

## PEROSH RECOMMENDATIONS FOR PROCEDURES TO MEASURE OCCUPATIONAL PHYSICAL ACTIVITY AND WORKLOAD

Physical demands at the workplace are generally acknowledged to be a main risk factor for musculoskeletal disorders and detrimental work-related issues. Physical activity has been identified as a main determinant for “lifestyle” diseases such as overweight and hypertension.

Exposure assessments in this area have to a large extent so far been based on self-reported information on physical work demands. This incurs a high risk of information and recall bias.

Therefore, several PEROSH members joined forces to share their knowledge, tools and protocols in order to develop more robust and validated technical measurements of physical work demands.

The focus was specifically on how to appropriately assess occupational sedentary behavior and work with elevated arms.



Vera Schellewald (IFA, Germany), on behalf of the project group, receives award from Timo Bazuin, Elsevier

### /// OBJECTIVES

The project:

- provided recommendations on how to measure and interpret the output, to appropriately assess occupational sedentary behavior using current technical measurement systems
- supplied a framework of important criteria for the use of potential future equipment to assess occupational sedentary behavior
- provided recommendations for measuring and interpreting work with elevated arms using various measurement techniques and strategies

### /// TARGET GROUPS

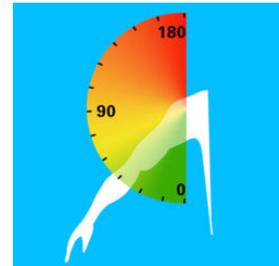
Ergonomists, OSH professionals, employers and workers of organisations confronted with physical demands at the work place can use the results of this project to further fine-tune their risk assessments.

### /// RESULTS

A [report](#) was published with recommendations on how to measure and interpret the output, to appropriately assess occupational sedentary behavior using current technical measurement systems.

Another report was published with recommendations on measuring and interpreting work with elevated arms using various measurement techniques and strategies.

Developed by the Karolinska Institute, **ErgoArmMeter** is a professional inclinometer application for IOS devices. It measures and records arm elevation during work. This is a great example of how technical measurements are getting more readily accessible and feasible for common practitioners and scientists in the field using the inertial sensors of common smartphones.



ErgoArmMeter

An award winning article was published: '[A practical guidance for assessments of sedentary behavior at work: A PEROSH initiative](#)'. Elsevier Ltd's best paper award 2017 in the scientific journal Applied Ergonomics.

### /// RELEVANCE

Despite the increasing interest in health effects from continuous sedentary work, the correlation between sedentary work and health setbacks still remains rather vague due to inadequate and different methods of how to measure sedentary work among employees.

Thus, this project established common guidelines for measuring sedentary work for practitioners and researchers to obtain precise information which makes it possible to compare data across industries and countries and follow development over time for optimizing preventive measures.

### /// RESEARCH TEAM

This PEROSH project was developed between the following institutes: National Research Centre for the Working Environment (NFA, Denmark), Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA, Germany), National Institute of Safety and Health at Work (INSST, Spain), Central Institute for Labour Protection–National Research Institute (CIOP-PIB, Poland), National Institute of Occupational Health (STAMI, Norway), Finnish Institute of Occupational Health (FIOH, Finland), National Institute for Insurance against Accidents at Work (INAIL, Italy), Austrian Worker's Compensation Board (AUVA, Austria), Health & Safety Executive (HSE, United Kingdom), Netherlands Organisation for Applied Scientific Research (TNO, Netherlands) and the University of Gävle (Sweden) and Karolinska Institute (Sweden) as collaborative partners.



#### Contact

Andreas Holtermann, NFA. [aho@nfa.dk](mailto:aho@nfa.dk)

Version: 22 10 2018  
Status of project: closed