**ABSTRACT SUBMISSION | AMERICAN PUBLIC HEALTH ASSOCIATION MEETING 2022**
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**Title:** Occupational ultraviolet light exposure among Florida Firefighters: Evidence from the Firefighter Cancer Initiative

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**Background/Objective:** Occupational epidemiologic studies have documented excess skin cancer burden in firefighters when compared to the general population. Work-related exposures such as soot and other carcinogenic chemical compounds have been linked to increase risk for basal cell and squamous cell skin cancers in firefighters. Prolonged exposure to ultraviolet (UV) radiation is a proven cause of skin cancer, which often appear on sun-exposed areas of skin. We characterize UV light exposure while a sample of firefighters are on-shift and examine the association between their UV light exposure and socio-demographical and work-related characteristics.

**Methods:** During March–June 2021, participants were recruited for the Firefighter UV Safety Evaluation (FUSE) study. Firefighters wore a UV sensor device continuously for a 2-week period and completed a baseline and daily follow-up surveys. A repeated measure analysis of variance (ANOVA) was used to explore the association between UV dosage exposure and each socio-demographic or work-related variable. Statistical significance was established at 5%.

**Results:** A total of 45 firefighters participated with a mean age of 42.47 (SD=10.24), 97.7% were male, 84.4% white, 35.6% non-Hispanic, and had 15.44 years working tenure (SD=9.33). Across socio-demographic characteristics, firefighters with significantly higher UV dosage while on shift were Hispanic or Latino ($F_{(1,77)}$=3.97, $p$=.050), with Master's or higher degree ($F_{(1,5)}$=367.61, $p$<.001), and had worked 21 to 25 years as a firefighter ($F_{(1,21)}$=8.15, $p$=.010). When on-work shift, firefighters were exposed to a higher UV dosage if they spent more than 8 hours per day outdoors ($F_{(1,164)}$=7.08, $p$ = .009), and had tasks involving fire suppression ($F_{(1,164)}$=4.67, $p$=.032). Participants who spent less than 8 hours per day outdoors for leisure showed significantly lower UV dosage ($F_{(1,164)}$=4.01, $p$=.047).

**Conclusion:** Firefighters who had tasks involving fire suppression and spent more time outdoors while on duty had the highest UV radiation exposure during the short 2-week observation period.

**Keywords:** occupational UV exposure, firefighters,

**Learning Objectives:**
1. Describe UV light dosage exposure in the fire service.
2. Discuss how different socio-demographic and work-related variables can be used to predict occupational UV light dosage exposure.