

# Being employed puts your health at risk

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Credit: George Hodan/public domain

The modern workplace has undergone a transformation as workers move away from traditional industrial sectors, such as agriculture and manufacturing, into the service sector. This has resulted in the incorporation of new occupational risk factors. Regardless of the environment, work provides a unique opportunity for exposure to hazards and risk that the public will not encounter. The symposium presentation at the Society for Risk Analysis (SRA) Annual Meeting will review current topics in occupational risk analysis that health officials

are currently challenged with, including chronic traumatic encephalopathy (CTE) in football and exposure to metals via dermal contact in the workplace.

To date, 110 of 111 former National Football League (NFL) players autopsied for CTE diagnosis were found to have the brain disease. Many physicians and lawyers are arguing that these results do not reveal anything definitive about the ultimate risk of playing professional football. A presentation by Adam Finkel, Sc.D., CIH, University of Michigan, titled, "Chronic Traumatic Encephalopathy in the NFL workplace: Risk assessment needed to dispel manufactured doubt," explores the application of [risk assessment](#) to estimate the best-case scenario for the risk of CTE in the NFL. Finkel's research finds that the lifetime excess risk cannot be lower than about one percent, which is unacceptably high and should be addressed with regulations. He also dissects various illogical claims that skeptics without risk-assessment training make about the relationship between [exposure](#) to head trauma and CTE.

The U.S. Environmental Protection Agency (EPA) has previously noted the difficulty in harmonizing dermal exposure assessment methods, due in part to a lack of standardization. Increasing the accuracy will allow for improved evaluation of regulatory compliance and risk assessment results. Additionally, with the increasing numbers of non-volatile substances in commerce and consumer products, added validated quantitative approaches specifically for non-volatiles will allow for improved characterization of exposure potential and health risk. Jennifer Sahmel, MPH, CIH, CSP, Insight Exposure and Risk, will present her findings regarding quantitative measurements of solid metals (lead, zinc and copper) to and from the skin in dermal exposure compartments, in her presentation titled, "Dermal contact with solid metals and implications for both occupational and public health risk assessment: Lead, zinc and copper."

Interest in developing cumulative risk assessment for occupational health has potential to advance worker health. Mary A. Fox, Ph.D., MPH, Johns Hopkins Bloomberg School of Public Health, will provide a briefing on methods and practice of cumulative risk assessment during her presentation, "Developments in cumulative risk assessment: Approaches for occupational health and beyond."

"Cumulative risk assessment has informed important policy changes, e.g., reducing pesticide exposures in the general population. This work has the potential to advance the methods and practices of industrial hygiene to reduce exposures and risks to improve the [health](#) of workers," states Fox.

These studies will be presented during What Risk Assessors Should Know This Year About Occupational Risk Analysis: From Chemical Exposure to Traumatic Brain Injury to Cumulative Risk Assessment symposium on Wednesday, Dec. 5 from 1:30-3:00 p.m. at the 2018 SRA Annual Meeting at the New Orleans Marriott in New Orleans, Louisiana.

Provided by Society for Risk Analysis

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