



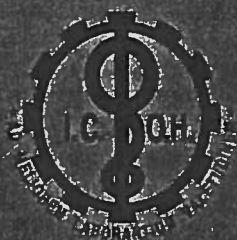
Book of Abstracts

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Scientific Program
Programme Scientifique

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Monday – Tuesday
Lundi – Mardi



25th International Congress
on Occupational Health

25^e Congrès International
de la médecine du travail

ANALYSIS OF THE RELATIONSHIP BETWEEN DERMAL CONTACT WITH FLUIDS AND MACHINE OPERATOR PRODUCTIVITY

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Aim: To study the relationship between operator productivity and wetness of the skin caused by the machine operator's contact with cutting fluids. The hypothesis is that high productivity is associated with low skin contact with such fluids.

Method: The operator's work was registered during 100 minutes, using a VHS camera. The video tape was then analysed using a computer-synchronised video-equipment. The frequency and duration of dermal contact with wet surfaces were recorded, concurrently with the sequences of activities that the operators performed. We assumed in the analysis that skin remains wet during 120 seconds after contact has ceased. To date, we have studied a total of eight different work places.

Results: The length of time that the operator's skin was wet, calculated as a proportion of his working hours, varied from three to 100 per cent. This time was divided into different activities performed by the operator. Variations could then be explained by the use of different production tasks, the use of different machines, as well as different levels of operator competence. There seemed to be a relationship between productivity and wetness of the skin, but more work places have to be studied before any firm conclusions can be made.

Conclusions: The duration of dermal wetness varied considerably in the work places studied. These variations were related to the work methods used by the operator. The description of the working method was used in a productivity-associated analysis. The method applied in the study allows registration of the duration of dermal exposure to cutting fluids. The concurrent description of working method and exposure facilitated the analysis of exposure data variation, which often poses a significant problem in the analysis of occupational hygiene measurements.

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