

**Introduction** Occupational exposure to wood dust is associated with increased risk of adenocarcinoma and probably also squamous cell sinonasal cancer. There is, however, still limited knowledge about the exposure-response relation and possible threshold levels.

**Objectives** To analyze the exposure-response relation between quantitative measures of wood dust exposure and risk of sinonasal cancer.

**Methods** A cohort study was conducted of the entire Danish working population 1979–2015 (n=5,421,248) with annual information on occupation since 1977. An inception population of workers 20 years or younger in 1977 was also established (n=3,012,247). Annual wood dust levels were assigned to each participant with a quantitative job exposure matrix (JEM) modelled from 12,653 personal measurements. A total of 2,576 incident cases of sinonasal cancer were identified in the National Patient Register during follow up. Incidence rate ratios (IRR) were analyzed in discrete time hazard models adjusted for gender, age, calendar year, education and JEM estimates of smoking probability.

**Results** During 36 years of follow up we identified 309 wood dust exposed cases. The adjusted IRR (95%CI) was 1.83 (1.56–2.15) for the highest cumulative exposure tertile (>11.2 mg/m<sup>3</sup>-years), 1.66 (1.41–1.97) for the longest duration of exposure (>5 years), and 1.64 (1.38–1.95) for the highest mean exposure tertile (>2.06 mg/m<sup>3</sup>) compared with no exposure. Trend tests were statistically significant only for mean exposure (P>0.001). No increased risk of sinonasal cancer was observed in the inception cohort that, however, only included 28 wood dust exposed cases.

**Conclusion** We found increased risk of sinonasal cancer associated with high-level wood dust exposure, but with no consistent trends. Future analyses of this material should separate adenocarcinomas from other histological subtypes.

## RF-287 THE OCCUPATIONAL ENVIRONMENT AND OVARIAN CANCER RISK

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**Introduction** High-quality epidemiological evidence on the relationship between the occupational environment and ovarian cancer risk is limited. Most studies had very few cases, did not adjust for important confounders, and lacked information on specific workplace exposures.

**Objectives** To investigate the relationship between occupation, specific workplace exposures, and ovarian cancer risk.

**Methods** In a population-based case-control study conducted in Montreal, Canada (2011–2016), lifetime occupational histories were collected for 492 cases and 897 controls. For each job held by a participant, occupational and industrial classification codes were coded by an industrial hygienist. To identify specific workplace exposures, job codes were linked to the Canadian job-exposure matrix. Twenty-three agents with relatively high prevalence were selected. Occupations were examined by comparing participants ever employed in a given occupation for at least ten years vs. never employed in that occupation. For specific exposures, ever exposure, exposure duration, and cumulative exposure to selected agents were analyzed. Odds ratios (OR) and 95% confidence intervals (CI)

for associations with ovarian cancer risk were estimated using logistic regression.

**Results** Elevated ORs were observed for accountants (OR=2.03, 95% CI: 1.09–3.76); hairdressers, barbers, and beauticians (OR=3.22, 95% CI: 1.25–8.28); sewers and embroiderers (OR=1.89, 95% CI: 0.78–4.59); saleswomen, shop assistants, and demonstrators (OR=1.42, 95% CI: 0.70–2.89); and occupations in retail trade (OR=1.59, 95% CI: 1.05–2.39). For specific exposures, increased risks were suggested for cosmetic talc, ammonia, hydrogen peroxide, hair dust, propellant gases, fluorocarbons, ethanol, cellulose, and polyester fibres. Hairdressers, barbers, and beauticians were the most frequent occupation exposed to six out of nine specific workplace exposures among participants.

**Conclusion** Study results suggest that certain occupations may be associated with increased ovarian cancer risks, but it is difficult to determine specific exposures that may contribute to the increased risks. Future larger studies with expert assessments of specific occupational exposures may better characterize co-exposures.

## RF-291 LONG WORKING HOURS AND PROSTATE CANCER RISK: RESULTS FROM A POPULATION-BASED CASE-CONTROL STUDY

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**Introduction** Recent evidence suggests that long work hours have a detrimental effect on health, possibly through unhealthy lifestyle behaviours, stress, diet and sleep disturbances. Hardly any research has evaluated whether long work hours relate to cancer incidence.

**Objectives** To investigate the association between long work hours and prostate cancer risk, overall and by cancer aggressiveness.

**Methods** We used data from the Prostate Cancer & Environment Study, a case-control study conducted in Montreal, Canada, in 2005–2012. In all, 1,931 incident cases, aged < 76, were ascertained across hospitals in 2005–2009 and 1,994 age-matched ( $\pm$  5 years) controls were randomly selected from the electoral list. Detailed descriptions of each job held for  $\geq$  2 years, including working hours, were elicited through in-person interviews. Long work hours were defined as working time exceeding the Canadian standard of 40 hours/week. Unconditional logistic regression was used to derive odds ratio (ORs) and 95% confidence intervals (CIs) for the association between long work hours and prostate cancer risk, adjusted for age, education and ancestry. We also investigated whether associations varied according to a history of work at night.

**Results** Overall, 2,477 subjects (64.6%) reported ever working > 40 hours/week. Occupations entailing long hours were most often related to management, administration and sales. Ever exposure to long work hours was associated with an OR of prostate cancer of 1.21 (95%CI 1.06–1.39), while it was of 1.50 (95%CI 1.23–1.83) for a cumulative duration of 11–23 years of long work hours. The ORs for aggressive cancer among men who engaged in long work hours and who had a history of work at night were 1.40 (95%CI 0.85–2.30), and 1.20 (95%CI 0.91–1.57) among those without such a history.

**Conclusion** Findings suggest that long work hours, especially among men with a history of work at night, may influence prostate cancer risk.

**RF-327 REINCORPORATION TO LABOUR MARKET OF A SAMPLE OF CANCER SURVIVORS IN CATALONIA (SPAIN) BETWEEN 2012 AND 2015. A COMPARISON BETWEEN WOMEN AND MEN.**

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**Introduction** Incidence and survival rates of cancer have increased in the last decade. The number of people diagnosed with cancer in the workplace are expected to increase steadily. **Objective** To describe the employment status of a sample of salaried workers who suffered a previous sickness absence (SA) due to cancer, up to 4 years after diagnosis.

**Methods** Cohort study based on a sample of workers (N=145,614), affiliated with the Spanish Social Security System, residents in Catalonia, with at least one SA episode due to a cancer between 2012 and 2015 (N=516; average age 50 in men and 47 in women). Individuals were followed up from the end of the SA episode, and future employment status was assessed in five outcomes: early retirement before age 65, partial retirement, permanent disability, unemployment with subsidy and employment. Last available working outcome was assigned to each individual and Chi-square test was used to assess differences between sexes.

**Results** For both, men (N=225) and women (N=291), employment was the most frequent outcome at the end of the period (73.5% and 82.7%) followed by permanent disability (10% and 7.6%). In men, early retirement was found to be higher than in women (7.8% vs 3.8%). Women experienced a very low proportion of partial retirement (1.4%) compared to men (4.35%). All differences between sexes were found to be statistically significant ( $p < 0.05$ ).

**Conclusion** Preliminary results show that most of the people who survive a cancer go back to employment. However, there is a high proportion of people who get a permanent disability, retire or become unemployed, with differences between sexes. Characterizing reincorporation to labour market of people who survive a cancer allows us to determine how the disease affects survivors and society in order to understand where public policy can act.

## Disease Surveillance

**RF-102 WORK-RELATED HEAD INJURY AND INDUSTRY SECTORS IN FINLAND – CAUSES AND CIRCUMSTANCES**

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**Objectives** Despite of continuous development of occupational safety, there is still an excess of work-related head injuries. Prevention of head injuries can be promoted by evaluating risks and pathways of events preceding injuries.

**Methods** In Finland, more than 90% of employees are insured with inclusive mandatory coverage. Data on occupational head injuries in 2010–2017 was obtained from a workers' compensation insurer database. European Statistics on Accidents at Work (ESAW) variables represented the conditions of the accidents and characteristics of the injury. Risk factors, contributing events, and injury mechanisms in 20 industry sectors, based on the Statistical classification of economic activities in the European community (NACE) were analysed.

**Results** Among the 32,898 cases, the most common area affected was eyes (49.6%), followed by brain and cranial nerves and vessels (21.0%). The highest incidence of head injuries was in construction (15.7 per 1,000 insurance years). Construction, manufacturing, and human health and social work activities stood out by their distinctive ESAW category counts. 'Working with hand-held tools' (odds ratio [OR] 2.99, 95% confidence interval [CI] 2.81–3.18) in construction and 'operating machine' (OR 3.58, 95% CI 3.22–3.98) and 'working with hand-held tools' (2.52, 2.37–2.67) in manufacturing predicted head injury. There were over tenfold increased risk related to parameters of violence and threat in health and social work activities.

**Conclusions** Risks and pathways preceding head injuries varied considerably in the 20 industry sectors. The highest head injury rates were in construction and manufacturing. Violence emerged as a major risk factor in human health and social work activities.

**RF-203 OVERLAPPING VULNERABILITIES IN WORKERS OF THE ELECTRONICS RECYCLING INDUSTRY FORMAL SECTOR**

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**Objective** Vulnerabilities in workers performing electronics recycling (e-recycling) in the informal sector worldwide have been well documented. However, the growing electronics waste industry formal sector still brings many challenges to protect the health of workers and their environment, even in high income countries. This presentation aims to draw attention to the overlooked vulnerabilities faced by the workers of the e-recycling industry in high-income countries and to discuss the potential impact on health inequalities experienced by these workers.

**Methods** We performed a review of the peer-reviewed and gray literature in the e-recycling industry.

**Results** Workers in the e-recycling formal sector often come from sectors of society known to be more susceptible to exposures and health effects, such as young workers, immigrants or ethnic minorities, prisoners, and workers with mental or physical disabilities.

**Discussion** This phenomenon in high-income countries is not restricted to the e-recycling industry alone. It is rather a symptom of more generalized macro socio-economical phenomena of challenges in line with the new gig economy and changes in the global market, and their consequences on the solid waste sector. Continued efforts to strengthen the inclusion of social aspects of health into the complex interaction of the structural vulnerabilities met by e-recycling workers will be essential to anticipate and prevent health issues in this