



Personal Protective Equipment

Safety While Wearing PPE



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SAFETY CONCERNS

- Physical
- Psychological
- Environmental
- Biological

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Physical Constraint


- Restricts movement
 - Limits mobility
 - Increased energy/fatigue
- Reduced dexterity
- Reduced sensory perception
 - Vision
 - Hearing
 - Communication



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Other Physical Concerns



- Physiological factors
 - Allergic reactions
 - Physical condition
 - Level of acclimation
- Psychological stress
 - Confining
 - Claustrophobic



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Environmental Concerns


- Site conditions
 - Hot, cold
 - Rain and mud
 - Ice and snow
 - Uneven surfaces
- Slips, trips, falls



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Heat Stress

- Common
- Contributing factors
 - High temperatures, humidity
 - Direct sun exposure
 - Limited air movement
 - Poor physical condition, low heat tolerance
 - Fatigue, exertion



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Heat-Related Illness

Illness	Symptoms	First Aid/Treatment
Heat Cramps	Muscle spasms, pain in legs, arms, abdomen	Rest, drink clear juice/sports drink, seek medical attention if cramps persist >1 hour
Heat Stress	Thirst, fatigue, feeling "hot", cramps, dizziness, headache, nausea, sweating, paleness, clammy skin	Treat immediately; rest in shade, rehydrate, seek medical attention if symptoms persist
Heat Exhaustion	Sweating, paleness, muscle cramps, fatigue, weakness, headache, dizziness, irritability, confusion, nausea, fast/weak pulse, shallow breathing	Move to cool area, rehydrate, take cool shower/bath/sponge bath, wear lightweight clothing, seek medical attention if symptoms are severe or last >1 hour
Heat Stroke	High body temp (104°F +), no sweating (hot, dry skin) confusion, loss of consciousness, seizures, convulsions, rapid pulse, hyperventilation	Life-threatening – call for medical assistance; begin cooling immediately (e.g., put in shade, immerse in water), monitor body temperature, give cool water if able to drink

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Cold-Related Illness



- Extended exposure to cold, windy, wet conditions without adequate clothing or coverage
- Hypothermia
 - Body loses more heat than produced
- Frostbite
 - Skin/tissue freezes
 - Hands, feet, nose, ears most vulnerable



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Biological Concerns

- Zoonotic diseases
- Integrity of PPE
 - Breakdown of materials
 - Breach of barriers
- Pathogen exposure

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SAFETY PRECAUTIONS

- PPE Safety Training
- Buddy System
- Personal Behavior/Actions

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PPE Safety Training


- Critical for ensuring appropriate use
 - What PPE is needed
 - Why it is needed
 - Limitations
 - Precautions
 - Consequences
 - Recognize damaged/improperly function
 - Decontamination, repair, replacement



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Buddy System

- Cooperative completion of tasks
- Close visual contact
- Assist as needed
- Check PPE integrity
- Observe partner for distress
- Obtain emergency assistance if needed



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Personal Preventive Actions

- Remain alert
 - Watch for hoses, cables, ropes
 - Adequate lighting
 - Identify hazardous areas
- Monitor yourself and others
 - Know physical limitations
- Follow established guidelines
- Stress-management techniques
 - Help stay calm, focused, analytical under adverse conditions

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Avoiding Heat Stress

- Monitor yourself and team members
 - Be alert for signs of heat stress
 - Take quick action to avoid serious injury
- Prevention
 - Keep hydrated
 - Fluids, replace electrolytes
 - Adjust work schedules
 - Perform work during cooler times of day
 - Limit or avoid strenuous activities mid-day
 - Take frequent rest breaks
 - Cooling devices

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Cold-Related Illnesses

- Wear appropriate clothing
- Dress in layers
 - Loose-fitting, lightweight clothing,
 - Water resistant/repellant outer layers
- Cover hands, head, face, neck
- Avoid overexertion
- Stay dry

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Psychological Stress

- Recognize, understand symptoms
- Monitor reactions of self, others
- Take appropriate measures to reduce effects
- Seek assistance or support
- Physical, cognitive, emotional, behavioral signs/symptoms

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Resources

- USDA Foreign Animal Disease Preparedness (FAD PReP) Guidelines:
 - Health and Safety
 - Personal Protective Equipment
 - http://www.aphis.usda.gov/animal_health/emergency_management/nahems_guidelines.shtml

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