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Risk A/T[®] Work is a forum dedicated to sharing safety and loss control tips with our brokers and insureds. **Risk A/T[®]** is our proprietary risk management approach promoting informed risk analysis based on two behavioral factors — **A**ptitude and **T**olerance.

Heat-related Illnesses on the Job: Staying Hydrated is the Key

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In the midst of a scorching summer, heat illness and dehydration become critical factors that can significantly impact health and performance.

The human body relies on a delicate balance of temperature regulation and fluids to function optimally. When disrupted, especially in hot and humid conditions, individuals are at risk of developing various forms of heat-related illnesses.

According to the [US Department of Health and Human Services](#), heat related deaths have seen a steady increase, with approximately 2302 occurring in the U.S. in 2023 in comparison to 1,722 in 2022 and 1,602 in 2021. Understanding these conditions and implementing proper heat illness management and hydration strategies are paramount for preventing adverse health outcomes and keeping employees working in high heat environments safe.



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Heat Illness: Types and Symptoms

Heat illness encompasses a spectrum of conditions ranging from mild discomfort to severe, life-threatening emergencies. The primary forms of heat illness include heat cramps, heat exhaustion, and heat stroke.

- 1. Heat Cramps:** Often the mildest form, heat cramps manifest as painful muscle spasms that occur during or after intense physical exertion in hot conditions. They are usually caused by electrolyte imbalances and dehydration.
- 2. Heat Exhaustion:** More serious than heat cramps, heat exhaustion results from prolonged exposure to high temperatures and inadequate fluid intake. Symptoms include heavy sweating, weakness, dizziness, nausea, headache, and sometimes fainting.
- 3. Heat Stroke:** The most severe form of heat illness, heat stroke occurs when the body's core temperature exceeds 104°F (40°C). It is a medical emergency that can lead to organ damage, brain injury, and even death if not promptly treated. Symptoms include confusion, agitation, hot and dry skin (in classic heat stroke) or profuse sweating (in exertional heat stroke), rapid heartbeat, and unconsciousness.

Risk Factors for Heat Illness

Several factors increase susceptibility to heat-related illnesses:

- **Environmental Conditions:** Designate a team responsible for implementing the BCP, including communication, security, property assessment, and recovery operations
- **Physical Factors:** Age, obesity, certain medical conditions (like heart disease), and medications (like diuretics) can impair heat tolerance.

- **Lifestyle and Occupation:** Individuals who work outdoors in high heat environments, especially in protective clothing, are at increased risk. Indoor occupations with elevated temperatures, limited ventilation or personal protective gear that add to a heat load are also related to the noted heat-related illnesses. This is especially true in high-exertion jobs.

Hydration: The Key to Prevention

Proper hydration is fundamental in preventing heat-related illnesses. Water is essential for thermoregulation, aiding in sweat production and maintaining blood volume. Dehydration exacerbates heat stress, making it crucial to consume adequate fluids before, during, and after physical activity or exposure to hot environments.



Heat illness and hydration management are critical for maintaining health and safety, particularly in hot climates or during strenuous activities.

According to the [USGS's article 'The Water in You: Water and the Human Body'](#), approximately 60 percent of an adult human's weight may be water and all of our body's systems require water/hydration to flush toxins out of vital organs, carry nutrients to cells, and provides a moist environment for ear, nose, and throat tissues.

When we sweat, we lose electrolytes, which contain minerals such as sodium, potassium and calcium that help maintain proper chemical balance in the body. According to the Mayo clinic, the body loses up 8-12 cups of water per day through breathing, perspiration and urine.

For the body to function correctly, you must replenish its water supply by consuming beverages and foods that contain water, such as fruits and vegetables, increasing the frequency when there is a heightened risk of heat-related illness.

In hot weather, skip coffee or soda and make water your beverage of choice. You can also speak with the health care professional at your workplace to discuss other liquids, such as those containing electrolytes or other additives, to assist with maintaining hydration.

1. Hydration Guidelines:

- **Pre-Activity:** Being hydrated before work makes it easier to stay hydrated through the day.
- **During Activity:** Drink before you are thirsty. Consume 8 ounces of fluid every 10-20 minutes. Do not drink more than 48 ounces in an hour.
- **Post-Activity:** Hydrate after work. This is even more important as it takes time to rehydrate. Chronic dehydration can cause other medical conditions.

2. Electrolytes: Electrolytes like sodium and potassium are lost through sweat and need to be replenished. Sports drinks or electrolyte-enhanced water can help maintain electrolyte balance. Consider consulting with a medical professional to determine the proper balance.

3. Monitoring Hydration Status: Urine color and frequency can provide insights into hydration status. Light-colored urine indicates adequate hydration, while darker-colored urine could suggest dehydration.

Preventive Measures and Treatment

To prevent heat illness, consider the following tips:

- **Acclimatization:** Gradually increase time spent in hot environments to allow the body to adapt.
- **Clothing:** Wear lightweight, loose-fitting, and light-colored clothing to facilitate heat dissipation.
- **Rest and shade:** Take breaks in shaded or cool areas to lower body temperature.

If someone is displaying signs of heat illness, take the following actions:

- **Immediate Cooling:** Move to a cooler environment, remove excess clothing, and apply cold packs or immerse in cool water.
- **Fluid Replacement:** Offer cool water or sports drinks, if conscious and able to swallow.





Conclusion

Heat illness and hydration management are critical for maintaining health and safety, particularly in hot climates or during strenuous activities. Understanding the types, symptoms, risk factors, and preventive measures associated with heat illness is essential for individuals and employers alike.

By prioritizing hydration, monitoring environmental conditions, and responding promptly to signs of heat illness, individuals can mitigate risks and enjoy safer and more productive experiences in hot weather. OSHA has developed heat illness management guidelines, and states such as California have issued specific requirements, including indoor heat illness prevention. Consider reviewing these resources to assist with your overall heat-related illness prevention efforts.

We Are Here to Help

By implementing a heat-related illness prevention plan you are taking an important step to protect your employees. Please reach out to your Sompo Risk Control Specialist or contact us at +1 877 667 5733 or RiskControlQuestions@sompo-intl.com

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