EUROPEAN SUNLIGHT ASSOCIATION

Sunlight, Sunbeds, and Public Health

Executive Summary: 2026 Evidence Update

European Sunlight Association

Advising blanket sun avoidance has a health cost current public messaging does not account for. Cohort studies published since 2022 associate higher habitual UV exposure with lower all-cause, cardiovascular, and cancer mortality, with no corresponding rise in skin cancer deaths. Sunburn, not moderate exposure, is the risk factor that matters most.

Since this White Book was first published in 2022, several large, methodologically strong studies, notably from the University of Edinburgh's UK Biobank programme, have added substantial weight to the case that current sun-avoidance messaging is unbalanced. This summary distils the fully updated and re-referenced White Book into the points most relevant to policy.

Key findings

- UK Biobank cohort data (Stevenson et al., 2024, peer-reviewed, n≈395,000; Gu et al., 2026, preprint, n=419,007) associate higher habitual UV exposure and solarium use with lower all-cause, cardiovascular, and non-skin-cancer mortality, with no clear rise in skin cancer mortality across exposure categories.
- Earlier Swedish cohort data (Karolinska Institutet) found all-cause mortality roughly doubled among women who avoided sun exposure compared with the most sun-exposed group.
- The benefit does not appear to run solely through vitamin D. UV exposure mobilizes nitric oxide from the skin, lowering blood pressure independently of vitamin D status. This is one reason vitamin D supplementation trials have not reliably reproduced the benefits seen in UV-exposure cohorts (Weller, 2024; Riedmann et al., 2025).
- A 2026 analysis of ≈29,000 women (the MISS cohort) found that solarium use without accompanying patterns of intermittent solar overexposure was not associated with increased melanoma risk; risk was concentrated in users who also showed those patterns. Both solarium-user groups had lower all-cause mortality than non-users.
- Daily sunscreen use measurably lowers vitamin D levels: in a 2025 randomized controlled trial, vitamin D deficiency after about a year was more common among routine SPF 50+ users than among controls (46% versus 37%), a trade-off rarely mentioned alongside sun-safety advice.

Sunbeds and melanoma: how this update assesses the regulatory reports

- Sunburn materially increases melanoma risk. This is the clearest, most consistent finding in the literature, and preventing sunburn is common ground with public health authorities.
- The fifth edition of the European Code Against Cancer now advises "never use sunbeds." This White Book's assessment of the SCHEER and WHO reports is unchanged: the evidence they rely on is observational, of poor to mediocre quality and confounded by sun exposure.
- UV radiation's IARC Group 1 status is a hazard classification, not a dose-response risk assessment: it shows UV can cause cancer under some conditions, not what the risk is at regulated exposure levels. Many of the studies behind SCHEER's sunbed conclusions do not separate sunbed use from concurrent solar overexposure and include skin type I users and devices no longer permitted in Europe; the 2026 MISS cohort (Lindqvist et al.) addresses the first gap directly.

Policy recommendations

1. Update national sun-safety guidelines to focus on preventing sunburn specifically, rather than minimizing all UV exposure.
2. Keep sunbed regulation proportionate to the evidence, with firm limits for minors and exposure rules that prevent burning.
3. Include the vitamin D cost of sunscreen in public health guidance, presented as a trade-off rather than a cost-free precaution.
4. Support continued research to confirm the newest findings, including the 2026 UK Biobank preprint, before they anchor policy.

Drawn from the European Sunlight Association's full White Book, "Sunlight and Sunbeds (Natural and Artificial UV Radiation)," a fully referenced document covering cardiovascular disease, cancer, diabetes, respiratory infection, mortality, and melanoma risk. Full document and reference list available on request.

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