trustworthiness of the study was examined using Lincoln and Guba (1985) principles.
Results Seventeen health care workers participated in our study. There are five main themes generated, including (1) Emotional loading: shock and collapse, fear of being seroconverted to infectious diseases, worry about family members, and damage of the professional image. (2) Disappointment on the working environment: lack of manpower support, feel isolated and helpless. (3) Disapproving eyes: invasion of privacy, fear of being labelled. (4) Impact on life: feelings of life-threatening, prophylaxis of physical discomfort, impact on professional ambitions. (5) Self-adjustment: efforts to recover from the event.
Conclusions A needlestick injury not only causes risk of infection, but has great psychosocial impact to the victims. Intervention should cover psychosocial support to the health care workers in addition to prophylaxis of infection.

0238 LUNG CANCER AND EXPOSURE TO BENZENE, TOLUENE AND XYLENE: RESULTS FROM TWO CASE-CONTROL STUDIES IN MONTREAL

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10.1136/oemed-2014-102362.283

Objectives We aimed to evaluate the risks of lung cancer associated with exposure to benzene, to toluene and to xylene.
Method Two population-based case-control studies conducted in Montreal included 1896 lung cancer cases and 1908 controls. Study I was conducted in 1980–1986, and study II in 1995–2001. Occupational exposures were assessed using a combination of subject-reported job history and expert assessment. Participants provided information on sociodemographic characteristics and smoking history. Using logistic regression, we evaluated the risk of lung cancer due to the exposure to each agent.
Results Lifetime exposure prevalence ranged from 12% for xylene to 20% for benzene in study I, and 11% for xylene to 15% for benzene in study II. In both studies, 25% of the participants were exposed to benzene, toluene or xylene. Pooling studies, the odds ratios and 95% confidence interval (OR) for ever-exposure to any of the evaluated agents was 1.2 (1.0–1.4). In analyses including all subjects but only one agent at a time in the models, ORs were around 1.2–1.3 for each agent. When we excluded subjects ever exposed to two or three of these agents, none of the agents showed excess risk. Being ever exposed to all three agents was associated with lung cancer (OR: 1.3; 1.0–1.6). Attempts to estimate ORs for each agent while controlling for the two others resulted in co-linearity.
Conclusions We found no clear indications of an association between lung cancer and exposure to toluene or xylene, but there was some evidence for an association with benzene.

0240 ACUTE EFFECTS OF OCCUPATIONAL NOISE EXPOSURE ON 24-HOUR AMBULATORY CARDIAC PARAMETERS IN WORKERS

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10.1136/oemed-2014-102362.284

Objectives Exposure to noise has been associated with cardiovascular disease, but the mechanism related to cardiac activity is unknown. This repeated-measure study aimed to investigate effects of occupational noise exposure on 24-hour ambulatory cardiac parameters among aviation industry workers.
Method We recruited 75 volunteers in an aircraft-manufacturing industrial cohort in 2009. Individual noise exposure and personal cardiac parameters, including left ventricular contractility (LVC) and stroke volume (SV), were measured simultaneously over 24 h on working and non-working days. Linear mixed-effects regressions were used to determine transient and sustained effects on ambulatory LVC and SV among high-exposure (≥ 80 A-weighted decibel [dBA]), low-exposure (< 80 dBA) and office workers by controlling for potential confounders.
Results Per 1-dBA increase was significantly associated with the transient effects of -1.50 (95% confidence interval [CI]: -2.166, -1.024) ml/beat in SV and -1.75 (-2.95, -1.03) L/sec in LVC at work on working day only among high-exposure workers. Such decreasing effects on SV (-1.18 [-2.86, -1.09] ml/beat) and LVC (-2.22, [-4.43, -1.11] L/sec) still persisted in the 30-min time-lagged occupational noise exposure. We also found that 1-dBA increment in 24-hour average noise exposure was significantly associated with a sustained decrease of -1.19 (-1.25, -1.13) ml/beat in SV on working day among high-exposure workers. No significant effects were found among other groups on working day and among all groups on non-working day.
Conclusions Occupational noise exposure may have acute effects on 24-hour ambulatory cardiac parameters among workers. Such effects may be associated with the development of cardiovascular disease.

0241 ASSOCIATION BETWEEN THE OXIDATIVE STRESS AND RENAL FUNCTION WITH EXPOSURE TO TCE IN UNDERGROUND WATER

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10.1136/oemed-2014-102362.285

Objectives Our study is to assess association between the oxidative stress and renal function with exposure to TCE in underground water.
Method 579 questionnaires and 180 urine specimens were voluntarily taken from 1165 residents. Information of exposure to TCE in underground water was interviewed questionnaire and urinary trichloroacetic acid (TCA) levels by gas chromatography (GC)-FID. Urinary malondialdehyde (MDA) and N-Acetyl-β-D--Glucosaminidase (NAG) were taken as indicators of oxidative stress and renal function to show health effects with exposure to TCE in underground water.
Results Consumption of underground water was positively correlated with urinary TCA levels (r = 0.554). Urinary TCA levels was positively associated with NAG levels (r = 0.180), but it negatively associated with MDA levels (r = -0.193). Urinary TCA levels classified into three groups was dose-dependent positively with NAG levels, indicating exposure to TCE in underground water is results in the abnormal renal function. However, TCA levels were dose-dependent negatively with MDA levels which explained by that many factors of life-style may affect to urinary MDA levels.
Conclusions Using TCA in urine is suitably used as a biological indicator of exposure to TCE in underground water, we found a dose-dependent positively with NAG levels.