

Applications of Simple Tools for the Preliminary Assessment of Occupational Biomechanical Overload

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Faculty:

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One of the latest developments pursued by the World Health and other international organizations (ILO, ISO), in relation to preventing occupational MSDs, concerns the creation of “simple” tools usable also by non-experts.

The EPMIES has been dealing with trying to offer not only validated evaluation criteria (also compliant with the current ISO Standards on the subject) but also tools to facilitate and make possible, even for the less experienced, their application in terms of risk assessment. Justification of the topic to the conference theme Here, easy-to-use and free-of-charge tools are proposed to facilitate and standardize the risk assessment of occupational biomechanical overload in accordance with the objective of the Prevention and management of MSDs in different work scenarios.

The tools presented concern 5 presentations regarding: ERGOCHECK: general model for preliminary all occupational risk factors analysis to evaluate intervention priorities. ERGOCHECK specific for agriculture and civil construction. TACOs, timed strategy for the assessment of occupational awkward postures PUSH/PULL for measuring and interpreting pushing/pulling detected forces. VINCI model for the analytical study of the whole biomechanical overload in exposures to multiple tasks in monthly/annual cycles Target audience and limit All the professional figures involved in the management of biomechanical overload: medical, occupational physiotherapists, labour inspectors, company technicians, ergonomist : no limits.

Some members of our association work in production of ISO Standards (biomechanical overload). The simple tools presented in this workshop are useful for assessing all occupational risks by biomechanical overload also in application of reference Standards.

About Our Speakers:

1. Daniela Colombini

MD in Occupational Medicine and Statistics, European Ergonomist. President of Scientific Association Ergonomics of Posture and Movements International Ergonomics School (EPM IES), she has 40 years of experience in risk assessment methods for biomechanical overload prevention. Coauthor of OCRA method, VLI NIOSH ML, TACOs posture. Occupational Medicine Professor at the University of Milan, Florence and Bogotá for many years. Since 20 years active member of CEN and ISO in TC 159 SC3: co-chair of sub-groups in TC MSDs in International Ergonomics Association. Chair of ISO TR 23476 (agriculture) and the new ISO TR (construction). Author of more than 20 books and 200 scientific papers.

2. Enrico Occhipinti

Enrico has a degree in Medicine and Surgery with postgraduate specializations in Occupational Medicine and in Health Statistics at the University of Milano (Italy). He is a Certified European Ergonomist. He is professor at the School of Specialization in Occupational Medicine, University of Milano and has been Director of the Research Unit "Ergonomics of Posture and Movement" (EPM) at Fondazione Don Gnocchi ONLUS - Milano up to 2015. He is the Scientific Director of EPM International Ergonomics School. He has devoted about 40 years on ergonomic issues related to physical ergonomics and the prevention of work-related musculoskeletal disorders and is the author of more than 250 papers and handbooks, in Italian and English, on the matter. He developed and co authored the OCRA method. He is a member and has been coordinator (up to 2012) of the Technical Committee on Prevention of Musculoskeletal Disorders of the International Ergonomics Association (IEA) and represents Italy in international commissions of the European Committee for Normalization (CEN) and the International Organization for Standardization (ISO) dealing with ergonomics and biomechanics. He is member of the Italian Working Group devoted to the Prevention of Occupational Musculoskeletal Diseases in the framework of the National Health Service Plan for Prevention (2021-2025).

3. Marco Cerbai

He actively collaborates with the EPM of Milan: since 2004 he has been developing methodologies and strategies for assessing the risk of biomechanical overload for the upper limb. Since 2004 I have been developing methodologies and strategies for assessing the risk of biomechanical overload: development of the software in excel for the NIOSH CLI, VLI and SLI lifting index. Since 2006 teacher of the epm International Ergonomics School – Milan for the risk path. Since 2006: technical and didactic manager of the EPM international ergonomics school – Emilia Romagna. Since 2006: speaker at various national and international events on ergonomics issues. Since 2014: full member and member of the technical group of UNI UNI/CT 015/GL 06 "anthropometrics and biomechanics". Since 2013: board of director and certified trainer eqf level: 7 of the EPM IES school – social promotion association – Milan. Since September 2018 vice president organization of the EPM IES school. Referent of research projects in the field of ergonomics, contact person for ergonomic risk management in various companies. Referent in projects of reclamation and reduction of ergonomic risk in the workplace at various companies

4. Enrique Alvarez

Industrial Engineer and Doctor 'cum laude' Research Director of the Centro de Ergonomia Aplicada (CENEA), with more than 20 years of experience advising companies. Accredited teacher of the EPM International Ergonomics School. Co-chair of the Technical Committee of Musculoskeletal Disorders of the International Ergonomics Association. Member of the ISO Occupational Biomechanics Working Groups. President of the Catalan Ergonomics Association (CATERGO). Enrique has participated in the publication of 12 specialized books and more than 30 scientific articles on risk assessment due to biomechanical overloads and prevention of musculoskeletal disorders, with more than 20 years of experience in the study and application of work ergonomics in all productive sectors.

5. Deepak Sharan

Dr. Deepak Sharan is a highly accomplished consultant specializing in orthopedic surgery, rehabilitation, ergonomics, occupational health, and functional and lifestyle medicine. Based in Bengaluru, India, he is associated with RECOUP Health and holds prominent positions in various prestigious organizations. Dr. Sharan serves as the Chairperson of the Scientific Committee on Musculoskeletal Disorders at the International Commission on Occupational Health and as the President of the International Myopain Society. He is also the Founder Director of the EPM International Ergonomics School in Italy and the Founder President of both the Indian Ergonomics School and the Indian Myopain Society. With an impressive portfolio of over 600 international scientific publications and conference presentations, Dr. Sharan has conducted extensive research on office and industrial ergonomics, healthcare ergonomics, cognitive ergonomics, and work-related musculoskeletal disorders (WRMSD). Notably, he co-developed the Time-based Assessment Computerized Strategy (TACOs) for assessing the risk of WRMSD among physiotherapists. Dr. Sharan has received numerous awards and research grants, including the National Disability Award from the Government of India and prestigious international research awards in the field of orthopedics and pediatric orthopedics. As an internationally recognized expert in WRMSD, he has developed his own validated assessment and treatment approach known as the SHARAN's Protocol, which has successfully treated over a million patients from 45 different countries. Dr. Sharan also works as an ergonomics and occupational health consultant for several Fortune 500 companies and is an authorized trainer for various methodologies and tools related to ergonomics and occupational health, including the Revised NIOSH Lifting Equation, ERGOcheck Risk Mapping, TACOs Tool, OCRA methods, and Push-Pull-Carry techniques.