

With the suggested exercises , the course can last 8-12-hours

## TACOS STRATEGY

### For working posture analysis



#### MAIN CONTENTS

Most of the methods proposed and currently used for analysing working postures do a fair job of identifying and describing, for single task, which postures should be assessed, and how to score them. What is still missing is a definite procedure for studying working postures in jobs characterized by turnover on many tasks (multitask) that also consider the variation of time exposition (as present in agriculture, constructions, etc..).

To begin with, it must be stressed that in order to study biomechanical overload of the upper limbs as a whole, it is necessary to apply a method that investigates all the associated risk factors rather than focusing only on awkward postures.

The OCRA method (Occhipinti, 1998; Colombini and Occhipinti, 2016), for example, does just that, insofar as awkward postures are in fact one of the risk factors taken into due consideration. In this way this method can predict the % of probability to develop an upper limb Musculo-skeletal disease.

Similarly, the study of biomechanical overload of the lower back during manual handling also requires a multifactorial approach such the one proposed by the RNLE and its extensions (Colombini et al., 2012).

However, the postures of the spine remain to be studied, even in the absence of manual handling of loads, as well as the postures of the lower limbs, to which the TACOs method presented here is mainly dedicated.

#### MAIN CRITERIA

Basically, this entails reconstructing the task(s) performed by an individual worker or homogeneous group of workers, in terms of the postures adopted during the work.

As mentioned earlier, in our real-world experience, while it is not difficult to single out which postures require evaluating, there are often major shortcomings, regarding:

- the criteria for adjusting final scores based on real task duration (full time, part time, etc..), and
- the criteria for evaluating the exposure to many tasks present in a working cycle where their turnover could be longer than one day (monthly or annual cycle, etc.)

#### THE AIM OF THE METHOD

The aim of the method proposed here is therefore not to decide which postures should be analysed (extensive use is made of methods and procedures already available in the literature and included in current standards), but rather to suggest how they should be used in relation to time (Timing Assessment) even in more complex situations such as multiple task exposure scenarios and work cycles lasting longer than one day.

The management of all this data and the relevant risk score calculations are so complex that "simple tools", i.e. Excel® spreadsheets [freely downloadable at www.epmresearch.org/free-software-in-english](http://www.epmresearch.org/free-software-in-english) have been developed for gathering, managing and processing the data.

#### COURSE CONTENT

THE MAIN METHODS OF STUDYING POSTURES

ISO AND CEN TECHNICAL STANDARDS

METHODS, EVALUATION CRITERIA AND CRITICAL ISSUES. RULA, REBA, OWAS, OREGO, SUVA, QEC

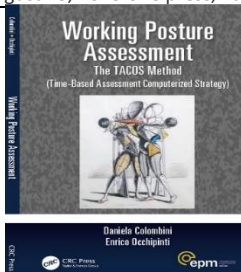
EXERCISES IN THE USE OF THE RULA METHOD

LUNCH

### Working Posture Assessment: The TACOS (Time-Based Assessment Computerized Strategy) Method

Daniela Colombini, Enrico Occhipinti

-August 23, 2018 CRC press, Taylor & Francis



#### Features

Provides a coherent definition of what the study of awkward postures is:

Clarifies and explains which parameters need to be detected and analysed for the study of the working postures.

Defines the phases of a proper organizational study (e.g., tasks, postures, duration, and how often the postures will last) in the working cycle.

Presents a new and original risk calculation model for awkward postures, with particular attention to the study of the spine and the lower limbs.

Offers a free excel spreadsheet located on the authors' website which implements the strategy for calculating risk associated with exposure to awkward postures.

#### Summary

This book covers how to analyse awkward working postures, particularly of the spine and lower limbs, in specific groups exposed. The methods covered suggests how to evaluate the postures correctly, taking account of the duration and sequence of the tasks involved, even in very complex scenarios where workers are involved with multiple tasks and work cycles varying from day to day. Excel spreadsheets located on the authors' website ([www.epmresearch.org](http://www.epmresearch.org)) have been developed to gather, condense, and automatically process the data. The tools serve to implement the strategy for calculating risk associated with exposure to awkward postures. The TACOS method. Included are 5 case studies which include physiotherapists, workers from construction, archaeological digs, vineyards, and kindergarten teacher.