

International Conference on  
**ENVIRONMENTAL HEALTH & SAFETY**

October 24-25, 2016 | Valencia, Spain

**Keynote Forum**



**Day 1**



*Environmental Health 2016*

International Conference on

# Environmental Health & Safety

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## Nimisha Kalia

Johns Hopkins University School of Medicine, USA

### WORK RELATED INJURIES IN A LARGE MANUFACTURING COMPANY

**Background:** Work related injuries in the United States have steadily declined over the past three decades despite an aging workforce. This is attributable to a number of factors, including safer work programs (such as behavioral safety program, safety committees, and an emphasis on ergonomics in the workplace) and a decline in the proportion of the workforce in manufacturing.

**Objective:** To determine the frequency and the age-adjusted frequency of back, knee and shoulder injuries in a manufacturing setting over a 12-year period (2003-2015).

**Method:** 35,662 work related injury claim with greater than three days of missed work were analyzed. Descriptive analysis methods were used to compare claim frequency by year.

**Results:** Age-adjusted number of back injuries decreased over a 12-year period (2.44/100 employees in 2003 compared to 0.56 /100 employees in 2015). Knee and shoulder injuries remained relatively constant over 12 year period. Knee injuries were 0.78/100 employees in 2003 compared to 0.42/100 employees in 2015. Shoulder injuries were 0.44/100 employees in 2003 and 0.42/100 employees in 2015.

**Conclusion:** Age-adjusted number of back injuries decreased over a 12-year period. This parallels the national U.S. trend of decreased work related injuries, and is likely related to safer work environments. However, knee and shoulder injuries remained constant over 12-year period while other conditions declined. This could be due to degenerative disease in an aging workforce.

### Biography

Kalia completed her MD at University of South Florida and her MPH and MBA at the Johns Hopkins University. She is the Associate Director for the Division of Occupational and Environmental Medicine at Johns Hopkins Medicine. She is an Assistant Professor of Medicine in the Johns Hopkins Department of Medicine (JHDOM) and Adjunct Assistant Professor in the Department of Environmental Health Services at the Johns Hopkins Bloomberg School of Public Health (JHBSPH).

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### Notes:

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## Cassandra Warner Frieson

*Fall Injury Prevention and Rehabilitation Center, USA*

### ENVIRONMENTAL HEALTH: FALL SAFETY AND INJURY PREVENTION

Environmental health as it relates to fall safety and injury prevention has become a major public health concern. According to the National Safety Council, 8.9 million emergency room visits are due to falls each year. Falls in homes account for approximately 25,000 accidental deaths annually. Falling alone is the second leading cause of death-related accidents. As our population ages, there remains a great need to educate the public on environmental health and fall safety to promote the safety of older Americans and increase their quality of life. The establishment of evidenced-based fall prevention programs can serve as a bridge to connect human health and environmental health in order to promote healthy communities, public health, and safety. Environmental health initiatives can occur on both a local and national level. Community fall prevention programs can identify and treat high fall-risk patients through screenings, assessments, and Tai Chi exercises and provide public health education on fall prevention and safety, home and workplace safety hazards, ladder safety training, and weather-related hazards to prevent injurious falls. On a broader scale, nation-wide organizational initiatives such as The National Complete Streets Coalition help determine whether transportation investments promote healthier lifestyles by increasing accessibility to physical activity, providing active modes of safe transportation, and decreasing fatal injury rates. In addition, the impact on the natural environment is minimized to reduce exposure to environmental pollutants and improve health-related outcomes.

#### Biography

Cassandra Warner Frieson is a doctorate-prepared nurse practitioner with over 20 years of expertise in geriatrics. Frieson is board-certified through the American Academy of Nurse Practitioners (NP-C) and the American Nurses Credentialing Center (FNP-BC) and received her Doctor of Nursing Practice (DNP) degree from the University of Alabama in Huntsville College of Nursing in Huntsville, Alabama, USA. She serves as Editor-In-Chief and Editor for prestigious journals to include the *Gerontology & Geriatrics: Research, Journal of Perioperative & Critical Intensive Care Nursing* and is a Research Topic Co-Editor for *Frontiers in Public Health*. Frieson is founder and president of Fall Injury Prevention and Rehabilitation Services LLC and is Clinical Manager at its community-based fall prevention clinic.

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**Day 2**



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## *Edward J Bernacki*

*Johns Hopkins University School of Medicine, USA*

### **BENEFITS OF WORKPLACE ONSITE CLINICS IN A FOOD AND BEVERAGE MANUFACTURING COMPANY**

**Background:** Onsite clinics provide immediate onsite post-injury care as well as continuous assessment of injured employees to assure early return to work and appropriateness of medical care. They also provide various health wellness services (non-occupational, vaccination, physical examinations, etc.) to maintain the overall health status of employees and increase the productivity.

**Objective:** Assess the injury rates for a 9-year pre- and 9 year post-clinic implementation period.

**Method:** 46 onsite clinics were included in the analysis. Injury rates were calculated by determining the total number of work-related injuries per population. These rates were compared prior to and after clinic opening.

**Results:** At the time of clinic opening, the average injury rate was 27.4/100 employees. At year one post-clinic opening, the injury rate increased slightly to 27.6. This was due to an increase in the reporting of more minor injuries. In subsequent years, the injury rate per 100 employees was 27.4, 26.9, 24.8 and 20.3 at year 2,3, and 4, respectively. At year 5 post clinic opening, the injury rate decreased to 14.3/100 employees. Subsequent to year 5, the injury rates averaged 13/100 employees per year.

**Conclusion:** Overall injury rates decreased approximately 50% after onsite clinic established. The most marked decline occurs after 4 years of clinic establishment.

#### **Biography**

Bernacki received his MD at Rutgers New Jersey Medical School and his MPH at the Yale School of Public Health. He is a Professor of Medicine and Director of the Johns Hopkins School of Medicine (JHSOM), Division of Occupational and Environmental Medicine. Administrator of the Johns Hopkins Self-Insured Workers' Compensation Insurance Plan. Bernacki is a Past President of the American College of Occupational and Environmental Medicine (ACOEM). He is most noted for work that relates to the use of Occupational Medical Guidelines, the design, development and initiation of unique cost containment vehicles in the major medical and workers' compensation insurance arenas.

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## Tsunehisa Makino

*Fuji-Oyama Hospital, Japan*

### EXPOSURE TO ENVIRONMENTAL CHEMICAL SUBSTANCES IN MEDICINE FOR IN VITRO FERTILIZATION (IVF-ET)

**Introduction:** Very little has been discussed concerning the health hazards posed by environmental chemical substances with regard to assisted reproductive technology (ART), although in vitro fertilization and embryo-transfer (IVF-ET) has been becoming more popular over the last two decades in reproductive medicine.

**Materials and Methods:** Highly sensitive and specific chromatographic and spectrometric assays have been developed for the measurement of several common but important chemicals including perfluorinated compounds (PFCs), polybrominated diphenyl ethers (PBDEs), and phthalates (DEHP, MEHP). After establishing the reference concentration standards for these chemicals in human fetomaternal environment specimens, we investigated the amounts of contaminations in culture media and culture dishes used for IVF-ET. The possible health hazards induced by exposure to amounts of chemicals detected in the culture media and/or culture dishes were then evaluated by analyzing epigenetic profile alterations in mouse embryonic stem cell (ESCs) and, in some cases, in human pluripotent stem cells (iPS cells).

**Results:** Levels of MEHP and PBDE that were 10-100 times higher than those in fetomaternal specimens (approximately 1-10 ppb) were detected in some in vitro fertilization-embryo transfer(IVF-ET) media, suggesting that such concentration was capable of inducing reversible/irreversible changes in the epigenetic profile. In contrast only trace amounts of perfluorinated compounds were found in the same culture media.

**Conclusion:** The present study is the first admonitory report to evaluate the toxicity and/or teratologic influences of chemicals in IVF-ET culture media. (This study was supported by a Health Science Grant from the Ministry of Health, Labour and Welfare, Japan).

#### Biography

Tsunehisa Makino was graduated from School of Medicine, Keio University, Japan, 1964. Dr. Makino has been at The Laboratory of Human Reproduction and Reproductive Biology, Harvard Medical School between 1970-1973 and was Assistant Professor of the Department of Obstetrics and Gynecology, Harvard Medical School in 1973. Dr Makino promoted his position to Professor and Chairman, Department of Obstetrics and Gynecology, Tokai University Hospital, Japan, in 1995. Dr. Makino was chairman of the Executive Board Meeting of the Japan Society for Immunology of Reproduction(JSIR), also president of IXth International Congress of Reproductive Immunology held at Hakone, Japan, in 2004. Since 2013, Dr. Makino is the director of Fuji-Oyama Hospital in Shizuoka, Japan.

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