VCH Safety Summit: Reflections on COVID

2021 JOHSC conference

September 15, 2021

Virtual experience
Background

Occupational exposure to heat and hot environments

• Vulnerable worker populations
  • Community health workers
  • Outreach programs
  • Infectious disease departments

Environmental Factors of Heat

• Ambient temperature
• Relative humidity
• Air velocity
• Radiant load
Heat-related Illnesses

• **Heat Exhaustion**
  - Most common
  - Core body temperature <40°C

• **Heat Rash**
  - Skin irritation caused by excessive sweating

• **Heat Syncope (Heat Fainting)**
  - Heat-induced dizziness and fainting

• **Heat Cramps**
  - Depletion of salt and moisture levels
  - Muscle cramps and spasms in the abdomen, arms, or legs

• **Heat Stroke (Classic and Exertional)**
  - Body unable to control its own temperature or sweat
  - Body temperature can rise to >40°C within 15 minutes
Controls for Hot conditions

• Engineering controls
  • Ventilation
  • Air conditioning
  • Dehumidifiers

• Administrative controls
  • Increased frequency of breaks
  • Training employees to recognize and prevent heat illnesses

• Personal controls
  • Wearing light, loose clothing
  • Fluid supplements, sport drinks, fruit juice
  • Minimize alcohol
Wildfire Smoke
What is Wildfire Smoke?

- PM$_{2.5}$
- CO
- CO$_2$
- Nitrogen oxides
Symptoms

Mild
- Sore throat
- Eye irritation
- Runny nose
- Mild cough
- Wheezy breathing
- Headaches

Severe
- Severe cough
- Shortness of breath
- Dizziness
- Chest pain
- Heart palpitations
Prevention Tips

- Reduce physical exertion outdoors
- Schedule work accordingly
- Relocate work
- Air filtration systems
- Clean air refuge spaces
Working in the Cold
Background

Why should we be concerned?

• Hazardous to health and potentially life-threatening
• Lower work efficiency
• Impairs performance of complex mental tasks
• Impairs manual tasks

Response in Men and Women

• Women are generally at greater risk of cold injury
Four Methods of Heat loss

1. Radiation
2. Conduction
3. Convection
4. Evaporation
Cold-Related Illnesses

Chilblains
• Prolonged and repeated exposure to cold air temperatures

Trench foot
• Foot injury due to continued exposure to wet and cold conditions

Frostnip
• Mildest form of freezing injury

Hypothermia
• Prolonged exposure to cold
• Abnormally low body temperature
Controls for Cold Conditions

Avoid work in the cold!

Engineering Controls
- Heaters
- Heating systems

Administrative Controls
- Education
- Scheduling
- Monitoring
- Buddy system

PPE
- Clothing
- Footwear
- Socks
Additional Prevention Tips
Conclusion
Thank You