

New Study Identifies Agent Orange Exposure as a Potential Risk Factor for Acral Melanoma

Veterans with documented Agent Orange exposure had 30% higher odds of developing the rare skin cancer.

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A new [study published in JAMA Dermatology](#) analyzing Veterans Health Administration data suggests that Agent Orange exposure may be associated with a higher risk of developing acral melanoma, a rare and often late-diagnosed melanoma subtype.

Melanoma is the fourth most common cancer among veterans in the United States. The veteran population experiences unique environmental and occupational exposures, contributing to a higher melanoma risk compared with the general U.S. population. However, most prior research has focused on cutaneous (skin) melanoma, with limited investigation into rare melanoma subtypes.

[Acral melanoma](#), sometimes referred to as acral lentiginous melanoma, accounts for approximately 1–3% of all melanoma cases. Unlike cutaneous melanoma, which is strongly associated with UV exposure, acral melanoma develops on the palms of the hands, soles of the feet, or under the nails and is not believed to be caused by ultraviolet radiation. Because it occurs in less visible areas and may not resemble more common melanomas, it is often diagnosed at more advanced stages and is associated with poorer outcomes.

The study analyzed data from 2000 to 2024, comparing 1,292 veterans diagnosed with acral melanoma to 5,168 veterans without melanoma. Researchers found that veterans with documented Agent Orange exposure had approximately 30% higher odds of developing acral melanoma.

“This study highlights an important and potentially underrecognized risk factor for acral melanoma, particularly for U.S. veterans,” said Marc Hurlbert, PhD, chief executive officer of the

Melanoma Research Alliance (MRA) and a team principal investigator on the research.

“Identifying exposures that may increase risk can help inform earlier recognition and, ultimately, earlier diagnosis when treatment is most effective.”

The findings are significant for several reasons. They may help inform earlier recognition and diagnosis among veterans and other high-risk populations. They also advance scientific understanding of acral melanoma, one of the most understudied melanoma subtypes. Importantly, the results reinforce the need to evaluate environmental and occupational exposures as part of melanoma risk assessment and prevention strategies.

Although Agent Orange and other herbicides containing dioxin are no longer used, concerns about modern pesticide exposure and melanoma risk persist. Senior author [Rebecca Hartman, MD, MPH](#), Director of Melanoma Epidemiology at Brigham and Women’s Hospital in the Mass General Brigham Department of Dermatology, emphasized the importance of continued investigation.

“Our results support the need for continued studies of acral melanoma as a distinct entity from cutaneous melanoma,” said Dr. Hartman. “We should also consider additional investigations of Agent Orange as a risk factor for acral melanoma and evaluate whether a similar link might exist with other herbicides.”

Together, these findings underscore the importance of studying rare melanoma subtypes independently and continuing to investigate environmental exposures that may contribute to melanoma risk.

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