Aims Demonstrate the different aspects of ear injuries that have been considered as accidents at work.

Methods Retrospective cross-sectional study of patients with work-related injuries who consulted the Occupational Medicine Department at the Charles Nicolle Hospital over a six-year period from January 2016 to November 2022.

Results We have collected eleven cases of patients with atrial trauma. The average age was 41±10 years. They were all male with a mean age of 41±10 years [28–58]. The patients were employed as police officers (n=6), workers (n=3), doctor (n=1), and welder(n=1). The patients were victims of a work-related accident of the following types bomb explosion (n=5), a fall from one’s own height (n=3), exposure to excessive noise (n=2), exposure to gunfire (n=1), a commuting accident (n=1), and a fall of a metal object in the temporal region of the cranium (n=1), which resulted in perforation of the eardrum in five patients. Hearing deficits were noted in all patients sensorineural hearing loss (n=7), mixed hearing loss (n=4), conductive hearing loss (n=1), and cophosis (n=2). The associated symptoms were hearing loss (n=7), tinnitus (n=4), otalgia (n=6), and ringing in the ears (n=3). The calculated average hearing loss was 31±17 dB [7.5–60] for the left ear and 36±14 dB [12–60] for the right ear. All cases of acoustic trauma were considered to be work-related. Six patients received compensation and the average of permanent partial disability rate was 20±7% [12–30].

Conclusion According to our study, ear injuries can even lead to a permanent loss of hearing. A re-evaluation of medical fitness for work is sometimes necessary.

Carcinogens/Cancer

**P-195** WORK-RELATED FACTORS AND BREAST CANCER SURVIVAL IN SWISS WORKING WOMEN (1990–2014)

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Introduction Occupation and socio-economic status may both contribute to differences in risk and stage at diagnosis of breast cancer. We aimed at determining whether occupation, skill level required for the occupation and the socio-professional category affect the breast cancer survival (BCS) up to 10 years after diagnosis.

Material and Methods We used cancer registry records to identify women diagnosed with primary invasive breast cancer between 1990 and 2014 in western Switzerland and matched them with the Swiss National Cohort. The effect of work-related variables on BCS was assessed using non-parametric and parametric net survival methods.

Results Study sample included 8,678 women. In the non-parametric analysis, we observed a statistically significant effect of all work-related variables on BCS. Women in elementary occupations, with low skill level, and in paid employment not classified elsewhere, had the lowest BCS, while professionals, those with the highest skill level and belonging to top management and independent profession category had the highest BCS. The parametric analysis confirmed this pattern. Considering elementary occupations as reference, all occupations but Craft and related trades had a hazard ratio (HR) below 1. Among professionals, technicians and associate professionals, and clerks, the protective effect of occupation was statistically significant and remained unchanged after adjustment for age, calendar period, registry, nationality and histological type. After adjustment for tumor stage, the HRs increased only slightly, though turned non-significant. The same effect was observed in top management and independent professionals and supervisors/low level management and skilled laborers, compared to unskilled employees.

Conclusion These results suggest that work-related factors may affect BCS. As this study was conducted using a relatively small sample and limited set of covariates, further larger studies are required for a more detailed analyses of at risk occupations and working conditions and assessing the potential interaction between work-related variables and tumor stage.

Radiation

**P-207** A SURVEY OF RADIATION EXPOSURE AMONG NON-DESTRUCTIVE TESTING TECHNICIANS IN TAIWAN

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Introduction Five workers engaged in non-destructive testing (NDT) were diagnosed with leukemia and visited the Occupational Injury and Disease Prevention Center for the help of assessment for occupational disease in Taiwan during 2018 and 2019. NDT belongs to industrial radiography in the classification of radiation work, and the purpose of this study is to investigate the ionizing radiation exposure among workers in the industry.

Method Using the National Radiation Workers Dose Database of the Atomic Energy Commission of Taiwan Executive Yuan from 2000 to 2019 to analyze the values of the ionizing radiation badges among the industrial radiography group and other groups exposed to ionizing radiation over these years. The cumulative personal measurement was also analyzed using the characteristics of the longitudinal databases.

Results During this period, workers with dose values greater than the lowest measurable value accounted for 13.29% of the total population potentially exposed to radiation at work, compared to 26.57% of workers in industrial radiography. We also found that the mean annual median dose value for all workers possibly exposes to ionizing radiation was 0.43 mSv and in industrial radiography it was 1.21 mSv. Since 2005, most of the practitioners in the industrial radiography industry have an annual cumulative exposure of more than 20mSv. Moreover, the average personal 20-year cumulative measurement is 7.82 mSv for all ionizing radiation workers and 29.26 mSv among workers engaged in industrial radiography.