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New study results show UV radiation is responsible for more than 80% of melanoma cases worldwide

Lyon, France, 27 May 2025 – Scientists from the International Agency for Research on Cancer (IARC) have found that more than 80% of cases of cutaneous melanoma worldwide in 2022 were attributable to ultraviolet radiation (UVR) exposure. In this new study, published today in the [International Journal of Cancer](#),¹ it was estimated that approximately 267 000 out of 332 000 melanoma cases globally in 2022 were caused by UVR. Building on earlier data from IARC's [Global Cancer Observatory](#) database, scientists improved the accuracy of previous estimates. They adjusted for acral lentiginous melanoma, a subtype that is not associated with UVR exposure and is rare among light-skinned populations, but that accounts for about half of cutaneous melanoma cases in darker-skinned groups.

New results

The findings show that 83% of all new melanoma cases worldwide in 2022 were caused by UVR exposure. Of these UVR-related cases, 57% were in men, and the highest burden was in older age groups and regions with lighter-skinned populations. The proportion of cutaneous melanoma cases linked to UVR was larger in men (86%) than in women (79%).

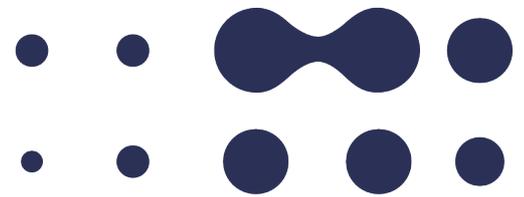
The burden of cutaneous melanoma differs greatly by world region because of variation in levels of exposure to UVR and the much higher risk of developing cutaneous melanoma among fair-skinned populations. Although other sources of UVR exposure exist, sun exposure remains the most important. This is reflected in the study results, which show that the regions with the highest rates of UVR-attributable melanoma were Australia and New Zealand, northern Europe, and North America, where more than 95% of melanoma cases were caused by UVR exposure. The age-standardized rate of UVR-related melanoma was highest in Australia and New Zealand, at 76 cases per 100 000 people.

The global burden of cutaneous melanoma

There were an estimated 331 700 cases of cutaneous melanoma diagnosed in 2022 worldwide, and 58 700 deaths.² Cutaneous melanoma used to be a rare disease, but changes in UVR exposure over past decades –

¹ Langselius O, Runggay H, de Vries E, Whiteman DC, Jemal A, Parkin DM, et al. (2025). Global burden of cutaneous melanoma incidence attributable to ultraviolet radiation in 2022. *Int J Cancer*. Published online 27 May 2025; <https://doi.org/10.1002/ijc.35463>

² IARC (2025). Melanoma of skin. Factsheet. Lyon, France: Global Cancer Observatory, International Agency for Research on Cancer. Available from: <https://gco.iarc.who.int/media/globocan/factsheets/cancers/16-melanoma-of-skin-fact-sheet.pdf>.



such as tanning and travelling to regions with high levels of UVR – have resulted in large increases in the burden of cutaneous melanoma, particularly in light-skinned populations. While incidence rates among the youngest generation have been declining in many countries with historically higher incidence rates, population growth and ageing are expected to result in a substantial net increase in the number of melanoma cases diagnosed annually, with a recent projection of more than 510 000 new cases and 96 000 deaths in 2040 – an increase of 50% and 68%, respectively.

“Most cutaneous melanoma cases are preventable”, said Oliver Langselius, scientist at IARC and lead author of the study. “Prevention campaigns in Australia – such as the SunSmart campaign – have been highly successful in preventing cutaneous melanoma and are estimated to have prevented 103 000 skin cancers and 1000 deaths in Victoria, Australia, between 1988 and 2003 alone. Our findings not only allow for more refined global estimates of cutaneous melanoma caused by UVR but also underscore the urgent need for enhanced public health efforts on sun safety. Strengthening awareness and UVR protection, especially in high-risk regions and among ageing populations, is key to reducing the global burden of this disease”.

For more information, please contact

Veronique Terrasse, at terrassev@iarc.who.int
or IARC Communications, at com@iarc.who.int

The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.who.int.