IFA
Institut für Arbeitsschutz der
Deutschen Gesetzlichen Unfallversicherung

0376

Focus on IFA's work

Edition 6/2016 617.0-IFA:638.81

CUELA Feedback: Using a smartphone to check body posture

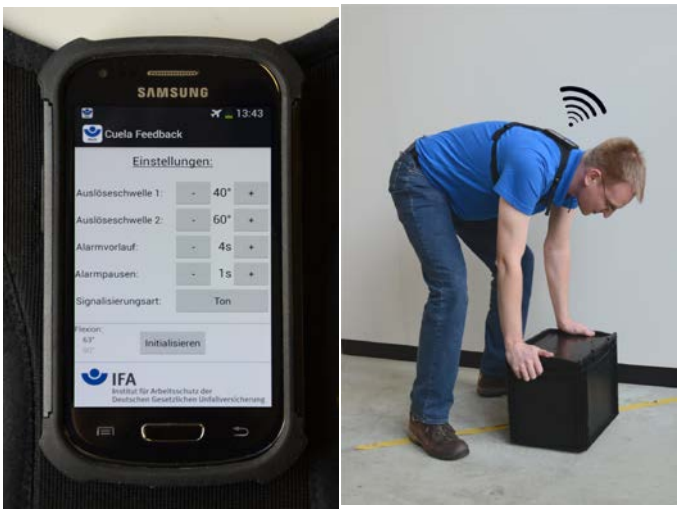
Problem

Back loads and the associated pain and complaints are a widespread problem in modern society. In their prevention campaign entitled "Think of me. Love, your back", the German Social Accident Insurance Institutions and their partners campaigned for inappropriate loading on the back at work, in schools and during leisure time to be reduced. Vivid exhibits for events such as health days or trade fairs were to raise awareness for the topic of work-related back load.

Activities

For this purpose, the IFA has developed the CUELA Feedback system. It consists of a smartphone fitted to a person's back by means of a belt system. Sensors in the device detect the angle of inclination of the wearer's trunk. Should specified limits for this angle be exceeded, the device emits an acoustic and/or vibration feedback signal in order to draw attention to the unfavourable body posture.

CUELA Feedback enables two different angle limits to be set, exceeding of which is indicated by different acoustic signals and vibration patterns. Besides the angle limits, the duration before the feedback signal is triggered can also be selected. This "warning delay" draws attention to unfavourable static body postures.



CUELA Feedback system

In order for the results to be as valid as possible, the device must be initialized with the wearer adopting an upright posture before the device is used.

Results and Application

CUELA Feedback is battery-powered, mobile, and worn over the work clothing. Work can therefore be performed in the usual way, and the wearer's attention is drawn to unfavourable trunk postures by the feedback signals as work is carried out. In order for it to be effective, the device should be worn for several working shifts.

A further area of use is training, in which the system enables a working technique to be demonstrated and practised that is conducive to good back health. Owing to the limits of its functionality, however, the system is not suitable for ergonomic analysis of workplaces.

Area of Application

Social accident insurance institutions; companies

Additional Information

- www.dguv.de/webcode/e23621 (IFA's information on ergonomics)

Expert Assistance

IFA, Division 4: Ergonomics – Physical environmental factors

Literature Requests

IFA, Central Division

Published and printed by:
Deutsche Gesetzliche Unfallversicherung e. V.
(DGUV), Glinkastrasse 40, 10117 Berlin

ISSN (online): 2190-006X
ISSN (print): 2190-0051

Edited by: Rainer Lietz
Institut fuer Arbeitsschutz der Deutschen
Gesetzlichen Unfallversicherung (IFA)
Alte Heerstrasse 111, 53757 Sankt Augustin, Germany
Phone: +49 2241 231-02/Fax: -2234
E-mail: ifa@dguv.de, Internet: www.dguv.de/ifa