

the achieved reduction in exposure on the burden of chronic obstructive pulmonary disease (COPD) in construction workers.

Method The intervention aimed at technical, organisational and psycho-social factors and was performed in four construction companies. Pre and post intervention respirable quartz exposure measurements were taken in these and four additional control companies. A mathematical simulation model was used to generate COPD prevalences (GOLD stage ≥ 1) in response to silica exposure, population characteristics and Dutch trends in smoking behaviour for a population of 20–65 year old construction workers with lifetime silica exposure.

Results Pre-intervention exposure assessment demonstrated highest respirable quartz levels (mg/m^3) for concrete drillers (GM: 0.20, GSD: 2.75), tuck pointers (GM: 0.18, GSD (2.18) and demolishers (GM: 0.12, GSD: 2.86), exceeding the Dutch occupational exposure limit (OEL) in 71, 92 and 97% of cases, respectively. Preliminary simulations estimated COPD prevalence at 21, 20 and 17% for these groups respectively, as compared to 14% when quartz exposure is reduced to the Dutch OEL and 8% with no exposure.

Conclusions For several job categories high exposure levels exceeding the Dutch OEL were observed. Reducing these levels to below the OEL would lead to a substantial reduction in the burden of disease. The post intervention exposure levels will become available early 2014. The effect on the burden of disease and economic impact will be assessed with an refined model incorporating population dynamics.

0190 CARPAL TUNNEL SYNDROME AND CARPAL TUNNEL SYNDROME-LIKE SYMPTOMS IN RELATION TO MECHANICAL EXPOSURES ASSESSED BY A JOB EXPOSURE MATRIX: A TRIPLE CASE-REFERENT STUDY

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Objectives To evaluate relations between occupational mechanical exposures and (1) carpal tunnel syndrome verified by ENG (ENG+CTS) and (2) CTS-like symptoms with normal ENG (ENG-CTS).

Method We plan a triple-case referent study of 1000 ENG+CTS and 1000 ENG-CTS cases identified at a university department of clinical neurophysiology. For each case, two sex, age, and primary care centre matched controls will be sampled (risk set sampling). Both retrospectively and prospectively identified cases will be included with standardised clinical examination of the last-mentioned group. Conditional logistic regression analyses will be performed comparing the two case control sets, while unconditional logistic regression will be applied comparing ENG+CTS cases to ENG-CTS controls. Questionnaire information will be collected on job history, lifestyle, symptoms, and disability. Job titles will be linked to a job exposure matrix (JEM) based on measurements of hand-wrist movements (goniometer measurements) and expert ratings.

Results The main hypothesis is that exposure-response relations will be found for ENG+CTS, but not for ENG-CTS with respect to forceful work and awkward wrist postures, while repetitive work will show exposure-response relations in both

groups. The Danish Working Environment Research Fund has granted financial support for a 3-year PhD project starting January 2014.

Conclusions The study will take advantage of specific and well documented case diagnoses and independent exposure assessment. The results are expected to produce new insights into exposure-response relations between occupational mechanical exposures and risk of CTS.

0191 ARE INDOOR CONCENTRATIONS OF AIRBORNE MOULD SPORES IN NON-INDUSTRIAL ENVIRONMENTS SUFFICIENTLY HIGH TO CAUSE HYPERSENSITIVITY PNEUMONITIS?

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Objectives Antigen exposure is the only diagnostic criteria specific for hypersensitivity pneumonitis (HP) compared with other interstitial lung diseases. Indoor mould exposure in non-industrial environments has been claimed to cause HP, but little is known about exposure levels. Our objective was to compare indoor concentrations of airborne mould spores for patients diagnosed with indoor HP with background levels and levels measured for patients diagnosed with farmers' lung and suberosis.

Method We included 8 patients diagnosed with HP based on characteristic clinical findings, signs of indoor mould growth at home or at their non-industrial work place, and increased levels of precipitating antibodies for moulds. We collected 110 air samples from all affected rooms, adjacent rooms, and outdoor.

Results The average total spore concentrations varied between 22 000 and 36 000 spores per m^3 , and the average viable concentrations between 35 CFU/ m^3 and 457 CFU/ m^3 , with no clear association between spore concentration and affected rooms, adjacent rooms and outdoor.

Conclusions The observed levels did not exceed usual indoor and outdoor levels and were orders of magnitude below levels measured for patients diagnosed with farmers' lung and suberosis, and we question if indoor mould levels in non-industrial environments are sufficient to cause HP. Relying solely on signs of moulds or presence of precipitating antibodies when diagnosing HP may cause other interstitial lung diseases to be overseen and patients may take initiatives such as quitting the job or leaving their homes that will not alleviate their disease but have significant social consequences.

0192 PROFESSIONAL TRAJECTORY IS ASSOCIATED WITH MULTIPLE CARCINOGENIC EXPOSURES AT WORK AMONG MEN : DATA FROM A COHORT OF PATIENTS SUFFERING RESPIRATORY CANCER

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