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/NOCCA). 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 385 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.

Cancer incidence among tanker crews in a cohort study of Swedish seafarers

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. 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.
cardiac and circulatory disease were the next common at 8.7% and 7.9% respectively.

The eventual outcomes at two years were 88% of employees having returned to work, 8% were retired by their employer on grounds of ill health, 1.6% retired on age grounds, 0.8% were deceased and 0.8% remained on sick leave.

74% of cases were found fit for work at time of review. Of these 40% had already returned to work in the interval between their referral to the CMO and their first appointment.

Discussion The final outcome in a large majority of case referrals was to resume work, with only a small proportion retiring on ill-health grounds. The results suggest, with 40% of employees resuming work between the time of referral and their first appointment, that referral to the CMO may have prompted a return to work. The principal reasons for absence remain mental health disorders and musculoskeletal disease.

1767 LATE BREAKING ABSTRACTS

Aim of special session To accommodate late abstracts on subjects of relevance to the Congress themes.

1767a PEROSH - PARTNERSHIP FOR EUROPEAN RESEARCH IN OCCUPATIONAL SAFETY AND HEALTH

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In an ever-changing world of work, the promotion of the health and safety of the present and future workforce is crucial for guaranteeing a healthier, longer and more productive working life. In order to ensure the quality of work and employment in Europe, a well-coordinated approach to occupational safety and health research rising above regional and national boundaries is needed.

Therefore, the PEROSH partners aim to coordinate and cooperate on European research and development efforts in occupational safety and health. The network comprises 13 Occupational Safety and Health (OSH) institutes, all playing key roles in their national affiliations to governments/authorities and health and accident insurance systems.

Joint collaboration within PEROSH on fields of common interest is one of the key aspects of the network. It enables to create synergies and to efficiently use resources and knowledge from different countries to improve the effect of OSH research. Currently, the PEROSH members are involved in 8 joint research projects.

PEROSH partners are strongly committed to maintain a pro-active dialogue with the EU and other international and national OSH-partners to explore paths to optimize the added value to Europe of the research, dissemination and funding efforts in this field.

By doing so, PEROSH aims to improve the quality of research and increase the EU-wide dissemination of results. The uniqueness and strength of PEROSH lies in the comprehensive interdisciplinary collaboration between leading OSH research institutes in Europe.

PEROSH's advocates more attention to OSH in EU research programs and collaborates together in its own funded joint research programs of its members.

1767b FOLLOW-UP MORTALITY STUDY OF CERTAIN U.S. CRAFT RAILROAD WORKERS, AGES 18-64

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In a history of U.S. railroad workers have exposures to diesel exhaust, welding fumes, herbicides, ballast (silica) and asbestos dust, creosote, solvents and fuels, heavy equipment vibration, and weather extremes. We hypothesize that these workers are at elevated mortality risk for chronic pulmonary and kidney disease, neurological ailments, as well as cancers of the respiratory and digestive tracts, prostate cancer, and lymphatic cancers.

Methods The names of craft union railroad workers were submitted to the U.S. National Death Index for the years 1979 to 2014. When a match was found for name, gender, social security number, and date of birth, these persons were reported and their underlying cause of death was organized into groups according to their ICD code. Using union membership data from 1996—the midpoint of the follow-up period—we calculated standardized mortality ratios (SMRs) and 95% confidence intervals for 11,190 deceased males, aged 18 to 64.

Results Compared to the U.S. males, these unionized railroad workers have an all cause SMR of 1.63. Parkinson's and Alzheimer's diseases show elevated SMRs of 3.09 and 7.15, respectively; hypertensive and atherosclerotic heart disease show elevated SMRs of 2.11; chronic respiratory disease (including COPD) has a SMR of 1.89 (95% CI: 1.66 to 2.13); kidney disease has a SMR of 2.50 (95% CI: 1.99 to 3.01); and transportation accidental deaths have a SMR of 3.27 (95% CI: 3.08 to 3.46). All cancers show a SMR of 1.79. Stomach, bladder, colorectal cancers and leukemia have an approximate risk of 2.0; liver cancer has a SMR of 2.36 (95% CI: 1.95 to 2.78); pancreatic cancer produced a SMR of 2.17 (95% CI: 1.84 to 2.50); lung cancer has a SMR of 1.82 (95% CI: 1.71 to 1.94); prostate cancer produced a SMR of 1.93 (95% CI: 1.52 to 2.34); and bladder cancer has a SMR of 1.95 (95% CI: 1.35 to 2.55).

Discussion With an SMR of 3.27, the risk among these unionized rail workers from transportation accidents is consistent with daily work around heavy rolling equipment. Elevated risks for kidney, heart, neurological diseases, and COPD are consistent with dust or hydrocarbon exposures from ballast and other hazardous exposures. Our findings suggest that the increased SMR for all neoplasms is likely based on elevated risks for cancers of the bladder, pancreas, prostate, liver, and lung.