

ANNEXE A
REP3/20-6-15
IEA TC on MSD: "TOOLS AND STANDARDS" sub-group
Co-chair Daniela Colombini

Phase 1-THE BACKGROUND

- What methods and criteria should refer to the TOOLS?

The IEA, as well as the WHO, should be advised to refer to International Standards (ISO, CEN, ILO) as a starting point, and obviously to the National Standard too, present in each country, but previously checking if they are not pejorative than the International ones.

Obviously the TOOLS proposed must necessarily follow, as far as the ways of calculating the risk proposal following the criteria present in the International Standards ISO and CEN. IEA could not in fact use or suggest the use of methods and related applications Tools, not conforming to the Standards, resulting too superficial or even worsening risk assessment

Our sub Group, in collaboration with EPM IES (EMP INTERNATIONAL ERGONOMICS SCHOOL Scientific Association) actively participates through its members (from Italy, France, Spain and Brazil) since at least 15 years, to ISO and CEN working groups for the preparation of the standards of ergonomics (biomechanics in particular).

- What TOOLS are available that meet the criteria of the above International Standards?

The EPM Research Unit, (where Enrico Occhipinti is the director) and the EPM IES (where Daniela Colombini is the director) offer since many years TOOLS (in 4 languages : Italian, Spanish, Portuguese and English and soon in French). The software tools in Excel can be free down loaded from our website: www.epmresearch.org. They allow to easily perform risk assessment (about repetitive movements and manual material handling) for individuals and groups (risk mapping), using always the criteria exposed in the ISO and CEN standards

TOOLS are also available for evaluation of the WMSDs damages, to allow doctors to easily perform epidemiological studies of prevalence and incidence of musculoskeletal diseases. .

It could be very useful if other members of the sub-group could provide information on the existence of other TOOLS, (easy to use, inexpensive, providing results even collective), always fulfilling the criteria found in the International Standards.

Up to now no other proposals were made in the TC groups,(The review proposed by Dempsey in 2012 is still pending)

Phase 2-THE EXPERIMENTAL PHASE: TRANSFER OF KNOWLEDGE INTO PRACTICE IN AGRICULTURE AND IN OTHER NEGLECTED WORKING AREAS.

Contacts with some University in Colombia (Bogota and Cali), were very useful in this regard. It has enabled me to perceive problems, and the needs to solve them: they coincide with what was previously enunciated. In essence:

- Agriculture, with its relevant musculoskeletal disorders, is a primary problem
- Clinic visits are often made but often with lack of collective evaluations and consequent correct interpretation of epidemiological results.
- Lack of risk assessments tools or if existing, often not satisfactory Collective assessment data are also absent.

The activity concerned;

- Collectors of sugarcane
- Collectors of coffee
- Employees for cultivation of bananas and oil palms and in many Mediterranean cultivations
- Employees in horticulture and floriculture

The numbers involved are very high. The project was carried out as follows:

- **1. Training:** train the group of technicians and occupational medical doctors, occupational physiotherapists, etc. (formerly in charge to follow these workers), to make directly the risk and the damage analysis, using the TOOLS of EPM (previously tested for years, published extensively and fully in line with International Standards), on the above mentioned groups of workers. This is the main objective of the International Ergonomics EPM school, (Scientific Association of teachers of various countries around the world) who are to share their experience and to prepare the content of courses and teaching techniques shared and participated in order to make the management of risk of biomechanical overload, an ongoing process of self-management, without the need of external consultants.

- **2. Seminar, Congress**

Presentation of preliminary results and practical experiences in satellite workshop of the National Congress of Occupational Medicine in Colombia (May 2013) and seminars in other countries (Italy, 2013, Peru and Italy 2014).

	<p>FIRST EVENT: INTERNATIONAL SEMINAR ON EPM "prevention and risk management biomechanical overload in agriculture and construction"</p> <p>13-14 June 2013 Giovinazzo (Italia)</p>
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SECOND EVENT Workshop within the Congress of the National Society of Ergonomics Colombiana. November 6, 2013 Medellin (COLOMBIA)		
Hora	Título	Expositor
de 9:10 a 9:50	Introducción. El problema de la agricultura en los países tropicales	<i>Daniela Colombini</i> Comité técnico Musculoesquelético IEA
de 9:50 a 10:30	Premapa de riesgo en la agricultura. Uso de Herramientas simples para la identificación y pre-evaluación de riesgos: Casos de Ecuador	<i>Aquiles Hernández</i> <i>Pablo Suasnavas</i> Centro de Ergonomía Aplicada - CENEA Ecuador
de 10:50 a 11:30	La aplicación del método OCRA en el análisis multitarea en ciclos anuales en la agricultura	<i>Daniela Colombini</i> Comité técnico Musculoesquelético IEA
de 11:40 a 12:20	Método NIOSH aplicado a la agricultura: para la evaluación del levantamiento manual de cargas	<i>Sonia Tello</i> EPM International Ergonomics School en Habla Hispana
de 2:00 a 2:40	Resultados de estudios Clínicos en trabajadores agrícolas Colombianos expuestos a sobre carga biomecánica.	<i>Juan Carlos Velásquez</i> Universidad del Rosario - Colombia
de 2:50 a 3:30	El problema de la sobrecarga biomecánica en la Agricultura en el Perú.	<i>Oscar Ramirez</i> Universidad Científico del Sur Perú
de 4:00 a 4:20	Conclusiones y programa de trabajo interno del grupo de Trastornos Musculoesquelético de la IEA / TC MSD	<i>Daniela Colombini</i> Comité técnico Musculoesquelético IEA

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	<p>THIRD EVENT</p> <p>Programming a series of international seminars (for now on agriculture) annual in different countries of South America</p> <p>FIRST HOST COUNTRY PERU, November 2014</p>
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FOURTH EVENT

Special session of the conference AHFE (APPLIED HUMAN FACTORS ERGONOMICS) on the issues dealt with so far KRAKOW (PL) in July 2014

	<p>FIFTH EVENT</p> <p>International Seminar on the EPM:</p> <p>RISK ASSESSMENT TO BIOMECHANICAL OVERLOAD WITH SIMPLE TOOLS SERVICES (CLEANING, RESTAURANTS, RETAIL, ETC.)</p> <p>June 2014 Milan</p>
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- 3. Assessment of results in terms of judgment on the TOOLS and the results obtained through round tables at the end of seminars with collection of precious suggestions for future investigations. For these purposes it is important to extend the study to many other countries such as Brazil, Ecuador, etc in order to give continuity to the study and to get problems for health in these areas useful for tool improvements.

It's hoped that other members of this sub-group, for the future, propose similar initiatives, using also other TOOLS, leading to results of comparative assessments of risks and diseases both simple and in line with current standards

PHASE 3- DISCUSSION OF RESULTS OF ANY NEW STRATEGIES AND OPERATIONAL SIMPLES TOOLS IN AGRICULTURE AND/OR IN OTHER CONTEXTS SUGGESTED (CRAFTS CONSTRUCTION). PROMOTION OF NEW ISO TECHNICAL REPORT , AS A GUIDE AND APPLICATION OF STANDARDS ON EXISTING AND NEW ISSUES WHICH ARE STILL NOT STANDARDIZED.

Here the work of the suggested sub-group "the web for disseminating useful information and solutions to all potential users" could start and support the objective to find solutions regarding the results of various experiments.

The goal is to offer the possibility (to those who need it), to have an easy access and constant comparison with the results obtained by others users around the world (continuous updating of the database) as facilitated by web technologies, web solutions for made a data base. In this stage it is hoped that other participants of the TC-Tools sub-group (after the discussion and development of new operational criteria, derived from the first implementation phase of the first year use) initiate studies in other important sectors such as construction. Occhipinti also suggested to start studying workers older than 50, since in Europe, now the age of retirement has also been postponed to 65 years!.

It seems extremely useful to transform the acquired experiences, in specific Technical Report (ISO) regarding the specific group of workers suggested and studied.

Our team had worked hardly on this way, actively participating to drafting the two new ISO technical reports

- Annex B1. The new Technical Report ISO 12295-2014: **Ergonomics — Application document for International Standards on manual handling (ISO 11228-1, ISO 11228-2 and ISO 11228-3) and evaluation of static working postures (ISO 11226)**
- Annex B2. The Technical Report ISO 12296-2012: **Ergonomics — Manual handling of people in the healthcare sector**
- **A new ISO TECHNICAL REPORT ON AGRICULTURE was proposed, promoted and now being accepted**

A simple Tool in excel have been prepared by EPMIES for the application of ISO TR 12295-2014 and is of free download.

- Annex C. Guide to the techniques of pre-risk mapping (key-enters and quick assessment) for the operational use of the criteria contained in the new Technical Report ISO 12295-2014

- Annex D THE SIMPLE TOOL (spreadsheet in Excel, free download) for automatic calculation of the level of discomfort and danger of different occupational risk factors and priorities for intervention evaluation and improvement in application of Technical Report ISO 12295-2014 .

Step 4: PREPARATION OF A SATELLITE SEMINAR (or other event) IN NEXT CONGRESS IEA 2015 (third year of work)

Since we can not be present to the meeting in Australia we ask the TC members to review all the points proposed in this program, perhaps ambitious, but absolutely necessary for effective prevention of musculoskeletal problems (now more than ever, and so "invasive") and of course to suggest other eventual proposals.

After many years of theory and necessary review, it is now necessary to bring the validation system criteria into practice through the use of validated simple tools: the shortcomings and the improvements has to come from field experiences!.

In the next few years and in view of the next IEA 2018, we suggest to the group TC MSD to continue to work according to the same goals as above, which as shown by the summary of our application experience in different parts of the world, turned out to be full of valuable results and interests.

Best wishes to all expecting your opinions
Daniela Colombini



Degree in Medicine with specialization in Occupational Medicine and in Health Statistics and Epidemiology; European Ergonomist. Since 1985, senior researcher at the Research Unit "Ergonomics of Posture and Movement"-Milan, where he developed methods for the analysis and evaluation of risks and damage due to biomechanical overload. She is present, as a speaker, to the main International conferences and wrote many books on specific topics. She is author of the OCRA method, today standard EN 1005-5 and ISO 11228-3. She is coordinator of a sub-group of the Technical Committee on the Prevention of Musculoskeletal Disorders of International Ergonomics Association (IEA). She is member of the Commission of Ergonomics UNI and represents Italy in international committees of CEN and ISO dealing with biomechanics. She is founder and director of the EPM International Ergonomics School of Posture and Movement, teaching herself in many University in Italy and abroad.

Finally let I mention the active Members contributing to the Subgroup activities

N 2 TOOLS AND STANDARD

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N 5 TRANSFER OF KNOWLEDGE AND PRACTICE

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