Return to work/Work capability assessment

**O-108 VOCATIONAL PROGNOSIS IN YOUNG INDIVIDUALS WITH ACQUIRED BRAIN INJURY: A NATIONWIDE COHORT STUDY**

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**Introduction** Return to work is a major challenge after acquired brain injury (ABI) and a key focus in rehabilitation. Young adults represent a particularly vulnerable group regarding vocational prognosis. Thus, we aimed to determine prognostic factors for work ability and employment/educational status among young patients referred to outpatient neurorehabilitation clinics after an ABI.

**Material and Methods** This prospective nationwide study combined interdisciplinary clinical assessments and questionnaire data from all patients (n = 471) aged 15–30 years who were followed in outpatient neurorehabilitation clinics in Denmark from 2013–2017. The outcomes were the self-reported Work Ability Score (WAS, 0–10 (best)) and employment/educational status after one year of follow-up. Prognostic performance was analyzed using univariable regression and multivariable Ridge regression in a five-fold cross-validated procedure.

**Results** Preinjury, 86% of the patients were employed, while the percentage had decreased to 55% at baseline and 52% at follow-up. The model, which included clinical measures of function, showed moderate predictive performance with respect to WAS (R²=0.29) and employment/educational status (area under the curve (AUC)=0.77). Glasgow Outcome Scale Extended (R²=0.15, AUC=0.68) and the cognitive subscale of the Functional Independence Measure (R²=0.09, AUC=0.64), along with fatigue measured with the Multidimensional Fatigue Inventory (R²=0.15, AUC=0.60) were the single factors with the highest predictive performance.

**Conclusion** Notwithstanding generally high scores in motor and cognitive tests, only about half of the young patients with ABI were employed at baseline and this proportion remained stable. While both cognitive disabilities and fatigue are well-known as frequent and disabling sequelae subsequent to ABI, the present study demonstrates their prognostic value when assessing vocational/educational prognosis and may be used in neurorehabilitation clinics and in labor market clarification programs targeting patients who have suffered an ABI.

**Burden of occupational disease and injury**

**O-109 STATUS OF KNOWLEDGE AND GAPS IN ASSOCIATIONS BETWEEN OCCUPATIONAL EXPOSURES AND THEIR HEALTH EFFECTS: INFORM PRIORITY SETTING**

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**Objective** Within the framework of the Exposome Project for Health and Occupational Research (EPHOR), we aimed to provide an overview of knowledge gaps in the associations between occupational exposures and their health effects across multiple health outcomes.

**Methods** We conducted a narrative umbrella review of occupational risk factors that can be considered established (sufficient evidence) and suspected (with limited, insufficient or inconsistent evidence) for six main non-communicable disease (NCD) groups: non-malignant respiratory diseases; cancer; neurodegenerative diseases; cardiovascular and metabolic diseases; mental diseases; and musculoskeletal disorders. For each NCD-group, a working group was formed where the literature searches were coordinated and findings discussed. Regular meetings between working group leaders were held to align efforts. The narrative review was mainly based on systematic reviews and authoritative reports supplemented with narrative reviews, reports and original studies as appropriate. The status of knowledge was summarized in tables and heatmaps. We further identified knowledge gaps, e.g., based on missing information on exposure-response relationships, gender differences, critical time windows, multiple exposures, as well as inadequate study quality.

**Results** We identified over 200 occupational exposures with suspected or established associations to common NCDs. Various exposures were identified as possible risk factors for multiple outcomes, including diesel engine exhaust, silica, cadmium and shift work. Potential areas for future research have been identified considering an exposome research context. For suspected associations, conclusive evidence would be needed, while for established risk factors improvements in case definition, as well as quality of exposure assessment and study design could lead to better understanding of the association.

**Conclusion** By providing an overview of knowledge gaps in the associations between occupational exposures and their health effects, our narrative review helps to set priorities in exposome-based occupational health research.