be invited to participate. The data will be collected on a regular basis over a period of 5 months. Besides demographics, exposure measurements and health related data will be collected. First, a pilot will be kicked off in a limited sample of occupational physicians, testing the feasibility of the program. The final goal of the project is to register in a comprehensive but easy way the exposure to dangerous chemicals in order to improve preventive measures, to ensure workers' health and to develop a national surveillance policy.

Oral Presentation

Specific Occupations

0265 RESPIRATOR FIT AND FACE SIZES OF SOUTH AFRICAN MEDICAL LABORATORY WORKERS: A FALSE SENSE OF PROTECTION

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Introduction Medical laboratory workers (MLWs) are exposed hazardous biological agents; some of which are airborne such as tuberculosis. Respirators despite being a recommended last resort are often the only means of control of exposure to tuberculosis.

Aims the study assessed the adequacy of respirator fit of MLWs and investigated determinants of fit.

Methods 562 medical laboratory workers using respirators underwent quantitative respirator fit testing using the Porta-count fit testing machine and their currently supplied respirator. Four facial characteristics were measured on these users by a trained occupational hygienist using callipers and a tape measure. The effect of the independent variables including face dimensions, ethnicity, smoking, respirator make and size, and age group was explored using multiple logistic regressions stratified by sex.

Results A large proportion (78%) of workers failed the fit test. Respirator fit was found to be significantly associated with face length (OR1.04, 95% CI 1.00–1.09), nasal root breadth (OR1.16, 95% CI 1.06–1.28), and respirator shape (cup) (OR0.56, 95% CI 0.39–0.78). Gender was found to be an effect modifier.

Discussion Fit testing and supply of different respirator sizes and types is necessary to protect MLW from airborne hazards. This is particularly important in high incidence tuberculosis settings. Affordable strategies for respirator fit testing and supply of appropriate sizes and types need to be identified for resource-constrained settings.

Poster Presentation

Intervention Studies

0266 DESIGNING OF NEW LOW COST SIMULATOR FOR TRAINING ERGONOMIC LAPAROSCOPIC SKILLS

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Medical students can learn new knowledge and train technical skills by using simulations. Because the most of simulators are expensive the use of them is limited. The aim of this study is to design new low cost simulator for young veterinarians and surgeons. The simulator corpus has been designed based on the Solid Edge software and printed out with the 3D printer. For monitoring of the results we designed and programmed four exercises using the Arduino software. The monitoring of results is important for students to control the results. Needle suture, camera navigation, hand-hand coordination and tissue cutting are the main exercises for training of student skills. The purpose of simulation training also to increase the pace of skilled movements during simulation sessions, although the duration of every exercise is different. It is important to pay attention to ergonomics too in the designing process. The new simulator has mobile stand for different exercises to train technical skills in different ergonomic postures.

Oral Presentation

Ageing Workforce

0267 SOCIOECONOMIC INEQUALITIES IN UNEMPLOYMENT AS A PREDICTOR OF DISABILITY RETIREMENT: A RETROSPECTIVE CASE-CONTROL STUDY

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Background Unemployment is known to be associated with poor health and disability. The aim of this study was to examine the risk of disability retirement by past unemployment in different socioeconomic groups.

Method Disability retirees aged 25–64 years were drawn from the years 2011–2015 (n=74,460) to trace back their unemployment histories during the 6 preceding years. Conditional logistic regression was used to compare the risk for disability retirement by pre-retirement unemployment (lasting 90+ days