



Book of Abstracts

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WORK ORGANIZATION, ERGONOMICS AND MUSCULOSKELETAL SYMPTOMS AMONG WORKERS PERFORMING LONG CYCLE TIME ASSEMBLY WORK

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Aim. To evaluate parallelized flow car assembly work (long cycle time) on a stationary product with respect to physical load, psychosocial factors and work related musculoskeletal symptoms among assembly workers.

Method. The study was carried out at the Volvo Uddevalla final assembly plant. A random sample of 67 assembly workers was included. The response-rate was 90 per cent. A questionnaire was used to gather information on the physical work load, psychosocial factors and work related musculoskeletal symptoms during a 12-month period. Moreover, we also had full access to e.g. detailed production engineering data and personal files, complemented with video recordings of the assembly work.

Results. With respect to physical work load the subjects reported e.g. lower duration of static stress and trunk rotation, but higher duration of exposures to weights less than 1 kg compared with reference data of industrial blue-collar workers; 73% of the subjects in the present study reported static stress less than or about 1/10 of the working time and the corresponding figures for trunk rotation was 84%. As regards the psychosocial factors there were more satisfactory values in the study sample compared with the reference data respecting e.g. "control over work" and "stimulus from the work", which indicate an active job conducive to learning and development of new behaviour patterns. Physical work load factors showed only a few significant associations with musculoskeletal symptoms; this may in part be explained by the general rather good ergonomic conditions with a relatively low duration of "combined" extreme work postures and that the work was facilitated by tilting devices and lifting tables. Significant associations were found between the psychosocial factors "psychological work-load" and "control over work", and musculoskeletal symptoms.

Conclusions. The results indicate the merits of work organizations based on long cycle time assembly work on a stationary product, compared with general reference data of industrial blue-collar workers (including traditional assembly line work).

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