



**Preventive Medicine for  
Field Operations I**

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**Risk Assessment and  
Management**

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**Preventive Medicine Objectives**

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**Upon conclusion of this session the student should be able to:**

- **Identify risk assessment and management.**
- **Recognize preparedness criteria for personal readiness.**
  - Heat illness
  - Cold injury
  - Altitude illness



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**Risk Assessment**

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- **Goal: identify if exposure is acceptable and team operations can continue exposure without unacceptably high consequences**
- **Some adverse consequences to consider include:**
  - Mortality
  - Illness
  - Disability
  - Discomfort (physical or emotional)
  - Psychological discomfort (e.g. PTSD)



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**Risk Management**

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- Use risk assessment data to perform cost-benefit analysis and make decisions.
- Considers economic, social, legal and technological factors

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**Personal Preparedness Criteria**

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- Adequate hydration (2 liters of non-caffeinated fluids 8 hours prior to staging)
- Sufficient sustenance – calorie intake
- Maintenance of work/rest cycles
- Response to climatic stress (hot/cold)
- Adequate ergonomics throughout deployment

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**Personal Preparedness:  
Heat Illness**

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- Main syndromes
  - Heat edema (minor)
  - Heat syncope (minor)
  - Heat cramps
  - Heat exhaustion
  - Heatstroke

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## Personal Preparedness: Heat Illness

- **Factors**
  - Heat production
  - Heat loss
  - Physiologic adaptation
- **Cooling techniques**
  - Evaporative
  - Ice immersion and ice-packing
  - Cold gastric lavage
  - Cold peritoneal lavage

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## Personal Preparedness: Cold Injury Types

**Main Syndromes:**


- Hypothermia
- Frost-bite
- Trench-foot or immersion foot
- Pernio (chilblain)



www.medtrng.com/slides/PP1%20%20Cold%20Injury.ppt

**Factors:**

- Air temperature
- Radiant heat injury
- Wind speed
- Humidity
- Wind-chill factor

Source: FM 21-10-1 Department of the Army, October 1989

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## Personal Preparedness: Altitude Illness

- Severe physiologic changes related to altitudes higher than 2500 meters and rapid ascent
- **Factors include:**
  - Rate of ascent
  - Actual altitude reached
  - Altitude at which traveler sleeps
  - Individual susceptibility

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## **Personal Preparedness:** Altitude Illness

- **Main syndromes:**
  - **Acute Mountain Sickness (AMS)**
  - **High Altitude cerebral Edema (HACE)**
  - **High Altitude Pulmonary Edema (HAPE)**



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## **Summary**

### **Deployment Preventive Medicine**

- **Evaluate and manage risks**
- **Maintain balanced work/rest cycles**



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