

Methods A short answer questionnaire addressing these topics was completed by 131 WOTP students (38 girls and 93 boys).

Results The three most popular work environments were garages (tire installer, 17 boys), retail stores (stock handler, 21 boys, 9 girls) and restaurants (fast-food counter attendant and cook's helper, 17 boys, 6 girls). More than 40% of the girls are in typically female occupations: hair salon assistant (7), assistant childcare educator (5), grooming assistant (3) and recreation assistant (1). When asked if they perceived risks in their internships, 50% of girls and 80% of boys say yes. All girls say they consider OHS important or very important, while 13% of boys are indifferent or consider it not very important. Concerning the OHS training received at the workplace, 38% of the girls and 50% of the boys stated that they had received some.

Conclusion These preliminary results suggest that girls and boys are not exposed to the same environments nor the same risks. The situation seems inequitable in terms of prevention and suboptimal for all, since a large proportion reported not having an OHS training. These shortcomings should be considered in the development of new tools.

RF-322 RATES OF RETURN TO WORK AND WORK ABILITY FOLLOWING KNEE REPLACEMENT

¹Elena Zaballa, Georgia Ntani, E Clare Harris, Nigel K Arden, Cyrus Cooper, Karen Walker-Bone. ¹University of Southampton, United Kingdom

10.1136/OEM-2021-EPI.393

Introduction There is limited evidence on the ability to sustain employment following knee replacement.

Objective To describe occupational status before and after unicompartmental (UKR) and total knee replacement (TKR) and to explore work ability after both types of knee arthroplasty.

Methods This study was set within the longitudinal Clinical Outcomes in Arthroplasty study. Eligible participants were those who were aged 18–64 years at the time of their primary arthroplasty and had at least 5 years' duration follow-up since. All eligible participants were mailed a questionnaire which enquired about: pre- and post-operative occupations and occupational exposures; time to reach best function; and leisure-time physical activities performed post-operation. We used Cox regression to estimate crude and adjusted hazard ratios with 95% confidence intervals to explore the role of work factors in determining post-operative work ability (CI).

Results 251 useable responses were received (61% response) amongst whom 158 (63%) returned to any work post-operatively. Most of these, 146 (92%) had been working pre-operatively. Detailed occupational exposure information was available for 145 (94 UKRs, 51 TKRs) of the 158 who RTW. The mean follow-up post-operation was 6.4 years (SD±1). Adjusted models showed that workers were at increased risk of leaving their job post-operation if an average working day involved: lifting/carrying ≥10 kg (HR: 4.57 95%CI 1.52,13.79) or climbing 30 flights of stairs/day (HR:3.52 95%CI 1.29,9.59), as compared with workers not doing these activities. Mutually adjusted models showed that it was the lifting/carrying weights in excess of 10 kg that was most important (HR:3.6 95%CI 1.1,11.3).

Conclusion Many people effectively return to work post knee-replacement. However, job retention is poorer in occupations that entail lifting weights and climbing flights of stairs. Subject to replication, these findings could imply a particular role for post-UKR/TKR rehabilitation amongst people needing to RTW in physically-demanding jobs.

RF-326 DOES PARTICIPATION IN MODIFIED RETURN TO WORK DIFFER FOR IMMIGRANT COMPARED TO CANADIAN-BORN WORKERS IN BRITISH COLUMBIA, CANADA?

Sonja Senthanaar, ¹Mieke Koehoorn, Lillian Tamburic, Stephanie Premji, Ute Bültmann, Chris McLeod. ¹University of British Columbia, Canada

10.1136/OEM-2021-EPI.394

Introduction The longer workers are off work, the less likely they are to successfully return to work. Modified return-to-work (MRTW) provides earlier work reintegration after an injury with the goal of full recovery and shorter work disability durations.

Objective This study examined differences in MRTW participation for immigrant compared to Canadian-born workers with a work-related injury in British Columbia.

Methods Workers' compensation claims data linked with immigration records were used to identify immigrant (economic, family or refugees/other classifications) and Canadian-born workers with an accepted short-term disability claim between 2009–2015 for acute (fracture and concussion) and chronic injuries (back strain and connective tissue). Injury cohorts were restricted to 30 days on claim for a common disability window to measure MRTW participation. The outcome of MRTW was measured as never offered MRTW or an offer of MRTW within the first 30 days on benefits. Individuals with an offer beyond 30 days were excluded.

Results In adjusted logistic regression models, immigrant classification was associated with a decreased odds ratio (OR) of receiving an offer of MRTW within 30 days across injury cohorts. For example, for workers with back strain injuries: OR=0.97 [95%CI 0.88, 1.07] for economic immigrants, OR=0.72 [95%CI 0.66, 0.79] for family class immigrants, and OR=0.74 [95% CI 0.64, 0.86] for refugee/other classifications. Similarly, for workers with a fracture injury: OR=0.94 [95%CI 0.72, 1.22] for economic immigrants, OR=0.84 [95%CI 0.64, 1.11] for family class immigrants, and OR=0.42 [95%CI 0.24, 0.76] for refugee/other classifications.

Conclusion Understanding why immigrant workers are less likely to be offered MRTW compared to Canadian-born workers for the same injuries is worthy of further investigation, and in particular for workers who arrived to Canada as refugees. A focus on increasing earlier provision of MRTW for longer term claims has the potential to reduce work disability duration among immigrant workers.

RF-298 OCCUPATIONAL RISK OF SALMONELLOSIS AND CAMPYLOBACTERIOSIS: A NATIONWIDE POPULATION-BASED REGISTRY STUDY

¹Janneke Duijster, Lapo Mughini-Gras, Eelco Franz, Jacques Neefjes. ¹National Institute for Public Health and the Environment (RIVM), Netherlands

10.1136/OEM-2021-EPI.395

Introduction Occupational exposure to animals and food of animal origin is a poorly characterized risk factor for salmonellosis and campylobacteriosis, the main causes of bacterial gastroenteritis in the Western world.

Objectives We performed a population-based registry study in The Netherlands to assess whether differences exist in the incidence of reported salmonellosis and campylobacteriosis cases among occupational groups, and whether these differences are reflected in the magnitude of exposure to these pathogens using serological data.

Methods Person-level occupational data for all Dutch residents during 1999–2016 were linked to lab-confirmed salmonellosis and campylobacteriosis data and to serological data from a national sero-survey. Standardized incidence ratios (SIRs) for salmonellosis and campylobacteriosis among occupational sectors and specific high-risk occupations were calculated based on the total employed population. Moreover, Salmonella and Campylobacter sero-incidence rates were compared among sectors and high-risk occupations.

Results Occupational exposure to live animals or manure and working in the sale of animal-derived food products were associated with significantly increased risks of salmonellosis (SIR 1.55 to 1.82) and campylobacteriosis (SIR 1.36 to 1.65). Moreover, incidences were significantly higher in specific industrial sectors, as well as healthcare and social work sectors. Mean sero-incidence rates ranged from 1.28 to 2.30 infections/person-year for Campylobacter, and 0.36 to 0.99 for Salmonella; with only slightly higher rates for people in high-risk occupations.

Conclusion Significant differences in reported salmonellosis and campylobacteriosis incidence exist among occupational sectors, with the highest incidence in those persons occupationally exposed to live animals. These differences are only partially reflected in the serology.

RF-149 MUSIC PROFESSORS: AMBASSADORS FOR THE PREVENTION OF HEARING LOSS IN MUSICIANS

¹Pierangela Simões, Débora Lüders. ¹Universidade Tuiuti do Paraná, Brazil

10.1136/OEM-2021-EPI.396

Introduction Several studies document the occurrence of hearing problems in musicians due to the constant exposure of loud sounds during activities such as group rehearsals, music performances and individual practices. Most of them reveal that many musicians are unaware of the risks faced in making music and are resistant to preventive actions. However, it seems reasonable to reverse this context based on the development of preventive actions during the graduation time of this public.

Objectives To suggest a protocol of educational actions regarding hearing health with professors from higher education institutions in music.

Methods The elaboration of the protocol of educational actions in hearing health was based on active learning and problematizing methodologies, to happen through activities developed in the academic environment.

Results The protocol was developed to be applied in six modules, with of 1 h 30 min each, and contemplates the following topics (1) notions of anatomy-physiology of hearing, effects of high sound intensity, control measures and means of prevention of hearing loss; (2) acoustic characteristics of the

work environment and workload in practical music classes and/or supervising internships (3) workshops towards the use of sound pressure level measurement apps and hearing screening apps; (4) composition and recording of jingles and podcasts related to the risks of exposure to high intensity music to play for music students.

Conclusion The development of the activities planned in the protocol can lead professors to incorporate the concepts and attitudes related to hearing health, to act as promotion agents to positively influence new generations of musicians with regard to that matter. The results must be continuously evaluated to identify the weaknesses and potential of the protocol.

Symposia

Symposia

S-55 NOVEL MECHANISMS UNDERLYING THE CARCINOGENICITY OF NIGHT SHIFT WORK

¹Parveen Bhatti. ¹BC Cancer, Canada

10.1136/OEM-2021-EPI.397

Objectives Understanding the mechanisms by which an exposure causes cancer can be critical to establishing causality and to developing successful prevention/intervention strategies. Multiple mechanisms underlying the carcinogenicity of night shift work have been proposed, including several novel ones in recent years, though specific mechanistic links remain uncertain.

Methods Novel mechanisms for the carcinogenicity of night shift work will be reviewed. In the context of these mechanisms, the methodologic limitations that continue to plague human mechanistic studies of night shift work will also be discussed.

Results Multiple animal studies and some human mechanistic studies have pointed to suppressed DNA damage repair, epigenetic impacts and gut dysbiosis as novel mechanisms by which night shift work may cause cancer. Human mechanistic studies continue to suffer from multiple limitations such as small sample sizes, poorly defined shift schedules, inappropriate timing of biospecimen collection relative to conduct of night shift work and inadequate consideration of diurnal variation in biomarker measures.

Conclusions While there is compelling evidence for multiple novel mechanisms underlying the potential carcinogenicity of night shift work, additional high quality human mechanistic studies are needed to establish the relevance of these mechanisms.

S-58 MIXED EXPOSURES TO CLEANING AND DISINFECTING CHEMICALS IN HEALTHCARE OCCUPATIONS

¹Abbas Virji, Ryan LeBouf, Su Feng-Chiao, Xiaoming Liang, Marcia Stanton, Paul Henneberger, Aleksandr Stefaniak. ¹National Institute for Occupational Safety and Health (NIOSH), United States

10.1136/OEM-2021-EPI.398

Introduction Certain cleaning and disinfecting products are used extensively in healthcare and associated with asthma and