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Occupational sunlight exposure and kidney cancer risk in men

According to a new study, men employed in occupations with potential exposure to high levels of sunlight have a reduced risk of kidney cancer compared with men who were less likely to be exposed to sunlight at work. The study did not find an association between occupational sunlight exposure and kidney cancer risk in women. Published early online in *CANCER*, a peer-reviewed journal of the American Cancer Society, the study is the largest case-control study of kidney cancer to investigate the association with occupational sunlight exposure. The study, however, did not include information on non-occupational sunlight exposure and does not address directly whether sunlight exposure can help prevent kidney cancer.

Research suggests that vitamin D, which is obtained from sun exposure, some foods, and from supplements, may help prevent some cancers. Vitamin D is metabolized and most active within the kidneys. Because both the incidence of kidney cancer and the prevalence of vitamin D deficiency have increased over the past few decades, Sara Karami, PhD, of the National Cancer Institute in Rockville, MD, and her colleagues designed a study to explore whether occupational sunlight exposure is associated with kidney cancer risk.

The study included 1,097 patients with kidney cancer and 1,476 individuals without cancer from four Central and Eastern European countries. Demographic and lifetime occupational information was collected through in-person interviews and occupational sunlight exposure indices were estimated based on industry and job titles. The investigators observed a 24 percent to 38 percent reduction in kidney cancer risk with increasing occupational sunlight exposure among male participants in the study. No association between occupational sunlight exposure and kidney cancer risk was observed among females in the study.

The findings suggest that sunlight exposure may affect kidney cancer risk, although the authors have no explanation for the apparent differences in risk between men and women. They offer several hypotheses for the observed differences. Biological or behavioral differences between men and women may play a role. For example, hormonal differences may influence the body's

response to sunlight exposure, females may have a higher tendency to use sunscreen on a regular basis, and men may be prone to working outdoors while shirtless. It is also possible that the observed gender differences in risk were due to confounding by other unmeasured kidney cancer risk factors, such as recreational sunlight exposure and physical activity levels.

While this study's findings raise the possibility of a link between sunlight exposure and kidney cancer risk, "they clearly need to be replicated in other populations and in studies that use better estimates of long-term ultraviolet exposure and vitamin D intake," said Dr. Karami.

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Article: "Occupational sunlight exposure and risk of renal cell carcinoma." Sara Karami, Paolo Boffetta, Patricia Stewart, Nathaniel Rothman, Katherine L. Hunting, Mustafa Dosemeci, Sonja I. Berndt, Paul Brennan, Wong-Ho Chow, and Lee E. Moore. *CANCER*; Published Online: March 8, 2010 (DOI: 10.1002/cncr.24939).
