E-Abstract Book of ICOH Congress 2015

This electronic publication of the abstracts for the ICOH Congress 2015 contains the program overview, abstracts published for the Congress and other associated reference materials.

The title for the ICOH Congress 2015, Global Harmony for Occupational Health: Bridge the World, reflects our wish to foster harmonized action for managing complex risks in increasingly diverse work situations.

The structure of the scientific program includes Plenary Sessions, Semi-plenary Sessions, Policy Forums, Special Sessions, Oral Sessions, and Poster Sessions. The scientific program will give delegates an opportunity to learn about the latest research and projects conducted by the world's leading scientists and experts in related fields.

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Solar radiation: a neglected health risk in exposed workers

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Infrared (IR) and visible constitute respectively the 45 % and the 50% of Solar radiation (SR), while Ultraviolet (UVR) covers only the 5%. Despite this, UVR represents the major risk for humans, and may induce both short and long-term adverse effects; e.g. UVR is carcinogen (group 1 IARC). On the other hand SR can also induce some positive effects, e.g. it is fundamental for vitamin D metabolism.
According to WHO, short-term effects of SR are photokeratitis, photoconjunctivitis and solar retinopathy in the eye, sunburns and photodermatoses in the skin, and reactivation of latent herpes labialis infections in the immune system. Long-term adverse effects are pterygium, cortical cataract and epithelial corneal and conjunctival cancers, photoageing, solar keratosis, non-melanoma and melanoma skin cancers in the skin. Other effects, such as ocular melanoma, macular degeneration, nuclear and sub-capsular cataract, cancer of the lips and reactivation of papilloma virus infections are also possible but the evidence of causality is less defined.
SR exposure depends on various environmental and individual factors, such as atmospheric composition, geographic factors, meteorological conditions, type of surface, and individual characteristics, both genetic (e.g. photo-type) and behavioral.
One of the main factors related to significant SR exposure is occupational activity. The European Directive 2006/25/EC defines specific limits for artificial UV (30 Joule/m2 - effective radiant exposure/day): in outdoor workers (OW) these are frequently exceeded. Recent studies have documented Standard Erythemal Doses (SED) ranging from 6.11 to 28.6 SED (1 SED =100 J/m2) in farmers, construction and maritime workers (Millon 2007, Serrano 2012).
Considering the relevance of the risk related to SR exposure, further research on adequate methods to evaluate exposure, especially in OW, and on adequate preventive measures, is needed.

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