and sunburn which prevent effective sweating
  - Age >40 years.

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**Heat Stress and Illness Warning Signs and Symptoms of Heat Injury:**
- Headache
- Dizziness
- Nausea and vomiting
- Chills and/or fever
- Minor illness (cold symptoms, sore throat, low grade fever, nausea, vomiting)
- Poor fitness (Run 2 miles > 16 minutes)
- Overweight
- Minor illness (cold symptoms, sore throat, low grade fever, nausea, vomiting)
- Taking medications (either prescribed or over counter) supplements/dietary aids.
  - Example: Allergy or cold remedies
  - Ephedra supplement
  - Use of Alcohol in the last 24 hours
  - Prior history or heat illness (any heat stroke, or >2 episodes of heat exhaustion)
  - Skin disorders such as heat rash and sunburn which prevent effective sweating
  - Age >40 years.

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**Fluid Replacement and Work/Rest Guide**

**Easy Work**:
- Fluid Intake: 1/2 to 3/4 quarts/hour
- Rest: 5/10 minute

**Moderate Work**:
- Fluid Intake: 3/4 to 1 quarts/hour
- Rest: 20/40 minute

**Hard Work**:
- Fluid Intake: 1 to 1 1/2 quarts/hour
- Rest: 10/50 minute

**Electrolyte Replacement**:
- Table salt may be added to food when the heat category is high.
- Salt tablets are not recommended.

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**Heat Category**

- Heat category 1:
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.

- Heat category 2:
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.

- Heat category 3:
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.

- Heat category 4:
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.

- Heat category 5:
  - NL = no time to work the period.
  - Must be removed within 15 minutes if heat exposure duration (1/2 hour) and exposure is > 2 episodes of heat exhaustion.
  - Daily fluid intake should not exceed 12 quarts.
### Warning Signs and Symptoms of Heat Stress and Illness

With **any** of the below symptoms or signs, immediately call for medical evaluation by a 91W (Medic). If 91W is not immediately available, call for Medevac or ambulance.

**Indications of Possible Heat Casualty**

<table>
<thead>
<tr>
<th>MORE COMMON SIGNS/SYMPTOMS</th>
<th>IMMEDIATE ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dizziness</td>
<td>Remove from training</td>
</tr>
<tr>
<td>Headache</td>
<td>Allow casualty to rest in shade</td>
</tr>
<tr>
<td>Nausea</td>
<td>Loosen clothing</td>
</tr>
<tr>
<td>Unsteady walk</td>
<td>Take sips of water</td>
</tr>
<tr>
<td>Weakness or fatigue</td>
<td>While doing the above, call for Medic evaluation of the soldier (Medic will monitor temperature and check for mental confusion)</td>
</tr>
<tr>
<td>Muscle cramps</td>
<td>If no Medic is available call for ambulance or Medevac</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SERIOUS SIGNS/SYMPTOMS</th>
<th>Immediately call Medevac or ambulance for emergent transport while doing the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot body, high temperature</td>
<td>Lay person down in shade with feet elevated until Medevac or ambulance arrives</td>
</tr>
<tr>
<td>Confusion, agitation</td>
<td>Undress as much as possible</td>
</tr>
<tr>
<td>(Mental Status Assessment)</td>
<td>Aggressively apply ice packs or ice sheets</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Pour cold water over person and fan</td>
</tr>
<tr>
<td>Involuntary bowel movement</td>
<td>Give sips of water while awaiting ambulance (if conscious)</td>
</tr>
<tr>
<td>Convulsions</td>
<td>Monitor airway and breathing until ambulance or Medevac arrive</td>
</tr>
<tr>
<td>Weak or rapid pulse</td>
<td></td>
</tr>
<tr>
<td>Unresponsiveness, coma</td>
<td></td>
</tr>
</tbody>
</table>

**Mental Status Assessment**

An important sign that the soldier is in a **serious life-threatening** condition is the presence of mental confusion (with or without increased temperature).

Anyone can do a mental status assessment asking some simple questions.

**Call for emergency Medevac or ambulance if any of the following exist:**

- **What is your name?** (Does not know their name.)
- **What month is it? What year is it?** (Does not know the month or year.)
- **Where are we/you?** (Does not know where they are.)
- **What were you doing before you became ill?** (Does not know the events that led to the present situation.)

**Indications of Possible Water Intoxication (Over Hydration)**

**Signs and Symptoms:** Confusion, Weakness, and Vomiting

**What to do:**

**Ask these questions to the soldier or battle buddy:**

- Has soldier been eating? Check rucksack for # of MRE's left;
- Has soldier been drinking a lot? (suspect water intoxication if soldier has been drinking constantly);
- How often has soldier urinated? (frequent urination seen with water intoxication; infrequent urination with heat illness);
- What color is urine (clear urine may indicate over hydration);

**If soldier has been eating, drinking and urinating a lot, yet has these symptoms, immediately call Medevac or ambulance for emergency transport.**