PULMONARY DYSFUNCTION IN INDIUM TIN OXIDE EXPOSED WORKERS

Aim To investigate the relationship between indium exposure and lung effects markers among indium tin oxide (ITO) manufacturing workers without job change.

Methods We enrolled 179 male workers from ITO target manufacturing and recycling factories in Taiwan. Plasma indium (P-In), urine indium (U-In) and creatinine adjusted urine indium (U-In/Cre) were used as markers of interstitial pneumonitis. Forced vital capacity (FVC), forced expiratory volume at 1 st second (FEV1), and FEV1/FVC were also evaluated by spirometry.

Results After adjusted for covariates by linear regression, plasma, urinary and creatinine adjusted indium were increased in high exposure group (P-In: β=1.13, p<0.001; U-In: β=0.54, p<0.05; U-In/Cre: β=0.63, p<0.01) and low exposure group (P-In: β=0.75, p<0.05; U-In/Cre: β=0.52, p<0.05) with comparison to reference group. Plasma Krebs von den Lungen-6 (KL-6) and surfactant protein D (SP-D) were used as markers of interstitial pneumonitis. Forced vital capacity (FVC), forced expiratory volume at 1st second (FEV1), and FEV1/FVC were also evaluated by spirometry.

Conclusion Our findings indicate indium exposure was related to restrictive lung dysfunction, decreased lung function for both FEV1 and FVC test but not for FEV1/FVC ratio. Meanwhile, increased plasma KL-6 in high exposure group also supports that indium exposure results in increased risk of interstitial pneumonitis among direct indium exposure workers. Our study provided an explanation to the consequence of indium exposure - interstitial pneumonitis-restrictive lung dysfunction.

EXPOSURE TO 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN AND MORTALITY AT A TRICHLOROPHENOL PLANT IN NEW ZEALAND

Aim To describe how 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) exposure influenced mortality in a cohort of workers exposed more recently, and at lower levels, than other cohorts of trichlorophenol process workers.

Methods A cohort study of 1599 men and women working between January 1, 1969 and November 1, 1988 at a plant producing the herbicide 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) with TCDD as a contaminant.

Objective To describe how 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) exposure influenced mortality in a cohort of workers exposed more recently, and at lower levels, than other cohorts of trichlorophenol process workers.

Methods A cohort study of 1599 men and women working between January 1, 1969 and November 1, 1988 at a plant producing the herbicide 2,4,5-trichlorophenoxyacetic acid (2,4,5-T) with TCDD as a contaminant.

A toxicokinetic model developed in a previous follow up was updated to estimate cumulative TCDD exposure for each individual in the study. Calculation of cause-specific standardized mortality ratios (SMRs) and 95% confidence intervals (95%CIs) compared those never and ever exposed to TCDD. Dose-response trends were assessed firstly through SMRs stratified in quartiles of cumulative TCDD exposure, and secondly with a proportional hazards model.

Results The toxicokinetic model intercept of 5.1 parts per trillion (ppt) of TCDD was consistent with background New Zealand TCDD concentrations among older members of the population. Exposed workers had non-significant increases in all cancer deaths SMR=1.08, 95% CI: 0.86–1.34, deaths from soft tissue sarcoma, SMR=2.38, 95% CI: 0.06–13.26, non-Hodgkin lymphoma, SMR=1.57, 95% CI: 0.32–4.59, diabetes, SMR=1.27, 95% CI: 0.55–2.50 and ischaemic heart disease, SMR=1.21, 95% CI: 0.96–1.50. Lung cancer deaths SMR=0.95, 95% CI: 0.56–1.53, were fewer than expected. Neither the stratified SMR nor proportional hazard analysis showed a dose response relationship.

Conclusion We found neither an excess of all cancers, or any specific cancer, nor a trend with TCDD exposure. This argues against the carcinogenicity of TCDD at lower levels of exposure.
Conclusion Health related absence contributes to significant loss in productive work-time. There is scope to reduce these losses by improvement in health situation. Our study provided key information and trends for planning evidence based health promotion programmes in the industry.

**Methods**
In the early 2000 an expert committee appointed by the IAOM suggested a new syllabus, based on the scientific literature. The recommendations were sent to all experts in OM in Israel, and other professional members like industrial hygienist. We got several responses. Most people suggested additional standards.

**Results**
The curriculum includes 54 months of training programme. The characteristics of the new curriculum are: interaction between theory and practice; fields of knowledge, learning process; competencies which are needed; and multidisciplinarity. We added an obligatory walkthroug list of industries. Three of the walkthroug reports consists a part of the final oral examinations.

**Conclusions**
The aim of the curriculum was to produce a comprehensive approach in OM competencies. The curriculum was adopted by the Israeli Medical Association and Ministry of Health since 2010.

**Discussion**
Acrylic glues are hazardous agents which can cause severe occupational diseases and require occupational environment monitoring yearly according to Israeli regulations. The TLV-TWA is 2ppm. Small private businesses like the patients covered by health insurance societies between 2008 and 2016, we identified high risk 5 33 955 examinees of health checkups. The criteria was either blood pressure, data on the corresponding items 4 months prior to the health checkups. The criteria was either blood pressure, blood glucose level, or blood lipid level provided by Japanese government.

**Results**
The cumulative non-visiting rates at 12 months after health check-ups were 84.4%. The rate of drop off during treatment was over 70%. As for HT, DM, and DL, the cumulative non-visiting rates at 12 months were 84.3, 67.9, and 86.1%, respectively. When focusing on the high risk group, the rate was 74.0%, since the rate for extremely high risk DM (HbA1c≥8.4%) was 51.9%.

**Conclusion**
Over 80% high risk examinees of non-communicable diseases did not visit to medical institutions during 1 year period after health check-ups, although approximately half of the individuals with extremely high risk of DM visited to physicians at least one time. Finally, we developed a predictive scoring model for visiting to medical institutions as well as the risk of drop out from treatment, and it was well validated from both discrimination and calibration viewpoints. In addition, we evaluated the effectiveness of strategy for preventing treatment drop off through collaborative support from occupational and clinical physicians. This strategy enables public/occupational health staffs to individualize population for strong intervention and to support harmonization of treatment and work in NCDs.