**OCCUPATION AND RELATIVE RISK OF CUTANEOUS MELANOMA: A 45-YEAR FOLLOW-UP STUDY OF 15 MILLION PEOPLE IN FIVE NORDIC COUNTRIES**

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**Background** The age-adjusted incidence of cutaneous melanoma (CM) in the Nordic countries has increased during the last 60 years. In Europe, the legislation of five out of 11 surveyed countries acknowledges CM as an occupational disease (Ulrich, et al., 2016). To our knowledge, population-based studies with a prospective design have not yet described the variation in the relative risk of CM among different occupational categories.

**Aim** 1. To describe the variation in the relative risk of CM according to occupational categories with outdoor, mixed, and indoor work, as well as socioeconomic status (SES).  2. To evaluate trends across periods.

**Methods** Historical prospective cohort study based on record linkages between census data for 15 million people and cancer registry data from 1961 to 2005 (Nordic Occupational Cancer Project, http://astra.cancer.fi/Noccoa). Standardised incidence ratios (SIR) were estimated for 53 occupational categories classified according to indoor, outdoor and mixed work and socioeconomic status.

**Results** During follow-up of 38.5 million person-years, there were 83,898 incident cases of CM. Statistically significant SIRs of CM were found among occupational categories with indoor work for male workers (1.09) and the highest socio-economic status for men (1.36) and women (1.31). Occupational categories with outdoor work for both men (0.79) and women (0.92), and the lowest socio-economic status showed lowest SIRs for both sexes (men: 0.69, women: 0.97). The SIR pattern was similar in all periods for occupational categories with outdoor, mixed and indoor work. Findings were consistent between the different Nordic countries.

**Conclusion** This historical prospective cohort study provides evidence of an increased relative risk of CM amongst occupational categories with indoor work for men, and highest SES for both sexes.

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**CANCER INCIDENCE AMONG TANKER CREWS IN A COHORT STUDY OF SWEDISH SEAFARERS**

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**Introduction** Increased rates of leukaemia have been found among tanker crews. Exposure to benzene could be a cause since many products transported on tankers contain benzene. In a cohort of seafarers we studied cancer incidence among tanker crews.

**Methods** All persons in the Swedish Registry of Seafarers 1985–2011 with registered work periods were included in the total cohort (n=75,745) and followed up for cancer incidence from 1985 or first work period to emigration, cancer or 2011. A sub-cohort of tanker crews (n=14,596 with at least one month on tankers) were used for this study. Standardised incidence ratio (SIR) were analysed with 95% confidence intervals (CI) in relation to the Swedish population.

**Result** Total cancer risk for tanker crews was SIR 1.07 (cases n=1006, 95% CI: 1.01 to 1.14). The risk for lung cancer and leukaemia was increased, SIR 1.86 (n=127, 95% CI: 1.54 to 2.19) and SIR 1.40 (n=43, 95% CI: 1.01 to 1.82), respectively. The risk for lymphoma and multiple myeloma was not increased. Most (90%) of the crew members were men. There was a trend to normalised cancer incidence with time, analysing first employment before 1985, 1985 to 1991 and after 1991, significant for lung cancer (p=0.03). In the total cohort the risk for lung cancer was SIR 1.52 (95% CI 1.37–1.66) and for leukaemia SIR 0.94 (95% CI 0.78–1.11).

**Discussion** Seafarers working on tankers had an increased risk for leukaemia, which other seafarers did not have. Measurements on product tankers have shown that the deck crew could be exposed to rather high concentrations of benzene, especially during loading, unloading and tank cleaning operations. During the last decades, benzene exposure on tankers has presumably decreased (lower benzene content in gasoline, modern shipping with closed loading and unloading of tankers), possibly also resulting in decreased leukaemia incidence.