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Re: "Malignant melanoma among lithographers" by H Nielsen, L Henriksen, JH Olsen. *Scand J Work Environ Health* 1996;22:108--11

by [Carlton BD, Shah H](#)

Refers to the following text of the Journal: [1996;22\(2\):108-111](#)

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Re: "Malignant melanoma among lithographers" by H Nielsen, L Henriksen, JH Olsen. Scand J Work Environ Health 1996;22:108—11.

In a recent article in the *Scandinavian Journal of Work, Environment & Health* (1), Nielsen et al reported a higher incidence of malignant melanoma among lithographers and suggested that hydroquinone may be implicated in the observed increased risk.

Overall, there was a nonsignificant decrease in the relative risk for cancer (24 versus 26.2 cases expected). In this population, 5 cases of malignant melanoma were observed versus 1.5 expected. The authors have suggested that exposure to hydroquinone, which is used as developer, may be associated with the higher incidence of melanoma. The suggested link between hydroquinone and melanoma is presumed because hydroquinone is known to reduce pigmentation when applied chronically to skin.

There are, however, epidemiologic data which suggest that hydroquinone exposure does not result in melanoma and experimental data that hydroquinone may be antineoplastic toward melanoma. Chavin et al (2) and Chavin & Abramowitz (3) have shown that hydroquinone can, under certain circumstances, inhibit or destroy melanoma cells in vitro and in vivo. In a study in which mice were injected with NIH Harding Passey melanoma cells and given hydroquinone, the incidence of successful transplantation was reduced, and, although host survival was not elucidated, both the pharmacologic and the toxicologic effects of hydroquinone on melanoma cells may play significant roles (3). Of greater relevance to hydroquinone exposure in the workplace is the report of Pifer et al (4) on the mortality experience of 879 men and

women working in a hydroquinone manufacturing plant. Overall cancer mortality in the cohort was significantly decreased (33 observed versus 57.9 expected, standardized mortality ratio 57, 95% confidence interval 39—80). In the combined category of "bone, connective tissue, skin and breast" 1 tumor versus 1.8 was observed, and this tumor was not a melanoma.

Overall, we do not believe that the available data would support a link between hydroquinone exposure and an increased incidence of malignant melanoma in lithographers.

References

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Sex-ratio variation in the Bille settlement

Integrating recent data on the sex ratio of births (measured as the proportion of boys among all newborns) James (1) related fathers' exposure to dioxin to signifi-

cantly more daughters among their offspring. Mocarelli et al (2) described the sex ratio observed in Seveso for 74 total births during a period of 7 years with an excess of females (26 boys; 48 girls; sex ratio = 0.351). Dimich-Ward (3) reported on significantly more daughters for workers in the sawmill industry and presumably exposed to chlorophenate wood preservatives (19 675 infants born from 1952—1985; sex ratio 0.486). Both ratios differ