Risk Factors for Heat-Related Illness in U.S. Workers

An OSHA Case Series

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Abstract

Objective:
The aim of this study was to describe risk factors for heat-related illness (HRI) in U.S. workers.

Methods:
We reviewed a subset of HRI enforcement investigations conducted by the Occupational Safety and Health Administration (OSHA) from 2011 through 2016. We assessed characteristics of the workers, employers, and events. We stratified cases by severity to assess whether risk factors were more prevalent in fatal HRIs.

Results:
We analyzed 38 investigations involving 66 HRIs. Many workers had predisposing medical conditions or used predisposing medications. Comorbidities were more prevalent in workers who died. Most (73%) fatal HRIs occurred during the first week on the job. Common clinical findings in heat stroke cases included multiorgan failure, muscle

breakdown, and systemic inflammation.

Conclusion:

Severe HRI is more likely when personal susceptibilities coexist with work-related and environmental risk factors. Almost all HRIs occur when employers do not adhere to preventive guidelines.

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