MITIGATION - SCIENCE AND TECHNOLOGY ADVANCES FOR CHEMICAL AND BIOLOGICAL CONTAMINATION MITIGATION

Evaluation Of Cold Weather Decontamination Methods

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Most chemical or biological decontamination protocols have been driven by the need for fast and efficient methods that are relatively safe and easy to implement. As such, the focus has primarily been towards “general” environments – those in which water is readily available, and the ambient conditions are amenable to such techniques. Some of these include water showers and/or sprays with chemical decontaminants (e.g., soapy water or diluted bleach). However, there exist some scenarios in which water-based decontamination methods are not desirable. These include such operational environments as arid regions (water scarcity), specialized operations (decontamination method must be low volume/weight), and cold weather (freezing risk). This study focuses on the cold weather challenge: identification of common methods for readily available decontamination and evaluation of their respective efficacies. Methods evaluated include wiping (with wet and dry wipes), blotting with moistened wipes, vacuuming, and the application and removal of adhesive tape. Results demonstrate that vacuuming and blotting (without overlapping targeted regions) are generally less effective than other wiping, blotting, and adhesive tape-based measures at removing bacteria from surfaces.

This abstract and the journal article has been accepted but not published by the American journal of Disaster Medicine