

Podiumsdiskussion der GD Task Force „Licht.Hautkrebs.Prävention“:

Light – instead sun protection – the way out of a dilemma

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The increase in the occurrence of skin cancer despite improved sun protection capabilities is still cause of great concern.

The scientific community and the sun protection industry has concentrated on protection from Ultraviolet (UV) sunlight, because they are regarded to be the most dangerous part of the spectra.

In this presentation you will find recent experimental results, that implicate other parts of the sun light spectrum to be involved in the unexplained rise of skin cancer.

Rather than focussing on UV-light, we made the assumption that free radical formation is the effect that is common for all wavelength in their interaction with human skin.

An experimental method for the quantitative determination of free radicals in ex vivo human skin has been developed – the action spectrum for the creation of free radicals from 280 nm - 700 nm could be achieved.

The action spectrum highlights some known biological hot spots, like erythema, vitamin D production and coincidences in UVA with carcinogenesis (- 360 nm).

However, it could be shown that half of the potential damaging total oxidative burden is created by visible light (400 nm - 700 nm).

Unexpected, the light intensity (Lux) of the visible light has a very strong influence on the number of free radicals created.

Indeed we need to protect ourselves from bright visible light, outdoor on the beach at low latitudes and indoor against spotlights.

Our results implicate - skin cancer prevention requires full sunlight protection - UVA/UVB protection only might be a lethal mistake.

