Abstract:
A study at a replicated logistics workplace examines whether the Respiratory Exchange Ratio (RER) can be used to analyze stress during lifting operations by using a mobile cardiopulmonary exercise testing (CPET)-system. Based on previously conducted task analyses in the field of manual handling, an appropriate experimental design was developed where both the package weight (0 kg, 6.5 kg, 13 kg) and the type of movement (bending-to-stretching, stretching-to-bending, normal-to-normal) are varied. To test the plausibility of the RER, relative oxygen consumption (V'O2/kg), the heart rate (HR) as well as subjective data (Borg RPE scale) are used.